

# Inmate Health Survey Trends 1996-2009

**Criminal Justice Research Network Seminar**

**13 July 2009**

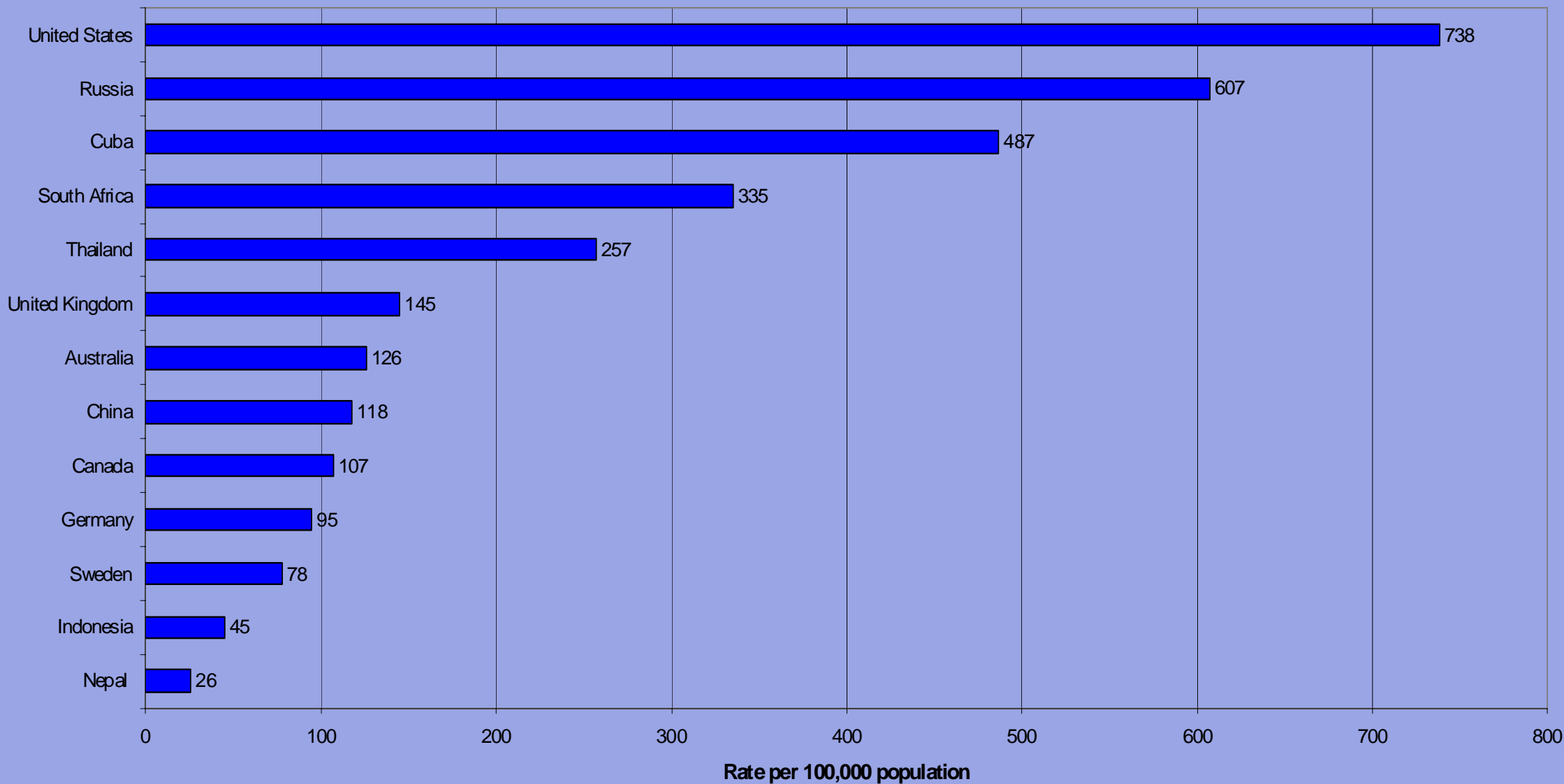
**Devon Indig**

**Head of Research, Justice Health**

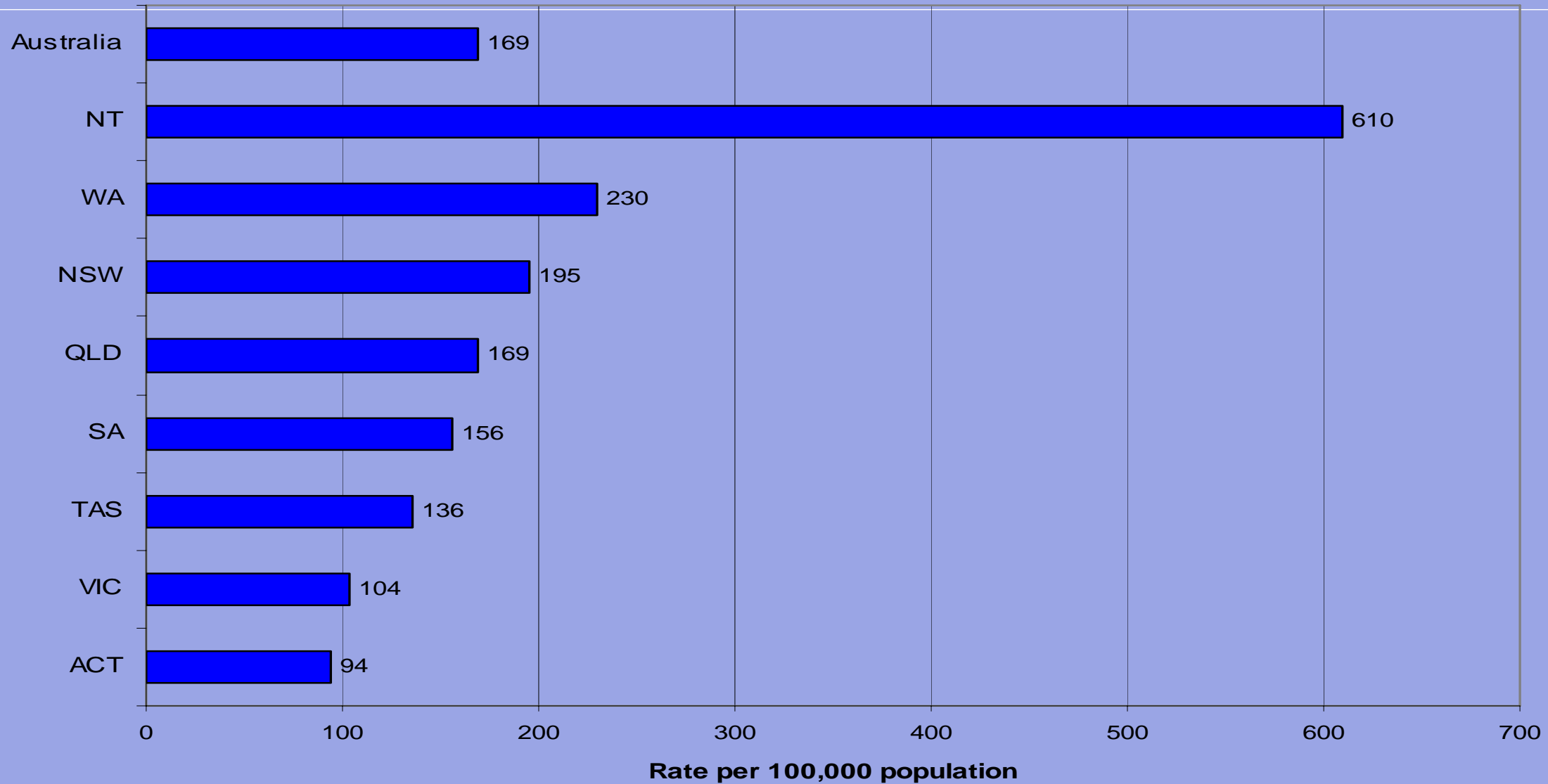
# Overview

- Context – Incarceration rates
- Background
- Methodology
- Demographics
- Accommodation, Education and Employment
- Family History
- Prison/Detention History
- Physical Health
- Smoking, Alcohol and Drugs
- Infectious Diseases
- Mental Health
- Summary
- Acknowledgements

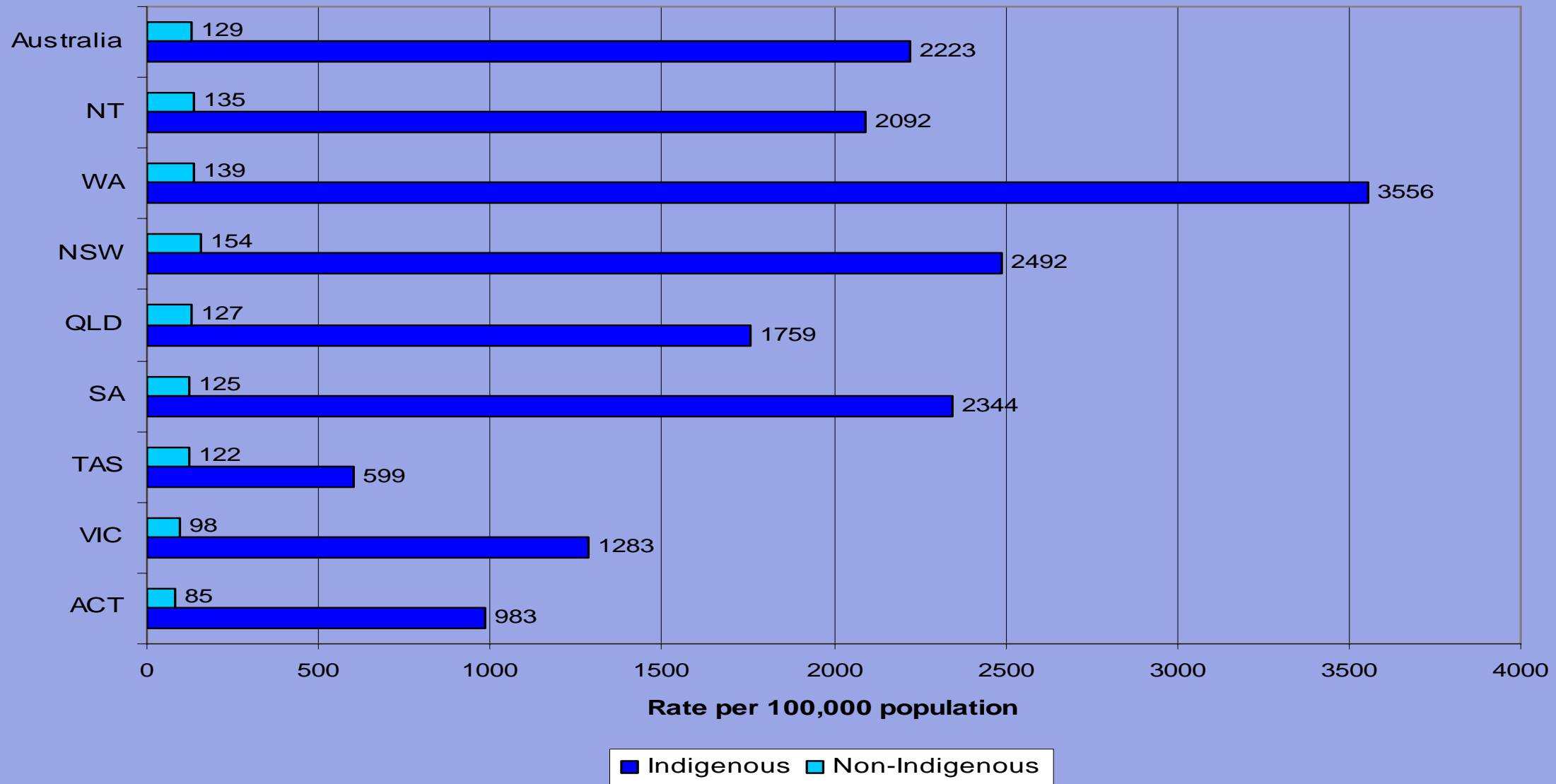
# International Incarceration Rates, 2006



# Incarceration rate by state, NSW 2008



# Incarceration rate by state & indigenous status, 2008



# NSW Prisoner population growth

Full-time custody	1996 (N=7,691)	2001 (N=8,780)	2008 (N=9,859)
% Female	5.7	6.8	7.3
% Aboriginal Male	12.1	14.5	20.4
% Aboriginal Female	16.9	23.3	29.6

Sources: 1996, 2001 and 2008 NSW Inmate Census, NSW Department of Corrective Services

# Background

- Inmate Health Surveys run in 1996 and 2001
  - Acknowledged as one of the most comprehensive assessments of prisoners' health in the world
- Sample description
  - Random sample stratified by age, sex and Aboriginality (over-sample on women and Aboriginal people)
  - Longitudinal sample (participated in 1996 and/or 2001)
  - Exclusion criteria: non-English speaking, acute mental illness, profound intellectual disability
  - All adult prisons in NSW

# Methodology

## ● Methodology

- 1996 and 2001 – face-to-face interviews
- 2008 – computer-assisted telephone interviews (HNEAHS)
- 10 months – May 2008 to March 2009
- 29 Correctional Centres
- Average interview length 90 min (min=45, max=300)
- Response rate: 85% (2001 survey: 85%)
- Sample: Random: N=996; Longitudinal: N=183 (2001 only: N=118, 1996 only: N=32; Both 1996 and 2001: N=33)
- 20% women (over-sample – reflect 7% prisoner population)



## Survey content: Physical health exams

- Physical exam – height, weight, blood pressure, eyesight, peak flow, spirometry, skin integrity, etc
- Blood sample - blood borne virus testing (HIV, Hep B Hep C), full blood count, liver functioning, electrolytes, blood sugar, etc
- Urine sample – sexually transmitted infections, general urine dipstick (glucose, protein, blood, etc)

# Survey content: Physical health questionnaire

Prison history	Exercise
Demographics	Skin protection
Education/Occupation	Injury
Health status	Diet & Nutrition
Disability/illness	SF-12
Medications	Men's health
Diabetes	Women's health
Asthma	Aboriginal health
Immunisation	Access to healthcare

# Survey content: Mental health questionnaire

Psychiatric history	Access to bleach
Suicide	Drug treatment
Self-harm	Contact with family
Alcohol use	Sexual history
Smoking	Condoms/dental dams
Tattooing & Body Piercing	Beck Depression Inventory
Drug use	Comments

## Inmate Health Survey Sample Sizes

	<b>1996</b>	<b>2001</b>	<b>2009</b>
<b>Total random sample</b>	789	914	996
<b>Aboriginal males</b>	204	227	259
<b>Non-Aboriginal males</b>	453	520	538
<b>Aboriginal females</b>	31	29	53
<b>Non-Aboriginal females</b>	101	138	146

# Demographics

# Demographics, Inmate Health Survey 2009

	<b>Males (N=797)</b>	<b>Females (N=199)</b>	<b>Total (N=996)</b>
<b>Average age (Range)</b>	35.4 (19-84)	35.6 (19-66)	35.5 (19-84)
<b>Born in Australia</b>	81%	77%	81%
<b>Spoke English growing up</b>	81%	77%	80%
<b>Aboriginal origin (self-report*)</b>	32%	27%	31%

Note: 7% of participants varied in identifying as Aboriginal according to DCS records and self-report.

# Marital status, Inmate Health Survey 2009

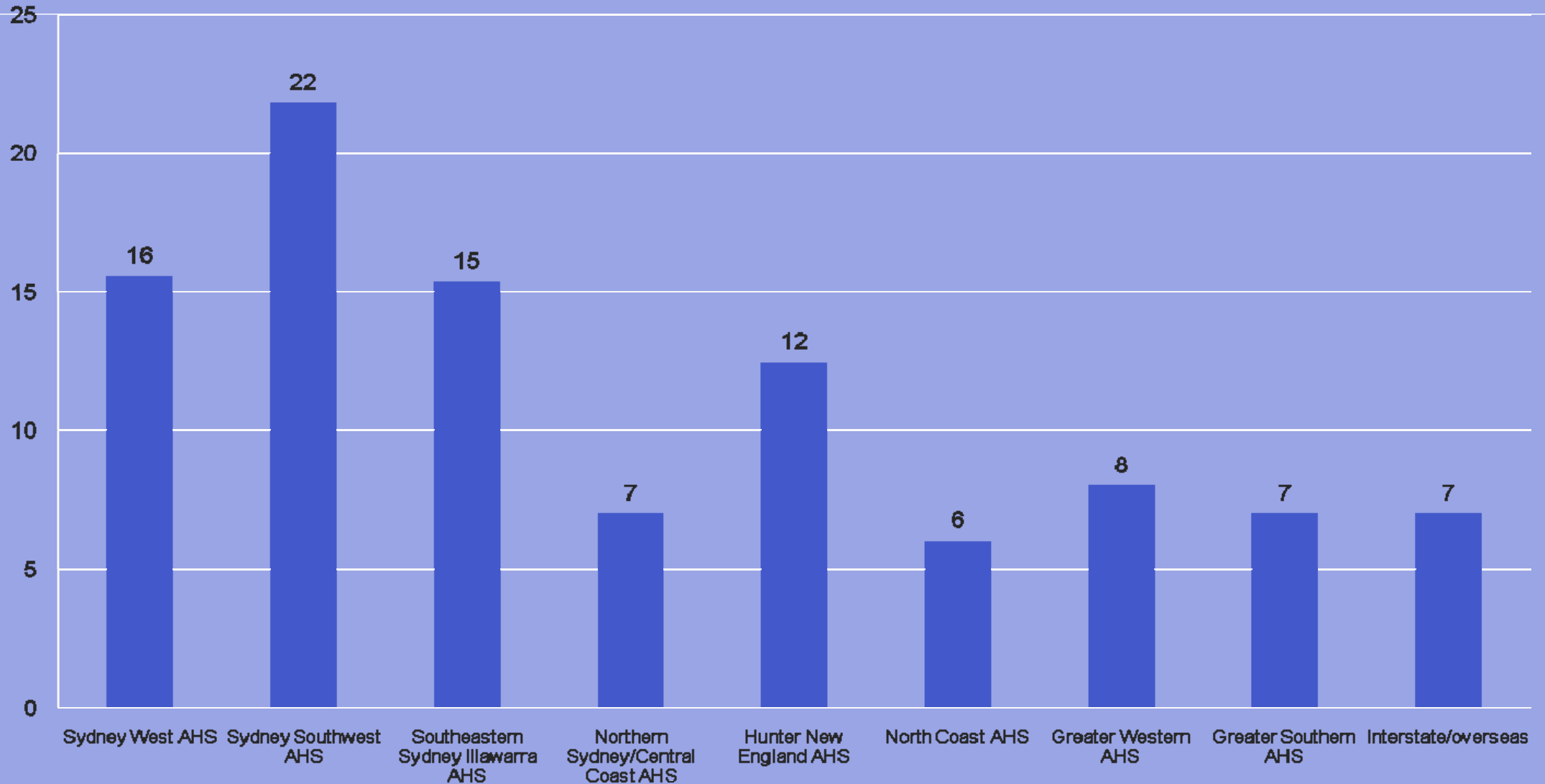
	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<b>Never married</b>	44%	46%	26%	40%
<b>Regular partner</b>	9%	9%	6%	9%
<b>Married/defacto</b>	31%	24%	47%	24%
<b>Separated</b>	12%	9%	15%	11%
<b>Divorced</b>	3%	10%	4%	12%
<b>Widowed</b>	1%	2%	2%	4%

## Country of Birth/Languages spoken

- Top 5 Countries of birth outside Australia (N=194)
  - New Zealand (17%)
  - United Kingdom (11%)
  - Lebanon (7%)
  - Vietnam (7%)
  - Fiji (7%)
- Top 5 Languages other than English (N=195)
  - Arabic (18%)
  - Chinese (9%)
  - Vietnamese (6%)
  - Spanish (6%)
  - Italian (5%)



## NSW Area Health Service spent most time in year before prison, Inmate Health Survey 2009

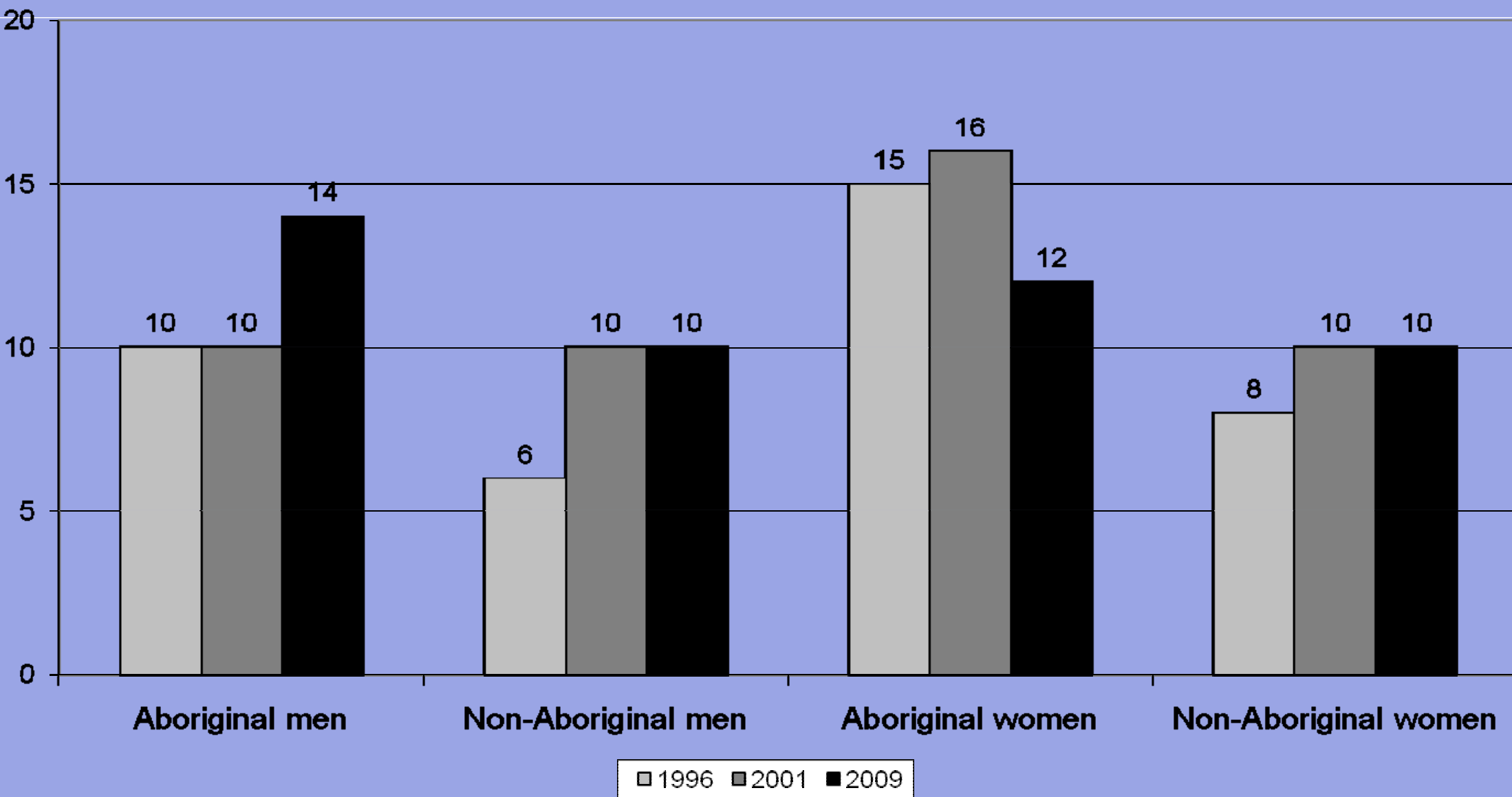


# Accommodation, Education and Employment

# Accommodation type immediately before prison, Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<b>Renting</b>	56%	46%	60%	53%
<b>Own home/ family home</b>	30%	44%	26%	36%
<b>Unsettled lodging (squat, hostel, caravan)</b>	10%	8%	6%	9%
<b>Sleeping rough (no fixed abode)</b>	4%	2%	6%	<1%

**Unsettled accommodation/sleeping rough in 6 months prior to prison by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009**



# Accommodation problems, Inmate Health Survey 2009

	<b>Aboriginal Men (N=259)</b>	<b>Non-Aboriginal Men (N=538)</b>	<b>Aboriginal Women (N=53)</b>	<b>Non-Aboriginal Women (N=146)</b>
<b>Moved 4 or more times 6 months prior gaol</b>	15%	9%	21%	16%
<b>Accommodation problems in first 6 months last time released</b>	33%	21%	52%	50%

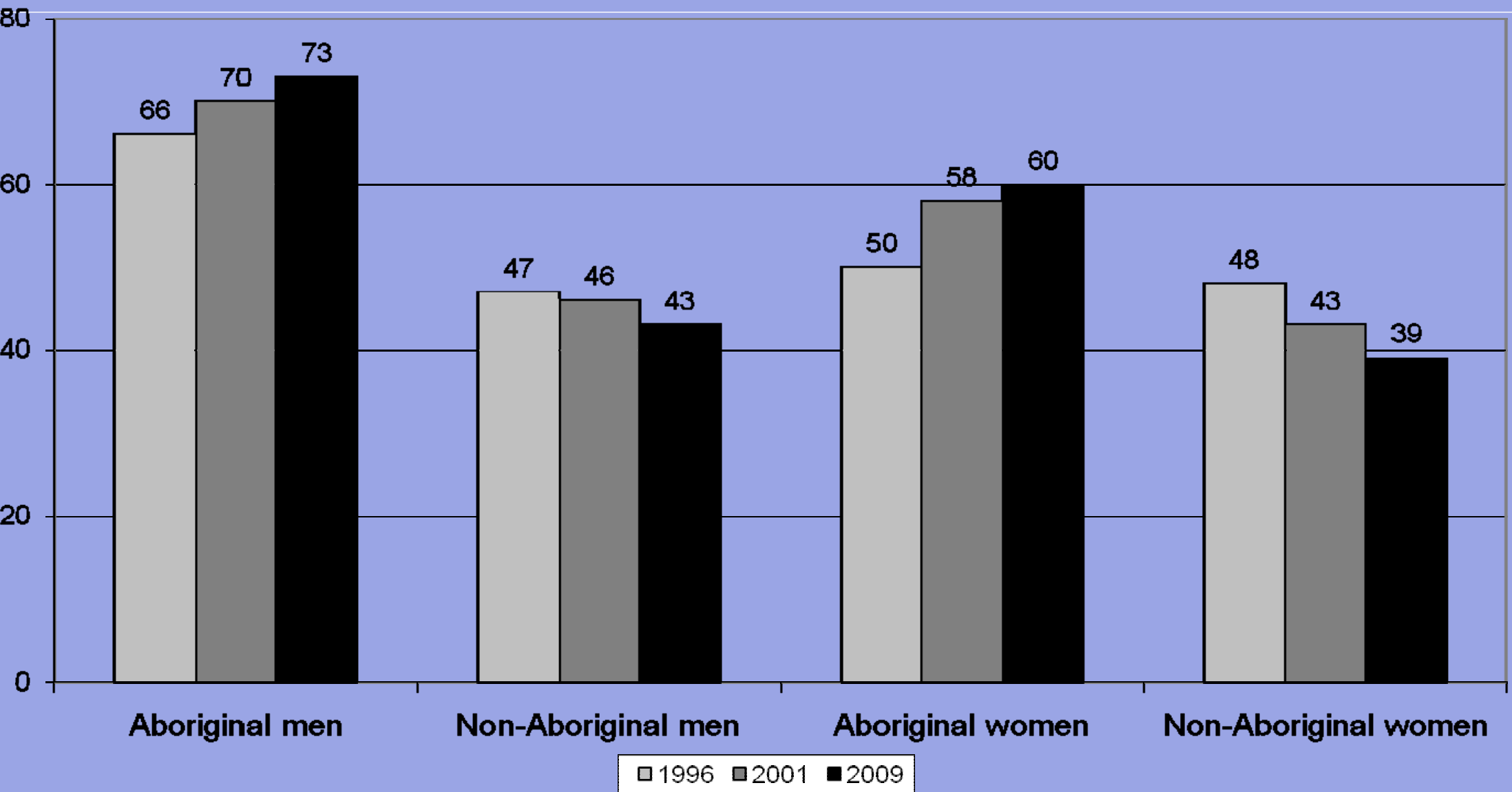
# Who living with immediately before prison, Inmate Health Survey 2009

(Excluding children)	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<b>Alone</b>	14%	21%	26%	23%
<b>Partner</b>	36%	34%	36%	36%
<b>Parents</b>	15%	23%	11%	16%
<b>Siblings/ other family members</b>	24%	11%	19%	11%
<b>Friends/ flatmates</b>	10%	10%	8%	10%

# Highest educational qualification completed, Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
Left school before Year 10	73%	43%	60%	39%
School certificate	21%	34%	26%	25%
HSC/VCE/leaving cert.	2%	11%	0%	15%
College cert/diploma	2%	5%	8%	10%
Technical or trade	2%	5%	0%	3%
Tertiary qualification	<1%	3%	6%	8%

**No school certificate by Aboriginality and sex,  
Inmate Health Survey 1996, 2001 and 2009**

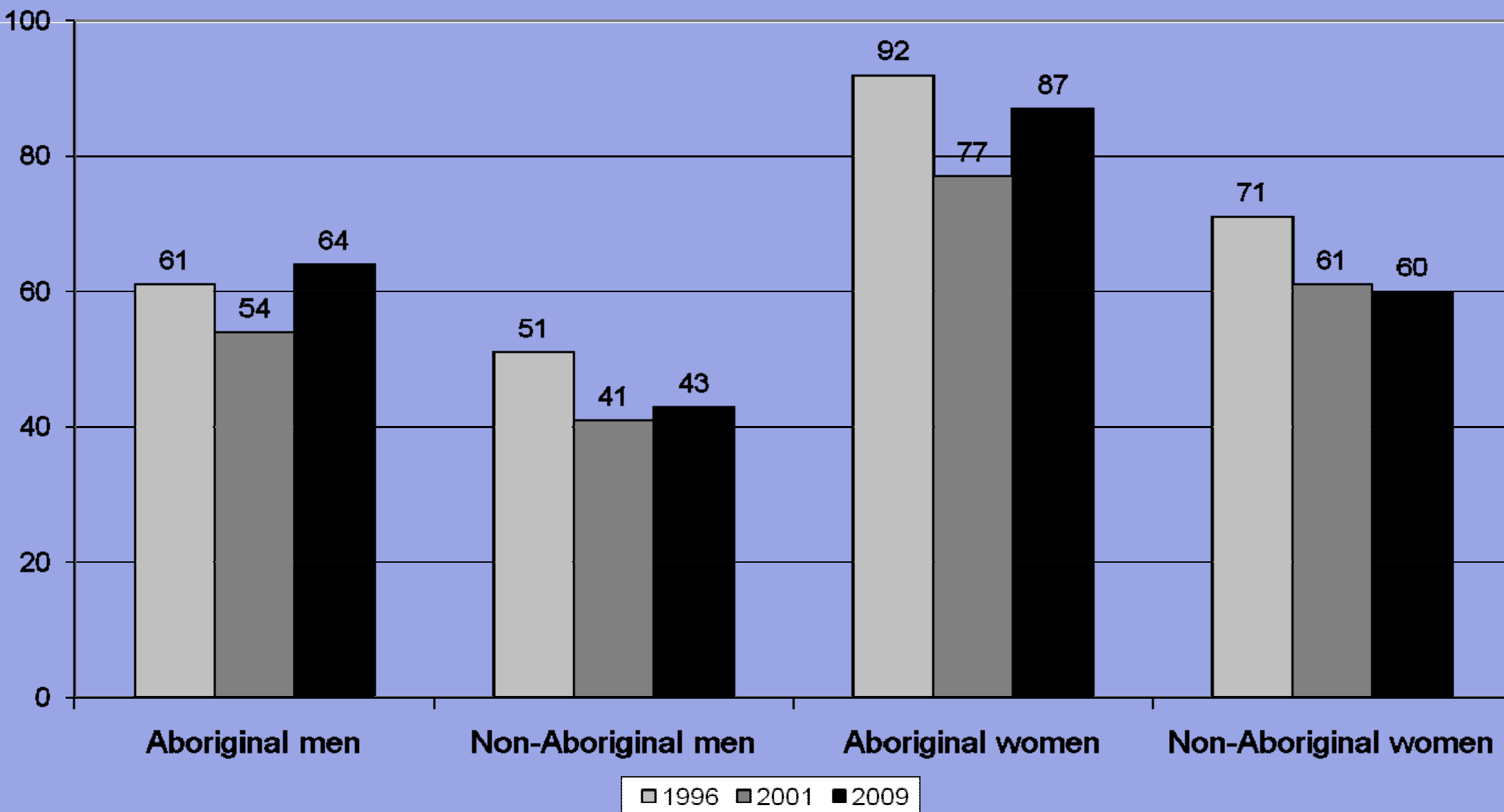




# Educational background, Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<b>Average age (range) left school (if not finish year 10)</b>	14.6 (11-19)	14.5 (9-18)	14.5 (8-16)	14.2 (11-17)
<b>Median number (range) schools attended</b>	4 (1-55)	3 (1-100)	3 (1-10)	3 (1-15)
<b>Ever attend special school</b>	22%	16%	8%	8%
<b>Ever expelled from school</b>	43%	34%	42%	21%

### Not working in 6 months prior to incarceration by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



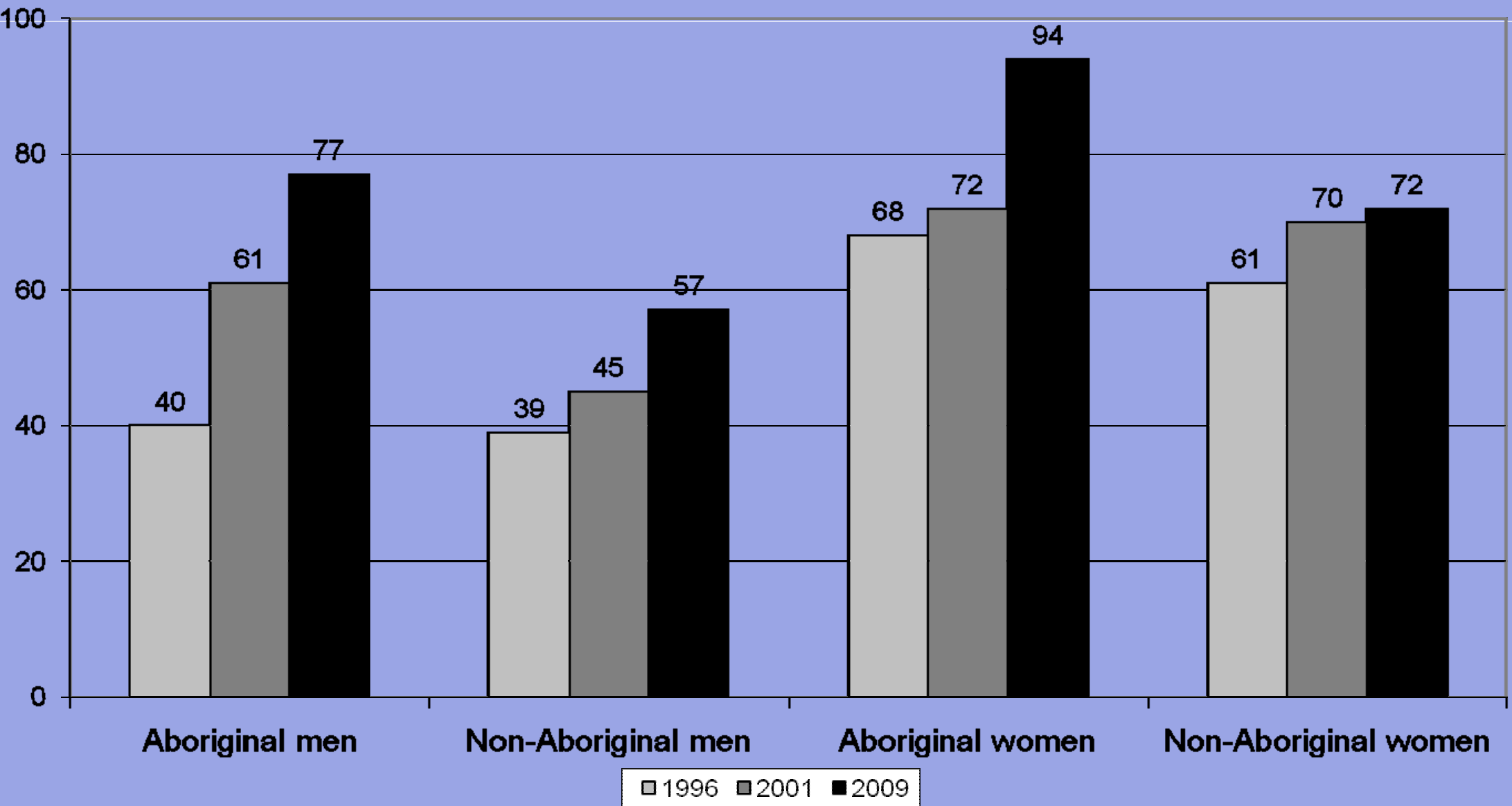
# How long unemployed if not working in past 6 months before prison, Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<12 months	25%	24%	13%	16%
1-<2 years	15%	24%	9%	18%
2-<3 years	11%	11%	16%	15%
3-<5 years	13%	12%	4%	9%
5-<10 years	19%	13%	24%	19%
10+ years	17%	16%	34%	23%

# Last job before prison, Inmate Health Survey 2009

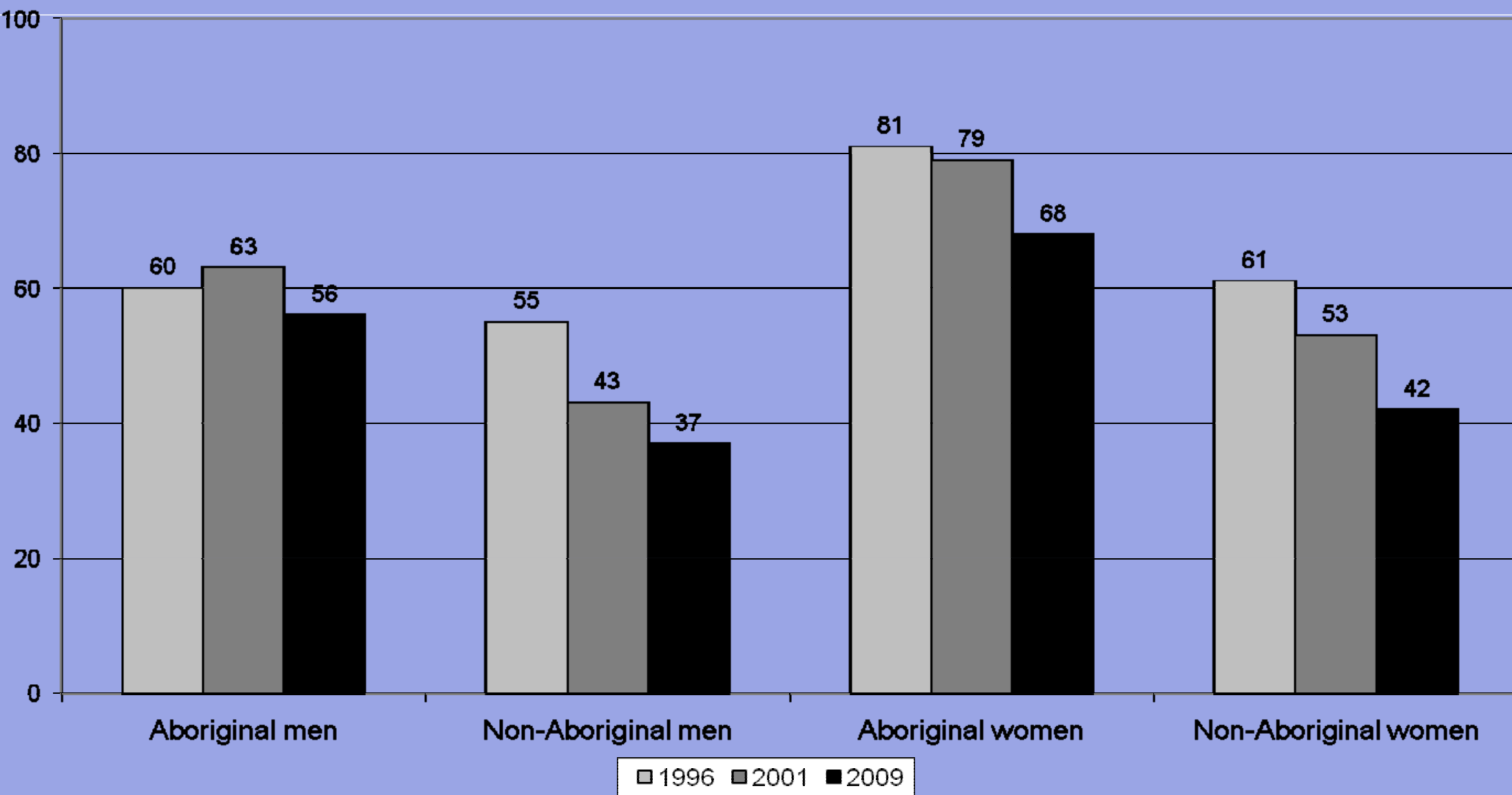
	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
Labourer or related worker	63%	43%	14%	24%
Tradesperson	15%	15%	14%	0%
Plant/machine operator/driver	2%	11%	0%	2%
Salesperson	5%	11%	57%	26%
Managers, administrators, professionals	5%	5%	14%	9%
Self-employed	5%	10%	0%	21%
Other	5%	5%	0%	18%

**On pension or benefit 6 months prior to imprisonment  
by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009**

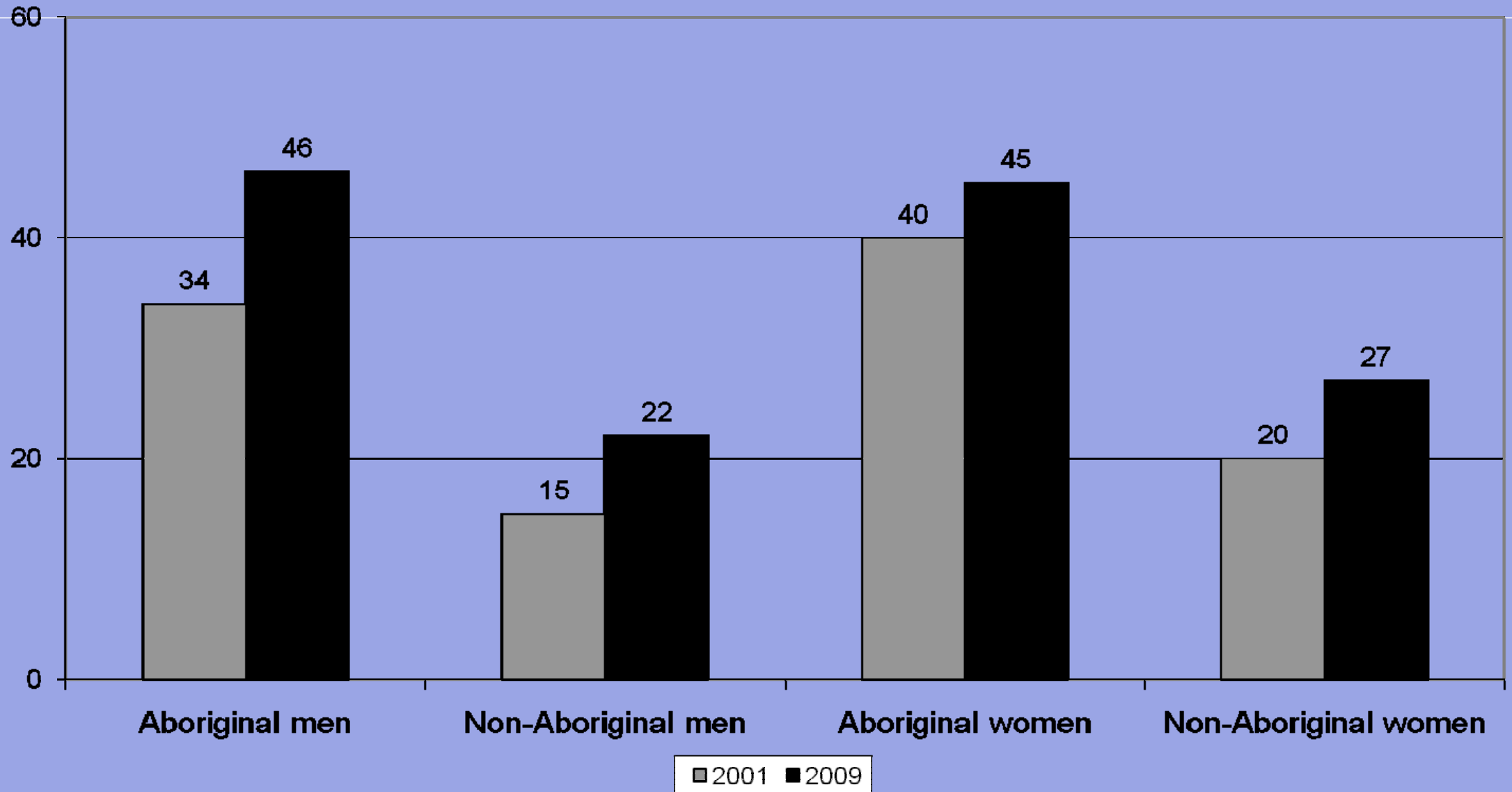


# Family history

## Have children under 16 years by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



### Ever placed in care as a child by Aboriginality and sex, Inmate Health Survey 2001 and 2009

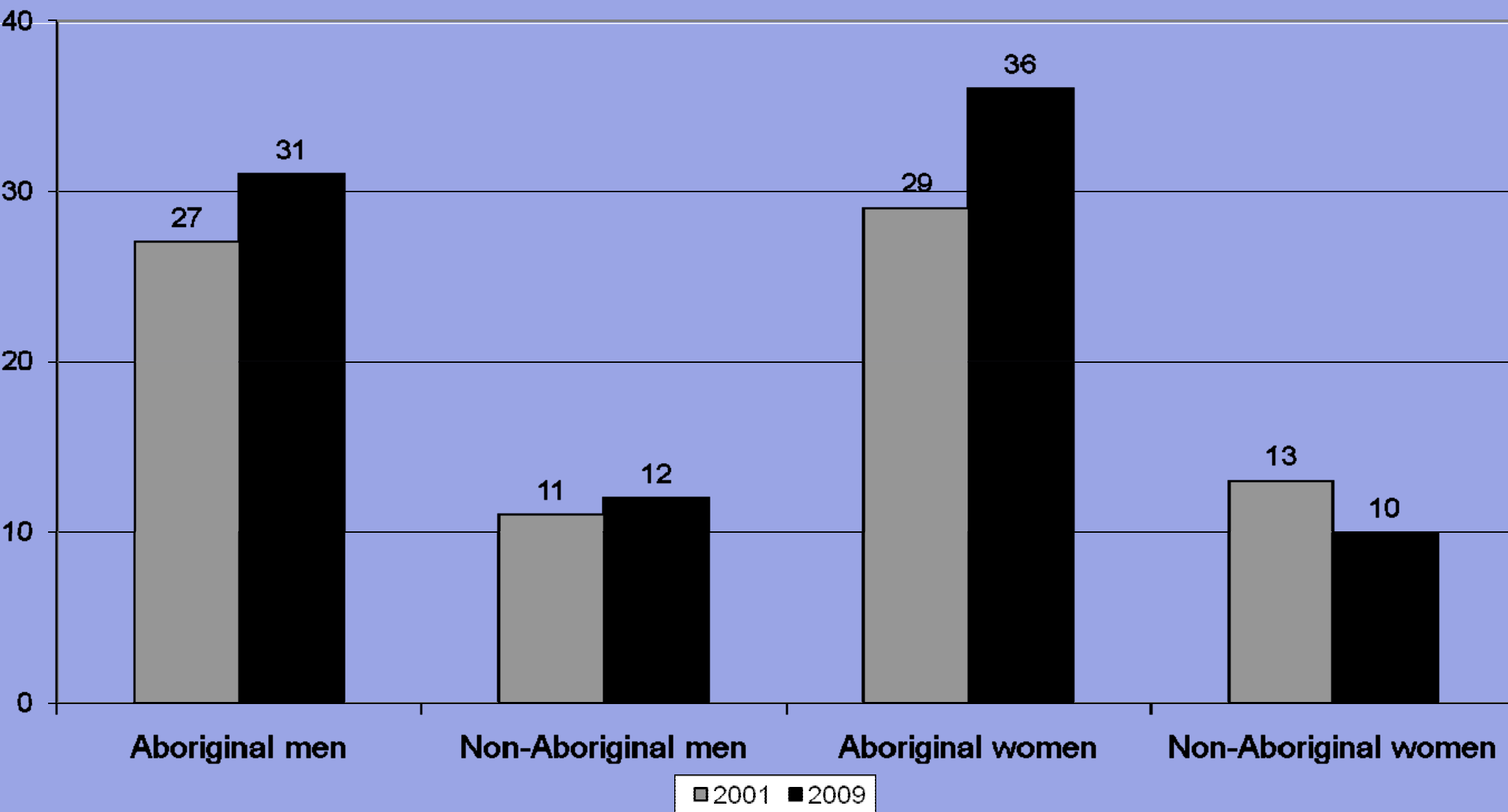




## Age first placed in care (if ever), Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<b>0-2 years</b>	20%	12%	26%	16%
<b>3-5 years</b>	18%	13%	17%	13%
<b>6-9 years</b>	22%	20%	22%	16%
<b>10-12 years</b>	18%	23%	13%	26%
<b>13-16 years</b>	22%	32%	22%	29%

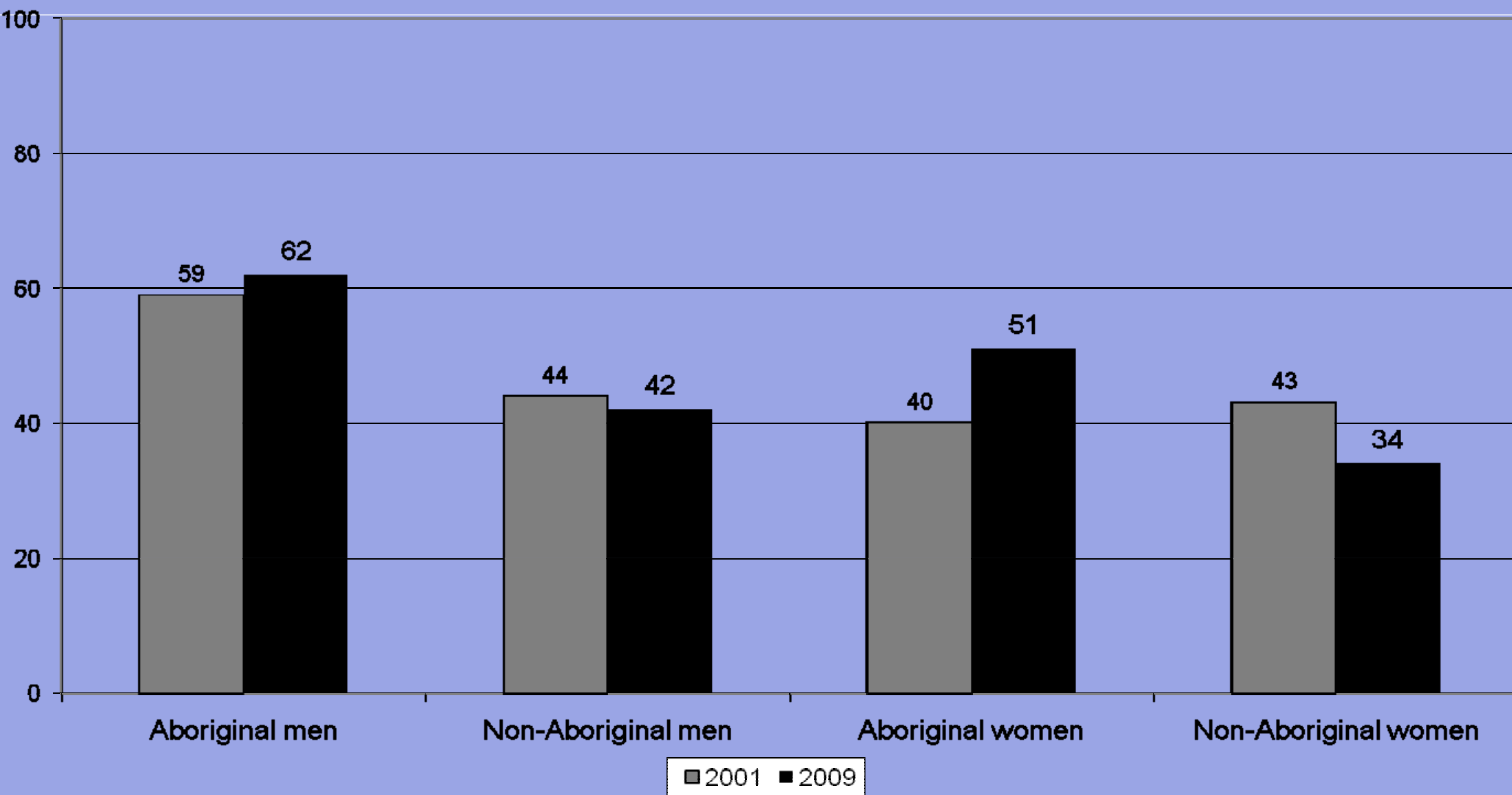
### Parents ever in prison (if known) by Aboriginality and sex, Inmate Health Survey 2001 and 2009



# Which parent ever in prison, Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<b>Father only</b>	24%	10%	17%	6%
<b>Mother only</b>	2%	1%	13%	3%
<b>Both parents</b>	5%	1%	6%	1%
<b>None</b>	63%	85%	58%	86%
<b>Don't know</b>	6%	3%	6%	3%

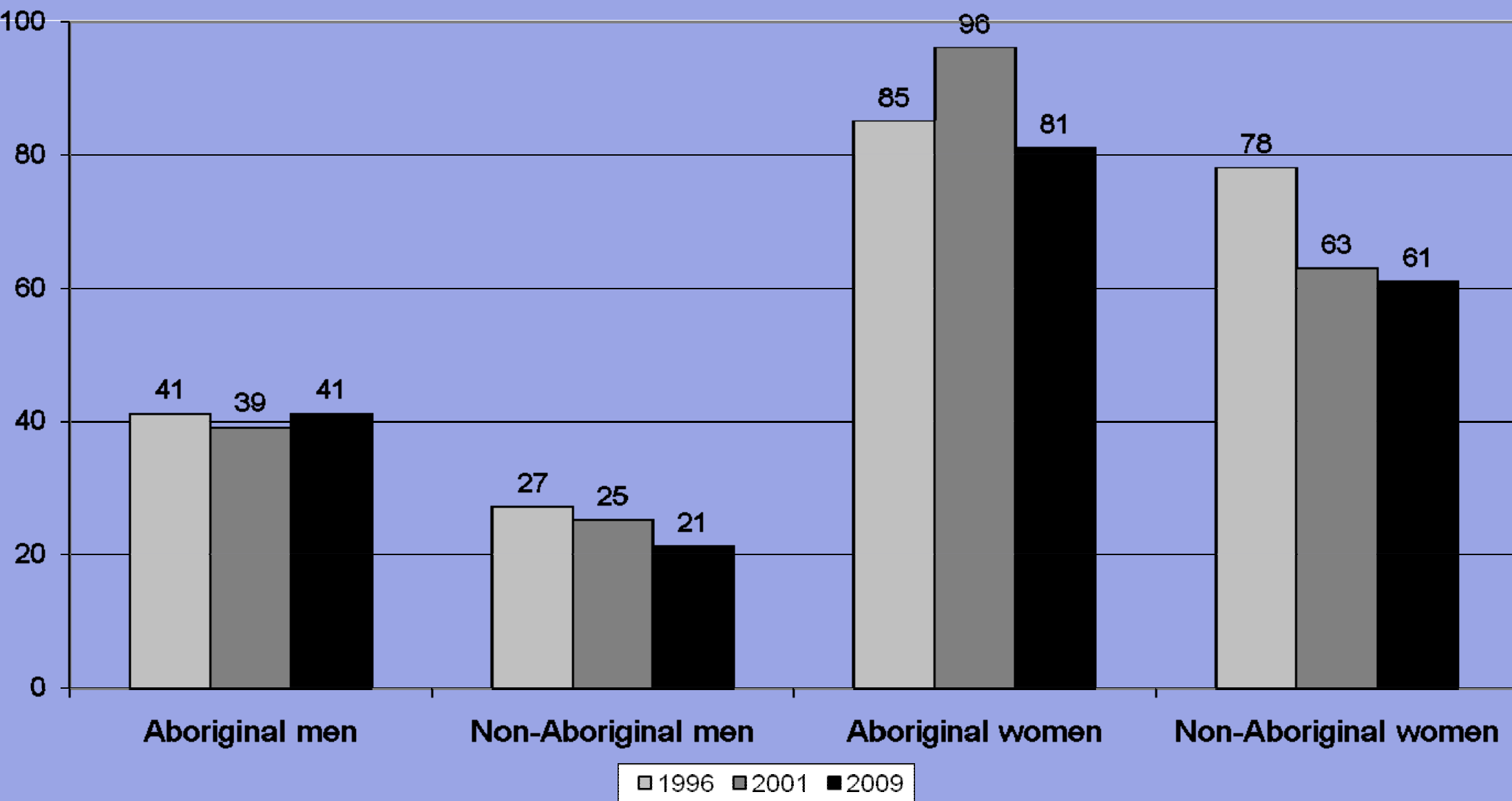
### No visits by family/friends in last 4 weeks, by Aboriginality and sex, Inmate Health Survey 2001 and 2009



# Think family/friends had problems as a results of alcohol, Inmate Health Survey 2009

Multiple response	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
Mother	28%	13%	30%	21%
Father	36%	27%	34%	30%
Husband/wife/partner	17%	9%	38%	24%
Children	4%	3%	4%	5%
Other family members	45%	23%	42%	23%
No one	32%	55%	28%	44%

### Ever in a violent relationship by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



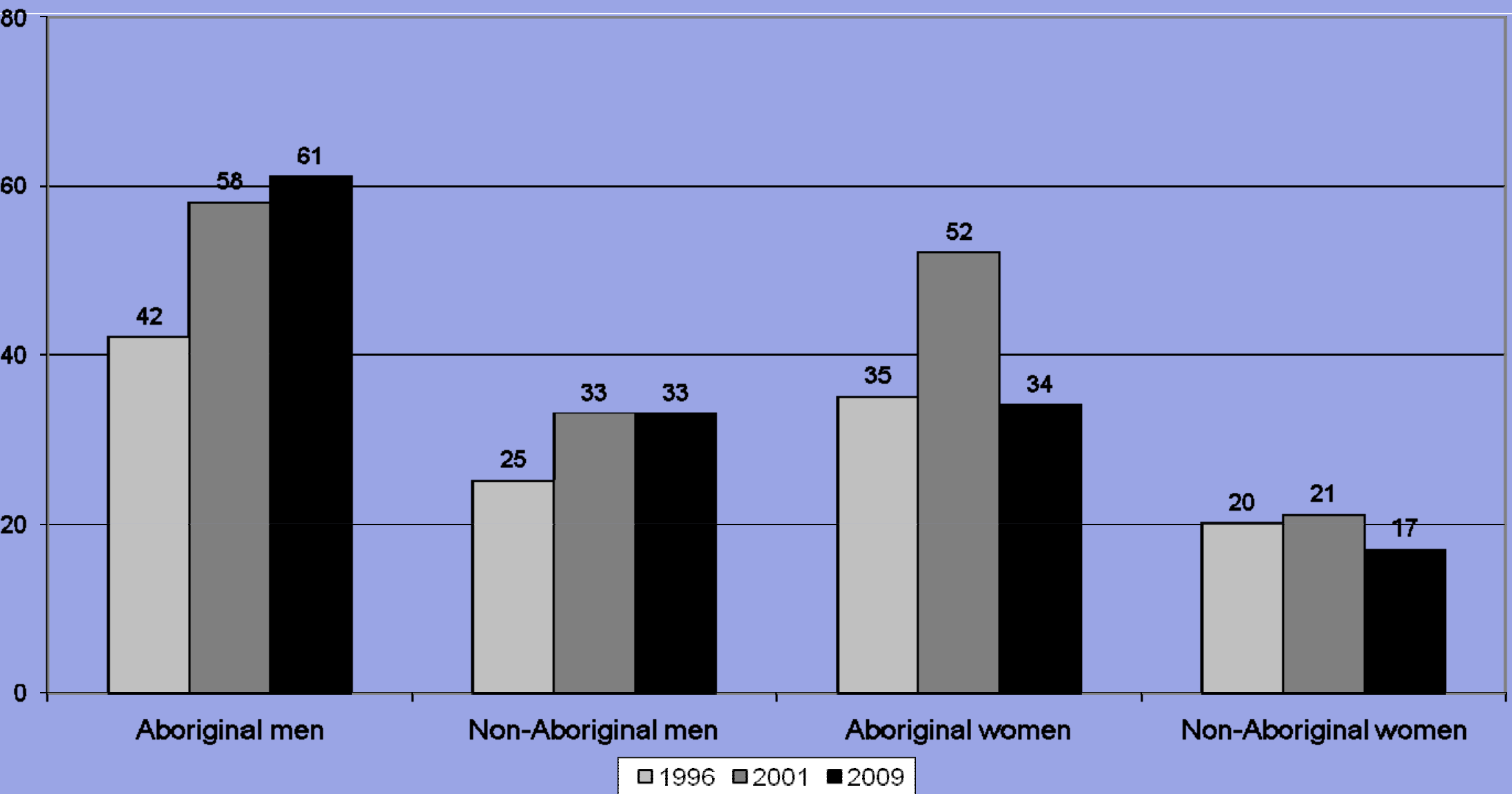
# Partner abuse among women in 12 months before prison, Inmate Health Survey 2001 and 2009

	Aboriginal women		Non-Aboriginal women	
	2001	2009	2001	2009
Physically hurt you	50	25	28	26
Forced unwanted sex	21	9	10	9
Tried to limit contact with family	38	26	24	24
Verbally abused you	54	38	44	42
Stopped you knowing about/accessing money	25	23	20	19
Any form of abuse (as above)	58	40	54	47

# Prison/detention history



## Ever been in juvenile detention by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



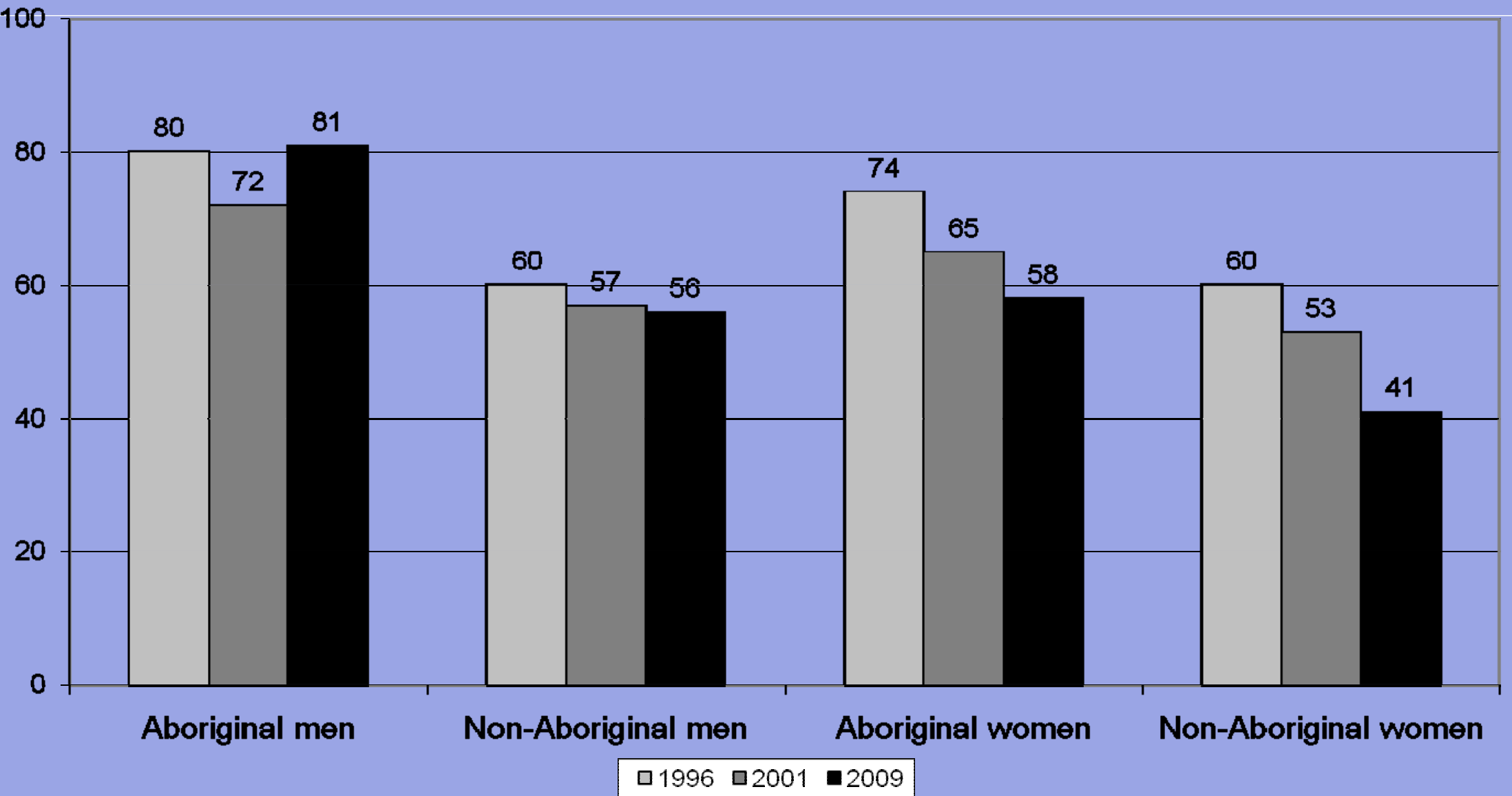
# Age at first juvenile detention (if any), Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
10 years and under	6%	5%	6%	0%
11-13 years	31%	23%	28%	35%
14 years	22%	21%	17%	17%
15 years	17%	18%	6%	30%
16 years	16%	20%	28%	4%
17-18 years	8%	14%	17%	13%

# Most serious offence juvenile detention (if any), Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
Property	4%	6%	6%	0%
Assault	15%	18%	11%	16%
Robbery	56%	46%	56%	24%
Driving	7%	3%	0%	0%
Other	18%	27%	27%	60%

### Ever previously incarcerated by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



# Age at first imprisoned (includes juvenile detention), Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<18 years	8%	4%	4%	2%
18 years	43%	23%	23%	10%
19 years	15%	12%	11%	5%
20-24 years	17%	28%	34%	25%
25-29 years	4%	7%	9%	10%
30-39 years	8%	9%	9%	17%
40-49 years	3%	10%	6%	21%
50+ years	2%	7%	4%	10%

# Number of times in prison, Inmate Health Survey 2009

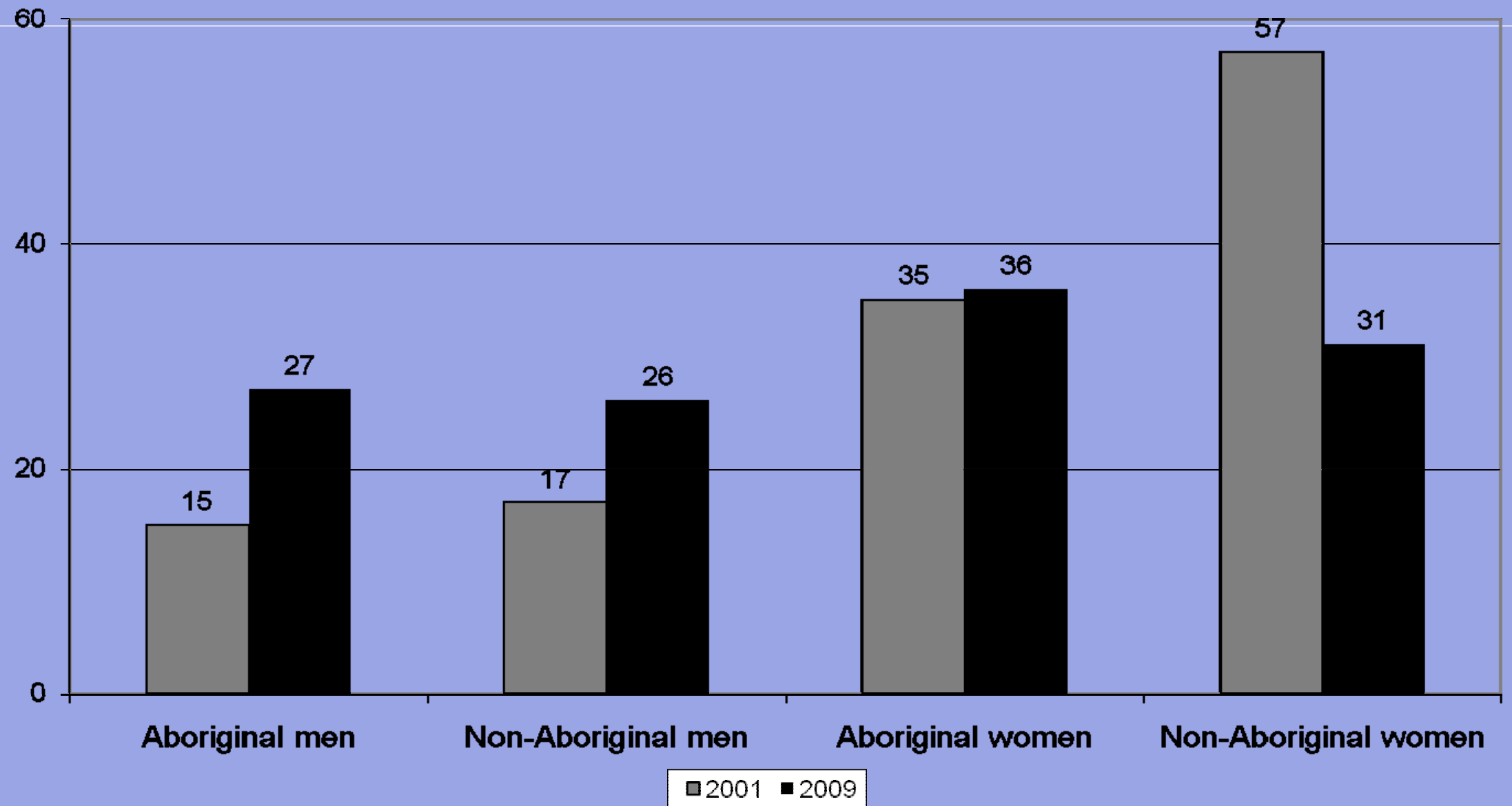
	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
<b>First time</b>	19%	44%	42%	59%
<b>Twice</b>	21%	22%	25%	20%
<b>3-4 times</b>	26%	18%	4%	12%
<b>5-6 times</b>	15%	8%	19%	5%
<b>7-9 times</b>	9%	4%	6%	1%
<b>10+ times</b>	10%	4%	6%	3%

## Most serious offence, Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
Homocide	7%	9%	10%	8%
Assault	28%	23%	16%	9%
Robbery	10%	13%	14%	5%
Property/break and enter	19%	12%	18%	7%
Driving	7%	8%	2%	4%
Drugs	4%	11%	4%	28%
Sexual	6%	5%	2%	2%
Other	19%	20%	34%	37%

Note: Most serious offence based on conviction if sentenced and on charge if on remand.

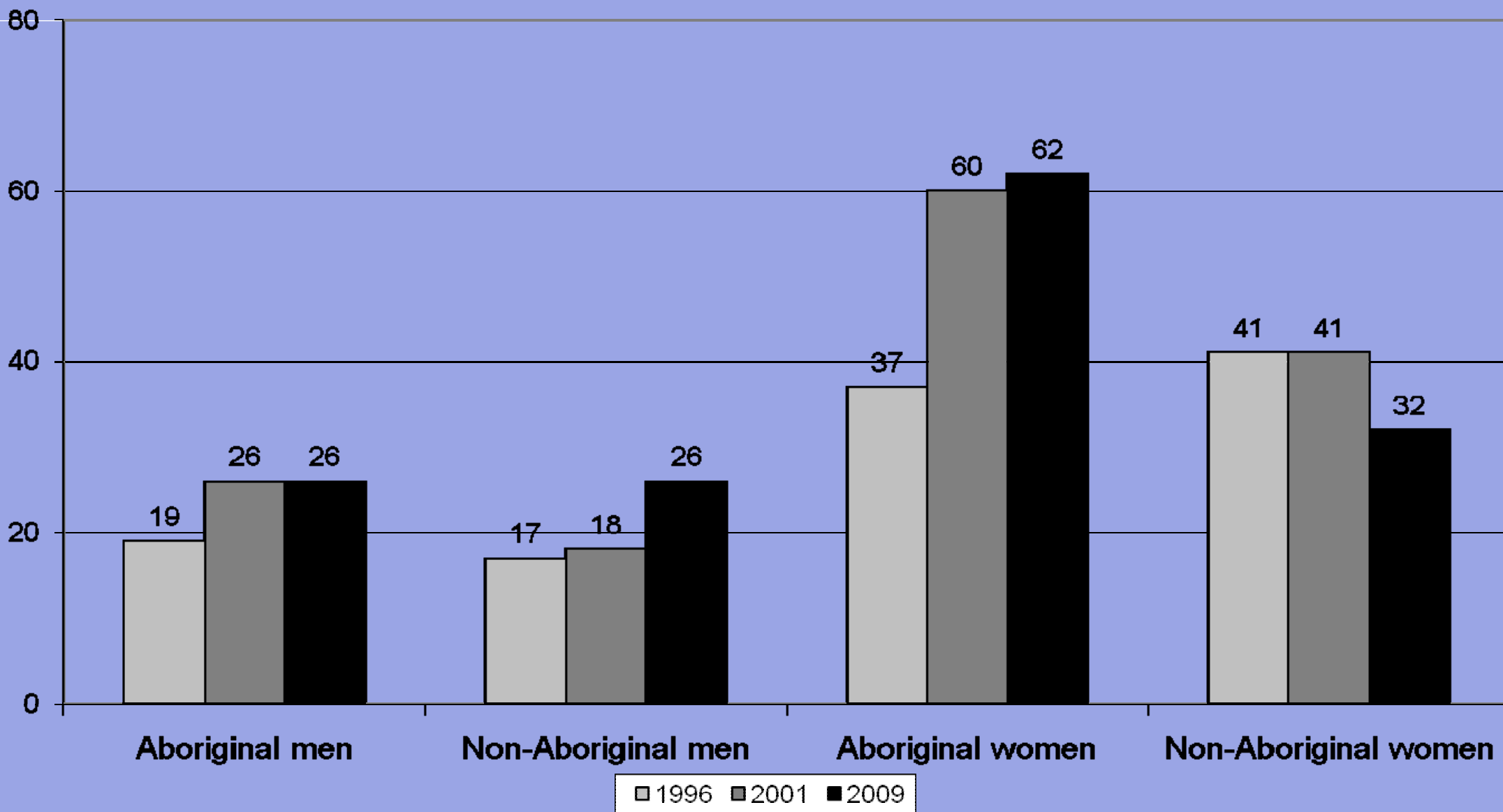
### Currently on remand by Aboriginality and sex, Inmate Health Survey 2001 and 2009



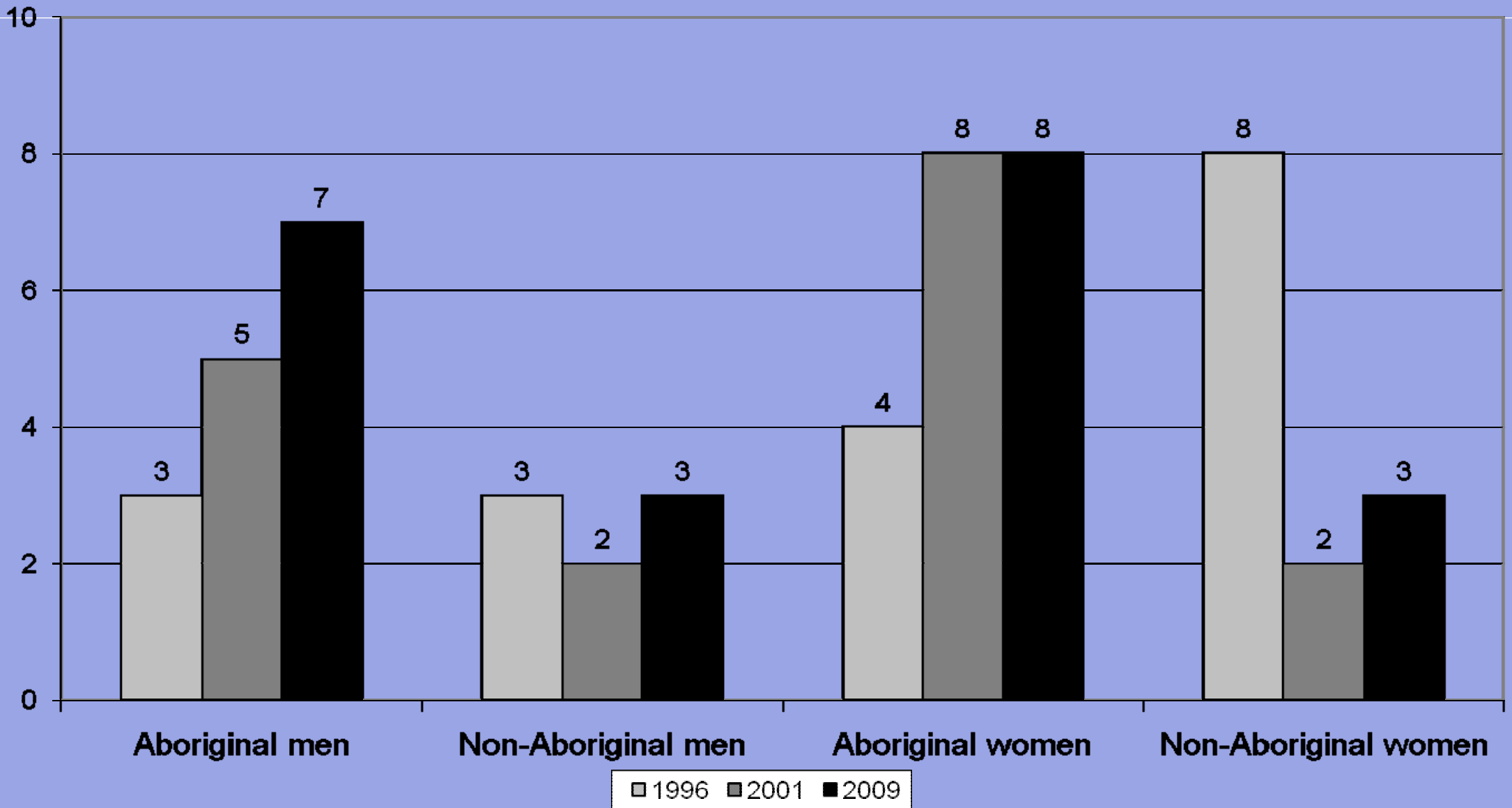


# Physical health

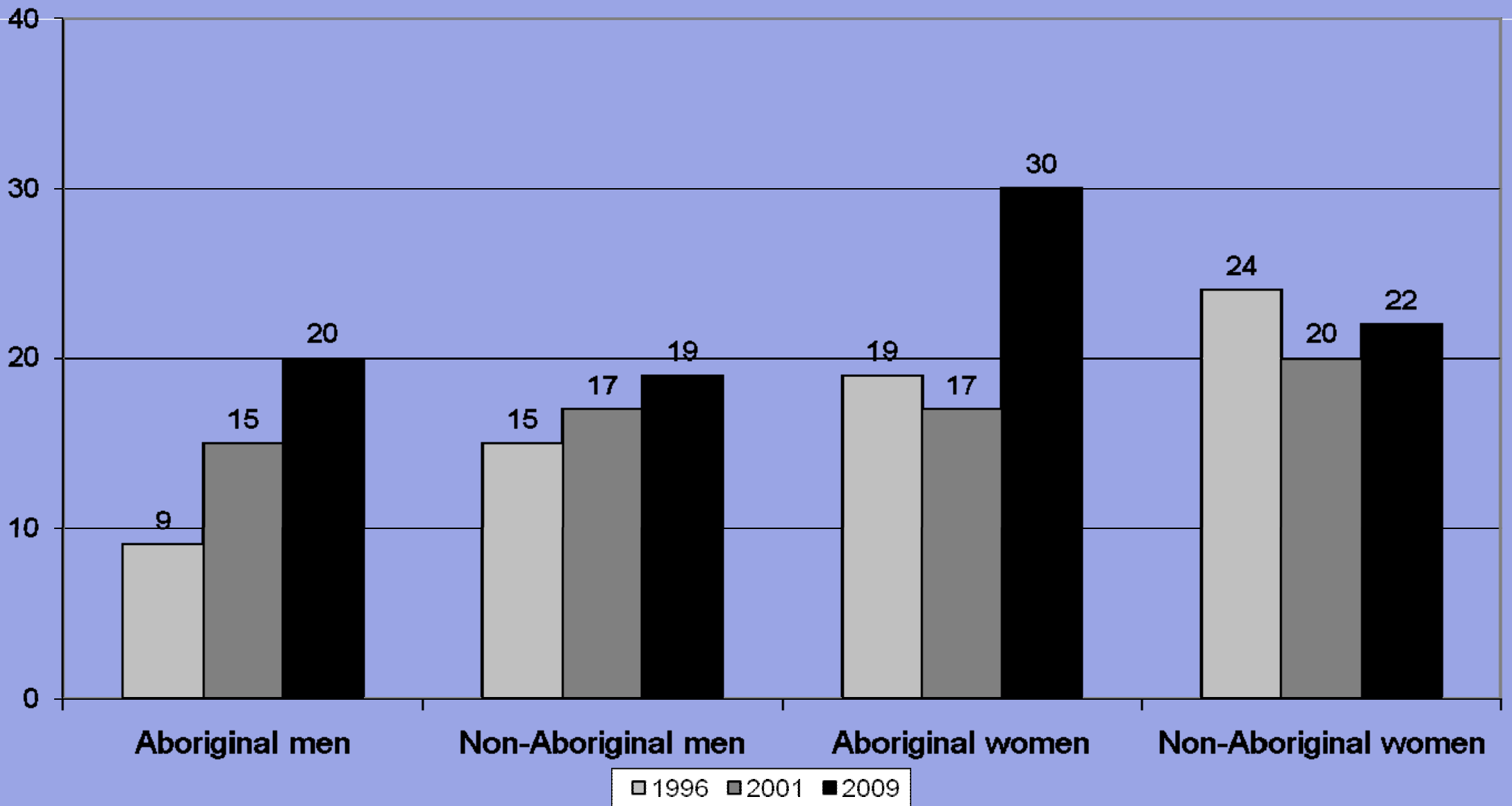
**Ever been told by a doctor that you have asthma  
by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009**



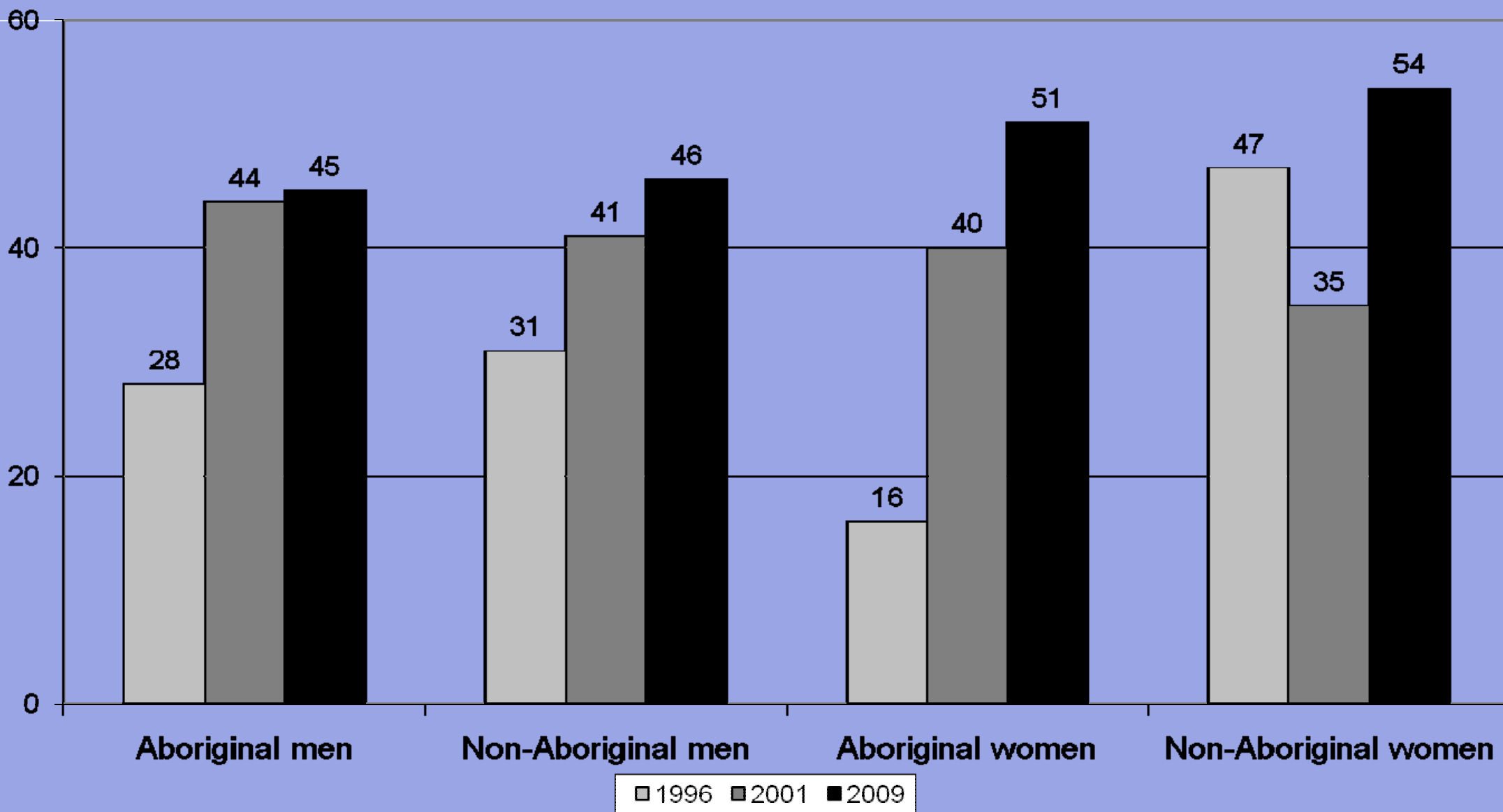
**Ever been told by a doctor that you have diabetes  
by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009**



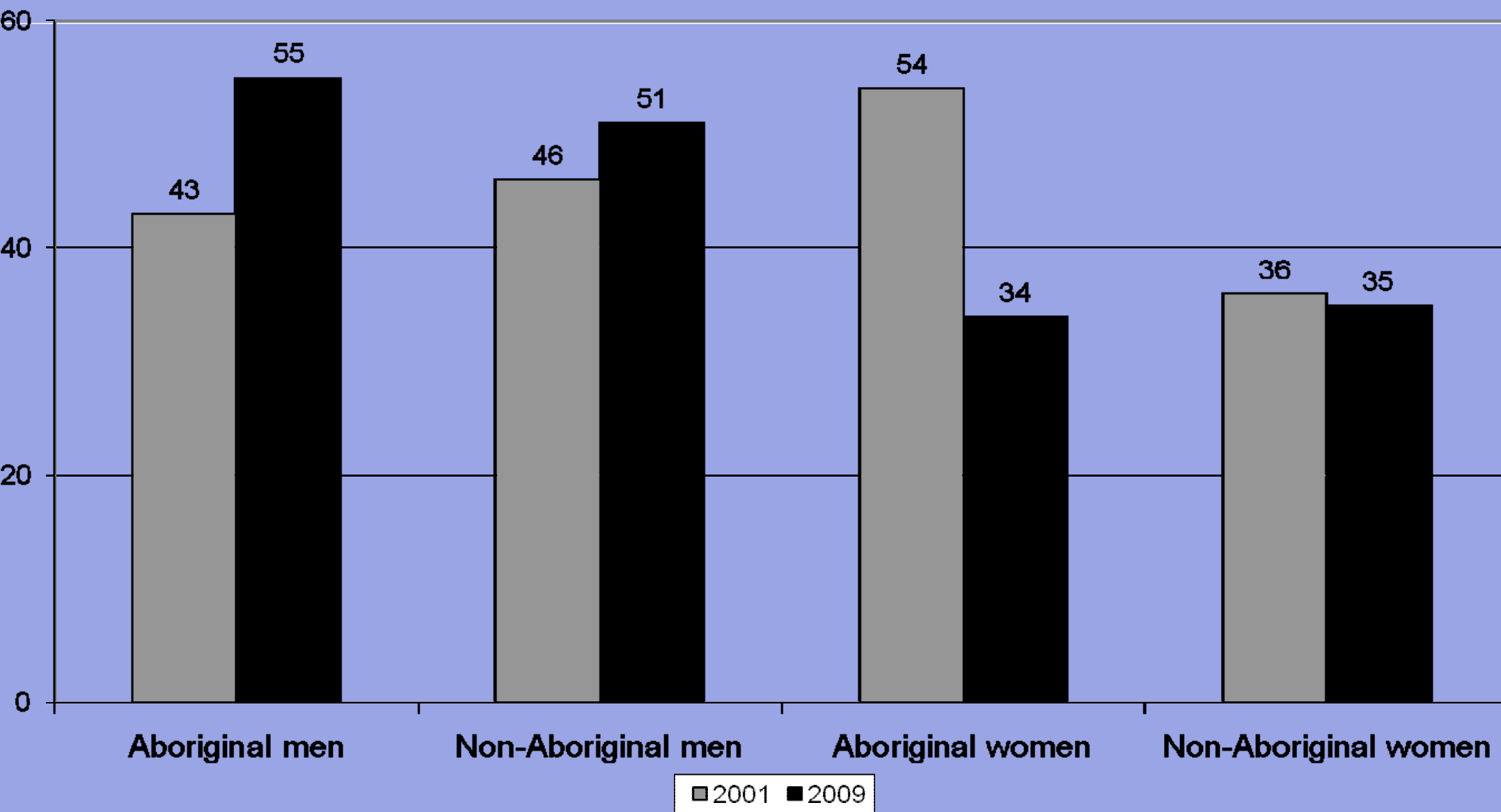
**Ever been told by a doctor that you have a heart condition  
by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009**



**Any illness/disability trouble you 6 months or more  
by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009**

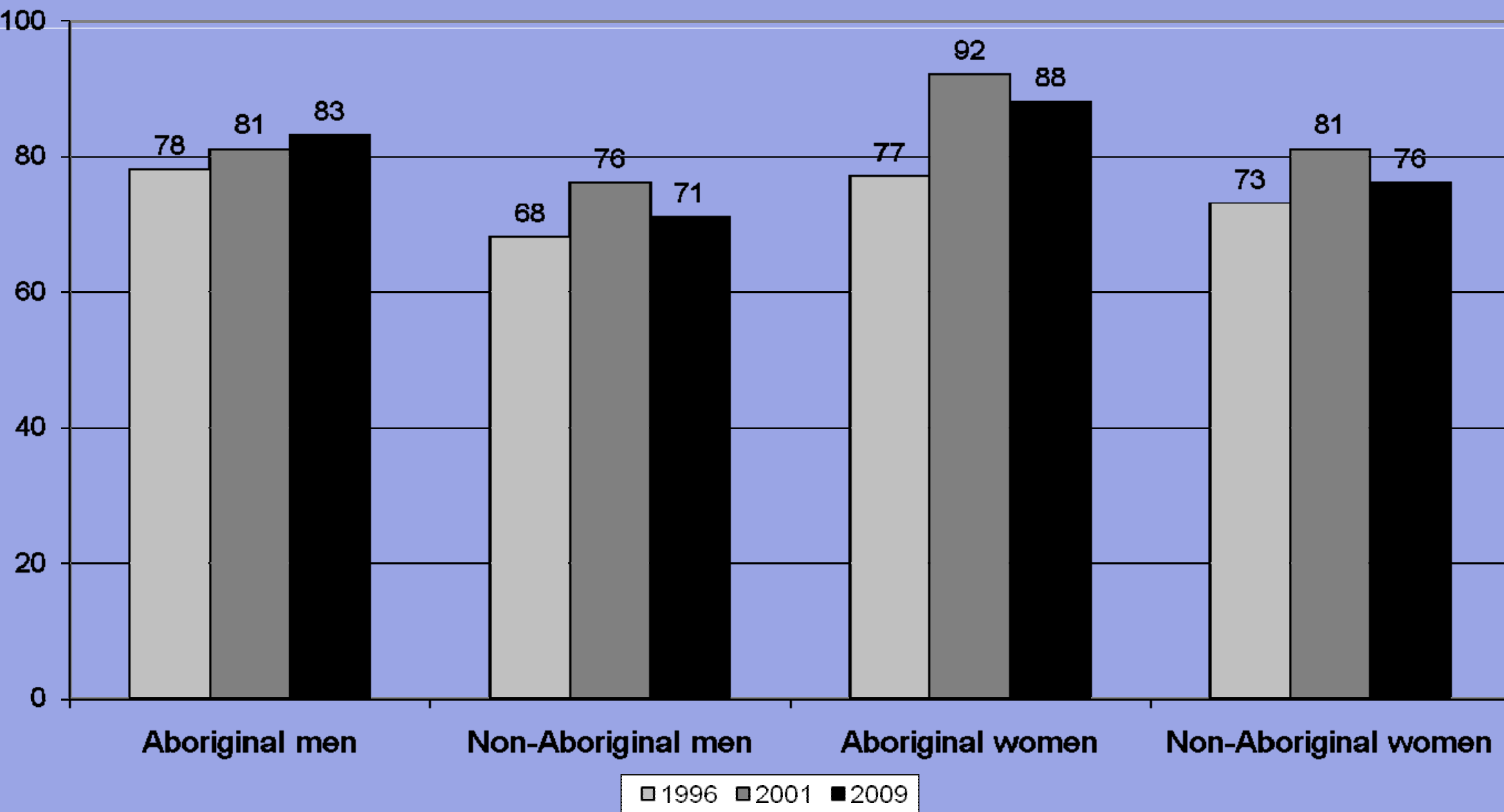


### Ever head injury by Aboriginality and sex, Inmate Health Survey 2001 and 2009



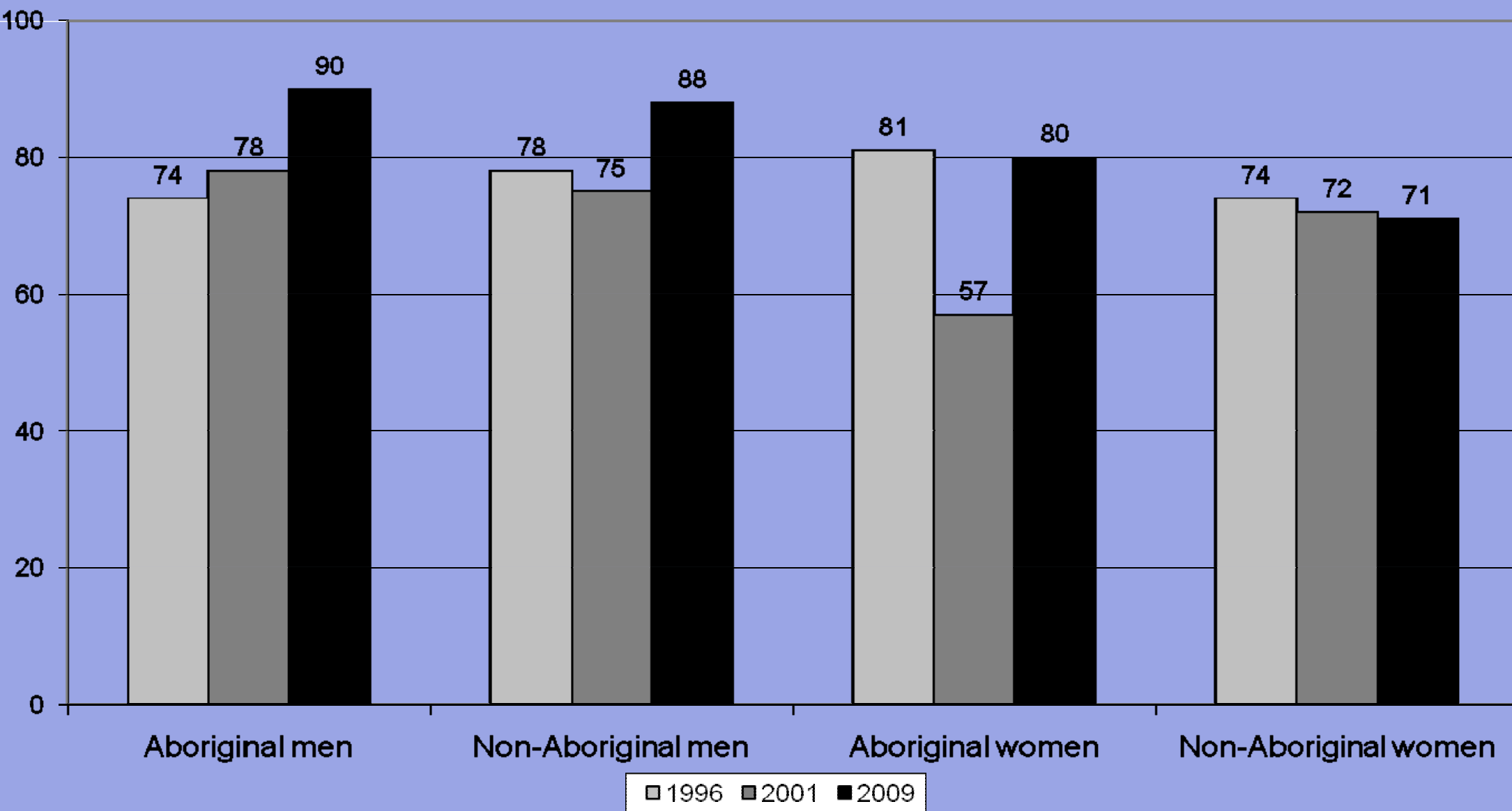
# Smoking, Alcohol and Drugs

### Current smoker by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009

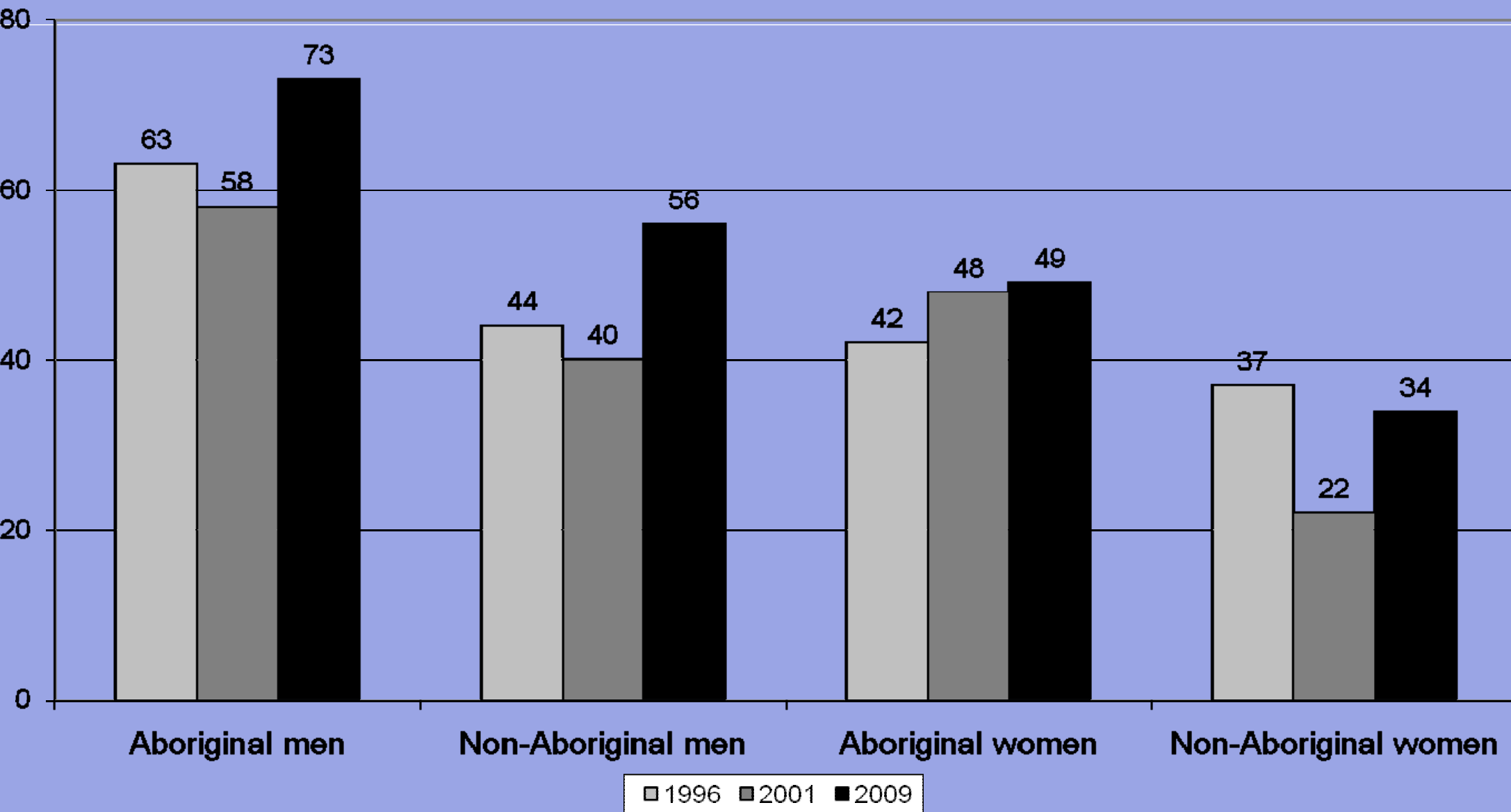




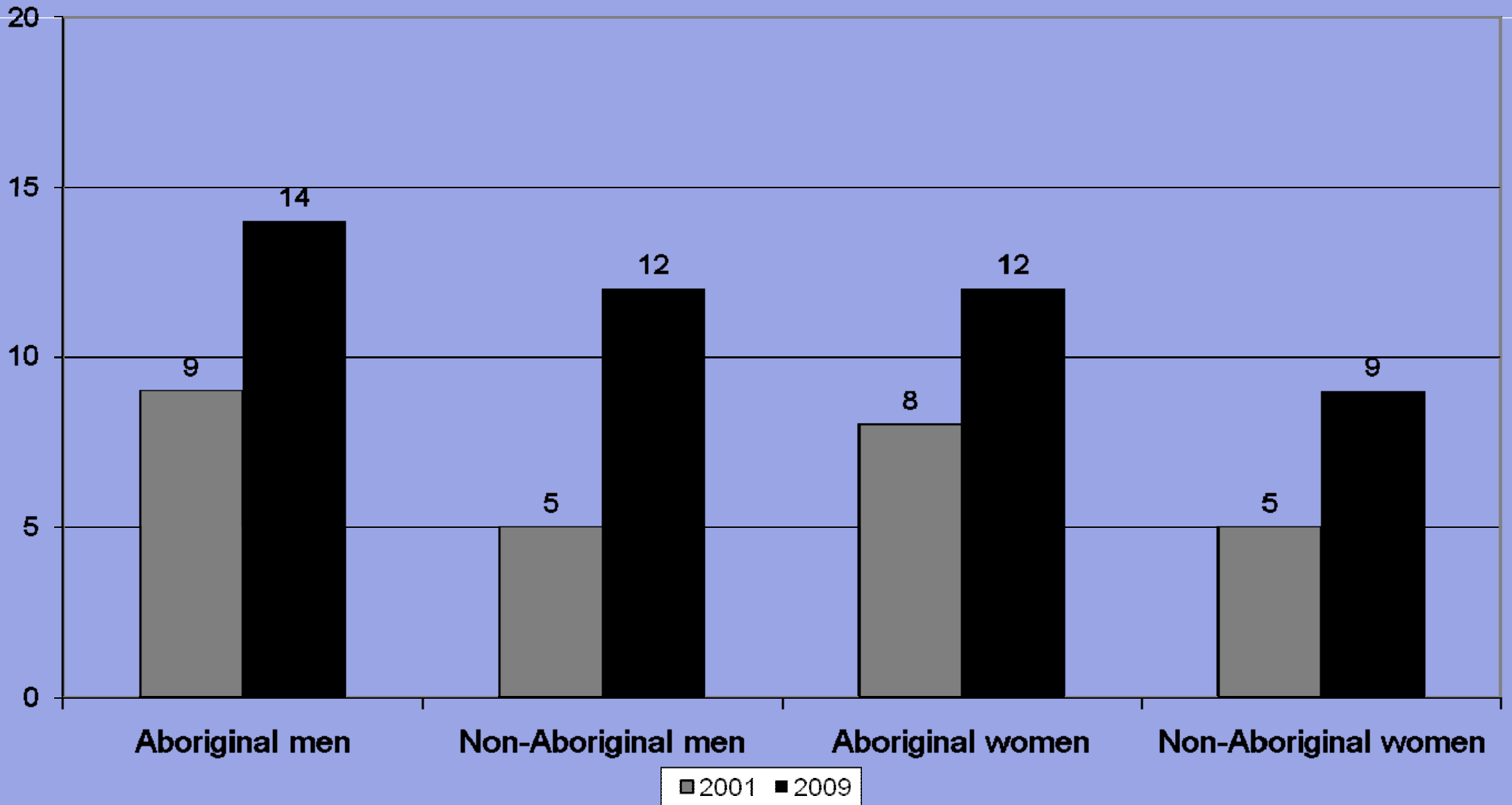
**Like to quit smoking (among smokers) by Aboriginality and sex,  
Inmate Health Survey 1996, 2001 and 2009**



### Risky drinker by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



### Ever told by doctor had alcohol dependence by Aboriginality and sex, Inmate Health Survey 2001 and 2009



# Alcohol and tobacco: community comparisons

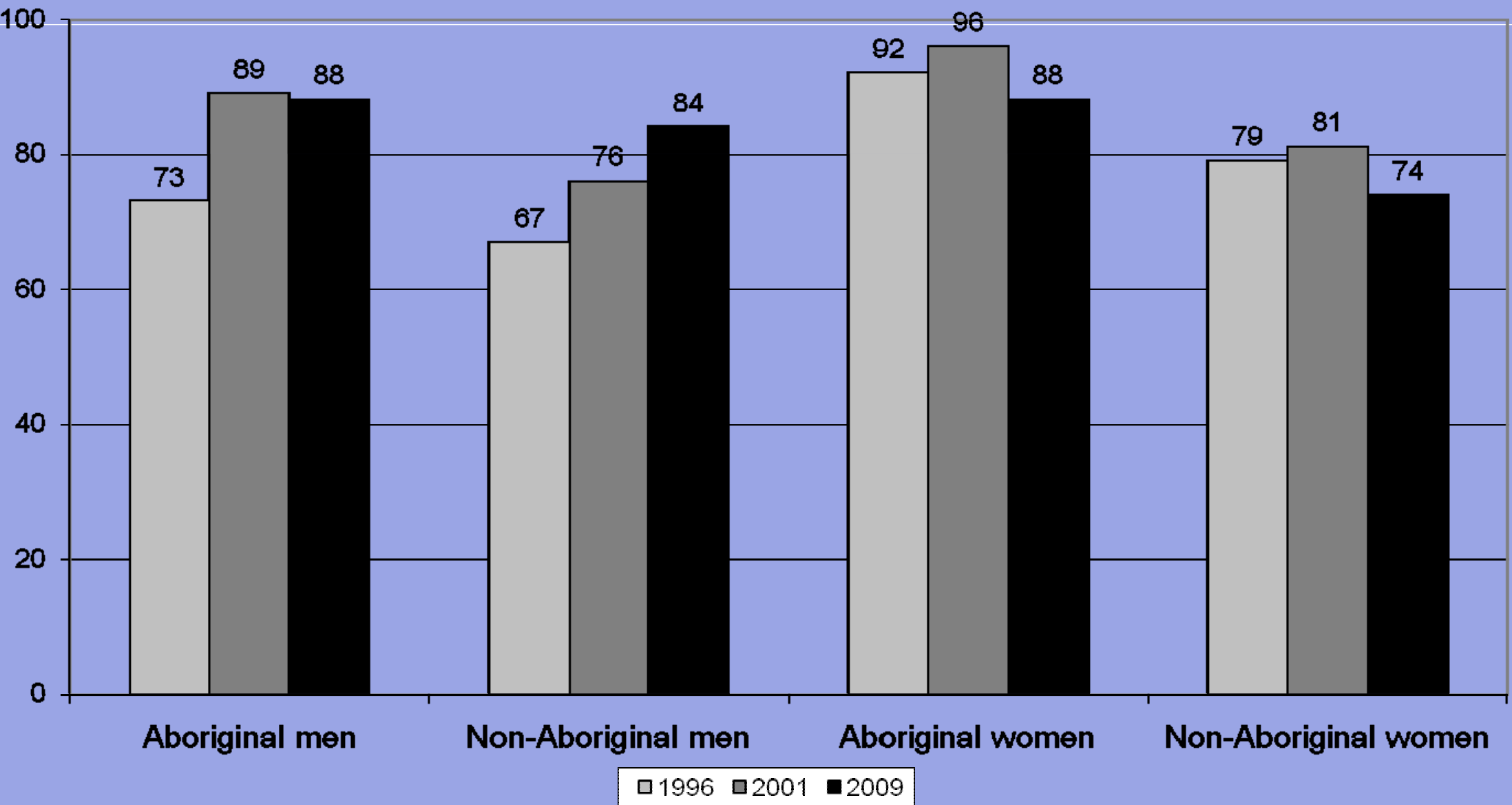
	2009 Inmate Health Survey		2007 National Drug Strategy Household Survey*	
	Males	Females	Males	Females
<b>Current smoker</b>	75	80	18	15
<b>Alcohol consumption</b>				
<b>Non-drinker</b>	27	50	14	20
<b>Safe drinker</b>	24	21	76	69
<b>Hazardous drinker</b>	14	9	6	8
<b>Harmful drinker</b>	34	20	4	3

Sources: 2009 Inmate Health Survey. 2007 NDS Household Survey, First results.

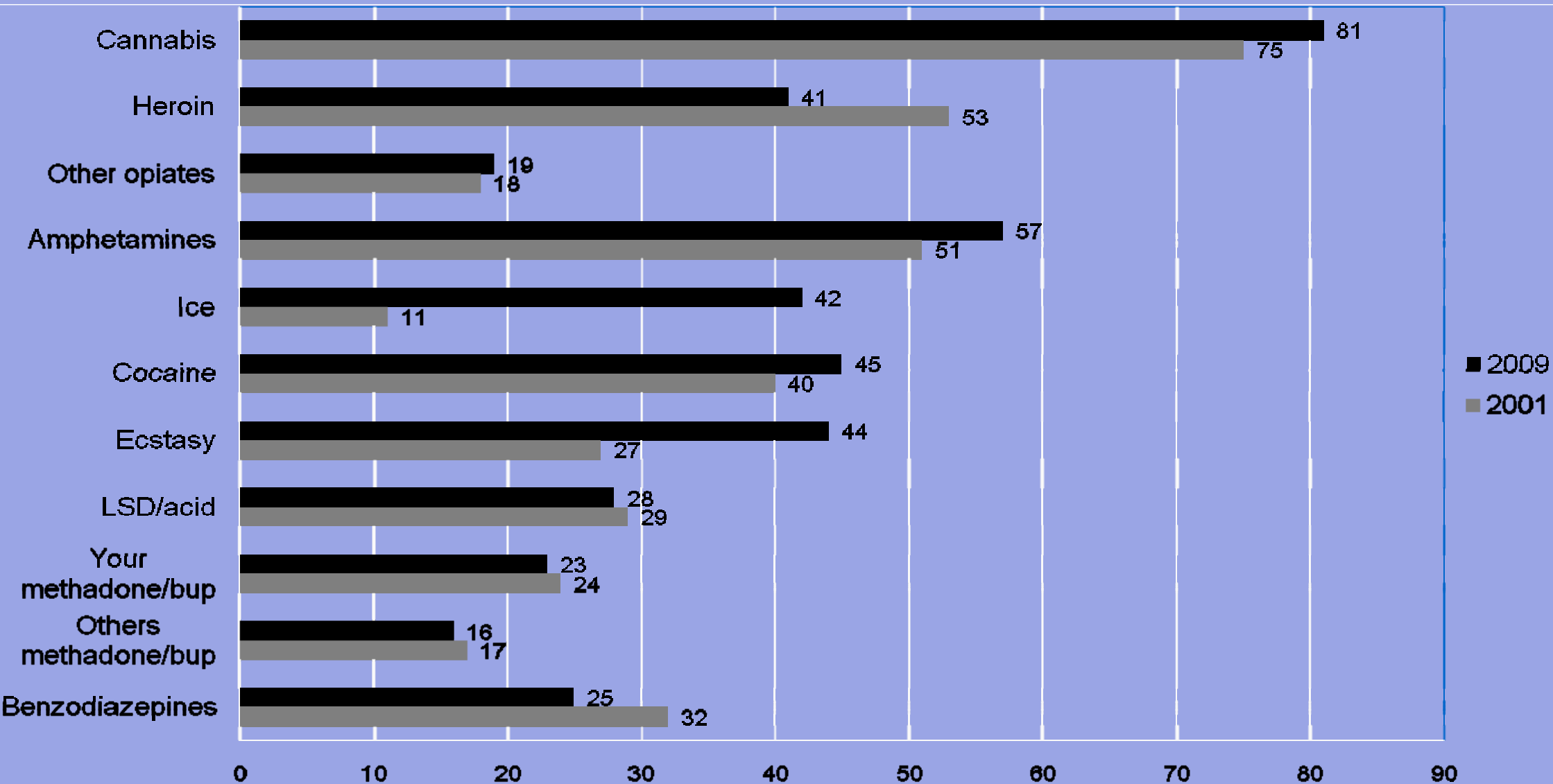
Alcohol consumption for IHS assessed using AUDIT based on 12 months prior to imprisonment.

Alcohol consumption for NDSHS based on NHMRC guidelines (risk in long term).

**Ever use illicit drugs by Aboriginality and sex,  
Inmate Health Survey 1996, 2001 and 2009**



### Ever use drugs by drug type, Inmate Health Survey 2001 and 2009

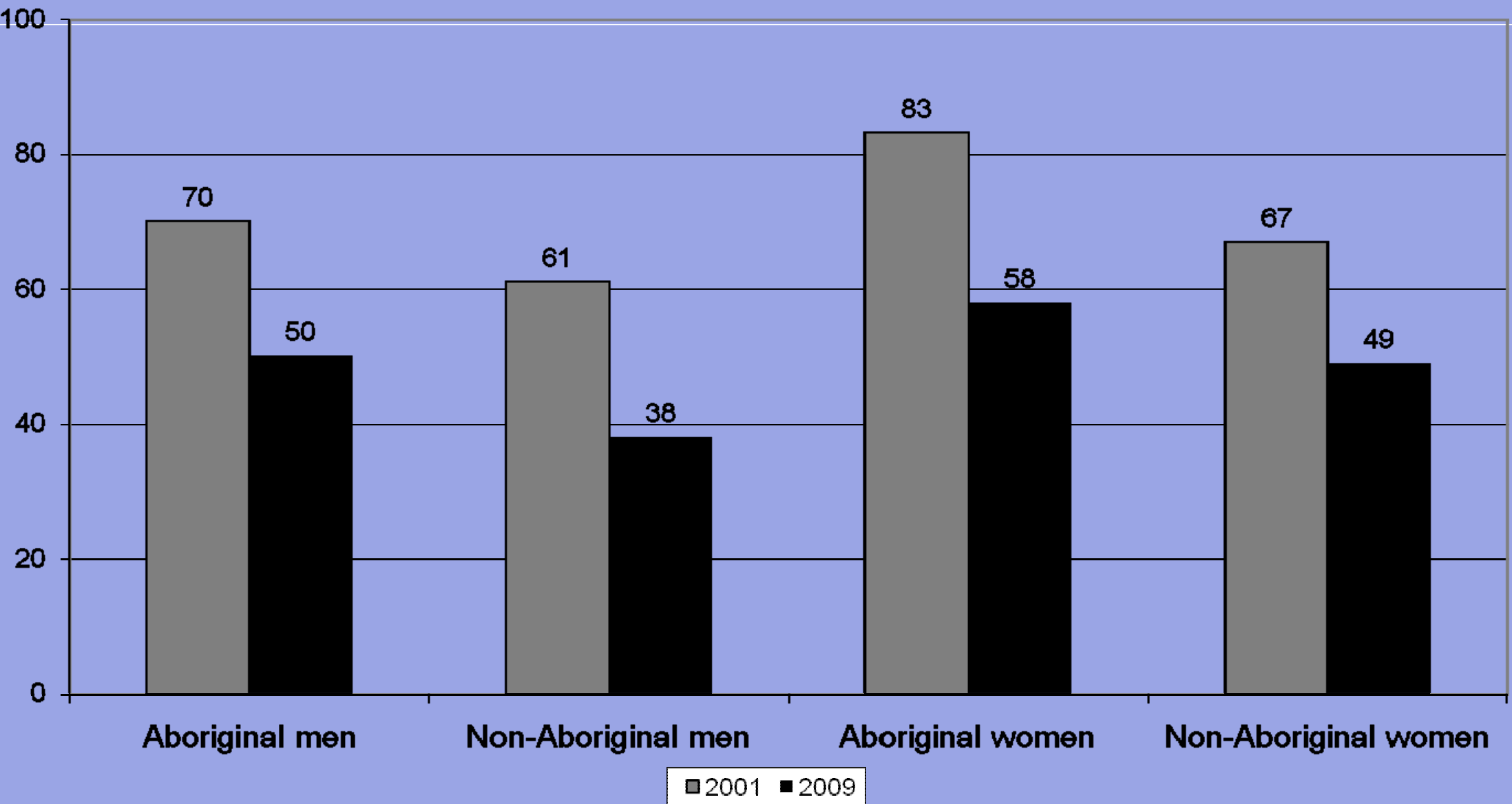


## Ever use drugs: community comparisons

Ever use	2009 Inmate Health Survey		2007 NDSHS*	
	Males	Females	Males	Females
Any drug	86	78	41	35
Cannabis	83	68	37	30
Heroin	38	47	2	1
Amphetamines/ice	60	57	8	5
Cocaine	44	44	7	5
Ecstasy	45	37	10	8
Benzodiazepines	24	28	4	4
Injecting drug use	39	50	3	1

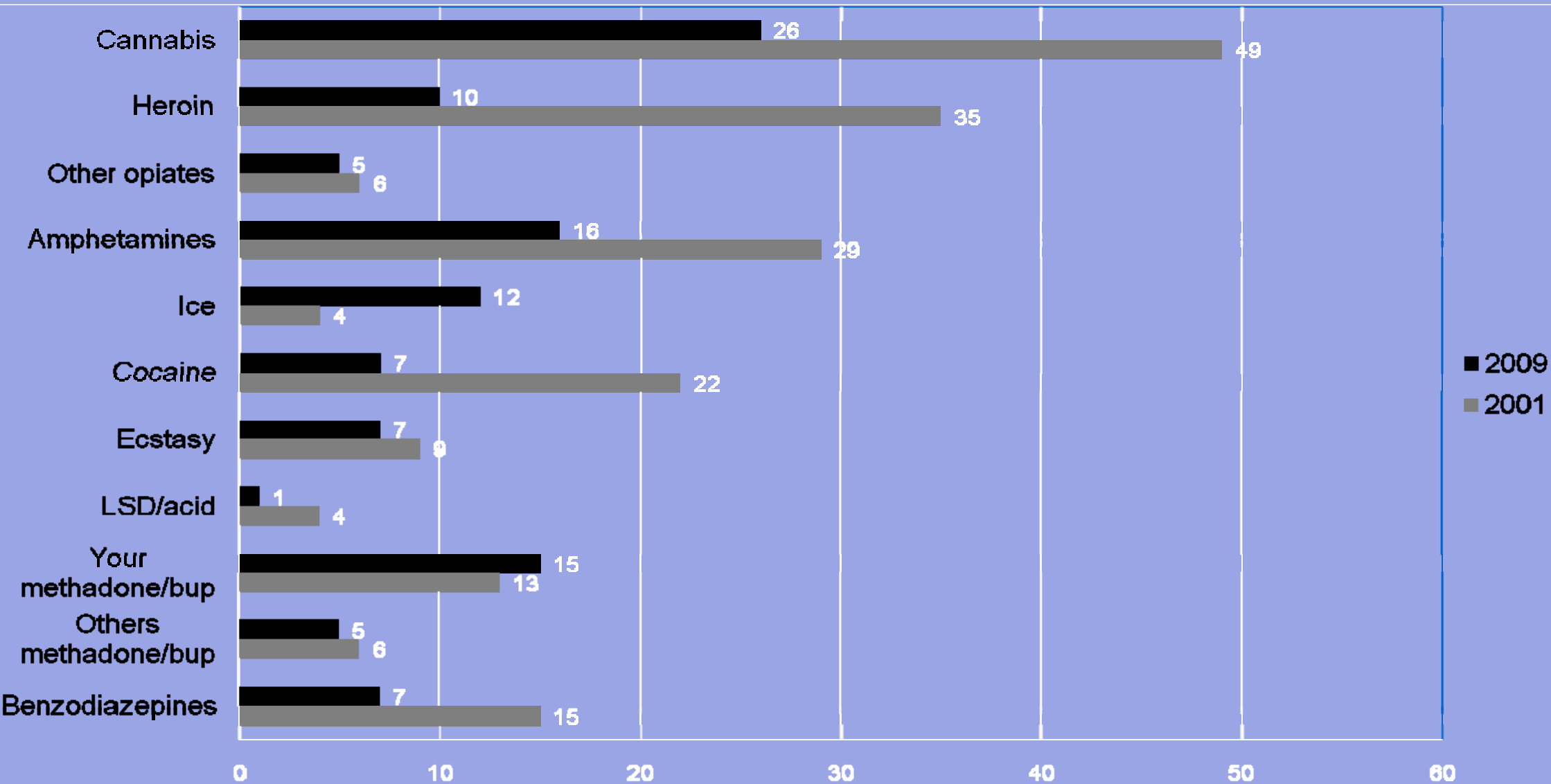
Sources: 2009 Inmate Health Surveys. 2007 NDS Household Survey, First results.

### Use any drugs regularly in year before prison by Aboriginality and sex, Inmate Health Survey 2001 and 2009





## Regularly use drugs in year before prison by drug type, Inmate Health Survey 2001 and 2009

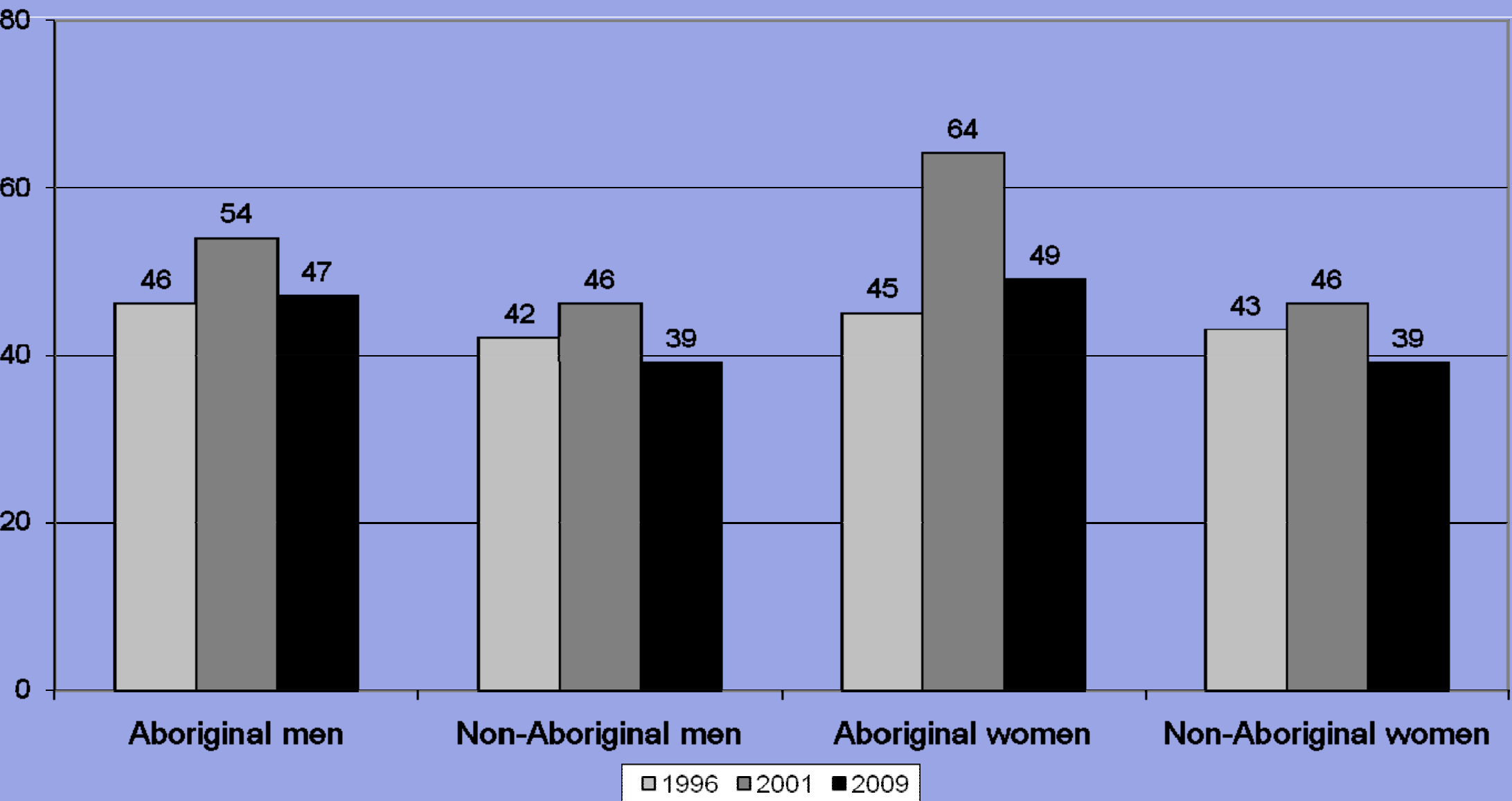


## Recent use drugs: community comparisons

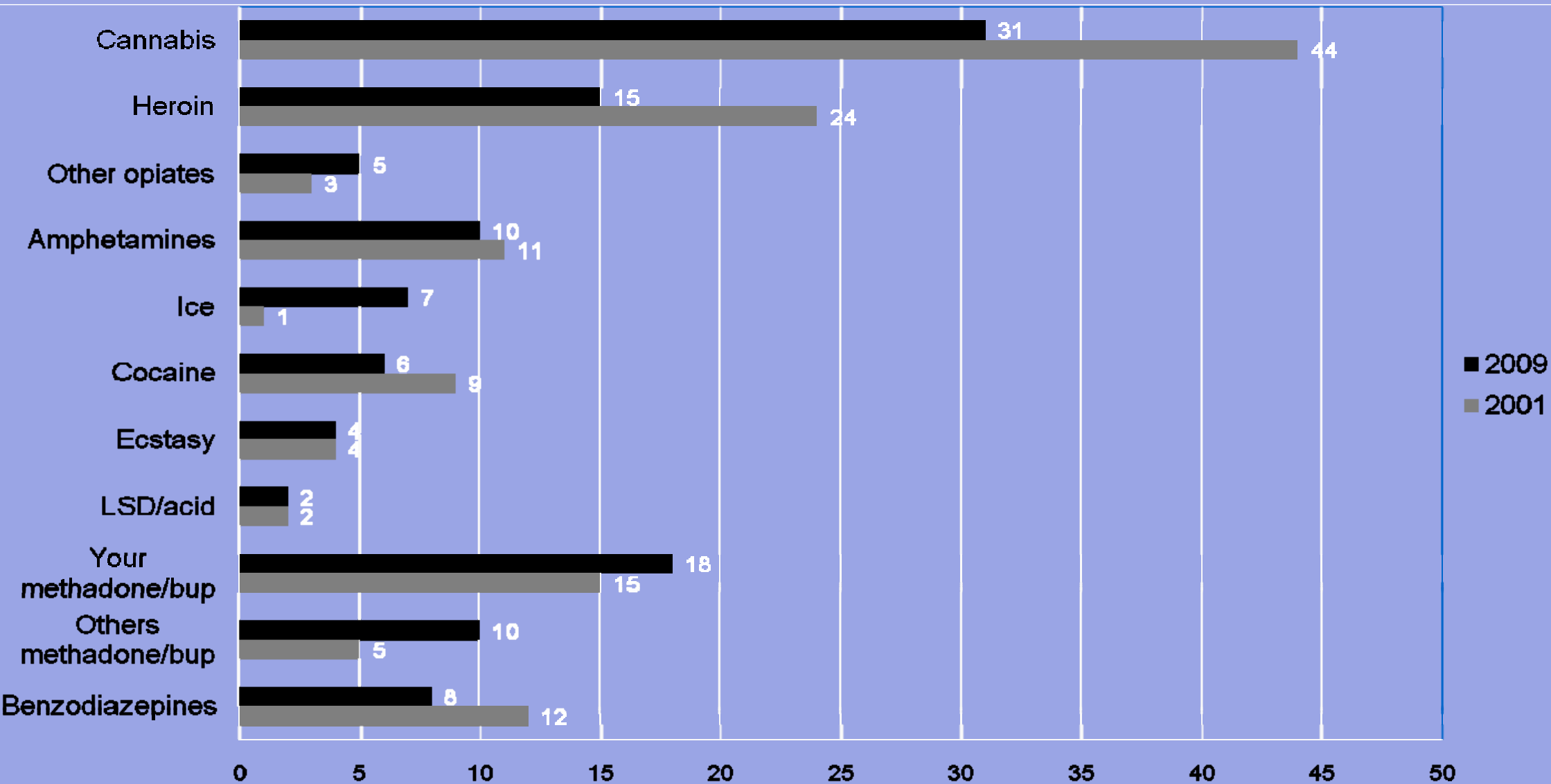
Recent use (last 12 months)	2009 Inmate Health Survey		2007 NDSHS*	
	Males	Females	Males	Females
Any drug	41	51	16	11
Cannabis	26	22	12	7
Heroin	8	17	0.3	0.1
Amphetamines/Ice	17	24	3	2
Cocaine	5	14	1	2
Ecstasy	7	5	4	3
Benzodiazepines	5	14	4	3
Ever drug overdose	21	30	1	1

Sources: 2009 Inmate Health Survey. 2007 NDS Household Survey, First results.

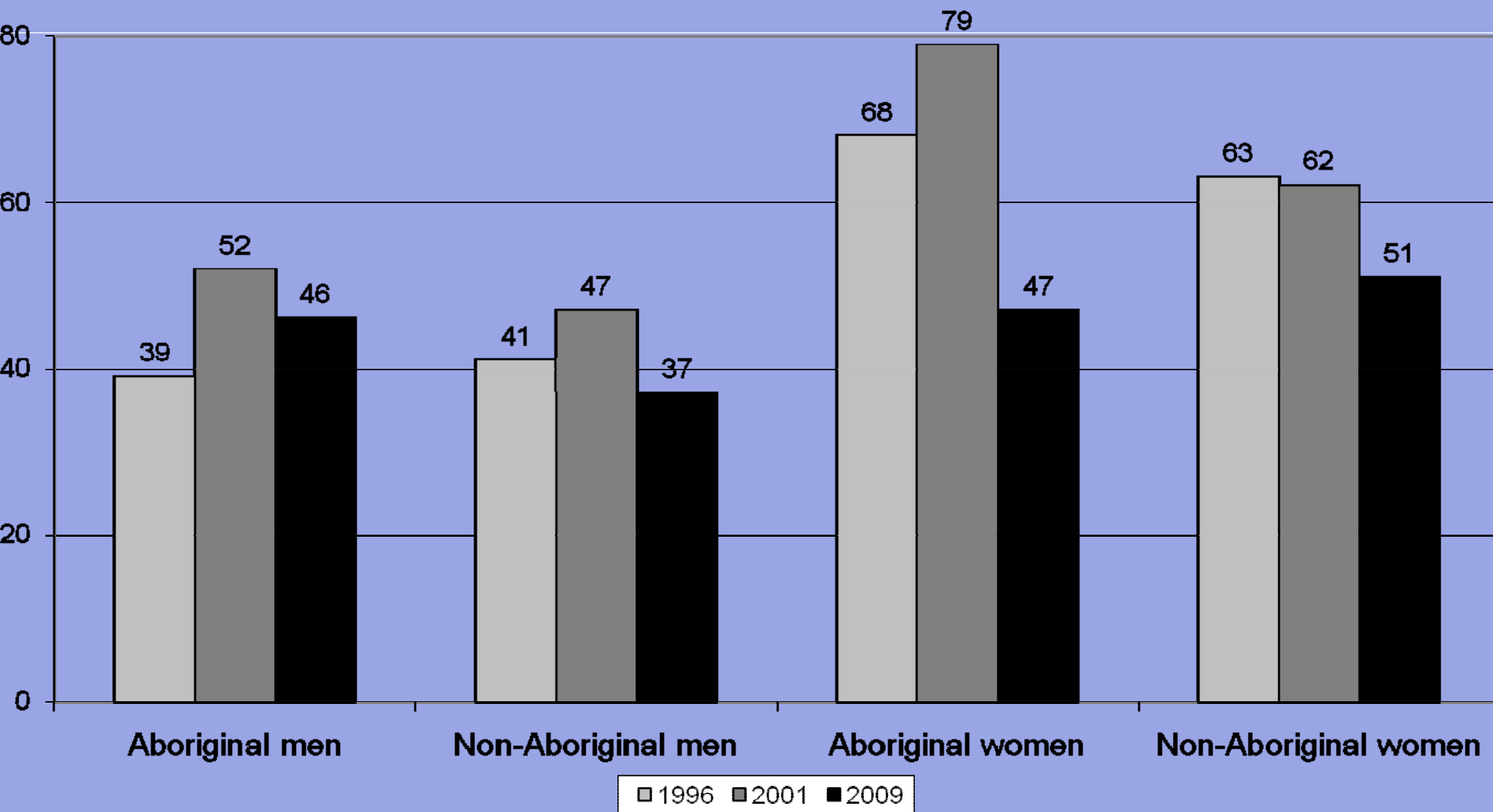
**Ever use drugs in prison by Aboriginality and sex,  
Inmate Health Survey 1996, 2001 and 2009**



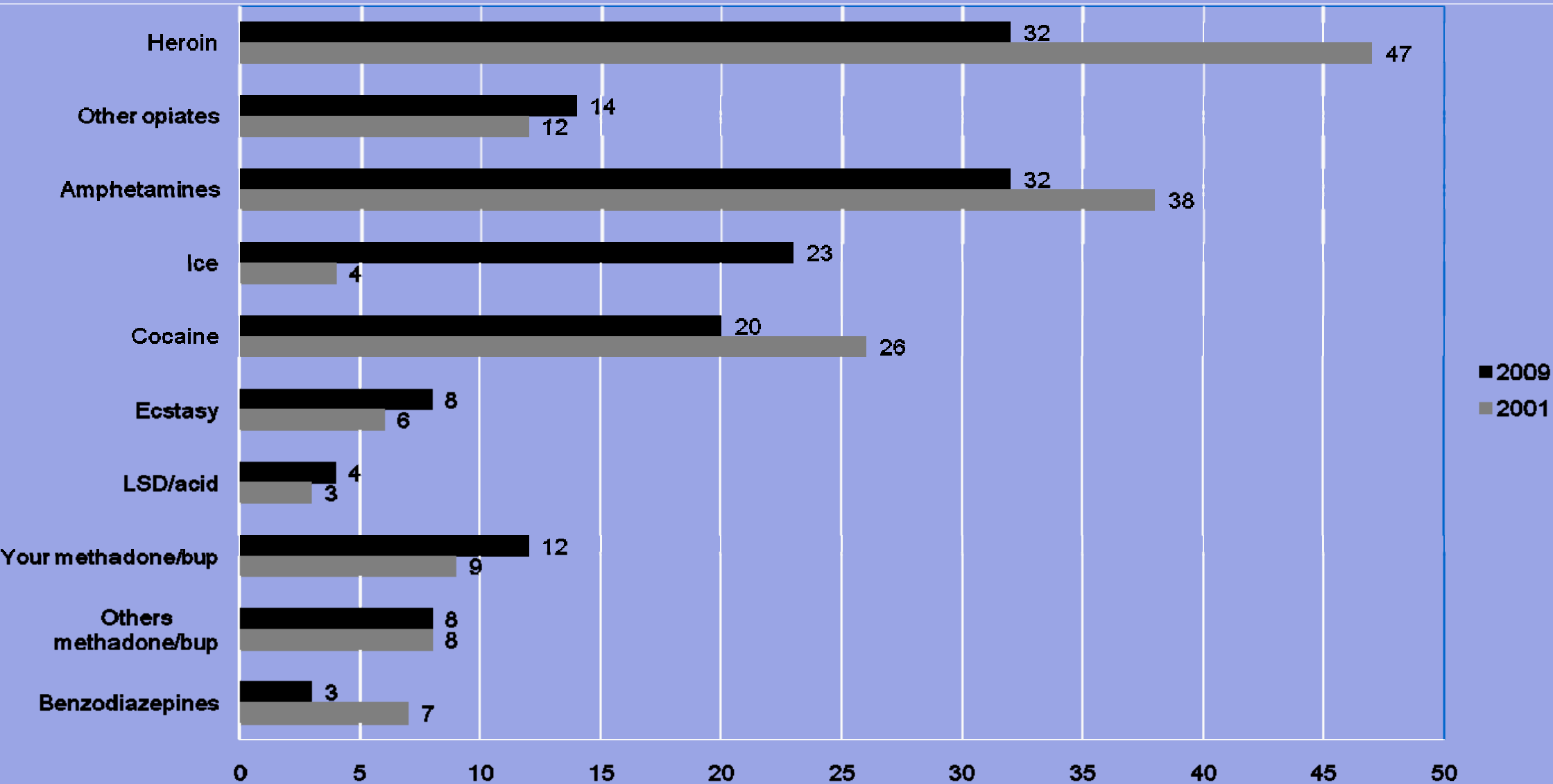
### Ever use drugs in prison by drug type, Inmate Health Survey 2001 and 2009



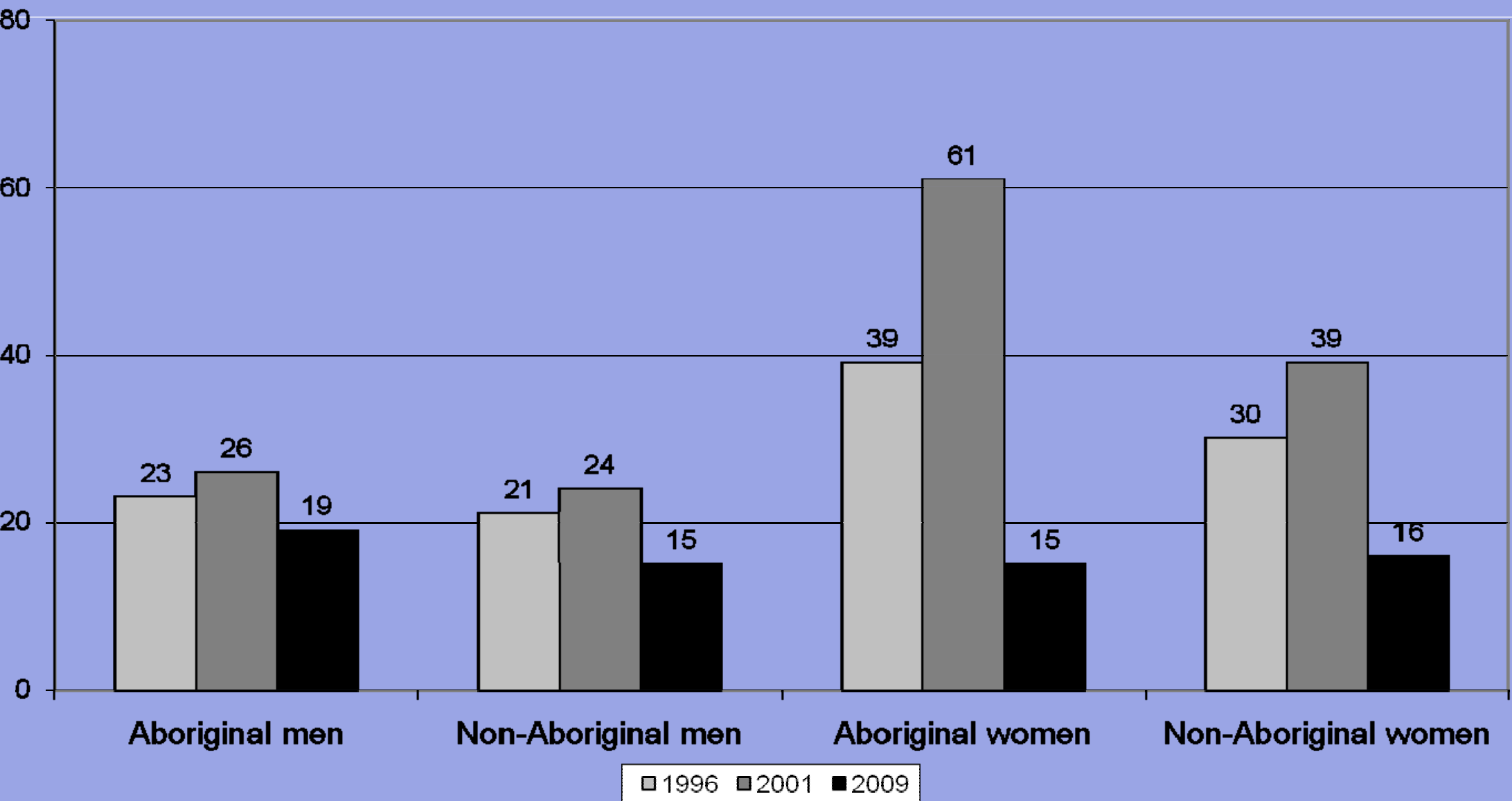
### Ever inject drugs by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



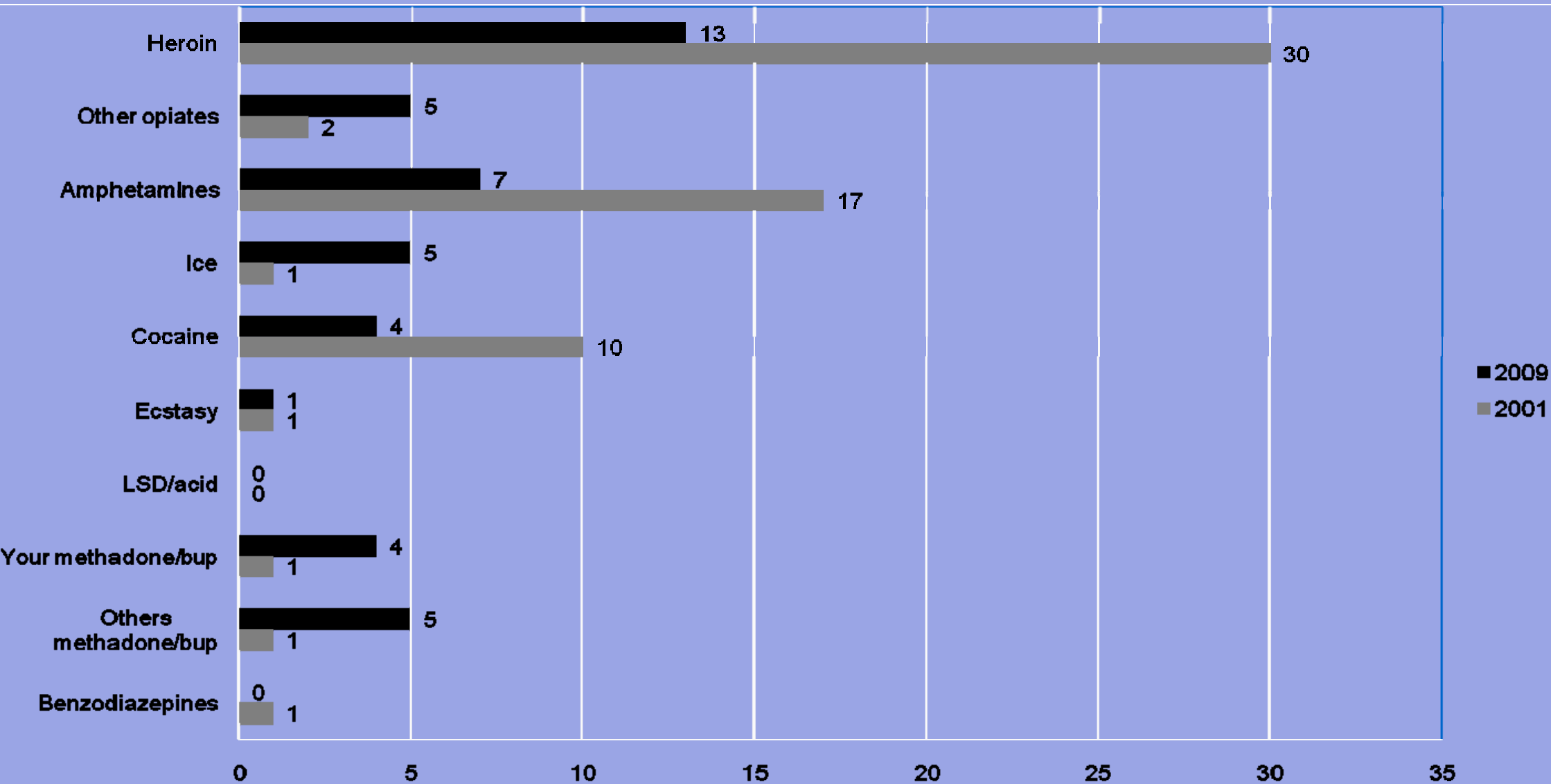
## Ever inject drugs by drug type, Inmate Health Survey 2001 and 2009



### Ever inject drugs in prison by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009

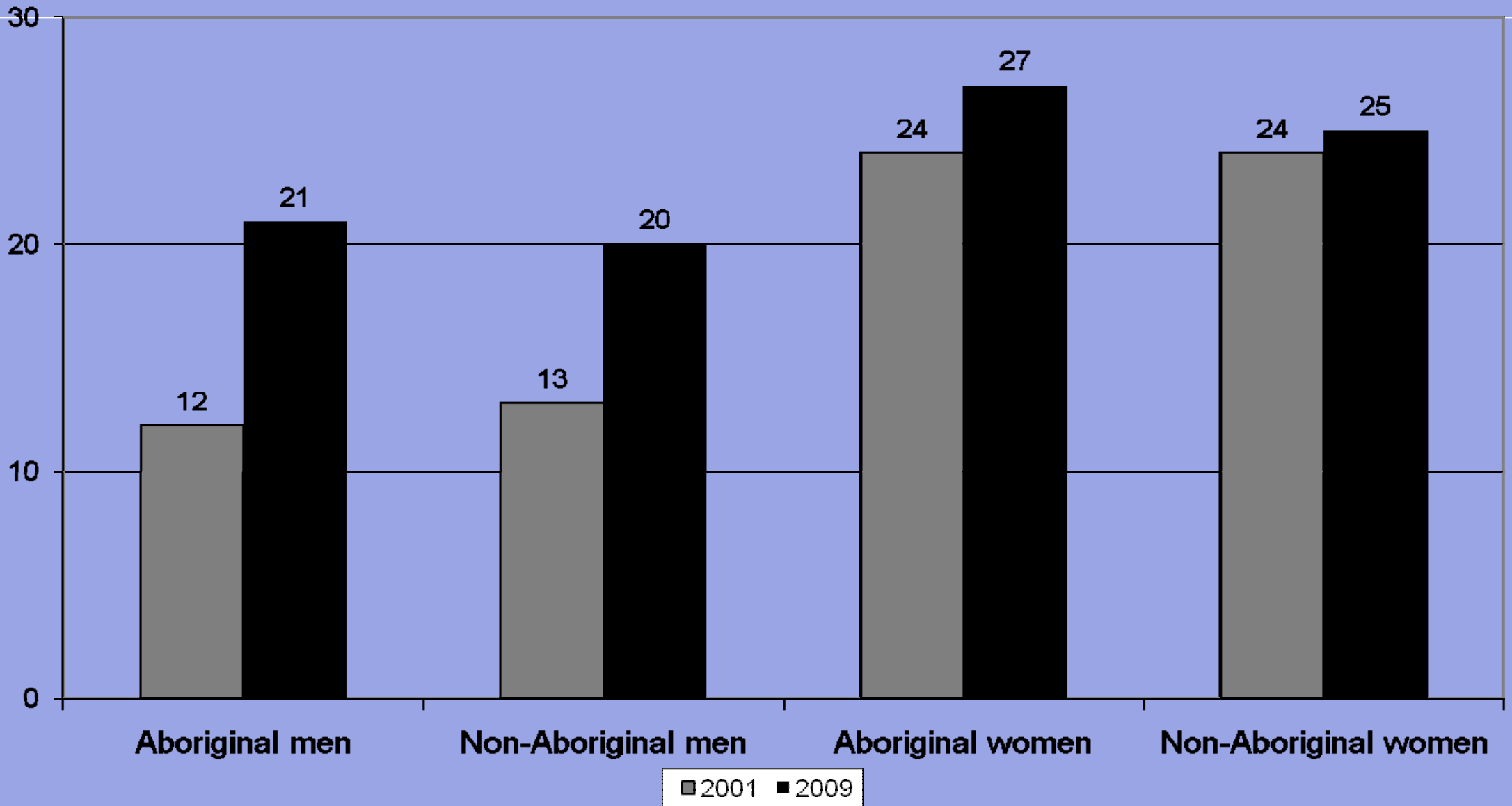


## Ever inject drugs in prison by drug type, Inmate Health Survey 2001 and 2009

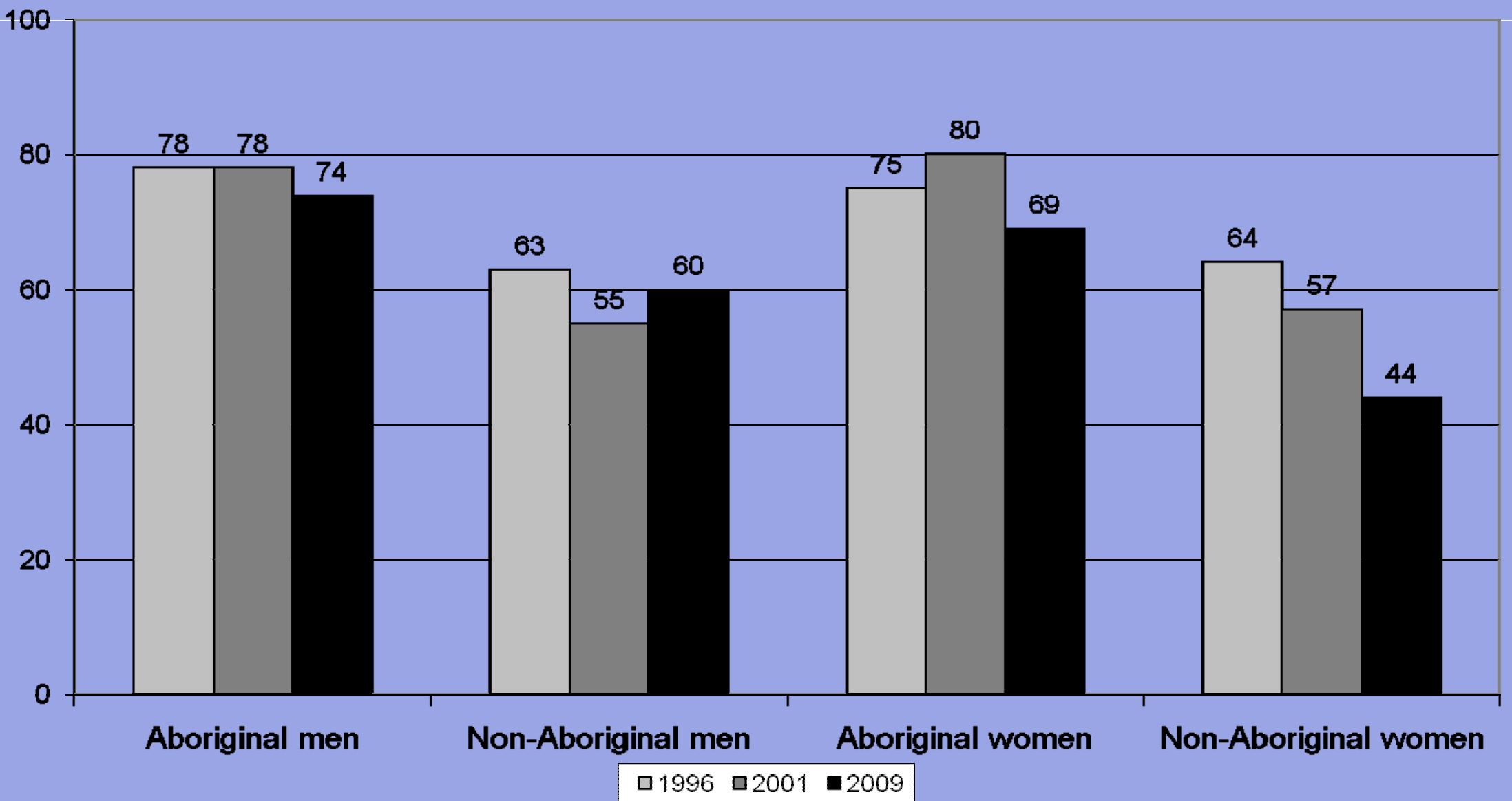




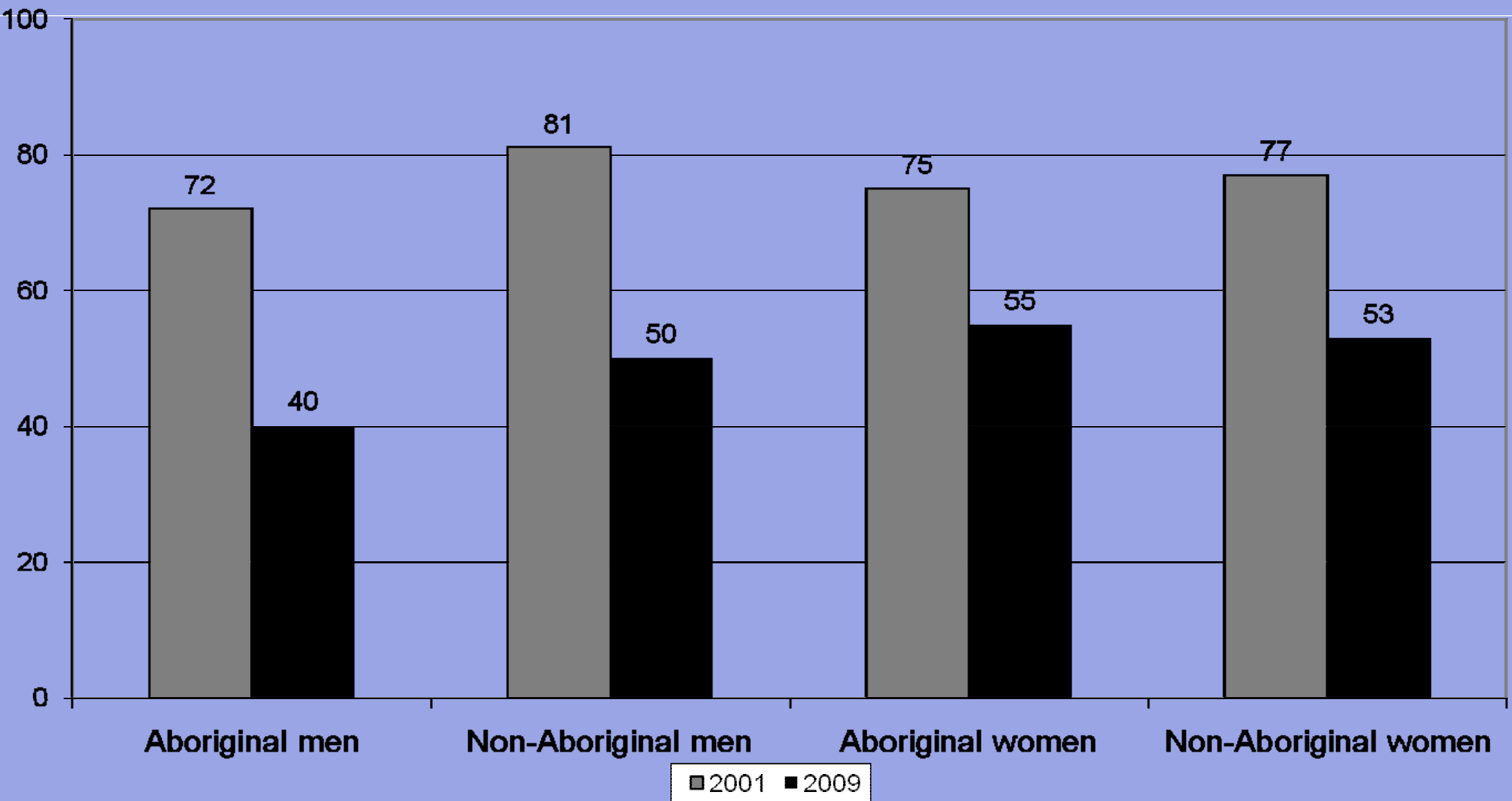
### Ever told by doctor had drug dependence by Aboriginality and sex, Inmate Health Survey 2001 and 2009



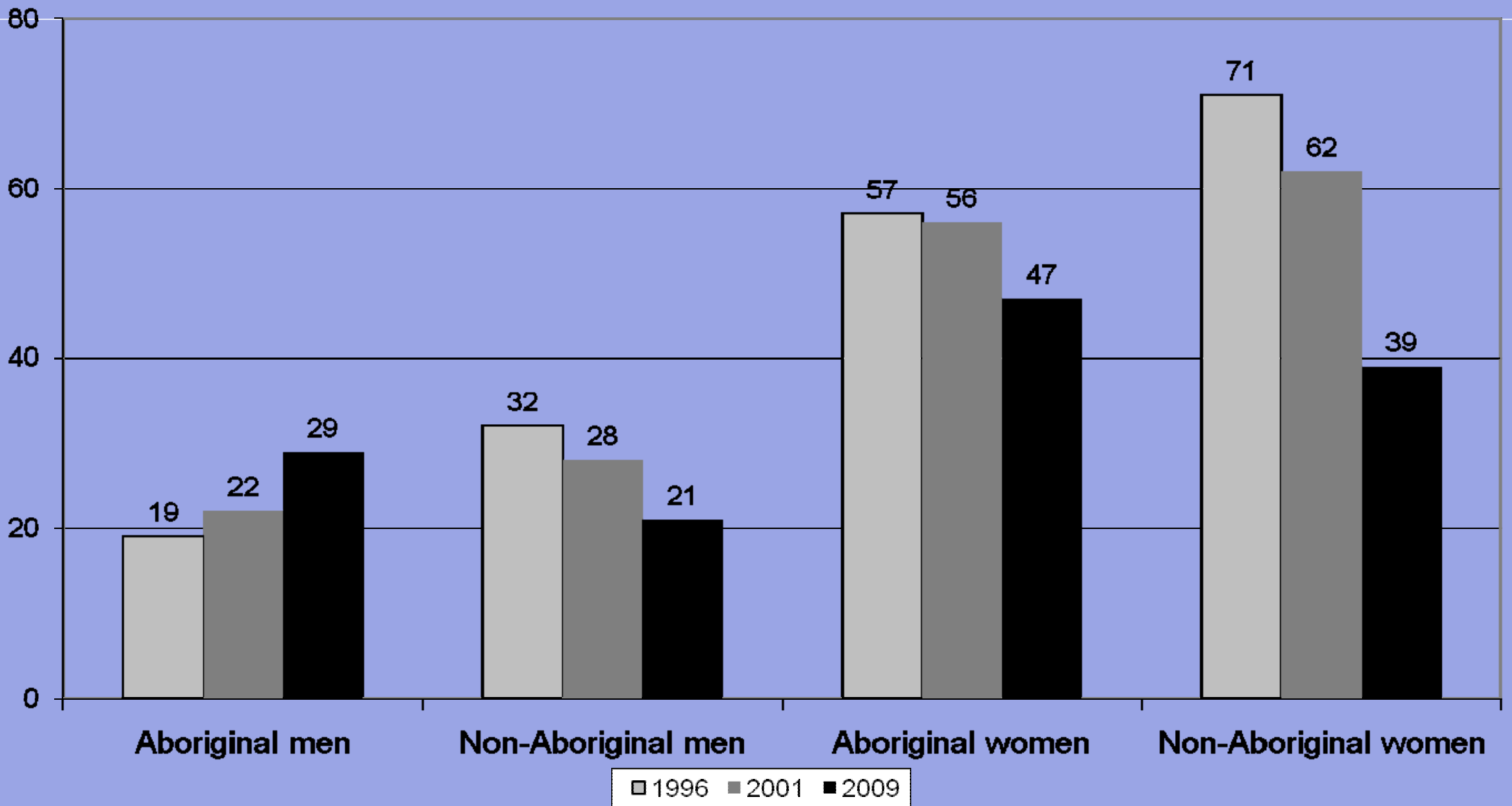
**Intoxicated at time of offence  
by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009**



### Easy/very easy to get drugs in prison by Aboriginality and sex, Inmate Health Survey 2001 and 2009



### Ever been on methadone/buprenorphine program by Aboriginality and sex, Inmate Health Survey 2001 and 2009



# Risk factors for head injury resulting in unconsciousness

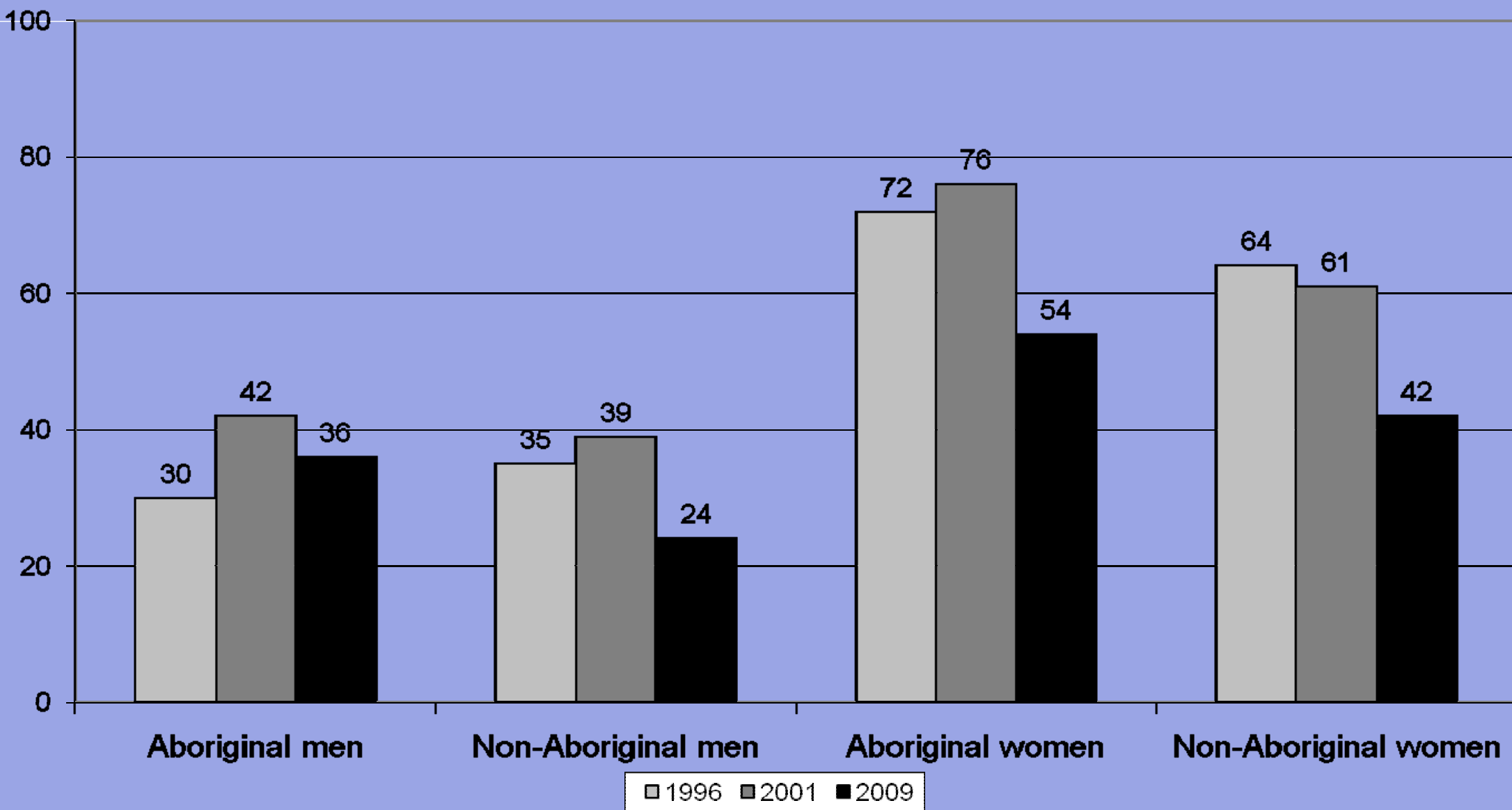
Odds Ratio (95% CI) Significant P<0.05	Total	
	Crude OR	Adjusted^OR
Men	1.9 (1.4-2.7)	1.7 (1.1-2.4)
Contact sports	2.0 (1.5-2.6)	1.8 (1.3-2.4)
Intoxicated at time of offence	NS	NS
Risky drinker	1.5 (1.1-1.9)	NS
Ever told alcohol dependent	2.9 (1.9-4.5)	2.5 (1.5-4.0)
Ever told drug dependent	1.6 (1.1-2.1)	NS
Ever inject drugs	NS	NS
Ever drug overdose	1.8 (1.3-2.5)	NS

Source: 2009 Inmate Health Survey

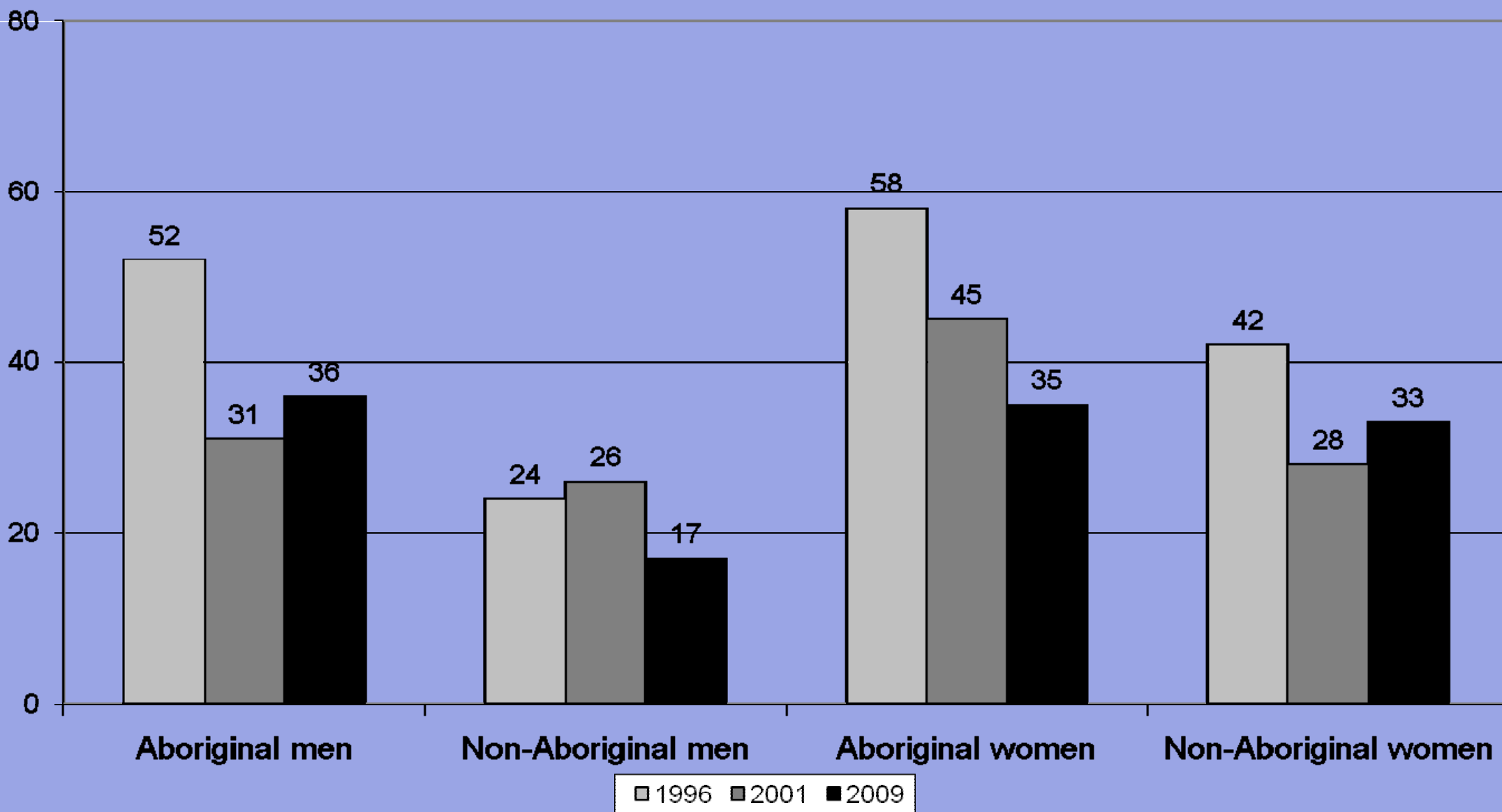
^Adjusted for age, sex, country of birth, english, ever juvenile detention

# Infectious Diseases

### Hepatitis C antibody by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009

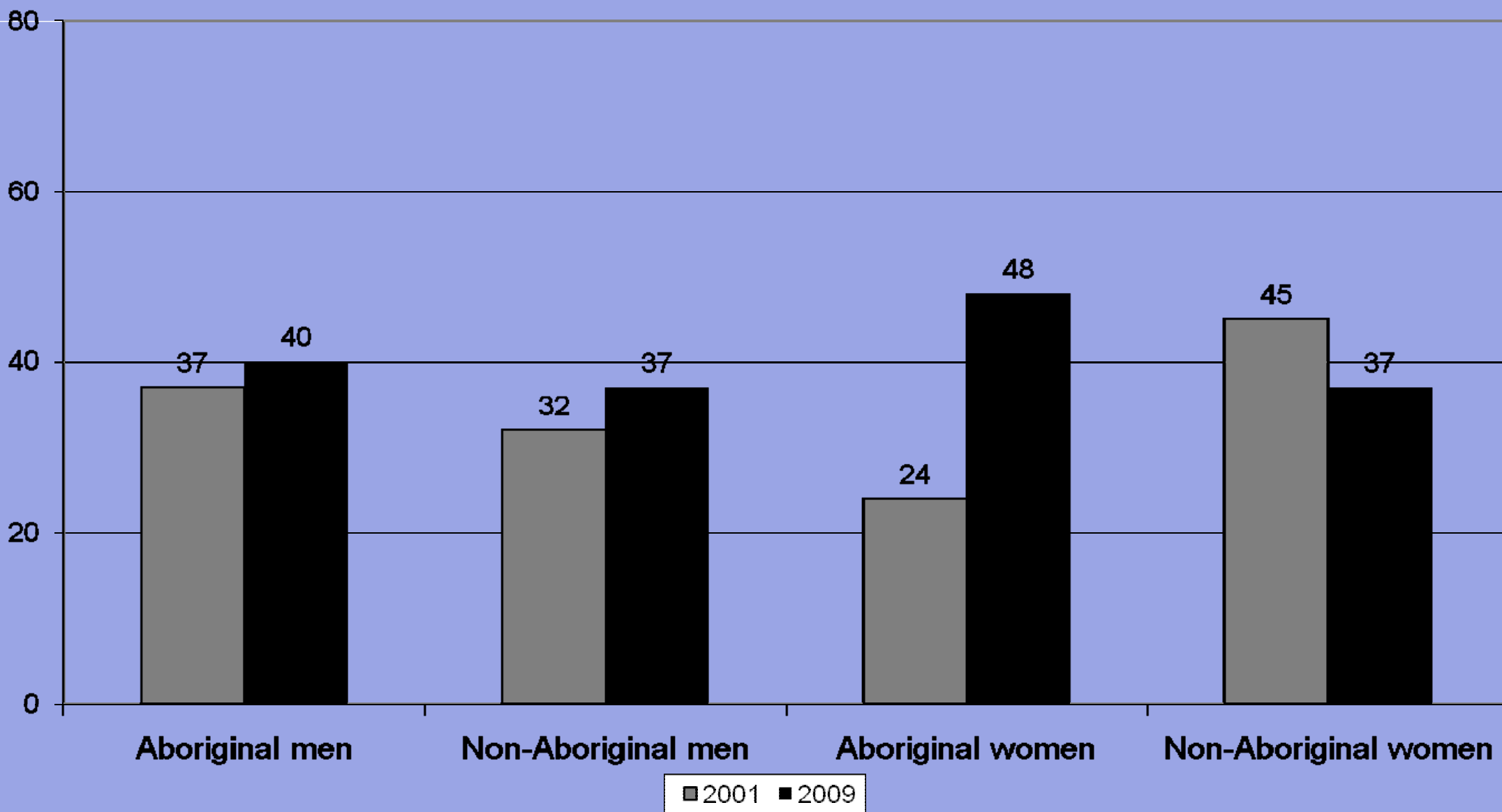


### Hepatitis B core antibody by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009





### Vaccine conferred immunity to Hepatitis B by Aboriginality and sex, Inmate Health Survey 2001 and 2009

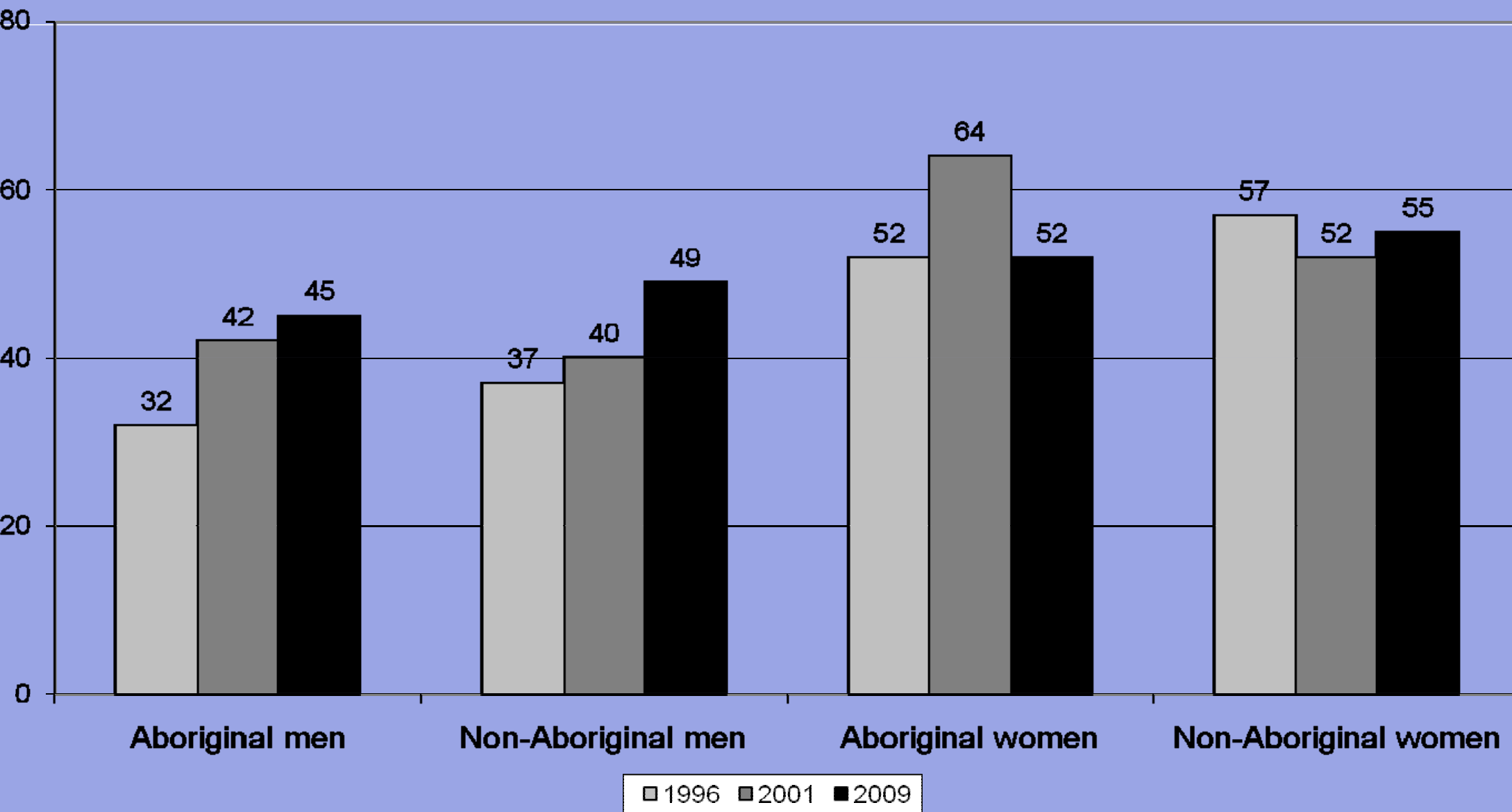


# HIV antibody positive

- 2009: 1 tested positive (knew they were positive)
  - 5 tested negative (self-reported positive)
- 2001: 1 tested positive (knew they were positive)
  - 8 tested negative (self-reported positive)
- 1996: 4 tested positive (knew they were positive)
  - 3 tested negative (self-reported positive)

# Mental health

### Ever mental health treatment by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



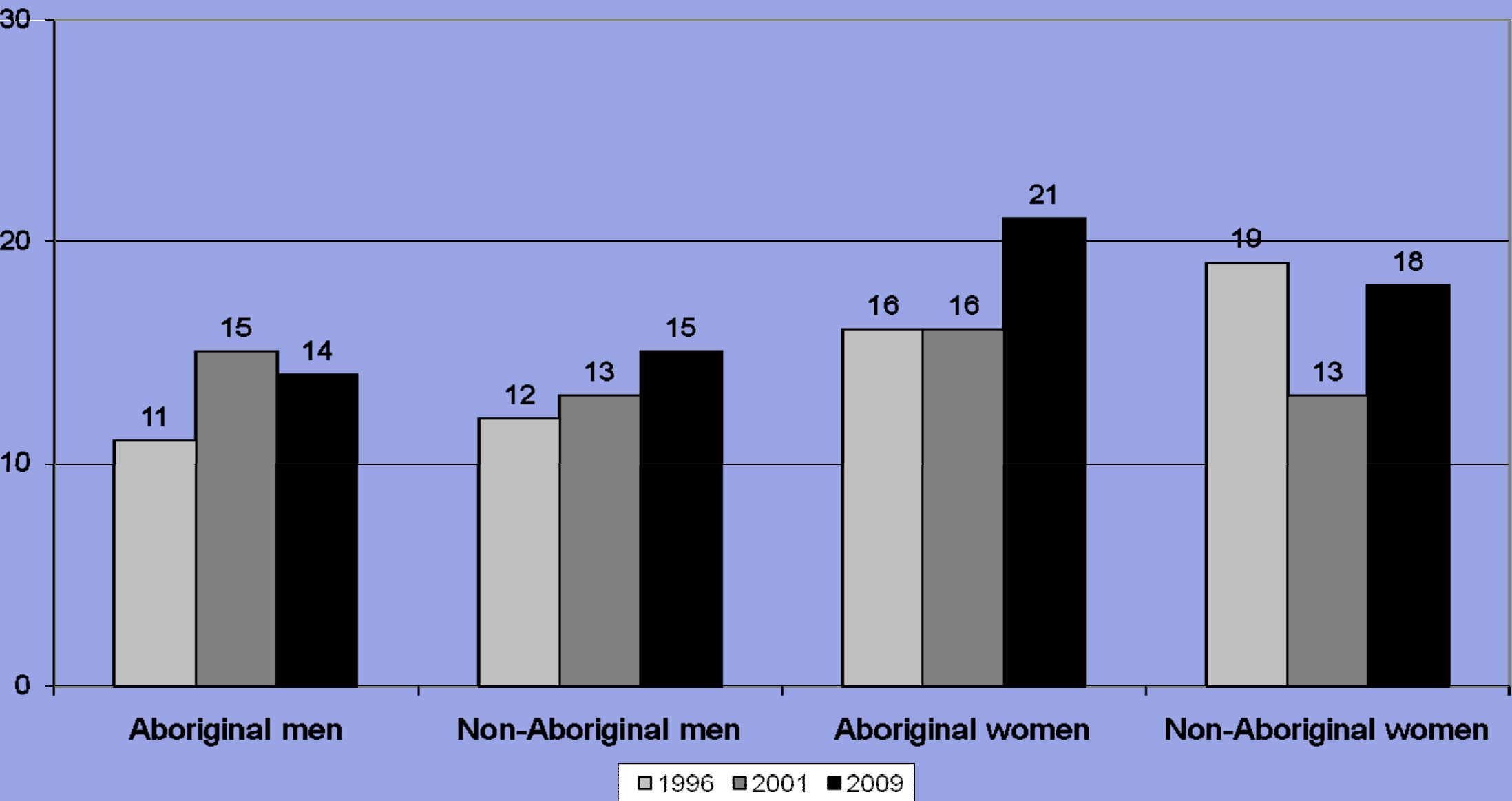
# Types of mental illness, Inmate Health Survey 2009

	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
Depression	32%	34%	41%	46%
Schizophrenia	11%	8%	18%	6%
Bi-polar	11%	7%	16%	12%
Anxiety	18%	25%	31%	35%
Personality disorder	7%	10%	14%	16%
ADD/ADHD	12%	12%	2%	4%
Other mental illness	8%	8%	12%	13%

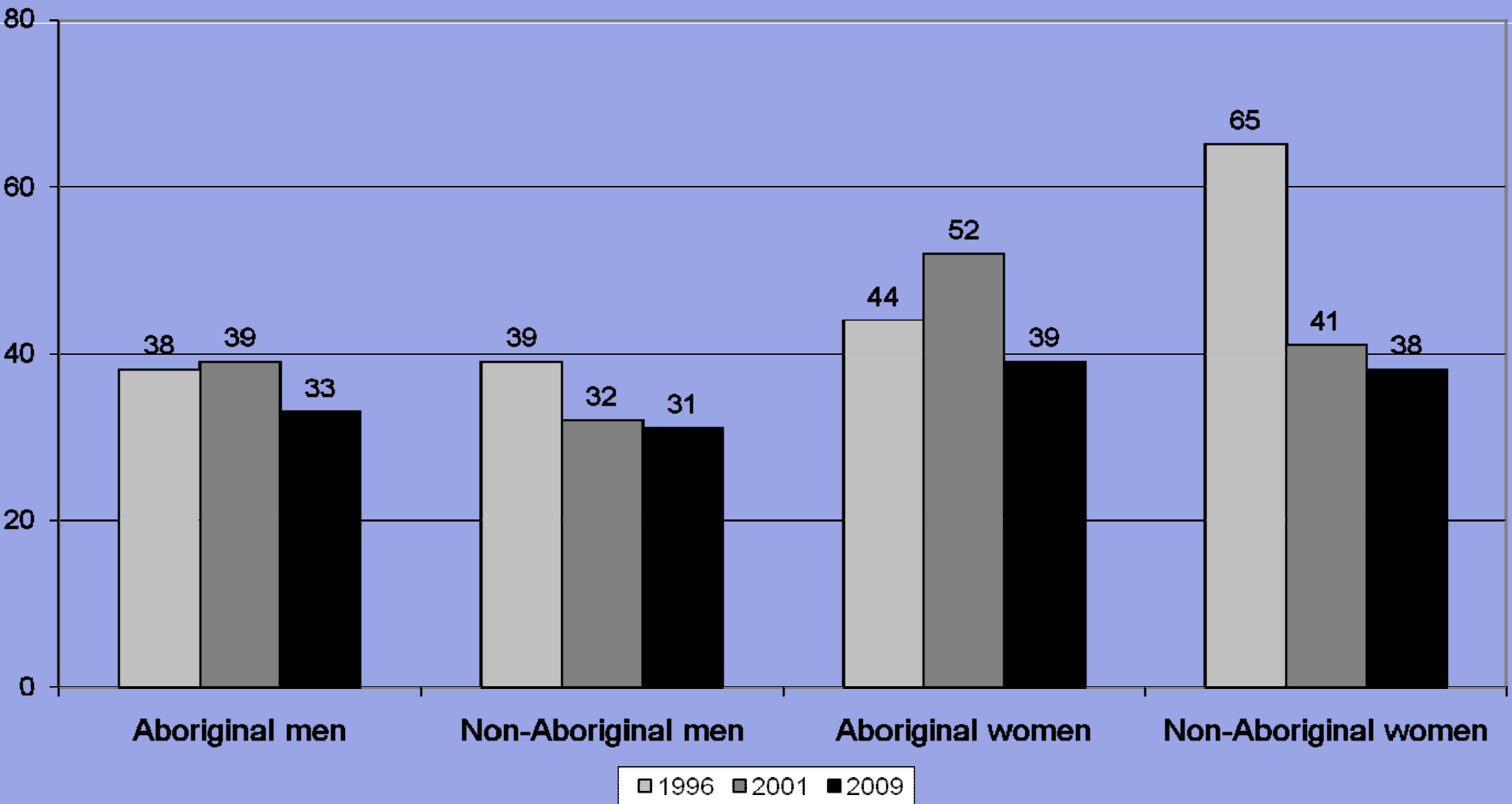
# Age first diagnosed by mental illness, Inmate Health Survey 2009

Average age	Aboriginal Men (N=259)	Non-Aboriginal Men (N=538)	Aboriginal Women (N=53)	Non-Aboriginal Women (N=146)
Depression	24.6	27.9	20.1	25.3
Schizophrenia	20.3	26.9	22.2	26.3
Bi-polar	25.9	28.4	20.0	25.5
Anxiety	26.5	29.2	21.5	26.9
Personality disorder	22.0	29.6	28.1	26.0
ADD/ADHD	10.8	13.4	10.0	12.0
Other mental illness	23.5	27.3	23.0	25.3

### Ever admitted to psychiatric unit by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009

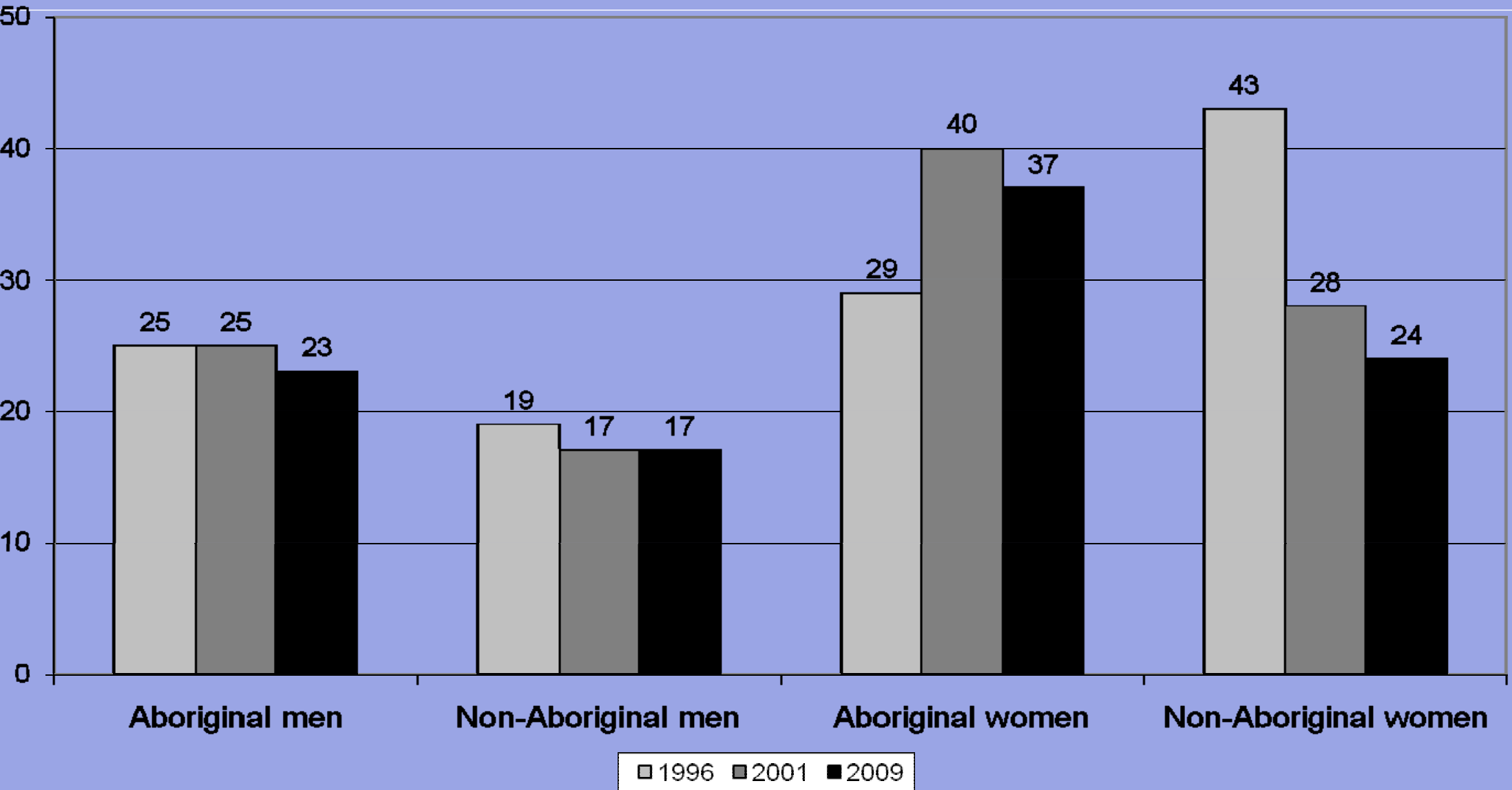


## Ever thought about suicide by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009

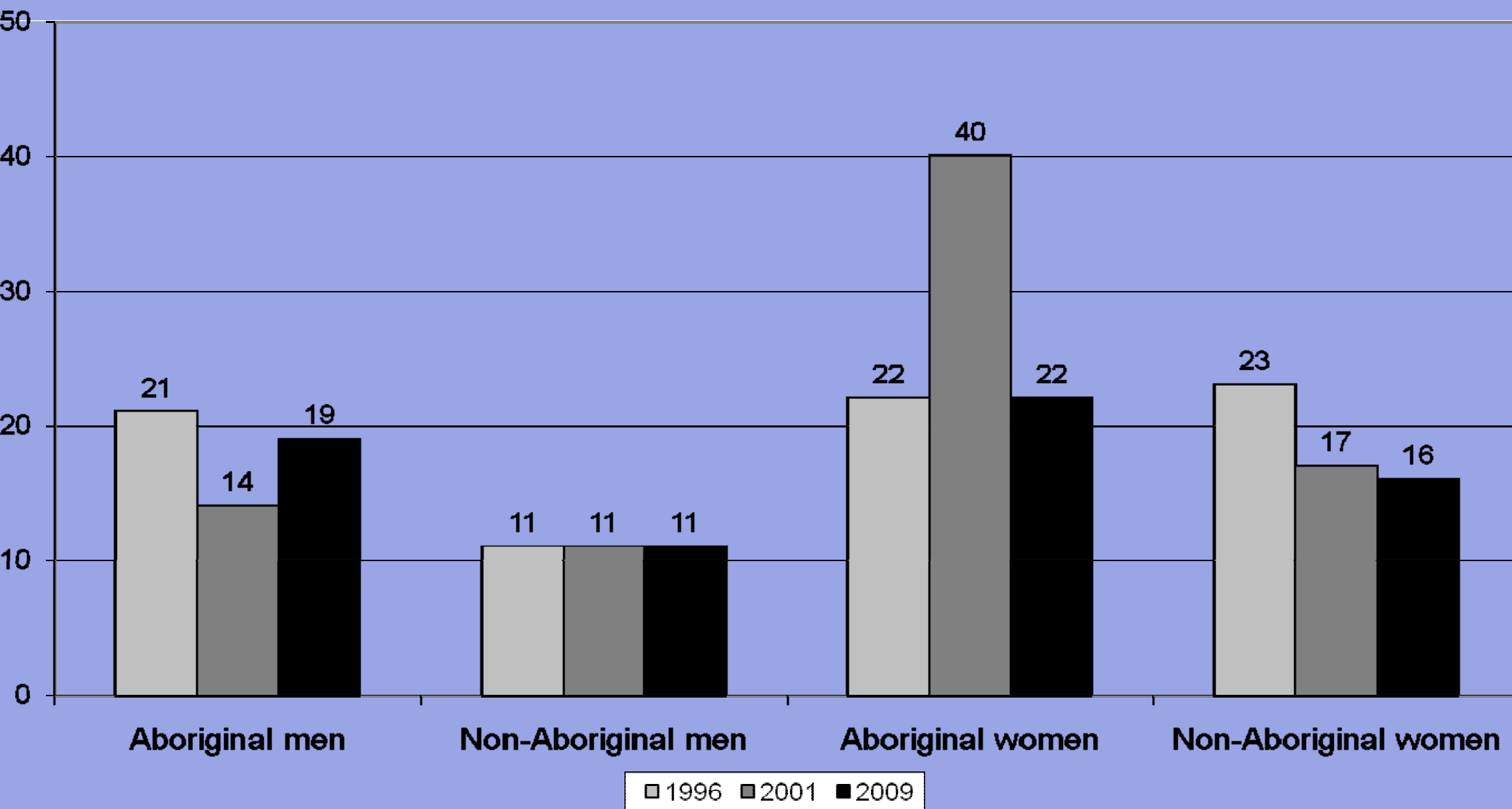




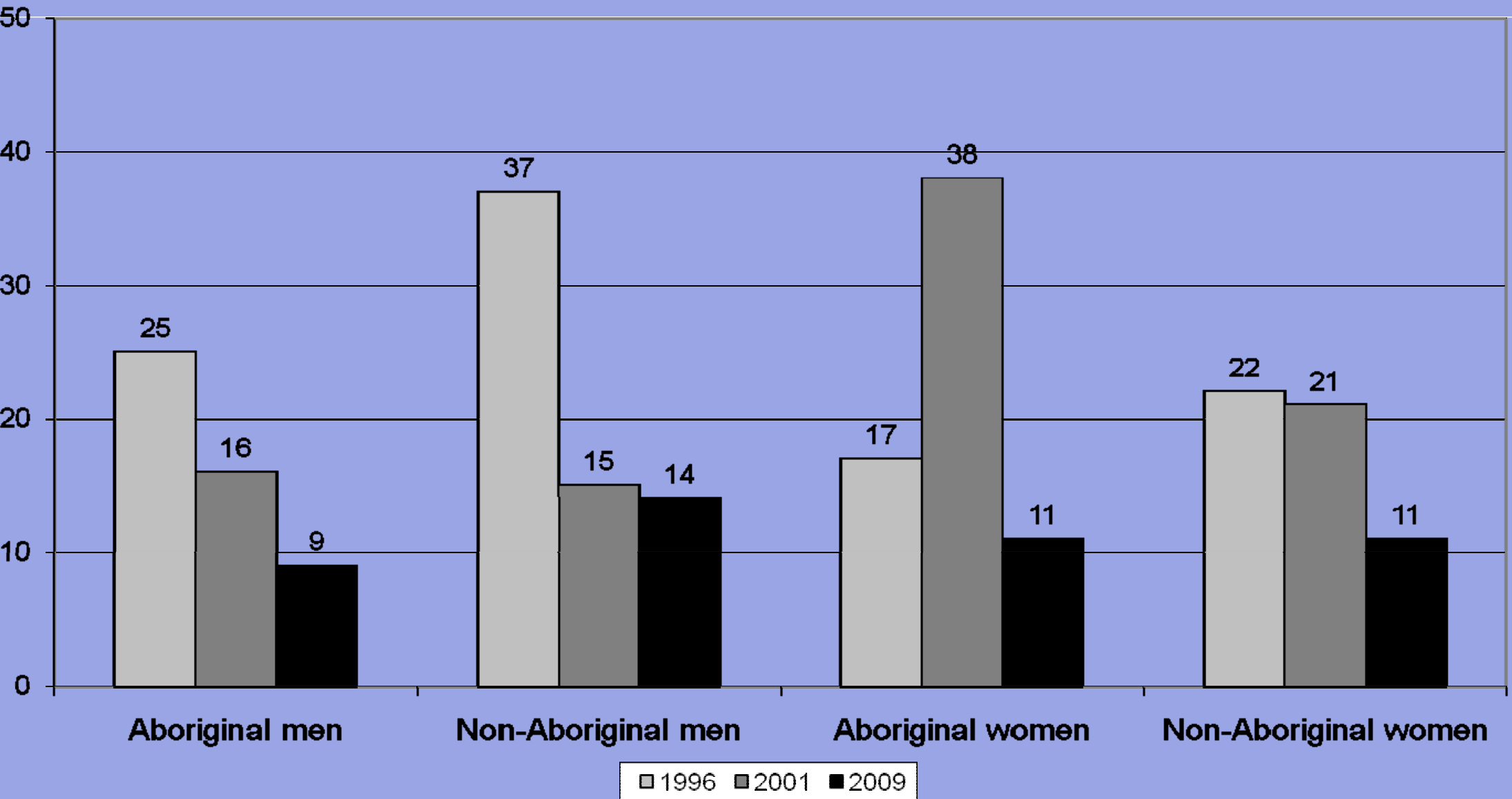
**Ever attempted suicide by Aboriginality and sex,  
Inmate Health Survey 1996, 2001 and 2009**



### Ever self-harmed by Aboriginality and sex, Inmate Health Survey 1996, 2001 and 2009



**Aware of any sexual assaults in prison by Aboriginality and sex,  
Inmate Health Survey 1996, 2001 and 2009**



## Summary

- Key findings
  - Low education, high unemployment
  - High levels of recidivism
  - High rates drug and alcohol abuse
  - High rates mental illness
  - High rates infectious diseases
- Significant variation by sex and Aboriginality

## Next steps

- 2009 Inmate Health Survey
  - Finalising Key findings report
  - Preparing Aboriginal-specific report
  - Preparing pamphlet for inmates
  - Reviewing longitudinal cohort
  - Preparing journal articles
  - Conference and other presentations
- Repeating Young People in Custody Health Survey

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