



# Substance use in pregnancy an Australian perspective

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# Presentation

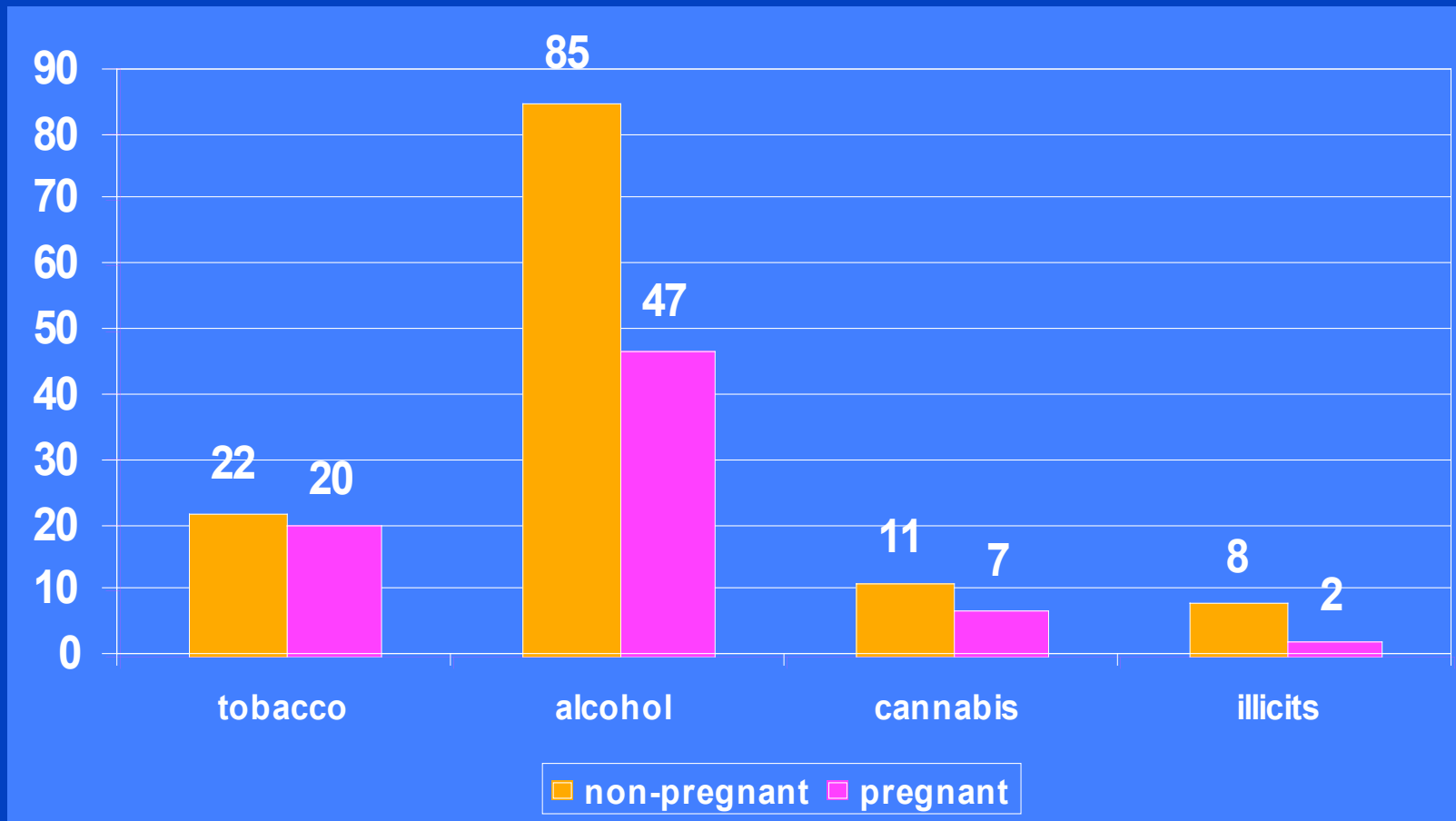
## Addressing questions

1. Prevalence of the problem
2. Current research
3. Description of the population

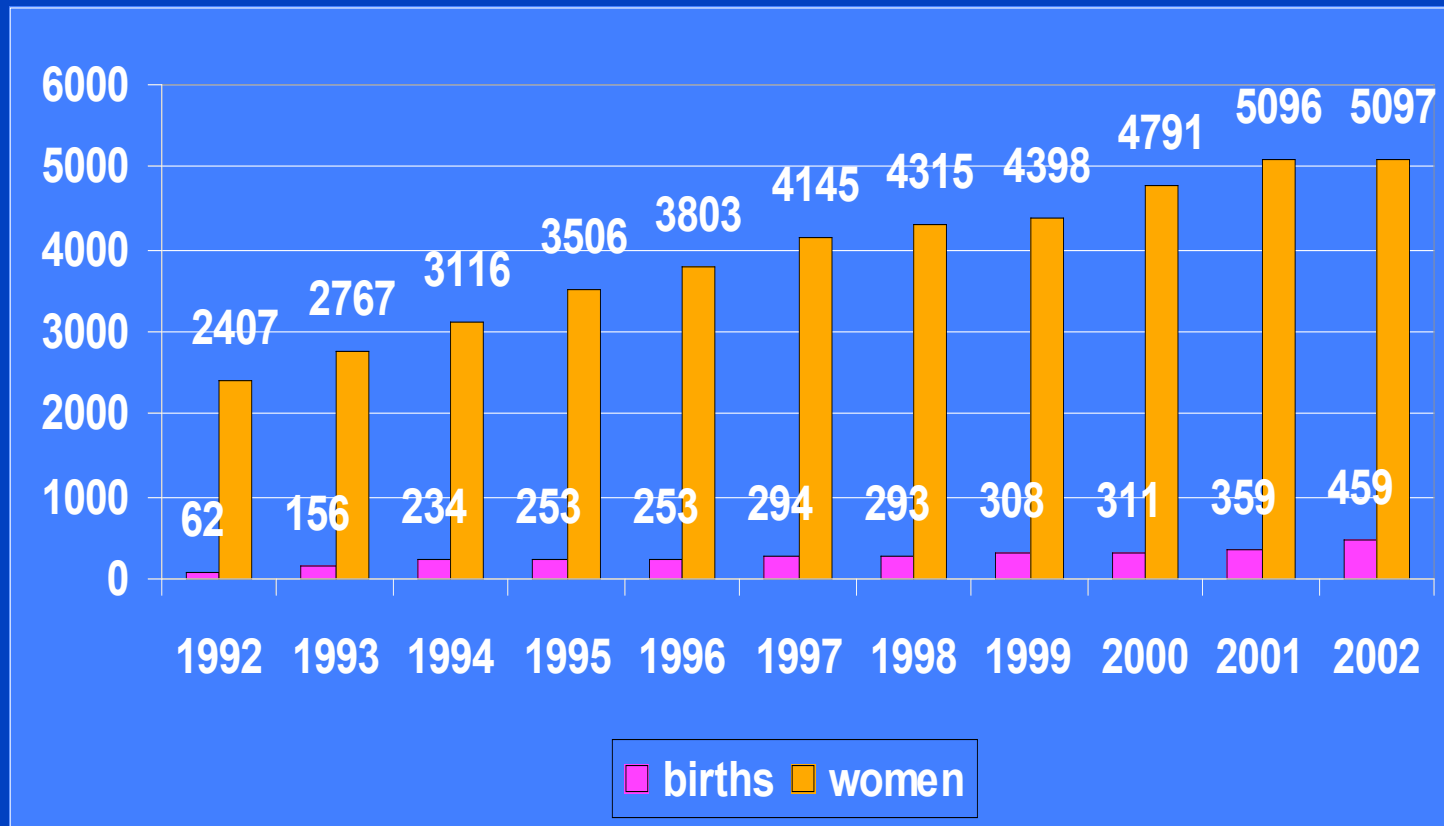
# 1. Prevalence: Australian context

- Prenatal effects e.g spontaneous abortion, poor fetal growth
- Substance abuse a significant contributing factor in child neglect and child death
- 80% of child protection notifications involve drugs/alcohol
- 50% of child abuse / neglect
- Fatal neglect : intoxication=inadequate supervision: drownings, MVAs, house fires.
  - Carers make incorrect assessments of level of supervision required

# Prevalence: 2004 National Drug Household survey



## Number of women on the NSW Methadone program by year and number of births (1992 to 2002)



# Fetal Alcohol Syndrome

- Case register
- 1.87 per 1000 live births for non-Aboriginal children and 4.71 per 1000 live births for Aboriginal children
- Under-diagnosis, under-ascertainment or both may lead to underestimate of the true birth prevalence

## 2 and 3. Current research and outcomes

- **Data linkage:** Link records from one or more data sets relating to the same person : name, gender, age and address components
- Privacy issues
- **Benefits:**
  - complete population – allows subgroup analysis
  - cost-effective
  - valid and reliable data on sensitive issues.
  - large sample sizes allow investigation of rare outcomes
  - rapidity of analysis
  - generalisability of results

**Current research:**  
**(1) Maternal and neonatal outcomes associated with drug use in pregnancy**

- Linked midwives birth records to inpatient statistics 1998 - 2002
- 426507 birth records over the five years
- Compares women with and without ICD-10 drug codes during any pregnancy/ birth admissions; (measures heavy/ severe drug use)
- 2011 opioid; 561 stimulant; 2202 cannabis; 342 alcohol



## Maternal characteristics

	OPIOIDS N=2011		STIMULANTS N=561		CANNABIS N=2202		STATE N=415060	
	No	%	No	%	No	%	No	%
Age <20	148	7.4	60	10.7	390	<b>17.7</b>	18691	4.5
5+ previous pregnancies	99	4.9	51	<b>9.0</b>	69	3.1	5958	1.4
>10 cigarettes day	1201	59.7	367	<b>65.5</b>	1076	48.9	33128	8.0
Late antenatal		18		<b>20</b>		16	12	
Not booked	308	15.3	116	<b>20.7</b>	241	10.9	8886	2.2
Pre-eclampsia	64	3.1	30	<b>5.4</b>	94	4.3	27277	6.6
Maternal hypertension	8	0.4	5	<b>0.9</b>	11	0.5	4101	1.0
Induced	359	17.9	89	15.9	349	15.9	101238	24.4
Caesarean	350	17.4	90	16.0	350	15.9	90277	21.8

## Neonatal outcomes: Odds ratios and 95% Confidence intervals for neonatal characteristics controlling for confounders

	OPIOIDS	STIMULANTS	CANNABIS
Low birthweight	3.4(3.0-3.7)	1.5(1.2-1.8)	2.5(2.3-2.8)
Prematurity	3.2(2.9-3.6)	1.7(1.3-2.0)	2.3(2.0-2.6)
NICU	2.2(1.8-2.5)	1.4(0.9-1.9)	1.3(1.1-1.5)
SCN	5.3(4.8-5.9)	2.3(1.9-2.8)	1.4(1.2-1.5)

## Current research

### (2) Linked methadone to birth data (1992-2002)

Linked midwives birth records to methadone treatment data

Groups:

1. **“early entrants”**: entered continuous treatment at least one year prior to birth n=808
2. **“late entrants”**: entered continuous treatment in the six months prior to birth (with any previous program ending at least one year prior to birth) n=224
3. **“previous treatment”**: last treatment program ended at least one year prior to birth n=660

## Maternal characteristics

	LATE ENTRY N=224	EARLY ENTRY N=808	PREVIOUS TREATMENT N=660	P-VALUE
Age <=25	<b>55.4</b>	28.7	28.3	<0.001
Cigarettes				<0.001
None	16.1	18.5	<b>33.6</b>	
>10	<b>61.4</b>	53.4	42.3	
Late antenatal care	<b>51.4</b>	33.0	32.0	<0.001

## Adjusted Odds Ratios and 95% Confidence Intervals Association between key neonatal outcomes and retention in MMT

	EARLY ENTRANTS	LATE ENTRANTS
Late antenatal care	-	2.3(1.7,3.2)
SCN	3.3(2.4,4.5)	2.8(1.9,4.1)
Premature	-	2.6(1.5,3.3)

# Conclusion

- Births to opioid dependent women rising
- Women using stimulants younger, smoke heavily, enter antenatal care late: treatment models not yet developed
- Data linkage one method to examine drug use in pregnancy and to compare findings to state norms

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