

Congenital Anomalies in Children with Fetal Alcohol Spectrum Disorder: National Surveillance

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On behalf of the APSU and FASDAR



Australian Government
Department of Health

No conflicts of interest

In Australia, **48% of pregnancies** are exposed to alcohol

Alcohol is a **teratogen** that crosses the placenta

1st trimester exposure
may cause **structural
birth defects** of any
organ system

Exposure at **any time**
during gestation may
cause **brain injury** and
FASD

Fetal Alcohol Spectrum Disorder (FASD)

1.

Prenatal Alcohol
Exposure

Confirmed

Unknown

2.

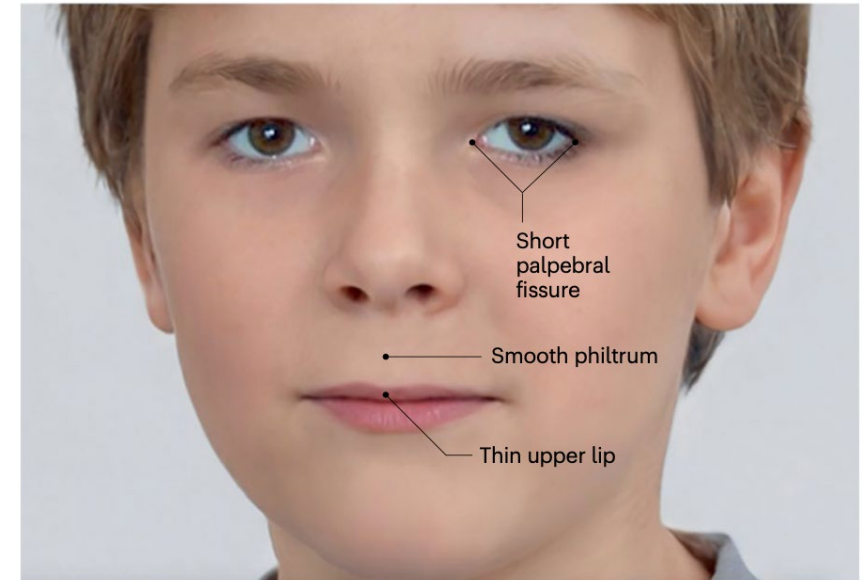
Severe neurodevelopmental
impairment in $\geq 3/10$ domains

- Brain structure
- Cognition
- Language
- Motor skills
- Academic achievement
- Executive function
- Attention
- Memory
- Affect regulation
- Social skills, adaptive behaviour

Australian Guide to the Diagnosis of FASD³

3.

Sentinel facial features



Popova et al⁴

FASD is a **major congenital anomaly**

Children with FASD often have **multiple anomalies**

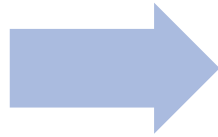
Aims

1. To determine the frequencies of **major** and **minor** congenital **anomalies** within a **national cohort** of children with **FASD**
2. To compare the prevalence of anomalies in FASD with that in control populations

Surveillance snapshot: 1 Jan 2015 – 30 Apr 2024

Age <15 years, newly diagnosed (incident) cases; Australian Guide to Diagnosis

Notifications
n=1525



Confirmed FASD cases
n=1230 (988 with
congenital anomalies)



Ineligible cases
n=295

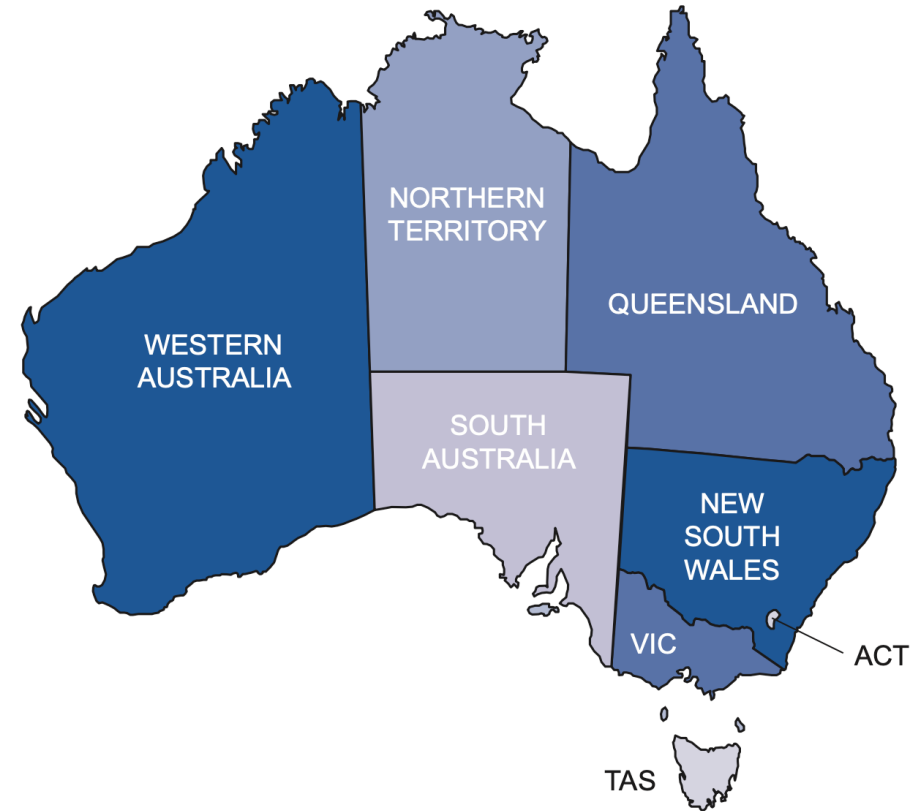
*(Duplicate or incomplete report,
age or diagnostic criteria not met,
outside notification date)*

- **WARDA classification**
Major, Minor, Other
- **ICD-10 classification**
Body system



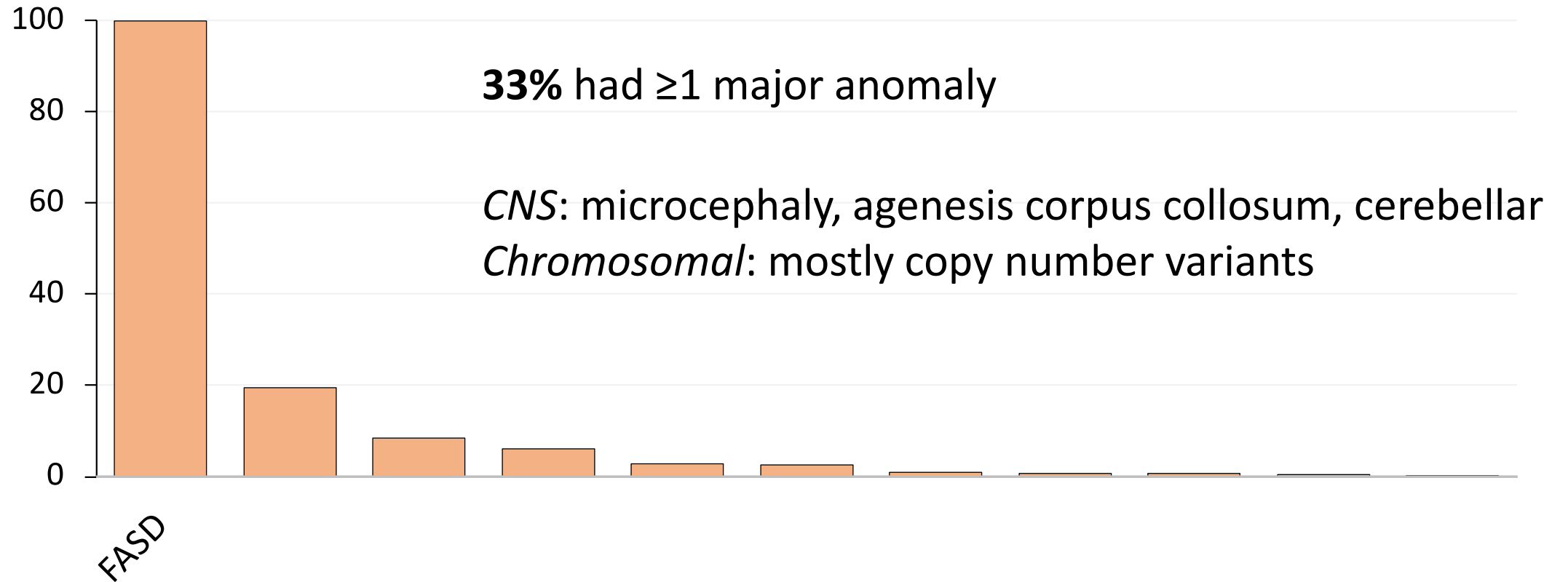
Congenital Anomalies in FASD (n=988/1230)

- **988 (80.3%)** children with FASD had ≥ 1 anomaly
 - Median age 8.6 (range: 0 to 15)
 - 66% M
- **152 different anomalies**
 - 91 major, 46 minor, 15 other (WARDA)
 - Included 13 ICD-10 chapters

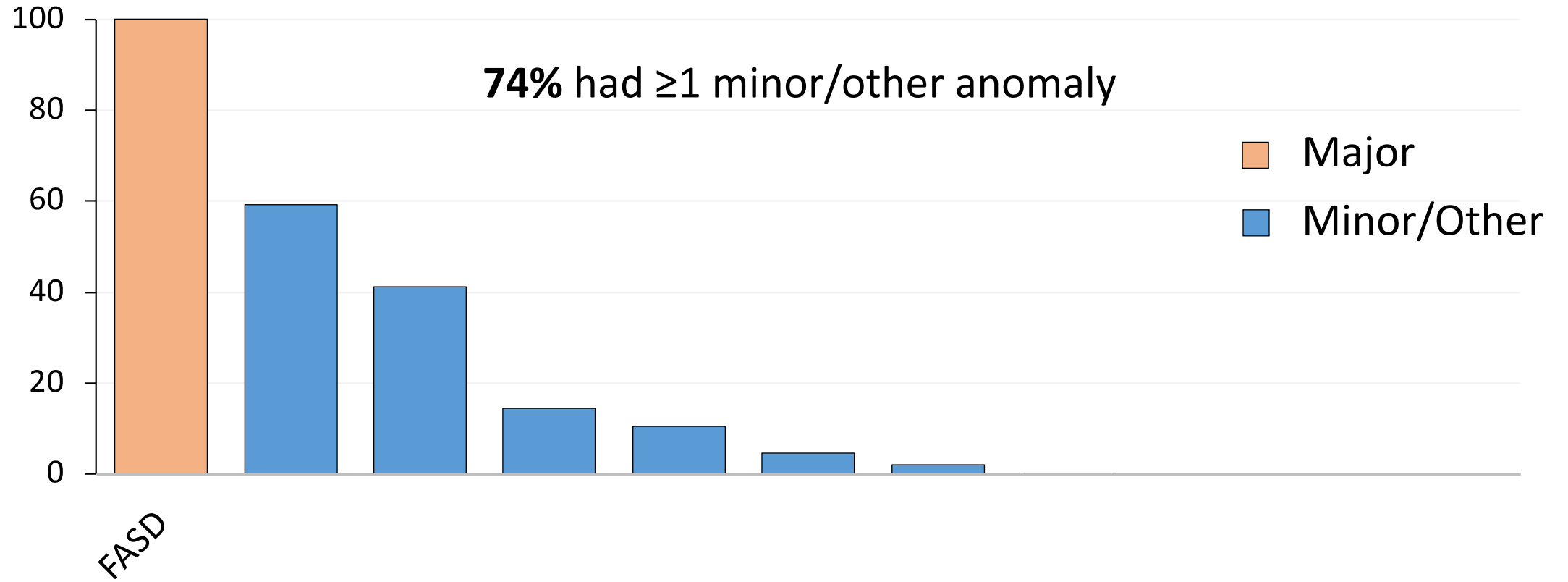


All geographical and SES categories
Remote/very remote locations were
overrepresented

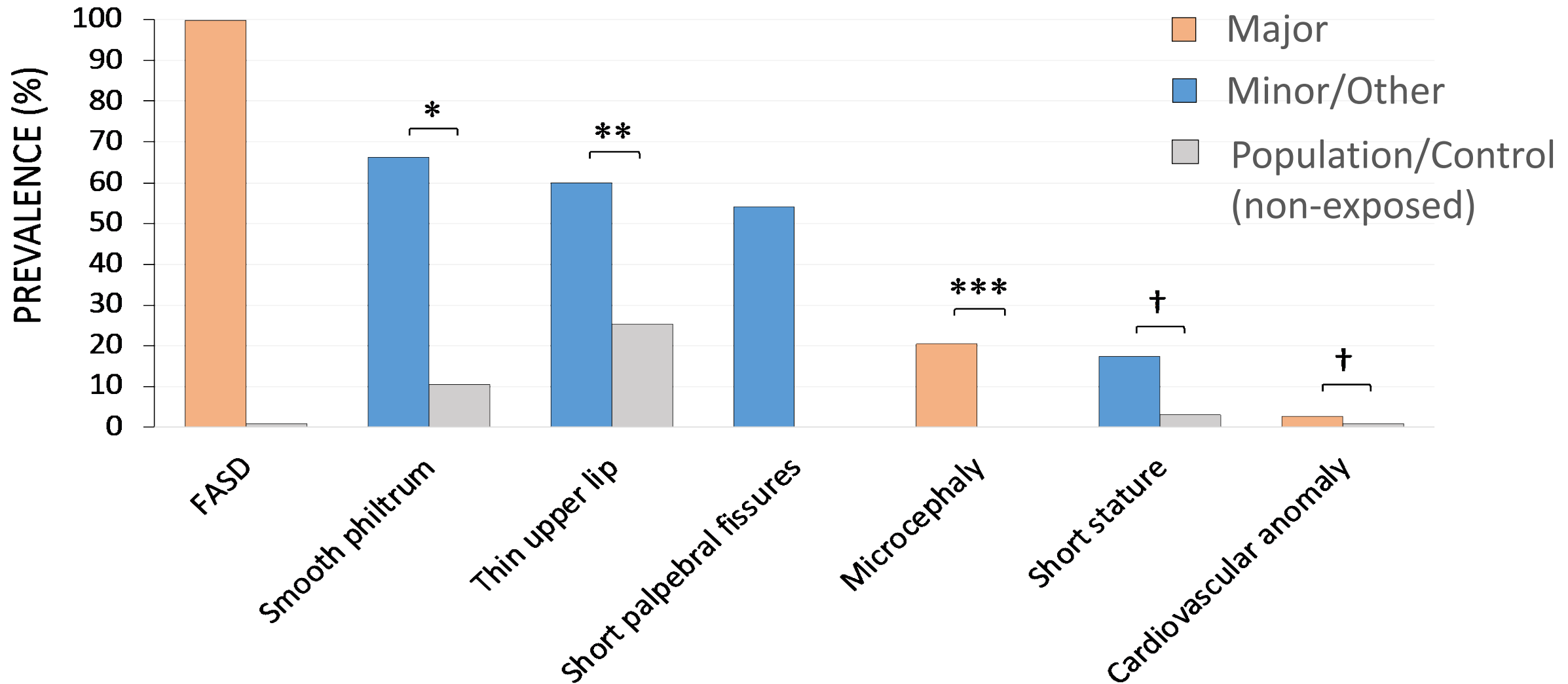
Prevalence of Major Anomalies by Body System



Prevalence of Minor/Other Anomalies by Body System



Prevalence of Selected Congenital Anomalies (n=1230)



* $p < 0.01$, ** $p < 0.001$, *** $p < 0.0001$, † Not significant ($p > 0.05$)

Summary

First nation-wide study of congenital anomalies in FASD

Alcohol has vast **structural** and **functional impacts** on the fetus

Strengths:

- Monthly reporting by paediatricians
- Strict FASD diagnostic criteria
- Breadth of anomalies reported
- Classified using standardised criteria (ICD-10, WARDA)

Limitations:

- Underrepresentation of true rates in controls/FASD
- Limited population/control comparisons

Implications

Clinical practice:

Identification and documentation of congenital anomalies in FASD

Scientific community:

Need large comparative samples from control and general populations

General public:

There is no 'safe' level of alcohol consumption during pregnancy