

FASD in Australia: Results from 10 years of national surveillance conducted by the Australian Paediatric Surveillance Unit (APSU)

Tsang T^{1,2,3}, Nunez C^{1,2,3}, Elliott E.J^{1,2,3} on behalf of paediatricians contributing to the APSU and FASDAR

¹The University of Sydney, ²Australian Paediatric Surveillance Unit, ³FASD Australian Registry (FASDAR)

Correspondence: elizabeth.elliott@health.nsw.gov.au

Background

Australia lacks national population-wide epidemiological data on FASD, which is essential to inform clinical service development, clinical practice, policy and prevention.

Objective

To describe the epidemiology, clinical features and comorbidities in Australian children with FASD, and explore reported differences in outcome according to sex and sentinel facial features (SFF).

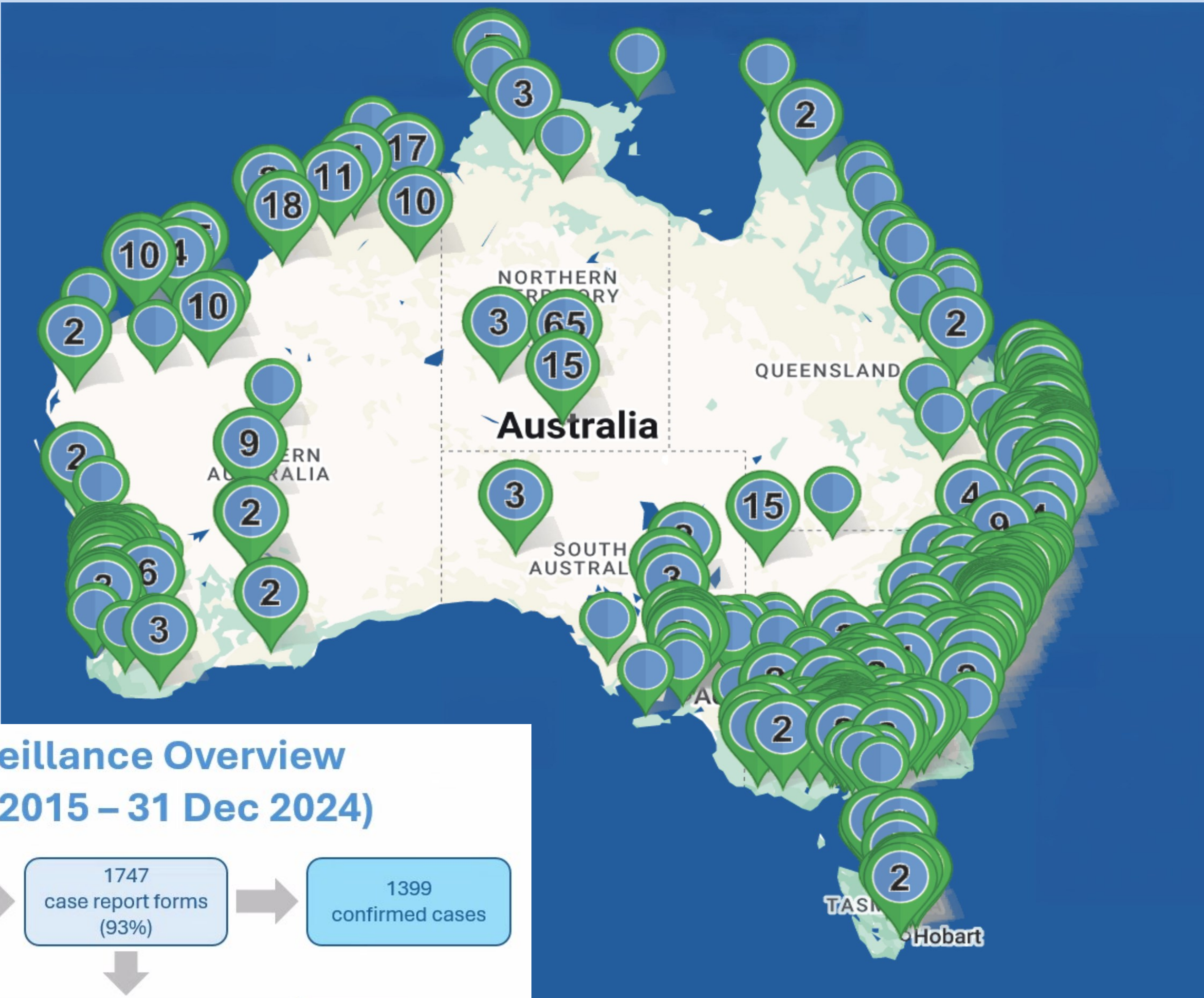


Figure 1. Location of children with FASD

Results

Demographic data

Of 1399 cases:

- the median age at diagnosis was 8.7 (IQR 6.5–11.4) years.
- 65% were male, 53% identified as Aboriginal and/or Torres Strait Islander, and 15% lived in remote/very remote areas.
- 21% live with a biological parent, 47% in foster/adoptive care and 28% in extended family or kinship care.
- 58% had contact with child protection services at some point and 21% had a sibling with FASD.

Clinical features

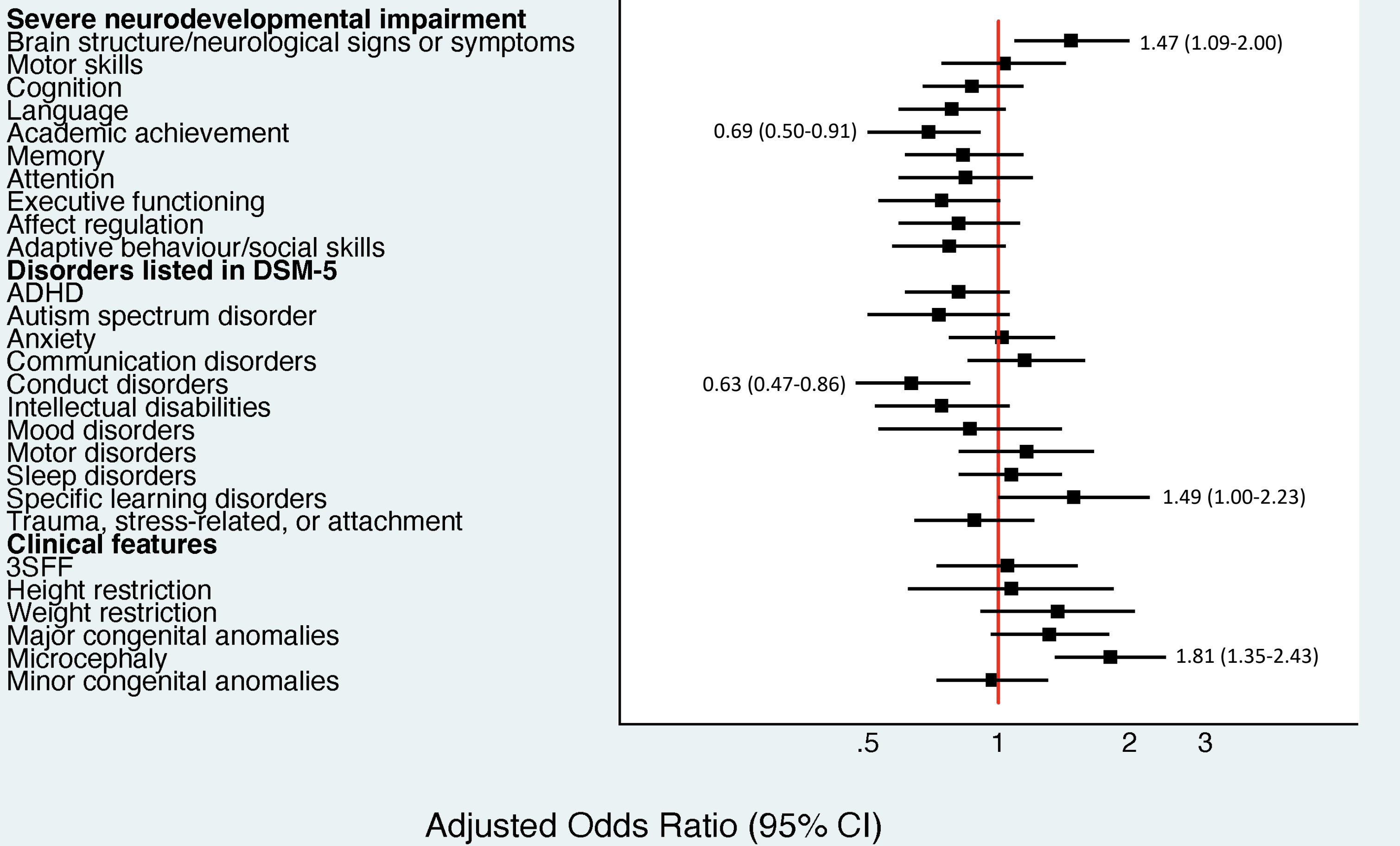
- PAE was confirmed in 98.5%; (81% (402/502) at ‘high risk’ level).
- 100% children had severe impairment in ≥ 3 neurodevelopmental domains: attention (83%), executive (75%) or adaptive (75%) functioning, academic achievement (63%) and language (62%).
- Only 18% had 3 SFF.
- Major congenital anomalies were reported in 30% (268/887), including microcephaly in 18%.
- Common mental health disorders (DSM-5) included ADHD 942/1303 assessed (72%), communication disorders 497/834 (60%), complex trauma 409/800 (51%), intellectual disability 218/795 (27%), and autism 193/798 (24%).

Methods

APSU collected data each month on children newly diagnosed with FASD (age <15 years) from paediatricians nationally (January 2015–December 2024). We used diagnostic criteria from the Australian Guide to Diagnosis of FASD (2020).

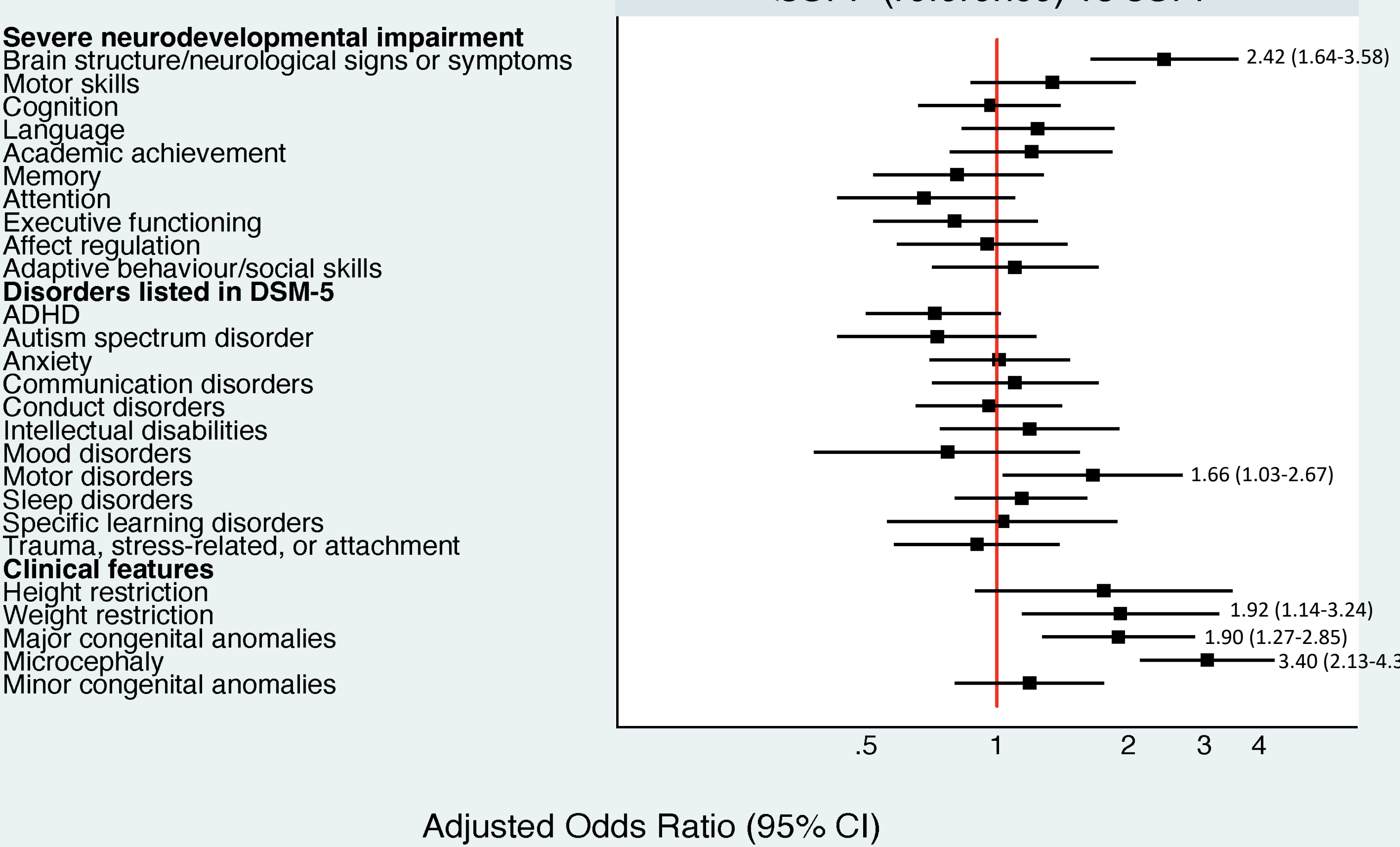
Logistic regression estimated adjusted odds ratios (OR) and (95% CI) for associations between sex or sentinel facial features (SFF) and severe neurodevelopmental impairment, mental health disorders (DSM-5-defined) and clinical features.

Figure 2. Clinical outcomes by sex n=1128*



Girls were more likely to have structural abnormalities of the brain or neurological disease, to be diagnosed with learning disorders and to have microcephaly. Girls were less likely than boys to have severe impairment in academic achievement or to be diagnosed with conduct disorder.

Figure 3. Clinical outcomes by SFF n=1128*



Children with 3SFF were more likely to have structural abnormalities of the brain or neurological disease, microcephaly, weight restriction (<3rd percentile), major congenital anomalies and motor disorders.

* Analyses conducted in children aged ≥ 6 years of age.
Multivariable models adjusted for age, accessibility/remoteness index of Australia (major cities, inner or outer regional, remote or very remote Australia), and child’s Indigenous background (non-Aboriginal or Aboriginal and/or Torres Strait Islander).

Conclusion

- FASD is increasingly recognised as a complex disability and a significant public health challenge in Australia.
- We identified differences at presentation by sex (girls were more likely to have microcephaly and clinical neurological signs or symptoms and boys were more likely to present with conduct disorder).
- Children with 3SFF were more likely to have associated physical features including microcephaly, structural brain abnormalities and other major congenital anomalies of the organ systems reflecting first trimester alcohol exposure.
- Findings support a focus on prevention efforts, including evidence-based alcohol control policy, and improved access to pregnancy planning, antenatal care and multidisciplinary services for early diagnosis and treatment.