Fetal Alcohol Spectrum Disorders (FASD)

The purpose of this document is to collate published research, the findings of government reports and inquiries and academic commentary in relation to FASD and the effects this may have on a person's behaviour; development; physical, mental and social well-being; and links to contact with the criminal justice system.

Description

1 Fetal Alcohol Spectrum Disorders ('**FASD**') is an umbrella term for a range of impairments and secondary disabilities that may be experienced by individuals prenatally exposed to alcohol.[1] A 'life-long condition with no cure' which is 'irreversible and permanent',[2] it is 'one of the leading causes of preventable birth defects and intellectual disability.'[3] Many mothers drink alcohol during the first trimester without knowing they are pregnant, and then stop drinking upon becoming aware of the pregnancy.[4]

2 Knowledge of FASD is poor among health, education and justice sectors.[5] Australian researchers have advised that a diagnosis of FASD requires evidence of *prenatal alcohol exposure* and *severe impairment in three or more domains of central nervous system* structure or function. Once established, a further distinction is made between FASD with three *sentinel facial features* and FASD with less than three sentinel facial features.[6]

[1] Judicial Commission of New South Wales, *Equality Before the Law Bench Book – People With Disabilities* (18 July 2016) [5.3.8] ('*Equality Bench Book*') and Stephen Ralph, 'Fetal Alcohol Spectrum Disorder in Indigenous Adults and the Role of Psychology' (2017) 39(2) *InPsych: The Bulletin of the Australian Psychological Society Ltd* 14, 14–15. See 'What is Fetal Alcohol Spectrum Disorder (FASD)?' at FASD Hub; see also 'What Is FASD?' at NOFASD website. The FASD Hub was established in 2016 with the assistance of a Commonwealth government grant.

[2] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) [1.1] ('*Effective Approaches* Report'). Other governmental inquiries concerned either directly or indirectly with FASD and the resulting reports include: House of Representatives Standing Committee on Indigenous Affairs, Parliament of Australia, *Inquiry into the Harmful Use of Alcohol in Aboriginal and Torres Strait Islander Communities*, February 2014, and report *Alcohol, Hurting People and Harming Communities* (June 2015) ('*Alcohol, Hurting People* Report'); House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, Parliament of Australia, *Inquiry Into the High Level of Involvement of Indigenous Juveniles and Young Adults in the Criminal Justice System*, November 2009, and report *Doing Time – Time for Doing: Indigenous Youth in the Criminal Justice System* (Report, June 2011) ('*Doing Time* Report'); Education and Health Standing Committee, Parliament of Western Australia, *Inquiry into Improving Educational Outcomes for Western Australians of All Ages* and report, *Foetal Alcohol Spectrum Disorder: The Invisible Disability* (Report No 15, 20 September 2012) ('*Invisible Disability Report*'); Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder, Legislative Assembly of the Northern Territory (March 2014), and report, *The Preventable Disability* (February 2015) ('*Preventable Disability* Report'); Government of the Northern Territory, *Northern Territory Alcohol Harm Minimisation Action Plan 2018–2019* (Policy Document, February 2018, Updated February 2019).

[3] *Effective Approaches* Report (n 2) [1.7].

[4] Evelyne Muggli et al, '"Did You Ever Drink More?" A Detailed Description of Pregnant Women's Drinking Patterns' (2016) 16(683) *BMC Public Health* 2.

[5] Jessica C McCormack, Joanna Ting Wai Chu, Samantha Marsh and Chris Bullen, 'Knowledge, Attitudes, and Practices of Fetal Alcohol Spectrum Disorder in Health, Justice, and Education Professionals: A Systematic Review', *Research in Developmental Disabilities* (2022) 131.

[6] Carol Bower and Elizabeth J Elliott, *Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder (FASD)*, Report to the Australian Government Department of Health (updated, February 2020) 4; Jocelynn L Cook et al, 'Fetal Alcohol Spectrum Disorder: A Guideline for Diagnosis Across the Lifespan', *Canadian Medical Association Journal* (2016) 188(3) 191.

3 The term FAS (for Fetal Alcohol Syndrome) should not be used. However, some current researchers do use that term, and others, such as:[7]

- partial fetal alcohol syndrome ('**pFAS**'): two facial features and, depending on whether alcohol exposure was documented, variability in its other criteria;
- alcohol-related neurodevelopmental disorder ('**ARND**'): neurobehavioral impairment, documented prenatal alcohol exposure, but minimal physical findings;
- alcohol-related birth defects ('**ARBD**'), referring to physical defects secondary to known foetal alcohol exposure, but where there are no neurobehavioral deficits; and
- neurobehavioural disorder associated with prenatal alcohol exposure (**ND-PAE** or **ND-AE**): similar to alcohol-related congenital disabilities but may involve physical features. Typically, these individuals exhibit impairment in self-regulation, cognition and adaptative functioning.[8]

4 For simplicity and consistency with a leading Australian guide,[9] 'Fetal Alcohol Spectrum Disorders', or FASD, will be used here as a diagnostic term.

5 The 2021 Senate Inquiry, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder*, in its Report, noted:

> Alcohol is a teratogen, a substance that causes fetal abnormalities. When a pregnant woman drinks alcohol, it crosses the placenta, and the fetus experiences a blood alcohol concentration similar to the mother.
>
> When exposed to alcohol, the developing embryo and fetus may experience irreparable damage to the brain and other organs.[10] …
>
> Research suggests that exposure to alcohol in early pregnancy may lead to structural brain abnormalities and other birth defects, whereas later in pregnancy alcohol exposure may result in defects in growth and neurological development.[11]

6 Each person with FASD will have a unique presentation of symptoms, effects and disabilities which may be influenced by the environment in which they grew up. Professor Stephen Ralph (2017) noted the following in relation to the influence of environment on a person's symptoms:

> Individuals along the FASD spectrum will each experience a specific set of symptoms and a specific set of secondary conditions according to the environment they grow up in. It is important to remember that not all people with FASD will have visible facial characteristics, low IQ, mental illness, violent behaviour or substance addiction. The unique pattern of individual differences in the expression of FASD symptoms makes the assessment of FASD particularly difficult. As a result, FASD appears to be under-recognised and under-treated,

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[7] Demetrios Vorgias, Francine D Bynum and Bettina Bernstein, *Fetal Alcohol Syndrome* (StatPearls [Internet] 2019, updated 27 May 2023); Doug Shelton et al, 'Responding to Fetal Alcohol Spectrum Disorder in Australia', *Journal of Paediatrics and Child Health* (2018), 54(10), 1121.

[8] In relation to ND-PAE, see also Najat Khalifa et al, 'The Neurocognitive Profiles of Justice Involved People with Foetal Alcohol Spectrum Disorder: A Systematic Review' (2022) 40(1) *Behavioral Sciences & the Law* 87, 88.

[9] Carol Bower and Elizabeth J Elliott, *Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder (FASD)*, Report to the Australian Government Department of Health (updated, February 2020). However some, including forensic psychologist Professor Stephen Ralph, advise that it is not a diagnostic term; rather it is a term for the 'range of physical, cognitive, behavioural and neurodevelopmental disabilities that result from exposure of the fetus to alcohol': see Stephen Ralph, 'Fetal Alcohol Spectrum Disorder in Indigenous Adults and the Role of Psychology' (2017) 39(2) *InPsych: The Bulletin of the Australian Psychological Society Ltd* 14.

[10] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) [2.10]–[2.11] ('*Effective Approaches* Report').

[11] Ibid [2.18].

> particularly in vulnerable populations, such as those living in psychiatric settings, the child welfare system, and juvenile detention and correctional facilities.[12]

7 To similar effect, the New South Wales *Equality Before the Law Bench Book* states:

> A number of complex and interrelated factors can influence the effects of prenatal alcohol exposure, including social determinants of health, colonisation and genetics.[13]

8 The Senate's *Effective Approaches* Inquiry in 2021 noted that the **primary disabilities**[14] associated with FASD are symptoms of underlying brain dysfunction linked directly to brain damage rather than being a failure in rational decision making or choices.[15] They include:

- poor impulse control
- developmental delay
- poor memory
- difficulties with abstract concepts
- difficulties with planning and following through on goals.[16]

In an assessment of the utility of the *Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder* in young children, which was produced to assist in the diagnosis, referral and management of FASD,[17] Dawe and colleagues observed:

> The consequences for children born with birth defects and developmental disabilities encompassed by fetal alcohol spectrum disorder (FASD) are profound. Neurodevelopmental difficulties can include impairment in executive functioning, attention and information processing, language, and motor problems. These difficulties contribute to a range of adverse outcomes that may be considered secondary to the neurodevelopmental challenges, including poor educational attainment, social and behavioral problems, and physical health issues across childhood, adolescence, and adulthood.[18]

A review of control studies on the effects of prenatal alcohol exposure on cognitive domains of individuals found:

- [D]ecreased IQ is one of the most commonly reported findings in relation to [PAE] …
- Adults with FASD demonstrate greater deficits in motor function compared to typically developing adults, specifically on tests of balance and fine motor control as well as with higher-order cognitive-motor abilities such as hand-eye coordination.

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[12] Stephen Ralph, 'Fetal Alcohol Spectrum Disorder in Indigenous Adults and the Role of Psychology' (2017) 39(2) *InPsych: The Bulletin of the Australian Psychological Society Ltd* 14, citing House of Representatives Standing Committee on Social Policy and Legal Affairs, Australian Parliament, Inquiry into the prevention, diagnosis and management of Fetal Alcohol Spectrum Disorders and report *FASD: The Hidden Harm* (November 2012) ('*Hidden Harm* Report').

[13] Department of Justice Western Australia, *Equal Justice Bench Book* (2nd ed, 24 September 2021) 179–80. ('Equal Justice Bench Book').

[14] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) ('*Effective Approaches* Report'). See also *Equal Justice Bench Book* (n 13) 206–7, citing Telethon Kids Institute, '*What Is FASD?*' in Alcohol and Pregnancy & FASD (2019).

[15] *Effective Approaches* Report (n 14) 15 [2.4], citing Foundation for Alcohol Research and Education (FARE), *Submission 50*, Attachment 3, 10.

[16] Ibid.

[17] Carol Bower and Elizabeth J Elliott, *Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder (FASD)*, Report to the Australian Government Department of Health (updated, February 2020).

[18] Sharon Dawe et al, 'An investigation of the utility of the Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder in Young children' (2023) 37(3) *Alcohol Clinical & Experimental Research* 487 (citations omitted).

- Children with heavy prenatal alcohol exposure have overall slower performance and difficulty establishing, organizing, and sustaining attention … When processing visually presented information children and adolescents with prenatal alcohol exposure are less efficient, make more omission errors, have lower accuracy rates, and slower reaction times as compared to controls.
- Executive function broadly refers to the higher-order interrelated cognitive processes (eg, working memory, problem solving, planning, response inhibition) that are involved in goal-directed behavior. Children with FASD have significant deficits across executive function domains as compared to controls.
- Compared to controls, children with FASD score lower on verbal fluency measures, display greater difficulty with letter fluency versus category fluency tasks, and produce fewer words in both domains.
- Children with prenatal alcohol exposure show impairments in response inhibition, which is the ability to suppress one response in favor of another.
- Children with FASD spend less time pre-planning their strategy before solving a problem, use less efficient strategies, show increased rule violations, and require more moves to solve a problem as compared to control groups on planning and strategy-use tasks.
- Children with prenatal alcohol exposure have deficits in detecting and producing concepts as well as poor cognitive flexibility, which is necessary for solving problems in everyday life.
- Children with FASD evidence impaired performance on measures of working memory as compared to controls and strong correlations have been shown between prenatal alcohol exposure and tests of working memory.
- Although research is limited in this area, impairments in visual-spatial abilities have been reported for children with prenatal alcohol exposure on visual construction tasks.
- Traditional assessment of adaptive behavior includes performance in three domains: communication, socialization, and daily living skills. Deficits in adaptive functioning skills have been reported across the spectrum of FASD and in all three domains.
- Mathematical abilities appear to be particularly affected, with deficits persisting even after controlling for global intellectual ability … In addition to mathematical impairments, lower performance on spelling and reading is found in association with FASD.[19]

9 Impairments in emotional regulation are also a key feature of FASD and are in part due to disrupted and delayed executive function as well as poor self-regulation. Gill and Thompson-Hodgetts (2018) defined self-regulation in the context of FASD as 'an individual's ability to recognize and adapt his/her response in order to engage in deliberate and thoughtful actions while remaining attentive, inhibited, and emotionally appropriate for the situation or context.'[20]

[19] Sarah N Mattson, Gemma A Bernes and Lauren R Doyle, '*Fetal Alcohol Spectrum Disorders: A Review of the Neurobehavioral Deficits Associated with Prenatal Alcohol Exposure*' (2019) 43(6) *Alcohol Clinical & Experimental Research* 1051, 1053–4 (direct quotations, citations removed).

[20] Kamaldeep Gill and Sandra Thompson-Hodgetts, '*Self-Regulation in Fetal Alcohol Spectrum Disorder: A Concept Analysis*' (2018) 11(3) *Journal of Occupational Therapy, Schools, & Early Intervention* 329, 339.

A meta-analysis of studies found that a large majority (75%) of studies examining self-regulation in infants affected by PAE found 'significant delays or deficits in this domain'.[21]

10 In one 2020 study, a similarly large majority of children with FASD (between 72% and 77%) demonstrated atypical sensory processing behaviours, such as 'distress during grooming, difficulty functioning with background noise, or seeking all sorts of movement', even controlling for adverse childhood experiences in the sample.[22]

11 The Senate *Effective Approaches* Report asserted:

> People with FASD experience lifelong challenges, including learning difficulties and disrupted education, mental illness and drug and alcohol problems.[23]

12 It has been noted that more research is needed to ascertain 'whether patterns of impairment are influenced by environmental and contextual factors such as stability in care and appropriate support'.[24] Many studies focus on 'cohorts with severe deficits rather than population-based cohorts receiving adequate support'.[25]

13 A 2022 research article on FASD, comorbidities and stressors in Western Australian children and young people diagnosed with FASD in an assessment centre found:

> Individuals with [FASD] are at risk of having adverse childhood experiences (ACEs), especially those with child protection and/or justice system involvement … 70% of the total sample had been involved with the child protection system and 40% had trouble with the law.
>
> Exposure to drinking/substance [use disorders] at home (70%) and domestic violence (52%) were the two most common ACEs across the total sample. In the entire cohort, 39% had four or more ACEs, indicating higher risks of poor health outcomes. Additional stressors recorded were disengagement from school (43%), transiency (19%), victims of bullying (12%), traumatic brain injury (9%) and homelessness (5%). ACEs such as drinking/substance [use disorders] at home, emotional neglect and physical neglect were positively associated with child protection system involvement. Additionally, exposure to domestic violence was positively correlated with justice system involvement. Higher rates of life adversity in this clinical population were associated with an increased number of comorbidities. Specifically, those with FASD who had comorbidities such as attachment disorder, substance use disorder, and PTSD also reported higher ACEs scores.[26]

14 Regarding outcomes for people born with FASD, Ralph (2017) reported:

> The combination of FASD and secondary symptoms invariably leads to social and economic problems, further entrenching the individual in a negative life trajectory. Adolescents and adults with FASD have been described as easily victimised and distractible, as having difficulty handling money, problems learning from experience, trouble understanding

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[21] Laura Garrison et al, 'Forty Years of Assessing Neurodevelopmental and Behavioral Effects of Prenatal Alcohol Exposure in Infants: What Have We Learned?' (2019) 43(8) *Alcoholism: Clinical and Experimental Research* 1632, 1637.

[22] Tracy L Jirikowic et al, 'Prevalence and Patterns of Sensory Processing Behaviors in a Large Clinical Sample of Children with Prenatal Alcohol Exposure' (2020) 100 *Research in Developmental Disabilities* 1, 8.

[23] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) 3 [1.10] ('*Effective Approaches* Report').

[24] Sharon Dawe et al, 'An Investigation of the Utility of the Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder in Young Children' (2023) 37(3) *Alcohol Clinical & Experimental Research* 486, 495.

[25] Svetlana Popova et al, 'Fetal Alcohol Spectrum Disorders' (2023) 9(11) *Nature Reviews Disease Primers* 1, 14.

[26] Grace Kuen Yee Tan et al, 'Adverse Childhood Experiences, Associated Stressors and Comorbidities in Children and Youth with Fetal Alcohol Spectrum Disorder Across the Justice and Child Protection Settings in Western Australia' (2022) 22(587) *BMC Pediatrics* 1, 1.

> consequences and perceiving social cues, having poor frustration tolerance, inappropriate sexual behaviours, substance [use disorders], and experiencing trouble with the law.[27]

15 As Ralph notes, citing the House of Representatives *Hidden Harm* Report,

> According to the Australian Human Rights Commission (AHRC), international research reports poor long-term outcomes for children with FASD. Ninety per cent will have mental health problems, 80 per cent will remain unemployed, 60 per cent will come into aggravated contact with the law and less than 10 per cent will be able to work independently by the age of 21 (Australian Human Rights Commission, 2012).[28]

16 The Senate *Effective Approaches* Report noted that while PAE and FASD cross 'socio-economic, cultural and education boundaries',[29] some risk factors for consuming alcohol during pregnancy have been reported:

> Australian women living with poor mental health, high life stress, poverty, housing and legal issues, concurrent drug use and exposure to domestic and family violence and trauma are more likely to use alcohol during pregnancy.[30]
>
> According to a review of scientific literature by the National Drug Research Institute, Australian women who continue to drink alcohol during pregnancy are older and have a higher income, education and socio-economic status. They are also more likely to live in a rural and remote area.[31]

17 In an attempt to address the deficit discourse that non-Indigenous Australians, particularly governments, have imposed on First Nations peoples, the *Effective Approaches Report* devoted an entire chapter to the impact of FASD on First Nations communities, noting:

> alcohol use in contemporary First Nations communities should be seen in the context of inter-generational trauma, poverty, suppression of culture and language, and the experience of racism and discrimination.[32]

18 FASD can be an intergenerational condition. The *Effective Approaches* Report noted:

> The Gold Coast Hospital and Health Service, Child Development Service, reported intergenerational FASD amongst its patients:
>
> > we see within the clinic – on reviewing histories of the children – strong clinical indicators (including confirmed prenatal alcohol exposure) that biological parents had a high probability of having FASD.[33]

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[27] Stephen Ralph, 'Fetal Alcohol Spectrum Disorder in Indigenous Adults and the Role of Psychology' (2017) 39(2) *InPsych: The Bulletin of the Australian Psychological Society Ltd* 14.

[28] Ibid, quoting House of Representatives Standing Committee on Social Policy and Legal Affairs', Inquiry into Foetal Alcohol Spectrum Disorders and report, *FASD: The Hidden Harm* (Report, November 2012) 30 [28.1] ('*Hidden Harm* Report'). The Australian Human Rights Commission submission cited is *Submission 54* to that Inquiry.

[29] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) 2 [1.8] ('*Effective Approaches* Report').

[30] Ibid 22 [2.47], citing Foundation for Alcohol Research and Education (FARE) *Submission 50,* 17.

[31] Ibid 20 [2.29] citing National Drug Research Institute, *Submission 1*, 7–8 ('*Effective Approaches* Report').

[32] Ibid 115 [6.4]. See also Nicole Hewlett et al 'Development of an Australian FASD Indigenous Framework: Aboriginal Healing-Informed and Strengths-Based Ways of Knowing, Being and Doing' (2023) 20(6) *International Journal of Environmental Research and Public Health* 5215.

[33] *Effective Approaches* Report (n 29) 24 [2.61].

> Royal Far West told the committee that FASD is also having intergenerational impacts in regional, remote and rural communities:
>
> > For children, adolescents and families in regional, remote and rural communities, it is likely that FASD contributes to already high rates of developmental and health problems, with potential lifespan and intergenerational impacts.[34]

Prevalence

Prevalence of Prenatal Alcohol Exposure (PAE)

19 The *Effective Approaches* Report noted that 'Australia has one of the highest rates of prenatal alcohol exposure in the world'.[35] A 2017 meta-analysis of global rates of prenatal alcohol exposure (PAE) found 35.6% of Australian women consumed alcohol at some point during their pregnancy,[36] compared with an average of 9.8% globally.[37]

Prevalence of Fetal Alcohol Spectrum Disorders (FASD)

20 The *Effective Approaches* Inquiry found that 'the prevalence of FASD in Australia is still largely unknown and believed to be significantly underreported'.[38] Similarly, the 2021 Western Australian *Equal Justice Bench Book* states that '[i]n Australia, FASD is under-recognised and often goes undiagnosed'.[39]

21 In a systematic literature review and meta-analysis, Popova et al (2019) noted that earlier studies from Australia contained outdated estimates with an 'unrealistically low prevalence of FASD (lower or slightly above 1%)'.[40] Similarly, the *Effective Approaches* Report (2020) stated:

> Whilst there are no reliable figures on the prevalence of FASD in Australia, experts estimate that it affects up to five per cent of the population, and that potentially between 2% and 9% of babies are born with FASD each year.[41]
>
> Modelling for the Food Regulation Standing Committee undertaken in 2018 concluded that there is a plausible FASD incidence rate of 5% of the Australian population, drawing upon a range of international data and research. [42]

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[34] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) 25 [2.62] ('*Effective Approaches* Report').

[35] Ibid 18 [2.22].

[36] Svetlana Popova et al, 'Estimation of National, Regional, and Global Prevalence of Alcohol Use During Pregnancy and Fetal Alcohol Syndrome: A Systematic Review and Meta-Analysis' (2017) 5(3) *The Lancet Global Health* e290, Supplementary Appendix 19, Table 2.

[37] Ibid e290.

[38] *Effective Approaches* Report (n 34) 23 [2.55], citing Foundation for Alcohol Research and Education (FARE), *Submission 50*, Attachment 1, 39 ('*Effective Approaches* Report').

[39] Department of Justice Western Australia, *Equal Justice Bench Book* (2nd ed, 24 September 2021) 180 ('*Equal Justice Bench Book*'), citing Carol Bower and Elizabeth J Elliott, *Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder (FASD)*, Report to the Australian Government Department of Health (updated, February 2020).

[40] Svetlana Popova et al, 'Prevalence of Fetal Alcohol Spectrum Disorder among Special Subpopulations: A Systematic Review and Meta-Analysis' (2019) 114(7) *Addiction* 1150, 1168.

[41] *Effective Approaches* Report (n 34) 2 [1.7].

[42] Ibid 24 [2.57], citing Food Regulation Standing Committee, *Decision Regulation Impact Statement: Pregnancy Warning Labels on Packaged Alcoholic Beverages* (October 2018) 26.

> FASD Research Australia estimates the prevalence of FASD to be 10 to 40 times higher amongst children in foster and state care, correctional facilities, special education, specialised clinics and First Nations populations than the general population.[43]

22 Popova et al (2023) investigated the world-wide prevalence of FASD and estimated it to be 7.7 per 1,000 individuals (or 0.77%).[44] In many places, including Australia, the prevalence of FASD remains unclear, being 'highly variable, and disproportionately [impacting] some special subpopulations', in which it far exceeded prevalence in the general population.[45] In a 2017 study of 45 remote Indigenous communities in north-western Australia, a diagnosis of FASD was made in 21 of 108 children (194.4 per 1,000 children).[46]

Difficulty in Estimating Prevalence

23 FASD is often referred to as 'an invisible epidemic'. The *Effective Approaches* Report noted that:

> Obtaining [an] FASD diagnosis is notoriously difficult, and access to diagnostic and treatment services are limited in Australia, particularly in rural and remote areas. Failure to identify children at risk and to diagnose FASD means that many individuals do not receive recognition or support for their impairments through the health, education and justice systems.[47]

24 The 2011 House of Representatives *Doing Time* Report noted:

> the incidence of FASD is likely to be unreported because of [the] issues around data collection, difficulties in early diagnosis, lack of referrals by non-specialists, lack of recognition of FASD indicators and insufficient information on medical records.[48]

25 The Northern Territory's 2015 *Preventable Disability Report* stated:

> Clinical studies also suggest that the *indigeneity* of many [people with FASD] further impairs recognition and recording of the disorder due to cultural and language barriers and lack of appropriate assessment tools.[49]

26 Issues associated with diagnosis were part of the impetus for the development and publication, in 2016, of the *Australian Guide to the Diagnosis of FASD*, which was intended to assist healthcare professionals to make a diagnosis of FASD and to manage and refer families living with FASD. A subsequent review of the Guide, published in 2020,[50] was undertaken to ensure that it reflected current knowledge and national and international best practice.[51] However, in 2023, Hewlett and others observed that one limitation of the Guide was that 'Aboriginal voices

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[43] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) 25 [2.63] ('*Effective Approaches* Report').

[44] Svetlana Popova et al, 'Fetal Alcohol Spectrum Disorders' (2023) 9(11) *Nature Reviews Disease Primers* 1, 3.

[45] Svetlana Popova et al, 'Prevalence of Fetal Alcohol Spectrum Disorder among Special Subpopulations: A Systematic Review and Meta-Analysis' (2019) 114(7) *Addiction* 1150, 1172.

[46] James P Fitzpatrick et al, 'Prevalence and Profile of Neurodevelopment and Fetal Alcohol Spectrum Disorder (FASD) amongst Australian Aboriginal Children Living in Remote Communities' (2017) 65 *Research in Developmental Disabilities* 114.

[47] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) 3 [1.9] (*Effective Approaches* Report).

[48] House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, Parliament of Australia, *Inquiry Into the High Level of Involvement of Indigenous Juveniles and Young Adults in the Criminal Justice System*, November 2009, and report *Doing Time – Time for Doing: Indigenous Youth in the Criminal Justice System* (Report, June 2011) ('*Doing Time* Report') 96 [4.33].

[49] Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder, Legislative Assembly of the Northern Territory (March 2014), and report, *The Preventable Disability* (February 2015) 53 [4.39] ('*Preventable Disability* Report').

[50] Carol Bower and Elizabeth J Elliott, *Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder (FASD)*, Report to the Australian Government Department of Health (updated, February 2020).

[51] See 'FASD Diagnosis: Australian Guide to the diagnosis of FASD' at FASD Hub.

were lacking in recommended practices, risking the perpetuation of institutionalised racism in established clinical practices around FASD diagnosis'.[52] The authors proposed an alternative Framework which 'unfolds the changes that both non-Aboriginal clinicians and Aboriginal peoples each need to make in their respective ways of knowing, being and doing in order to facilitate access to healing-informed, strengths-based and culturally responsive FASD knowledge, assessments, diagnosis and support services among Aboriginal peoples.'[53]

Links to Contact with the Criminal Justice System

27 The Senate *Effective Approaches* Inquiry noted that in Western Australia,

> a data linkage study has shown that exposure to alcohol during pregnancy increases the risk of contact with the youth justice system. This is the case even adjusting for risk factors such as social disadvantage, [I]ndigenous status and poor academic performance.[54]

28 In that context, there was reference to a Western Australian study, conducted in the only youth detention centre in that State, which found a high prevalence of FASD (36%) among detainees, most of whom identified as First Nations peoples. Evidence provided to the Inquiry suggested there was a similar prevalence of FASD in the Northern Territory youth justice system.[55]

29 In a literature review and analysis of children and young people with FASD in the criminal justice system, Khalifa et al (2022) noted:

> Foetal alcohol spectrum disorder (FASD) is highly prevalent in criminal justice settings … [In] a systematic review of the literature on the neurocognitive profiles of justice-involved individuals with FASD … up to January 2021 … the findings indicate that when contrasted with comparison groups [that is, justice-involved individuals without FASD], justice-involved individuals with FASD display significant impairment in a greater number of neurocognitive domains including intellectual capacity, executive function, language, academic achievements, motor skills, and adaptive living skills.[56]

30 In a representative sample of 99 Western Australian detained young people, 36% were diagnosed with FASD. Of the 99, 47% had confirmed prenatal alcohol exposure. None of the young people had all three characteristic facial features, and 73 had none; 14 had one such feature; 12 had two.[57] The 2018 Australian Law Reform Commission *Pathways to Justice Report* noted:

> FASD has been linked to extremely high levels of criminal justice contact for juveniles, with FASD-affected youth 19 times more likely to be incarcerated, as well as high levels of

[52] Nicole Hewlett et al 'Development of an Australian FASD Indigenous Framework: Aboriginal Healing-Informed and Strengths-Based Ways of Knowing, Being and Doing' (2023) 20(6) *International Journal of Environmental Research and Public Health* 3 [1.3]. The Guide had been made possible, at least in part, because of the shared knowledge provided by those of the authors recognised as Aboriginal knowledge holders. See also Thomas Stubbs et al, 'Fetal Alcohol Spectrum Disorder Resources for Health Professionals: A Scoping Review' 2024 (14) (July) *BMJ Open* e086999, which reviews resources available for health professionals to identify, diagnose, refer and support people with FASD and includes an appraisal of the extent to which resources are suitable for use for First Nations peoples.

[53] Hewlett et al (n 52) 16. See also the NOFASD website, which contains a collection of resources dedicated to Aboriginal and Torres Strait Islanders to assist in raising awareness of FASD within these communities.

[54] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) 26 [2.70] ('*Effective Approaches* Report'), citing *Submission 47* (Prue Walker).

[55] Ibid [2.71] and [272], citing *Submission 22* (Professor Harry Blagg et al).

[56] Najat Khalifa et al, 'The Neurocognitive Profiles of Justice Involved People with Foetal Alcohol Spectrum Disorder: A Systematic Review' (2022) 40(1) *Behavioral Sciences & the Law* 87, 87.

[57] Carol Bower et al, 'Fetal Alcohol Spectrum Disorder and Youth Justice: A Prevalence Study among Young People Sentenced to Detention in Western Australia' (2018) 8 *BMJ Open* e019605, 6 (Table 6).

> recidivism for adults and difficulty in understanding and complying with court orders and bail conditions.[58]
>
> Cognitive impairment, particularly that experienced as a result of [FASD] is [a] risk factor for incarceration … People with cognitive impairment have an increased likelihood of contact with the criminal justice system for reasons including:
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> > difficulties regulating behaviour, impaired decision making, problems communicating, a poor understanding of criminal justice procedures, poor memory and attentiveness and social immaturity. Having a disability and underprivileged living circumstances enhances susceptibility to homelessness, substance [use disorders], poor general health, low levels of community support, visibility to police and ultimately criminal engagement. People with cognitive impairment are additionally vulnerable to physical and sexual trauma, coercion, peer pressure and victimisation.[59]

31 Western Australia's *Equal Justice Bench Book* (2021) refers to the problematic engagement of people with FASD in the criminal justice system:

> The cognitive, social and behavioural problems associated with FASD often bring [people with FASD] to the attention of the criminal justice system. [A]pproximately 60% of adolescents with FASD have been in trouble with the law. Impulsive behaviour may lead to stealing things for immediate consumption or use, unplanned offending and offending behaviour precipitated by fright or noise. As a result of their suggestibility, [people with FASD] may engage in secondary participation with more sophisticated offenders. Lack of memory or in not understanding cause and effect may lead to breach of court orders, further enmeshing [people with FASD] in the justice system. Impaired adaptive behaviour that results from brain damage is translated into practical problems such as trouble handling money and difficulties with day to day living skills. It may be difficult for [people with FASD] to understand or perceive social cues and to tolerate frustration. Inappropriate sexual behaviour is also common amongst [people with FASD].[60]

32 The 2013 House of Representatives *Justice Reinvestment* Inquiry acknowledged the Royal Australian and New Zealand College of Psychiatrists' submission that 'the resulting brain damage from prenatal exposure to alcohol can increase involvement in criminal activity due to the following characteristics of FASD:

- a lack of impulse control
- trouble identifying future consequences of current behaviour
- difficulty planning and connecting cause and effect
- difficulty empathising with others and taking responsibility for actions
- difficulty delaying gratification or making good judgments
- a tendency toward explosive episodes
- vulnerability to social influences such as peer pressure.[61]

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[58] Australian Law Reform Commission, *Pathways to Justice: An Inquiry into the Incarceration Rate of Aboriginal and Torres Strait Islander Peoples* (ALRC Report 133, 2018) ('*Pathways to Justice* Report') 66–7 [2.44].

[59] Ibid 66 [2.42], quoting Stephane M Shepherd et al, Aboriginal Prisoners with Cognitive Impairment: Is This the Highest Risk Group?' (2018) 536 *Trends and Issues in Crime and Criminal Justice* 1, 2.

[60] Department of Justice Western Australia, *Equal Justice Bench Book* (2nd ed, 24 September 2021) 181, quoting Martin CJ in *LCM v The State of Western Australia* [2016] WASCA 164 [10], in turn quoting Heather Douglas, 'The Sentencing Response to Defendants with Foetal Alcohol Spectrum Disorder' (2010) 34 *Criminal Law Journal* 221, 223–5.

[61] Senate Standing Committee on Legal and Constitutional Affairs, Parliament of Australia, *Inquiry into the Value of a Justice Reinvestment Approach to Criminal Justice in Australia* (Report, June 2013) 36–7 [4.42] ('*Justice Reinvestment* Report'), citing Royal Australian and New Zealand College of Psychiatrists, *Submission 19*, March 2013, 8–9.

33 In its *Equality Before the Law Bench Book*, the Judicial Commission of New South Wales has similarly recognised that '[n]euro-developmental impairments due to FASD can predispose young people to interactions with the law'.[62]

34 In the Lililwan Project, a study of First Nations children with FASD[63] in remote communities of north-western Australia, researchers found significant impairments in cognition, memory, executive function, communication, and academic achievement domains in at least 50 percent of those children, indicating challenges in processing complex information.[64] In a study comparing offending Australian children with and without FASD, children with FASD were four times more likely to be charged with dangerous or negligent acts (eg, reckless driving), indicating vulnerability to high-risk behaviour, and three times more likely to breach community-based orders or bail, possibly indicating difficulties in memory, language and executive functioning.[65]

35 Other potential implications of custodial sentences for individuals with FASD include:

- Lower level of culpability due to cognitive deficiencies
- Higher risk of victimisation (physically, sexually and socially) due to social vulnerability
- Vulnerable social cognition, meaning individuals are more likely to transfer poor behaviours learnt in prison once released, increasing the chance of reoffending
- Lack of access to appropriate interventions in custody.[66]

36 Professor Douglas has noted that people with FASD involved with criminal justice processes:

> may not have good memory function and may be highly suggestible; as a result, some may not be credible witnesses. As defendants … [they] may be disadvantaged in processes related to police questioning because their suggestibility may cause them to agree with scenarios put to them by police. Plea negotiation, establishing fitness to plead and intention and the role of diminished responsibility and provocation … may also raise specific concerns.[67]

37 In addition, Douglas described behaviours exhibited by people with FASD that may be misconstrued by others in the criminal justice system:

> Typical attitudes and behaviours of [people with FASD] that may be observed in court include an inability to understand the seriousness of their crimes which may be exhibited in nonchalance or inappropriate smiling, apparent lack of remorse and defiance of court orders.
>
> [People with FASD in contact with the criminal justice system] may seem to carry out opportunistic, impulsive offending in relation to crimes that do not make sense. They may carry out high risk behaviours for modest outcomes.[68]

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[62] Judicial Commission of New South Wales, 'People with Disabilities' in *Equality Before the Law Bench Book* (updated February 2024) [5.3.8] ('*Equality Bench Book*'). See also Katherine Flannigan et al, 'Fetal Alcohol Spectrum Disorder and the Criminal Justice System: A Systematic Literature Review' (2018) 57 *International Journal of Law and Psychiatry* 42.

[63] James P Fitzpatrick et al, 'Prevalence and Profile of Neurodevelopment and Fetal Alcohol Spectrum Disorder (FASD) amongst Australian Aboriginal Children Living in Remote Communities' (2017) 65 *Research in Developmental Disabilities* 114, 124.

[64] Ibid 121 [3.2.1]–[3.2.2].

[65] Grace Kuen Yee Tan et al, 'Exploring Offending Characteristics of Young People with Foetal Alcohol Spectrum Disorder in Western Australia' (2023) 30(4) *Psychiatry, Psychology and Law* 514, 524.

[66] Heather Douglas, 'The Sentencing Response to Defendants with Foetal Alcohol Spectrum Disorder' (2010) 34 *Criminal Law Journal* 221, 221–2, 231–3, 236.

[67] Ibid 221–2.

[68] Ibid 231.

38 Greenspan and Driscoll (2016) commented on the susceptibility, suggestibility and cognitive vulnerability of people with FASD in contact with the criminal justice system:

> People with FASD are easily manipulated by others, and such social vulnerability is a major reason why they are so likely to get into serious legal and other forms of difficulty. Police interrogations are also manipulative, in that a detective is attempting to use various ploys – including deceptive statements – to persuade someone to do something he is initially reluctant to do, namely admit to having committed a criminal act ... [F]or an adolescent or adult to stay out of jail requires a level of meta-cognition in which the intentions of a manipulator (whether a co-criminal or an interrogator) are thought about on a functional and abstract level. Unfortunately, people with FASD operate on a concrete and non-reflective level, which is why so many people with that disorder end up in jail or prison.[69]
>
> [P]eople with a developmental disorder such as FASD are not equipped with the meta-cognitive and abstract thinking skills required to assess the actual situation they are in.[70]

39 The Western Australian *Equal Justice Bench Book* (2021) also noted that:

> Individuals with FASD who become involved with the criminal justice system may not understand the arrest and court process, will have diminished competency and capacity and will not fully grasp the severity of the situation. They may appear to be competent whilst they are not actually understanding the process. Individuals with a FASD may make false confessions without understanding the legal consequences of such an act. Individuals with a FASD can also be victimised in custody.[71]

40 In addition, the Northern Territory Government's *Preventable Disability* Report observed the following impacts of FASD impairments in the justice system:

> In the courtroom and consultation process with legal practitioners, FASD affected individuals [have] a range of impairments, which hinder the ability for the individual to effectively plead their case. These include:
>
> - Hearing difficulties
> - Communication difficulties
> - Memory deficits
> - Difficulty understanding courtroom language including sarcasm, idiom or metaphor.
>
> In practical terms, these disabilities make it difficult for [individuals with FASD] to secure legal representation, provide instructions to lawyers, give evidence to defend themselves and comprehend the content, strategy and procedures involved in their case.[72]
>
> From the outset, understanding of legal rights and the nature and consequences of their criminal behaviour is likely to be limited at the point of formal charging by police. For example, individuals with FASD may not understand the language or implications when a police officer explains the right to silence and the fact that statements may be used as evidence against them prior to interviewing. During questioning, poor memory, high suggestibility and eagerness to please may lead FASD individuals to falsely confess or agree to statements

[69] Stephen Greenspan and John Driscoll, 'Why People with FASD Fall for Manipulative Ploys: Ethical Limits of Interrogators' Use of Lies' in Monty Nelson and Marguerite Trussler (eds), *Fetal Alcohol Spectrum Disorders in Adults: Ethical and Legal Perspectives* (International Library of Ethics, Law, and the New Medicine, 2016) 23, 23.

[70] Ibid 36.

[71] Department of Justice Western Australia, *Equal Justice Bench Book* (2nd ed, 24 September 2021) 208.

[72] Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder, Legislative Assembly of the Northern Territory (March 2014), *The Preventable Disability* (Report, February 2015) 56 [4.46] ('*Preventable Disability* Report').

> resulting in a miscarriage of justice. For similar reasons, they are also less reliable as witnesses and complainants, with the result that offenders are less likely to be convicted.[73]

41 According to Brown et al (2020), there is abundant circumstantial evidence to strongly suggest that 'individuals having FASD are particularly vulnerable to confabulate'.[74] They define confabulation as the 'production of an inaccurate memory without the intention to deceive. These memories can be plausible or unbelievable and vary widely from the alteration of minor details to the creation of an entire convoluted narrative.'[75] This would likely contribute to 'impulsive Miranda rights waivers, incorrect assumptions of competency, inaccurate or incomplete information gathering, misinterpretation of intent, witness reliability issues, court ordered treatment completion problems, probation and parole violations, false confessions, and false accusations'.[76]

42 Gilbert et al (2023) found in their empirical study of 52 adolescents that children with FASD were more vulnerable to leading questions and negative feedback, and showed significantly higher suggestibility, compared with children without FASD; they also observed, in children with FASD, greater challenges in memory recall, a lower intelligence quotient and higher impulsivity.[77]

Treatment and Management[78]

43 In its 2016 position paper on FASD, the Australian Medical Association stated:

> International studies have identified a range of psychosocial and pharmacological treatment strategies to manage FASD, although few are evidence-based. Effective interventions included family, educational and parental support, increased social-skills education for FASD children, and prescription medications to help manage the attention deficit issues associated with FASD.[79]

44 The House of Representatives *Doing Time* Report (2011) suggests:

> [A]ccess to accurate and timely assessment and diagnosis of FASD would benefit children, their families and professionals working in the health and criminal justice systems. Early diagnosis would also mitigate the secondary damages associated with FASD. Diagnosis and support for Indigenous youth with FASD already in contact with the criminal justice system is also important. The Committee concludes that diagnostic interventions developed through a collaboration of education, health and justice systems are essential.[80]

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[73] Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder, Legislative Assembly of the Northern Territory (March 2014), *The Preventable Disability* (Report, February 2015) 54 [4.41] ('*Preventable Disability* Report').

[74] Jerrod Brown et al, 'Fetal Alcohol Spectrum Disorder and Confabulation in Psycholegal Settings: A Beginner's Guide for Criminal Justice, Forensic Mental Health, and Legal Interviewers' (2022) 40(1) *Behavioral Sciences & the Law* 46, 61.

[75] Ibid 54.

[76] Ibid 101646.

[77] David J Gilbert et al, 'Immediate and Repeat Interrogative Suggestibility in a Sample of Adolescents with Fetal Alcohol Spectrum Disorder' (2024) 1(1) *Diversity & Inclusion Research* e12007.

[78] *Note*: the research cited in relation to treatment and healing does not attempt to prescribe or recommend what is required for any individual. This will of course be determined by factors such as the individual's personal experience or condition, the advice of any relevant experts, health providers or other support persons and the availability of treatment and opportunities to recover and heal.

[79] Australian Medical Association, *Fetal Alcohol Spectrum Disorder (FASD) – 2016* (Position Paper, 24 August 2016) 3.

[80] House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, Parliament of Australia, *Inquiry Into the High Level of Involvement of Indigenous Juveniles and Young Adults in the Criminal Justice System*, *Doing Time – Time for Doing: Indigenous Youth in the Criminal Justice System* (Report, June 2011) ('*Doing Time* Report') 101–2 [4.52].

45 The *Effective Approaches* Report noted, in relation to the appropriate types of supports for children with FASD, that:

> Because the nature and type of disability experienced by an individual with FASD will vary, best-practice support involves a personalised care program, delivered through a multidisciplinary model of care.
>
> Programs which develop social and emotional skills can help children with FASD to manage their behaviours and build resilience and connection to community. These protective factors help lessen the risks of mental health issues, antisocial and criminal behaviour, and substance misuse later in life.
>
> Although behaviour management is commonly the focus of supports, children with FASD also need help to develop life and education skills, particularly in the context of challenges in daily activities including learning, attending, sitting still, self-regulation and impulse management.
>
> The family and carers of children with FASD also need education and capacity building to help them understand the disability and assist them to support their child's education, self-regulation, behaviour and social skills.[81]

46 The *Effective Approaches* Inquiry also acknowledged an Aboriginal Medical Services Alliance of the Northern Territory's submission:

> Early intervention, and specifically intervention in early childhood, is the most cost-effective intervention to break cycles of intergenerational disadvantage and trauma and improve long-term outcomes across a range of health and wellbeing measures.[82]

47 However, the *Effective Approaches* Inquiry noted, in relation to adults with FASD, that 'FASD is often not identified until relatively late in life, or not identified at all'[83] and that:

> If FASD is left undiagnosed into adulthood, individuals face significant challenges including the risk of developing secondary disabilities:
>
> > Unsupported, as arguably most adults with FASD in Australia are, they may face a life of poor education outcomes, unsuccessful employment, increased risk of substance use disorders, increased involvement in risk-taking behaviours, challenges forming relationships, risk of homelessness, risk of being a victim of violent behaviour or perpetrating violence and contacts with justice systems.[84]

48 The *Effective Approaches* Inquiry heard submissions on supporting adults with FASD:

> The committee heard that the type and level of support required for adults with FASD differs compared to children and young people, and there must be regard for an individual's functional capacity and longer-term support needs.
>
> Inquiry participants outlined a range of possible supports for adults with FASD. These could include assistance with financial management, interpersonal relationships or legal situations. Additionally, they may need support for living arrangements, personalised workforce training and vocational support.

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[81] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) [5.6], [5.8]–[5.10]. ('*Effective Approaches* Report').

[82] Ibid [5.5], quoting Aboriginal Medical Services Alliance of the Northern Territory (AMSANT), *Submission 62*, 8.

[83] Ibid [5.12].

[84] Ibid [5.13], quoting National Organisation for Fetal Alcohol Spectrum Disorder (NOFASD), answer to questions on notice 24 June 2020 (received 21 July 2020) 14.

> Specific supports may also be necessary for adults with FASD who are also parents. This can include strategies such as modelling and rehearsal, concrete instructions, physical demonstrations and guidance, breaking tasks into smaller steps, overlearning routines and using pictorial aids.[85]

Healing and Restorative Justice

49 The *Effective Approaches* Inquiry concluded:

> The evidence received throughout the inquiry clearly shows that conventional sentencing and correctional facilities are often inappropriate for people with FASD. The committee is of the view that diversionary programs and alternative therapeutic facilities are an underexplored area, and must have further consideration.[86]

50 Appropriate post-release programs are also crucial, since:

> Having a cognitive disability and an offending history … confers a two-fold risk of poor community re-integration post-release and of being denied equitable access to meaningful participation in activities, such as employment. This can be problematic as it has been shown that employment is important for social inclusion and connectedness, improved mental health, financial security and reducing the risk of offending behaviour and recidivism.[87]

51 Although more research of effective interventions is needed, Reid and colleagues advise that research shows 'behavioural control approaches are less effective than therapeutic approaches at reducing recidivism rates […], and this is likely the case for individuals with FASD, who may struggle with notions of cause and effect'.[88] A review of interventions found that availability of caregivers advocating for their child and a stable and nurturing home environment are crucial for preventing and managing psychosocial difficulties experienced by a child with FASD transitioning into adulthood.[89]

52 A study by Wells et al (2012) found that neurocognitive habilitation group therapy services could improve executive functioning and emotional and social problem-solving skills in children with FAS and ARND, especially when caregivers participated and applied the skills in the home environment.[90] A later systematic review and meta-analysis of interventions for children with FASD conducted by Hilly et al (2023) similarly found that '[c]ombining child/adolescent interventions with caregiver and teacher training appears to support activity, social cognition, and behaviour outcomes effectively'.[91] The knowledge review conducted by Hewlett et al (2023) argued the case for combining the use of Aboriginal practices of yarning and Dadirri with Western practice, observing: 'Healing for Aboriginal peoples is underpinned by holistic ways of knowing, being and doing, which emphasise the interconnectedness between the mental,

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[85] Senate Community Affairs References Committee, Parliament of Australia, *Effective Approaches to Prevention, Diagnosis and Support for Fetal Alcohol Spectrum Disorder* (Report, March 2021) [5.14]–[5.16]. ('*Effective Approaches* Report').

[86] Ibid [5.148]. See also Harry Blagg, Tamara Tulich and Suzie May, 'Aboriginal Youth with Foetal Alcohol Spectrum Disorder & Enmeshment in the Australian Justice System: Can an Intercultural Form of Restorative Justice Make a Difference?' (2019) 22(2) *Contemporary Justice Review* 105.

[87] Marie M A Nankoo et al, 'Scoping review of employment resources for individuals with fetal alcohol spectrum disorder and justice involvement' (2023) 13(2) *British Medical Journal Open* 2.

[88] Natasha Reid et al, 'Fetal Alcohol Spectrum Disorder: The Importance of Assessment, Diagnosis and Support in the Australian Justice Context', (2020) 27(2) *Psychiatry, Psychology and Law* 265, 269.

[89] Siann Gault et al, 'Transitions into Adulthood for People with Fetal Alcohol Spectrum Disorder: A Scoping Review of Promising Practices' (2023) *Children and Youth Services Review* 155.

[90] Anne M Wells et al, 'Neurocognitive Habilitation Therapy for Children With Fetal Alcohol Spectrum Disorders: An Adaptation of the Alert Program' (2012) 66(1) *The American Journal of Occupational Therapy* 24.

[91] Catherine Hilly et al, 'Effectiveness of Interventions for School-Aged-Children and Adolescents with Fetal Alcohol Spectrum Disorder: A Systematic Review and Meta-Analysis' (2023) 46(9) *Disability and Rehabilitation* 1708, 1729.

physical, emotional, social and spiritual aspects of a person's like, as well as their reciprocal relationships with family, community and Country.'[92] Using an Aboriginal healing-informed approach is more likely to see a reduction in stigmatising and racialised health practices and realise positive outcomes for Aboriginal people.[93]

53 The Youth Justice Program in Manitoba, Canada targeting delinquent youth with FASD successfully reduced new charges by 17%, and institutional behaviour incidents by 26%.[94] Crucial to these outcomes is targeted assessment of youth so that family, community and professionals are aware of the diagnosis and understand the ways in which their responses to sensory stimulation might be understood for sentencing purposes; this allows for adapting living arrangements and mandatory work or education conditions to be appropriate for the individual.[95]

54 A meta-analysis of studies assessing interventions with adults with FASD found that individualised support for domains of functioning (including adapting the person's environment to reduce negative stimulation, and providing structure and routine to reduce confusion when unexpected events occur) was important for positive outcomes in adulthood.[96] Another study of adults with FASD found, *inter alia*, that those with sustained employment outcomes relied on strong positive relationships.[97]

55 In 2020, the Department of Justice in Canada undertook an exploratory study on the use of restorative justice practices in the criminal justice system in relation to adults diagnosed with or suspected of having FASD. The study collaborated with five community-based Canadian programs that specifically addressed the needs of people with FASD linked to the criminal justice system. Principles of restorative justice were found to improve outcomes for individuals with FASD who are involved in the system.[98] The study suggested some approaches that could accommodate the unique needs of people with FASD in the criminal justice system, including:

- Increasing the number of pre-conference meetings
- Repeating and reviewing information
- Using clear and simple language
- Adapting the length of pre-conference meetings
- Being consistent (in turns of staffing, scheduling and routine tasks)
- Increasing the use of visual aids.[99]

56 Research by Blagg et al (2019) suggested there may be scope for intercultural engagement spaces 'in between' restorative practices and Indigenous processes when considering potential diversionary sentencing options for Aboriginal youth with FASD.

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[92] Nicole Hewlett et al 'Development of an Australian FASD Indigenous Framework: Aboriginal Healing-Informed and Strengths-Based Ways of Knowing, Being and Doing' (2023) 20(6) *International Journal of Environmental Research and Public Health* 4.

[93] Ibid 16.

[94] S Longstaffe et al, 'The Manitoba Youth Justice Program: Empowering and Supporting Youth with FASD in Conflict with the Law' (2018) 96(2) *Biochemistry and Cell Biology* 260, 265.

[95] Ibid 262, 265.

[96] Ryan Quan, E Sharon Brintnell and Ada WS Leung, 'Elements for Developing Community-Based Interventions for Adults with Fetal Alcohol Spectrum Disorder: A Scoping Review' (2018) 82(4) *British Journal of Occupational Therapy* 201.

[97] Aamena Kapasi et al, 'Understanding Employment Success in Adults with Fetal Alcohol Spectrum Disorder' (2019) 51(3) *Journal of Vocational Rehabilitation* 377.

[98] Jane Evans and Natacha Bourgon, 'Exploring the Use of Restorative Justice Practices with Adult Offenders with Fetal Alcohol Spectrum Disorder' (Research Report, Research and Statistics Division, Department of Justice Canada, 2020) 11–14.

[99] Ibid 14–15.

57 Blagg et al raised concerns about the suitability of people with FASD to participate in restorative justice processes such as conferencing; many individuals with FASD are:

> incapable of learning from experience, appreciating consequences and understanding right from wrong. These impairments make key principles like deterrence, denunciation and personal responsibility, completely unattainable, but they also problematize face-to-face truth-telling, atonement and 'epiphany' and other cherished aspects of an ideal restorative conferencing. A person with FASD is unable (through no fault of their own) to grasp these concepts, rendering the principles meaningless. It can turn judicial proceedings into a combination of tragedy and farce, but it can also prevent them from having a 'successful' restorative justice experience.[100]

58 Blagg et al also suggested a focus on strengthening, repairing and reinforcing the fabric of Aboriginal community life by nurturing place-based and community-owned initiatives managed by Aboriginal entities. '[R]estorative justice should … abandon the notion of the individual offender and instead deal therapeutically with the family, which in an Aboriginal way would also involve Elders, close kin and "countrymen".'[101] These intercultural restorative justice processes would focus on:

- Truth-telling
- Trauma-informed practice
- Culturally secure environments
- Constructing 'relational scaffolding' and the 'external brain': [people with FASD] often need a complete wrap-around service, and
- A strengths-based approach.[102]

[100] Harry Blagg, Tamara Tulich and Suzie May, 'Aboriginal Youth with Foetal Alcohol Spectrum Disorder & Enmeshment in the Australian Justice System: Can an Intercultural Form of Restorative Justice Make a Difference?' (2019) 22(2) *Contemporary Justice Review* 105, 113.

[101] Ibid 115.

[102] Ibid 115–16.