# Introductory comments

My response focuses on 1) infants and toddlers aged 0-3 years of age and their families and 2) infants and children with physical health conditions especially those requiring multiple investigations, treatments and hospital admissions.

This is an individual submission and is not made on behalf of my employers or any other organizations that I am affiliated with.

I have 35 years’ experience as a social worker and infant mental health clinician, academic and researcher with appointments at the Royal Children’s Hospital Melbourne, the University of Melbourne departments of Paediatrics and Psychiatry, and the Murdoch Children’s Research Institute. My research focus is the impact of early life stress- as a result of serious illness and hospital experience or significant family stress and social disadvantage – on the health and mental health of infants. I have experience in knowledge translation of infant mental health knowledge and skills into the fields of child health, child protection and early years’ education. I co-designed the Early Years Education Program (referred to on page 652 of Inquiry report) and am one of the Chief Investigators for the evaluation trial of EYEP.   Together with colleagues, I established post-graduate Infant Mental Health courses in Victoria. I am a past President of the Australian Association for Infant Mental Health and have served on the Board of Directors and Executive Committee of the World Association for Infant Mental Health.

# Specific comments on issues raised in the report:

The Commission’s recognition of the importance of intervening early in life and early in the life of mental health problems and the dedication of a whole chapter on Interventions in Early Childhood and School (Chapter 17) is very welcome.

## Prevalence of mental health problems in infancy and early childhood

The overview of the Report states that *75% of mental health problems emerge before the age 25* (page 2).

In order to achieve “generational change” (p4), and to intervene early enough to relieve suffering and prevent a trajectory of long term mental ill-health and social exclusion, it is important to recognize that many mental health problems have their onset **before the age of five** and that the incidence of mental health problems in young children is similar to that of older children and teenagers (see Data box 1). To emphasise this point it would be helpful to have the graphs on page 5 of the report overview include data relating to the whole population (rather than starting with the 15-19-year age group).

Infants are more likely than any other age group to experience accidents from exploration, trauma from medical procedures, family violence and emotional or physical neglect 1 and infants are the least likely in Australia of any group to receive a mental health response.2

The foundational importance of infancy for the development of the brain and emotional regulation is recognized in the report. This same vulnerability and sensitivity to environmental influences means that infancy is an optimal time for early intervention.

**DATA BOX 1.**

**Prevalence of Infant Mental Health problems**

* An Australian longitudinal population-based study found that 13.1% of 18 month old boys and 9.5% of girls had externalising behaviour problems and 5.2% of boys and 4% of girls had internalising problems in the borderline/clinical range 3
* A study of 18-month-olds in the Copenhagen birth cohort study identified the prevalence of Axis 1 Mental Health Disorders was 16% using ICD -10 and 18% using DC:0-3 4
* In surveys around the world regarding the mental health of children aged 1-3 years prevalence ranges from 7.3% to 12-16% and epidemiological studies reveal a prevalence of 6-18% prevalence of mental disorders among children aged 1-5 year with 8-9% being severely affected 5

## DRAFT RECOMMENDATION 17.2 — SOCIAL AND EMOTIONAL DEVELOPMENT IN PRESCHOOL CHILDREN: Services for preschool children and their families should have the capacity to support and enhance social and emotional development. (page 27).

Given that the term ‘preschool’ often refers to the one or two years prior to primary school enrolment, it would be helpful if this excellent recommendation was applied to the ‘under five’ age group i.e. from birth to school entry.

I support the short and long-term recommendations in this section: expansion of health checks to include social and emotional development; ensuring that early childhood education and care services (ECEC) to have access to mental health professionals; inclusion of curriculum on social and emotional development in educator training; quality improvement initiatives to focus on funded staff training in mental health; expansion of parent education programs; but in my view they are insufficient to reach the goals of the overall recommendation.

Specific comments:

* The recommendation to expand social and emotional wellbeing aspects of routine health checks needs to be matched with an accessible, comprehensive, stepped infant and early childhood mental health service system staffed by a workforce with training in infant mental health. I suggest some ideas for the service system later in this submission.
* The role of ECEC in promoting or hindering the mental health of young children is significantly more than being a potential site of screening or parent education. Like parents, early years’ caregivers/educators are shaping the brains, the emotional regulation capacities and current and future mental health of the children in their care. This is true for all children - including those living in well-resourced families - not just those living with adversity and socio-economic disadvantage. My comments about the specific needs of vulnerable children are in a separate section.
  + ECEC need to be designed to ensure that they meet the emotional needs of babies, toddlers and young children. The report notes that 80% of ECEC meet the National Quality Standards (page 659). This means that 20% do not and this is of grave concern. As the Productivity Inquiry into Childcare and Early Childhood Learning noted; *“there is also potential for negative effects (such as the emergence of behavioural problems later in childhood). These risks are greater the closer to birth the child commences ECEC and the longer the time the child spends in formal care — particularly if the care is of low quality”* page 6.
  + The percentage of children in formal ECEC is 16% at 0–1 years of age , 58% at 2–3 years and 93% at 4–5 years (excluding those already in school at this age).6 This means that more than half the population of two-to-three-year-olds have their mental health influenced by the quality of ECEC. Developmentally, this is a time of great emotional turmoil and a critical time for the development of more independent emotional regulation skills.
  + The most salient environmental influence for infants and young children is their caregiving relationships. Interpersonal interactions are the primary source of experiences (positive and negative) that shape the developing brain and therefore influence development and learning. Optimal emotional and behavioural regulation is achieved by infants with the scaffolding provided by their primary caregiver 7,8  in moment to moment interactions in the context of everyday care and is the foundation for mental health throughout life.9 ECEC need structures and processes that facilitate high quality interaction.
  + Many factors in addition to training will impact on the quality of the ECEC experience of infants and toddler and their emotional and social development. The size of a centre, the size of the rooms, the ratio of adults to children, the amount of staff turnover and unplanned leave, how transitions are managed, whether leave cover is staffed by a known pool of educators or random casuals will all impact on whether the infant and toddler experiences the child care setting as a source of stress or security. There is a body of evidence documenting the impact of group size on children’s learning outcomes as well as on educators’ and children’s stress levels 10,11,12
  + In the same way as parent mental ill-health can disrupt parent-child interactions, poor mental health in early years’ caregivers and educators or high levels of occupational stress suffered by educator/caregivers, risk the mental health of children in their care. There are occupational risks to the mental health of ECEC workers if they are poorly paid, have insecure work, are accorded low status, are not adequately trained and supported to work with children with parents and parents with problems.13
* The recommendation that “*State and Territory departments of education should ensure that all early childhood education and care services have ready access to support and advice from qualified mental health professionals”* is important. It could be strengthened by including a requirement that the mental health professional has advanced training in infant and child mental health, is a senior practitioner with experience working in direct clinical care and providing secondary consultation to non-mental health agencies working with infants and toddlers.
* Regular, scheduled reflective supervision rather than ad-hoc advice should be available to all ECEC. This could help in partially redressing the problems identified on page 651 of the report namely inadequate training and help prevent un-empathic, insensitive and unresponsive care-giving. Regular reflective supervision and clinical coaching can teach educators frameworks and concepts to understand emotional development, child responses to stress, and the skills to apply these concepts to the individual child. In addition to being taught how to identify behaviours of concern, educators also need support to reflect on how their own interactions with children will increase or reduce the risk of mental health problems, and how they can employ purposeful interactions with a child tailored to assist them to regulate their emotions and behaviour.

## The mental health of particular populations in infancy and early childhood

#### Infants and toddlers living with significant social adversity

The report identifies the innovative Australian Early Years Education Program (p662) as an early intervention service for vulnerable children “that usually takes the form of integrated education and therapeutic services, delivered by highly skilled staff” p662 and recognizes the impact that EYEP had on reducing social-emotional problems in infants and toddlers (enrolled between 0 to 3 years of age) living with significant adversity and family distress. It is important to note that EYEP has many unique features.14 It was designed many decades after the flagship Abecedarian and Perry preschool programs and therefore could build on the most recent research from neuroscience, developmental psychology, attachment theory and findings from studies of the impact of emotional trauma on young children in addition to research on relational pedagogy. EYEP has a dual focus - to reverse the negative consequences of toxic stress on children’s emotional and behavioural regulation, development and learning **and** to provide an enriched learning environment with a rigorously developed curriculum and high expectations for children’s learning.

The report is too pessimistic about scaling up EYEP. There are evidence-informed ways of replicating demonstration programs if careful attention is paid to the processes of scaling up, rigorously ensuring program fidelity and funding issues can be navigated. The EYEP research team is developing an approach to replication. It would be helpful if the report recommended that the government invest in proven interventions that reduce the incidence of mental health problems early in life.

The report recognizes that vulnerable children are increasingly attending ECEC services and suggests that increasing the capacity of all ECEC staff and services will be *‘likely to aid an improvement in social and emotional well-being for all vulnerable children”* p662. Although this seems to be common sense there is no evidence to support this (commonly held) optimistic view and there are many reasons why these improvements would not happen. 15

* + The children enrolled in the EYEP trial were more than ‘at risk’ – at the age of enrolment between the ages of 0 and 3, they had compromised language, motor skill and adaptive behaviour development. Even compared to the lowest quartile of participants in the Longitudinal Study of Australian Children, EYEP trial participants had lower birth weights, came from families with lower incomes, lower workforce engagement, high levels of psychological distress and experiencing many more stressful life events.16
  + Ensuring sustained participation in ECEC settings for children from families living with the challenges of adversity and persistent distress involves sophisticated, trauma-informed engagement skills and can take many months of work. Sustained participation is essential in order to achieve the intensity and duration of dosage that is needed to redress harms (therapeutic elements) and to educate (pedagogical elements) .
  + The significant outcomes for children achieved by EYEP required sustained participation (5 hours a day, 5 days a week for 50 weeks of the year), a skilled group of educators, a multidisciplinary team, a rigorously developed curriculum and individual programming for the children. Although significant improvements in IQ were achieved by the end of one years’ participation, the dramatic improvements in resilience and social-emotional health required two years participation.

Universal ECEC services do not have the settings, staff and other resources to redress the negative impacts of the range and complexity of the multiple challenges that the EYEP group of children live with. Educators in universal services find it difficult to implement individually adapted teaching strategies to ensure both learning success and skills in emotional and behavioural regulation. Children (under 3) living with the significant family distress and social disadvantage that the EYEP children had, require targeted early provision so that, post the intervention, they can avail themselves of what is on offer in a quality universal service and at school.

EYEP was designed to meet the needs of Australia’s most vulnerable children and the RCT has demonstrated that it can significantly improve IQ and mental health outcomes. The community needs to invest in further research and sustainable replication adhering to program fidelity.

#### Young children with physical health conditions especially those requiring multiple investigations, treatments and hospital admissions.

Infants and young children facing critical illness, born premature, or living with a physical impairment or chronic illness face significant risks to their mental health. There are many threats to the mental health of the hospitalised infant and these can be understood using the frameworks of toxic stress and adverse childhood experiences usually applied to the stress of social adversity. Paediatric medical traumatic stress refers to “a set of psychological and physiological responses of children and their families to pain, injury, serious illness, medical procedures, and invasive or frightening treatment experiences”. 17 Discomfort e.g. exhaustion after feeding, breathing difficulties, altered perception due to medications may persist even in the presence of a responsive caregiver and excellent pain management regimes. Medical interventions can be experienced as repeated traumas 18 and the paediatric intensive care setting may overwhelm the infant’s capacity to regulate the input of the environment, leading to a constant thwarted sense of agency and the use of extreme psychological defences or continual vigilance against perceived threat.

A US study found that after controlling for socio-demographic and health care access characteristics, children aged 5 to 17 with at least 1 chronic physical condition were 62% more likely to have a mental health disorder than were children without chronic physical conditions. Having a mental disorder was a significant predictor of total health care cost with the adjusted annual incremental cost due to mental disorders among children with chronic physical conditions being $2,631USD. 19 A meta-analysis published in 2017 found associations between childhood chronic physical illness and later adult depression (OR = 1.31; 95% CI [1.12, 1.54]) and anxiety (OR = 1.47; 95% CI [1.13, 1.92]). 20

Our research project - *Stress in Pre-schoolers with Congenital Heart Disease* - found that infants who had cardiac surgery in the first 6 months life had altered regulation of the stress hormone cortisol and an elevated cortisol stress response compared to infants with congenital heart disease who had later or no surgery. This is evidence of the biological embedding of this early stressful experience and alteration to the body’s stress response system.21 Parents’ capacity to provide buffering support may be compromised due to their own acute stress response, bonding and attachment difficulties, and the demands of caring for other children (e.g. well twin newborn and toddler at home in the country far away from the sick infant in a city hospital).

There needs to be significantly increased investment in the provision of social work, psychology and mental health services for sick infants, children and teenagers in all paediatric health care settings including clinical staff with training in infant mental health. (Children under five comprise 50% of the RCH Melbourne patients and 30% of patients are aged under 3). The consultation liaison model of acute response is inadequate to address the mental health needs of children with physical health conditions. Mental health care needs to be integrated with physical care. WIES funding should include a percentage for psychosocial care to address concurrent social determinants of illness and known risk of mental health consequences/complications. These should be addressed at a systems level in the same way as post-operative complications such as infection. There is a relationship between frequent and recurrent somatic complaints in childhood and adulthood emotional disorders, specifically depression and generalized anxiety disorder. 22 Many children and families spend much of their life at hospital so community-based care for them is hospital-based care.

#### Children and adolescents with intellectual impairments or autism spectrum disorders

The prevalence of mental health disorders among children and adolescents with an intellectual disability has been estimated to be 36%.23 These children and their families are one of the most under-served populations in our community in terms of receiving non-pharmacological mental health services. Often the only mental health treatments offered to these children, who may be very distressed and behaviourally dysregulated, is medication and or behavioural modification regimes that may be experienced as un-empathic and coercive. The subjective experience of the child is poorly misunderstood or discounted due to their cognitive impairments. The parent-infant attachment relationship may be derailed very early in life due to distress, grief and acute stress responses in parents following diagnosis of their child’s condition. Lack of appropriate support, disenfranchisement of the parental role, a culture of low expectations in service systems and the child’s impaired communication abilities can further compromise the developing attachment relationship and the child’s mental health. There needs to be a significant increase in investment in mental health services for these infants, children and families and these need to be provided by clinicians skilled in non-verbal communication, who understand the dynamics of early emotional development and infant parent relationships, and who recognize the dignity, agency and subjectivity of the child with impairments and disability.

## Workforce education and training

There are many good recommendations regarding the need for education and skill development in the ECEC workforce.

The issues identified by the commission regarding lack of training and lack of depth of training is important. The evidence on knowledge translation overwhelmingly points to the need for clinical coaching over time in addition to didactic teaching in order to achieve changes in clinical practice. University courses such as Graduate Certificates, Graduate Diplomas and Masters courses taught over an academic year (not in intensive one week blocks) can teach knowledge and skills in this evidence -informed way and in the last few decades have provided education in family therapy, child psychotherapy, infant mental health. Unfortunately, Australian university business models mean that it is no longer viable to offer such courses ( for example, the Masters in Mental Health Sciences Infant stream at the University of Melbourne) in the university setting. Even when in the university setting, the courses were full-fee courses with no commonwealth supported places. The cost of this level of education is prohibitive for clinicians in lower paid occupations e.g. nursing, social work who are often on short term contracts for example.

There has been an explosion in the offering of short (eg 2 - 5 days intensive) training ‘packages’ teaching a single intervention method, often imported from overseas. When these are delivered by clinicians with no skills or experience in mental health, they have a limited capacity to deliver the intervention with fidelity or achieve the outcomes of the original demonstration program. Online training programs have similar serious limitations - especially the lack of the elements required to ensure knowledge translation and the learners reflection on their own practice enhanced by class and faculty discussion in a group that develops trust over time.

Some specific comments:

* The recommendations regarding specialist nurses (p63) are also applicable to maternal and child health nurses and midwives.
* Page 27. The description in the report of the role of social workers in mental health service provision is very limited and does not reflect the reality of the scope of practice of social workers who have completed additional training to equip them to provide mental health interventions. The pioneer of infant mental health was Selma Fraiberg - a social worker. I am a social worker and have treated hundreds of infants and young children in the public sector, developed innovative models of practice, developed with colleagues a Masters in Infant Mental Health and have conducted research projects including intervention trials in infant mental health. A strength of social work education is that the fundamental model of practice is the assessment of the person in their environment, individualised intervention approaches and systems theory. Therefore, social workers have the conceptual and clinical skills to work with the complex environmental factors as well as the individual psychological processes that cause and maintain mental ill-health (e.g. family violence, trauma history, cultural issues) and can think about what needs to be offered in addition to standardised models of care.

## A SERVICE SYSTEM FOR INFANT AND TODDLER MENTAL HEALTH

Mental health services should be equally available to all Australians regardless of age. From a rights perspective, infants should have access to mental health services in their own right from the time of onset of the earliest signs of disturbances in infant emotional regulation (persistent crying, sleeping, feeding problems), or infant-parent relationship problems where these do not respond to parenting education, advice or support by primary health care workers. From a public health or cost-benefit perspective, intervening early in the life of the problem may prevent mental health and social functioning problems and costs to the community later in life.

Community based health services – particularly maternal and child health services and General Practitioners are ideal ‘gateways’ to mental health treatment for infants and young children because they are frequently consulted about common problems of infancy (eg crying, sleeping, feeding) and are a non-stigmatising entry point for services. These common problems can be an early flag of a beginning mental health problem. Our *Life after Colic* research project followed up babies who had been admitted to a paediatric hospital with persistent crying when they were aged 6-8 years of age. We found 24.6% met DSM criteria for a mental health disorder.24

Infant mental health is a transdisciplinary discipline with a workforce from a range of medical, allied health, community, and nursing and education professional backgrounds and service settings. All play pivotal roles in supporting the mental health of infants.

There is a need for multi-disciplinary infant mental health teams with a critical mass of practitioners, a mix of trainees, junior, experienced and expert staff. These hubs should provide clinical services as well as joint consultations and secondary consultation and outreach clinics to maternal and child health nurses, enhanced home visiting programs, early childhood education and care settings, child welfare agencies and child protection services.

Infants and their families need the same access as older children, adolescents and adults to skilled mental health practitioners who will form a collaborative alliance with their parents, assess their symptoms, make a formulation, prepare an individualised treatment plan and provide treatment until the mental health problem is resolved. Assessment and treatment services for infant mental health problems need to target the infant symptoms, the infant's emotional development and infant-parent relationship, including trans-generational issues that may be undermining the health of the infant-parent relationship. Referrals should not be automatically channelled into education or parent group programs. There is often unwarranted optimism about interventions that target parenting or support parents.

Further consideration needs to be given to whether the hub should be located within primary health services or Child and Adolescent Mental Health services (CAMHS) or both. Currently CAMHS find it hard to prioritise infants for services when they have a large caseload of disruptive older children and adolescents. Some services will not accept a relationship disorder as a referral problem, as it is a dyadic problem rather than a psychiatric entity in the child. Regardless of where the hub is located the services system should incorporate a seamless, stepped level of service delivery. These infant mental health services should have dedicated qualified infant mental health clinicians at the same ratio per head of population as other age groups. Intake roles need to be staffed by clinicians who understand the needs of the 0-3 age group who need equal access to mental health services - they should not be lower priority because of the demand of service for older children and adolescents. Quotas might need to be established to achieve this.

**REFERENCES**

1. Lieberman AF, Chu A, Van Horn P & Harris WW. (2011). Trauma in early childhood: Empirical evidence and clinical implications. D*evelopment and Psychopathology,* 23(2), 397-410.
2. Segal L, Guy S & Fuber G. (2018). What is the current level of mental health service delivery and expenditure on infants, children, adolescents and young people in Australia? *Australian and New Zealand Journal of Psychiatry,* 52(2), 163-172.
3. Bayer JK, Hiscock H, Ukomunne OC, Price A & Wake M. (2008) Early childhood aetiology of mental health problems: a longitudinal population-based study *Journal of Child Psychology and Psychiatry,* 49 (11) 1166-74
4. Skovgaard AM, Houmann T, Christiansen E, Landorph S, Jorgensen T, Olsen EM et.al. (2007). The prevalence of mental health problems in children 1 ½ years of age- The Copenhagen child cohort 2000. *Journal of Child Psychology and Psychiatry*, 48(1), 62-70.
5. [Lyons-Ruth K](https://www.ncbi.nlm.nih.gov/pubmed/?term=Lyons-Ruth%20K%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Todd Manly J](https://www.ncbi.nlm.nih.gov/pubmed/?term=Todd%20Manly%20J%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Von Klitzing K](https://www.ncbi.nlm.nih.gov/pubmed/?term=Von%20Klitzing%20K%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Tamminen T](https://www.ncbi.nlm.nih.gov/pubmed/?term=Tamminen%20T%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Emde R](https://www.ncbi.nlm.nih.gov/pubmed/?term=Emde%20R%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Fitzgerald H](https://www.ncbi.nlm.nih.gov/pubmed/?term=Fitzgerald%20H%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Paul C](https://www.ncbi.nlm.nih.gov/pubmed/?term=Paul%20C%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Keren M](https://www.ncbi.nlm.nih.gov/pubmed/?term=Keren%20M%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Berg A](https://www.ncbi.nlm.nih.gov/pubmed/?term=Berg%20A%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Foley M](https://www.ncbi.nlm.nih.gov/pubmed/?term=Foley%20M%5BAuthor%5D&cauthor=true&cauthor_uid=29088514), [Watanabe H](https://www.ncbi.nlm.nih.gov/pubmed/?term=Watanabe%20H%5BAuthor%5D&cauthor=true&cauthor_uid=29088514). (2017). The worldwide burden of infant mental and emotional disorder: report of the task force of the world association for infant mental health. [*Infant Mental Health Journal,*](https://www.ncbi.nlm.nih.gov/pubmed/29088514) 38(6):695-705.
6. <https://education.govcms.gov.au/child-care-australia-report-financial-year-2018-19>
7. Hofacker N & Papousek M .(1998 ), Disorders of excessive crying, feeding and sleeping: The Munich Interdisciplinary Research and Innovation Program, *Infant Mental Health Journal*, 19 (2) 180-2101.
8. Tronick E & Gianino A. (1986) Interactive mismatch and repair: Challenges to the coping infant, *Zero to Three*, 6(3) 1-6.
9. Jordan B & Kennedy A. (2019). [*The Early Years Education Program (EYEP) Model*](https://fbe.unimelb.edu.au/__data/assets/pdf_file/0008/3059297/EYERP-Report-3-web.pdf)*: Changing the Trajectories of Australia’s Most Vulnerable Children.* Report No. 3.
10. McQuail S, Mooney A, Cameron C, Candappa M, Moss P & Petrie P. (2003). Early Years and Childcare International Evidence Project/Child Outcomes, Thomas Coram Research Unit, Institute of Education, London.
11. Munton T, Mooney A, Moss P, Petrie P, Clark A &Woolner J. (2002). *Research on ratios, Group size and Staff Qualifications and Training in Early Years and Childcare Settings*. Research Report vol 320. Thomas Coram Research Unit, Institute of Education, University of London, Queen’s Printer, Norwich.
12. Wertfein M, Spies-Kofler A & Becker-Stoll F. (2009) Quality curriculum for under-threes: the impact of structural standards. Early Years: An International Journal of Research and Development, 29 (1) 19-31.
13. Witherell SL. (2013). *Work-related stress and mental health of child care center workers*. Dissertation. Wayne State University, Detroit, Michigan.
14. Jordan B & Kennedy A.(2019). [*Changing the Life Trajectories of Australia's Most Vulnerable Children. Report No.3: The Early Years Education Program (EYEP) Model*. Melbourne Institute of Applied Economic and Social Research, University of Melbourne.](https://findanexpert.unimelb.edu.au/individual/publicationS1417692)
15. Borland J. & Tseng YP. Saving kids from toxic lives curbs future poverty and crime, *Financial Review*, March 25, 2019.
16. Tseng Y, Jordan B, Borland J, Clancy T, Coombs N, Cotter K, Hill A and Kennedy A. (2017). [*Participants in the Trial of the Early Years Education Program*](https://fbe.unimelb.edu.au/__data/assets/pdf_file/0008/2548808/background-report-final-web.pdf)*: Changing the Trajectories of Australia’s Most Vulnerable Children. Report No. 1.* Melbourne Institute of Applied Economic and Social Research, University of Melbourne.
17. National Child Traumatic Stress Network. Medical Trauma. (2016). Available from: <http://www.nctsn.org/trauma-types/medical-trauma>
18. Turkle, S & Pao M, Late consequences of pediatric chronic illness, Psychiatr Clin North Am. 2007 , 30(4): 819-835.
19. Suryavanshi MS, Yang Y. (2016). Clinical and Economic Burden of Mental Disorders Among Children with Chronic Physical Conditions, United States, 2008–2013. *Preventing Chronic Disease*, 13:150535.
20. Secinti E, Thompson EJ,  Richards M &  Gaysina D. (2017) [Research Review: Childhood chronic physical illness and adult emotional health - a systematic review and meta-analysis.](https://discovery.ucl.ac.uk/id/eprint/10080292/) *Journal Of Child Psychology And Psychiatry*, 58 (7) 753-769.
21. McGauran M, Jordan B, Beijers R, Janssen I, Franich-Ray C, de Weerth C, & Cheung M. (2017) Long-term alternation of the hypothalamic-pituitary-adrenal axis in children undergoing cardiac surgery in the first 6 months of life. *The International Journal on the Biology of Stress,* 20(5), 505-512.
22. Shanahan, L; Zucker, N; Copeland, W E; Bondy, C L; Egger, H L; Costello, E J (2015). Childhood somatic complaints predict generalized anxiety and depressive disorders during young adulthood in a community sample*, Psychological medicine*.45(8).
23. Emerson E & Hatton C, Mental health of children and adolescents with intellectual disabilities in Britain, The British Journal of Psychiatry, [Volume 191](https://www.cambridge.org/core/journals/the-british-journal-of-psychiatry/volume/9C6F868E2C77E24B70CB14879B980B2B), [Issue 6](https://www.cambridge.org/core/journals/the-british-journal-of-psychiatry/issue/6161BDC854267FE1DA055C6F32CE60A6) December 2007 , pp. 493-499).
24. Brown M, Heine R, & Jordan B. (2009). Health and well-being in school-age children following persistent crying in infancy. *Journal of Paediatrics and Child Health*, 45(5), 254-262.

Signed

Associate Professor Brigid Jordan AM

22nd January, 2020.