

Submission to the Productivity Commission Inquiry into Mental Health

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This submission draws on:

- a 12-year research program, led by Professor Segal focused on intergenerational transmission of profound disadvantage, including an NHMRC funded study to establish the services required to prevent mental illness. The research has been reported in 8 publications (included within the reference list).
- 20+ years of clinical experience of Dr Amos, a Child and Adolescent Psychiatrist, working with children and families struggling with the consequences of intergenerational child maltreatment, including serious mental health, emotional and behavioural disturbances in the children, who engage with CAMHS or non-government family support programmes
- Doctoral research by Dr Amos to understand why mothers maltreat their children, in order to hone a therapeutic response to help these highly traumatised families. This work is reported under the 'Causal pathways' section of the Reference list.
- Studies of the effectiveness and cost-effectiveness of clinical nutrition therapy in mental health

In this submission we respond first with key understandings (section A) that have come out of this research – which then informs section B comments on the Productivity Commission's *Issues Paper on the Social and Economic Benefits of Improving Mental Health*.

A Key Understandings - The case for prevention

The primary causal pathway into psychological distress and disturbed thinking, emotions and behaviours in infants and children and subsequent mental illness in adolescents.

Overview: There is now a large and convincing literature indicating that the primary causal pathway into psychological distress in childhood and adult mental illness is toxic stress (serious adversity) in childhood. This understanding creates the logical possibility of preventing mental illness and the associated consequences of lost quality of life, premature death, cost to services and lost production. Understanding causal pathways informs how to prevent mental illness and minimise the negative consequences.

The implication of this understanding is that in order to prevent childhood distress and disrupt possible escalation into adult mental illness (see Figure 1), as a society we need to ensure that each child has a deeply nurturing and supportive environment (or at least a family environment that is 'good enough'. In addition, we need to address as early as possible observed psychological distress/disturbed behaviours in children with well-resourced effective strategies. Given the importance of these pathways an effective response holds the possibility of dramatically reducing childhood and adult mental illness.

The primary source of toxic stress (Shonkoff et al., 2012) is child abuse and neglect (especially familial), which creates a profound sense of fear and shame. Other family circumstances are also pertinent, in potentially increasing the stress load such as, deep poverty, insecure housing, parental separation, parental mental illness, death of persons close, food insecurity, sleep deprivation, histories of trauma (child removal, dispossession, racism, exposure to community violence).

Early childhood trauma affects brain development in multiple ways, creating the preconditions for disturbed childhood behaviours (aggression, poor impulse control, lowered capacity for reasoning and forward planning, difficulty in focus and concentration etc.) and mental illness in childhood, adolescence and adulthood. An excellent overview of the myriad ways in which child abuse and neglect affects the developing brain is provided by The US Department of Human Services, Child Bureau, Issues Brief (2015) on the effects of child maltreatment on the developing brain. The science is well-established.

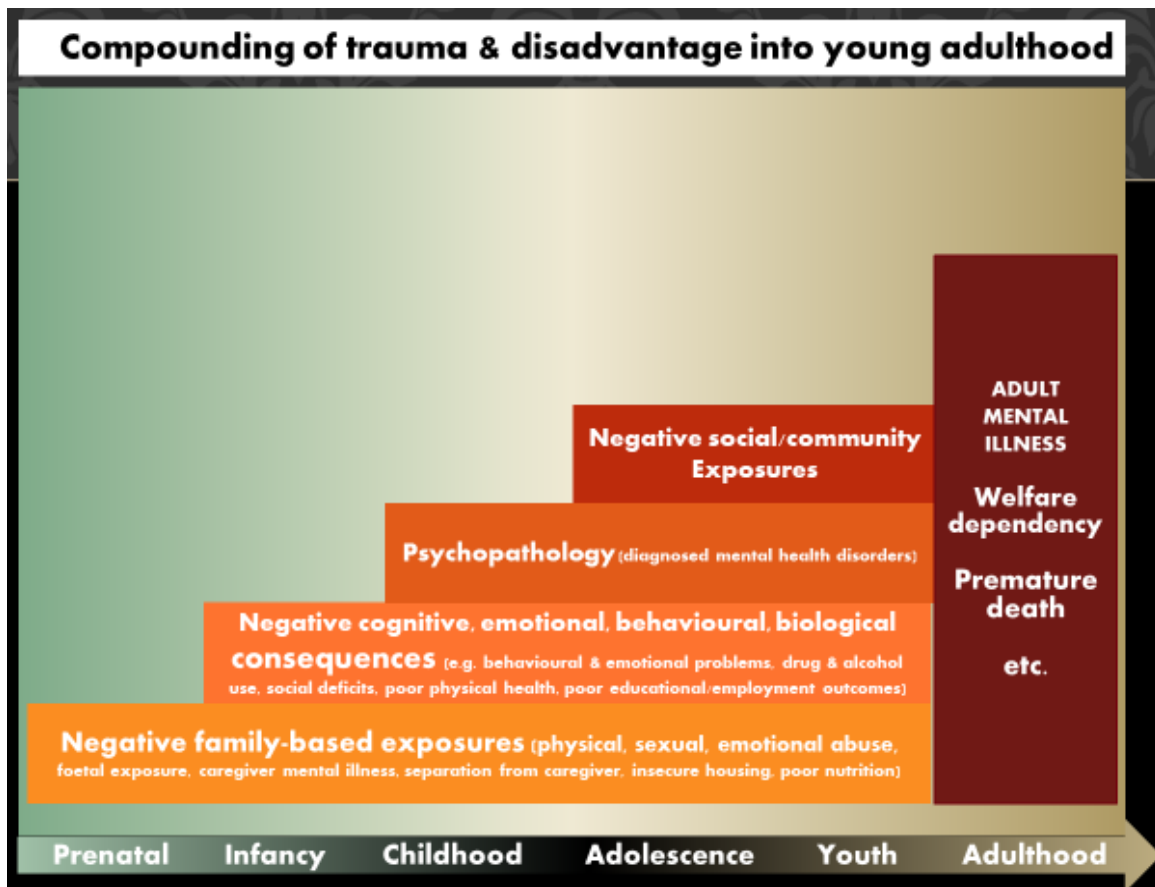
Early life adversities, specifically familial child abuse and neglect disrupts the capacity for healthy relationships. In seminal work by Amos, Segal and colleagues (2011, 2014, 2017, 2018), drawing from animal models and evolutionary biology, it was hypothesised that agonistic mode (Price, 1992; Kortmulder and Robbers, 2005) is the relational blueprint in these families, akin to group living mammals exposed to serious threat from within the group. Agonistic mode is a low-level equilibrium characterised by tightly defined hierarchical/dominance-submissive ordering, where power is used for the benefit of the powerful, where all parties, as a survival strategy become hypervigilant and threat-driven with narrowed focus of attention. People are perceived and treated as objects rather than subjects, and an individuated sense of self with agency fails to emerge. It is a highly shame-based relationship model, in which compassion and empathy have a limited place. The agonistic relational model has profound implications for emotional and behavioural development of infants, children and adolescents and sets the relational map, even when a toxic family environment is no longer present.

Combined effect of relational disturbance and disrupted brain development caused by toxic stress When agonistic mode is the relational blueprint, the capacity for successful inter-personal relationships is undermined. This relational model when layered on top of the toxic effects on brain development, and likely early substance use as a self-medication strategy, sets a path into mental illness and for some the preconditions for violence and criminal involvement.

There are only so many insults the brain can take, especially in the early development phase, before the disturbed thinking and behaviours identified with mental illness becomes inevitable. The damage is compounded by adoption of a relational model which is protective in the context of threat but problematic otherwise. Exactly where the tipping point, in terms of how much adversity, will overwhelm capacity for 'normal functioning' will vary for each individual. For parents to abuse or neglect their own children is aberrant in a deep evolutionary sense. And for a child to be maltreated by their own parent poses a primal existential threat, that will almost certainly damage mental (and often physical) wellbeing. (Child maltreatment in this context, does not refer to occasional 'losing it' with one's child, but to a consistently and demonstrably disturbed way of engaging that would meet criteria for child protection system concern).

Empirical Support. This work explains why empirical studies consistently find a strong relationship between child maltreatment and mental illness. They are inextricably inter-twined. See for example Fryers & Brugha's (2014) narrative review of over 400 studies, in which a strong relationship between early life adversity (especially disturbed parenting) and later mental illness across every possible diagnosis is consistently reported. The US Centre for Disease Control's Adverse Childhood Experiences (ACE) research has been influential, with dozens of publications that report exponentially worse outcomes across every physical and mental health condition studied with exposure to more childhood adversities. (Figures 2 and 3 below are drawn from the ACE study).

Figure 1



A US study (Duke et al., 2010) of 136,000 Minnesota high school students (grades 6, 9, 12) into the relationship between adverse experiences (physical, sexual familial/non-familial abuse, witnessing abuse, family alcohol/drug use) found all ACEs were significantly associated with risk of adolescent interpersonal violence - perpetration on others (delinquency, bullying, physical fighting, dating violence, weapon-carrying on school property), and self-directed violence (self-mutilation, suicidal ideation, suicide attempt). For example, boys exposed to familial sexual abuse were 15 times as likely to have attempted suicide than children with no abuse history. A study using a UK longitudinal cohort (Johnston et al., 2015) of intergenerational transmission of mental illness found higher transmission from mother to child than father to child, suggesting a primarily environmental (related to adversity) rather than genetic pathway. This study also found that maternal mental health has lasting effects on the child's educational attainment, future household income and probability of criminal convictions.

The conceptualisation of mental illness arising predominantly from early life adversity predicts a strong association between poor mental health and high levels of adversity in childhood, which is what is found. In an analysis of the Longitudinal Study of Australian children (LSAC) (AIFS, n.d.) and Indigenous Children (LSIC) (Aust. Govt. DSS, n.d.), high psychological distress in children (ages 2 to 16) was significantly associated with high levels of adversity in the previous 12 months (and good mental health with low levels of adversity). The study found for example at ages 10 to 11 in the LSAC sample, in children experiencing high psychological distress on the SDQ, 77.1% had experienced 4+ adversities in the previous 12 months, while only 3.2% 0 or 1. A similar finding was observed for Indigenous children (Twizeyemariya et al., 2017) that in Indigenous children aged 8-10 years with an Abnormal SDQ conduct score, >80% had experienced 6+ adversities in the previous 12 months and none 0 or 1.

In short, a core (likely dominant) pathway into mental illness rests on modifiable and treatable childhood adversity factors. This means much of mental illness is preventable, and so are the cost consequences. The possibility of disrupting intergenerational transmission pathways means potential gains constitute an infinite stream into the future; and yet as a society we have failed to make even a modest investment in the prevention of mental illness.

The service system response may exacerbate rather than respond compassionately to trauma.

- The child protection system:
 - primarily resources case finding defined as ‘general protective services’, including investigation 23%, and removal/out-of-home care 60% and generic family support 9%, with just 8% allocated to intensive family support for identified at risk families.
 - Parents who have children removed – a highly disturbing situation – often receive *no* on-going support, including mental health services, while being exposed to circumstances that will exacerbate an existing mental illness. They are typically offered very limited (say ½ hour per month) and extremely traumatic opportunity to engage with their children – again likely to exacerbate any pre-existing mental illness. Very limited services are allocated to work with families to create a safe emotional environment so that children can be reunified with their birth families. The perversity of governments paying others to look after children, at >\$180/placement night per child (equal >\$2,500/fortnight) or say \$>7,500 per fortnight if three children were removed, while birth families receive nothing is astonishing. This surely needs to be revisited.
- The justice system:
 - Despite it now being well-established that the vast majority of persons caught up in the justice system have serious mental health issues, access to high quality mental health services in these settings is abysmally inadequate. A recent WA study of youth detention centre inmates found 89% had a severe neurodevelopmental impairment on at least one domain and 36% had FASD (Bower et al., 2018). A NSW study of youth detention found 83% met threshold criteria for at least one psychological disorder, and 63% 2 or more, and 58% met thresholds for at least one substance-rated disorder (Indig et al., 2009). In women’s prisons severe mental illness is identified in over 90% of inmates. Yet access to the necessary mental health care to ensure their safety and that of others and to support rehabilitation and reintegration into society is simply not available.
 - The justice system is generally poor at working with people who come into contact with police and the courts who have a mental illness or intellectual disability (Krieg et al., 2016), for example failing to grasp how brain damage might for example affect capacity to meet bail conditions. This has implications for natural justice for persons with mental illness as well as access to mental health services.
- The community response to family violence
 - Attributing family violence to disrespect for women ignores the vast literature demonstrating the role of trauma, brain damage and mental illness in violence. It also ignores the existence of female perpetrated abuse in intimate partner contexts and child maltreatment. The gender construct is highly shaming and in ascribing cause to male attitudes will fail to arrive at solutions that work. Separating men and women, dads from their children the predominant response, is a short-term ‘stop-gap’ at best. Ultimately it is better to work with whole families to support healing, so they can safely remain intact. Abusive behaviour is never justified, but a deep

understanding of causal pathways will help in designing the best solutions. Addressing mental illness and brain damage must be a part of any effective response.

- The welfare safety-net
 - Many rely on welfare benefits for their survival, especially those with serious mental health problems. And yet unemployment benefits/New Start has fallen to a level where it does not support the most basic level of living. Mental health and family support agencies working with vulnerable populations note lack of income support (low level of benefits, which can also drop out altogether) undermines the capacity to stabilise mental illness. And yet studies consistently show financial stress is an important risk factor for child maltreatment (Doidge et al., 2017a) and exacerbation of mental illness.
- Drug and alcohol use - For many with mental health problems, use of alcohol and other drugs will exacerbate their mental illness and increase the likelihood of harmful consequences. Many have argued for more effective policies around access to alcohol.
 - Government policy on access to substances has been mixed and too often driven by the interests of suppliers (hoteliers etc). The NT has seen oscillating policies around access to alcohol – and yet when alcohol has been restricted the outcomes have dramatically improved. In October 2018, a minimum floor price for alcohol became operational together with the introduction of Police Auxiliary Licensing inspectors. Over the next 12 months there was a halving of the number of alcohol-related assaults in Alice Springs (486 to 245) (Northern Territory Police, 2019) and a similar reduction in ED attendances at Alice Springs Hospital for alcohol-related presentations (NTARIT., 2019; PAAC, 2019).
 - Application of compulsory in-facility treatment orders for justice involved mentally unwell populations who are at high risk to themselves and others could also be explored as part of an effective mental health strategy.

Desirable policy responses – When to intervene and with Whom?

If we are really interested in prevention, waiting until a child becomes a highly distressed young person in their mid/late teens doesn't make sense. When the preconditions for heightened mental distress are readily identifiable in childhood; this is where we need to focus. By late adolescence/early adulthood early life adversities have escalated into highly disturbed behaviours including serious self-harming, development of psychotic disorders, substance use addictions, eating disorders and suicide. It will undoubtedly offer better returns to direct resources to help distressed/disturbed infants and children and their families *before* they reach mid adolescence. And yet youth is where much of the mental health 'preventive money' has been directed. Despite this, suicide rates and rates of self-harm and mental illness are not falling. Perhaps rather than spending more money in the same space, it is time to rethink and develop a genuine mental illness prevention strategy that starts earlier in life.

Where to direct resources in child protection was explored by Segal and her team under an ARC grant, core findings of which on effectiveness and cost-effectiveness are reported in a chapter for the Queensland Inquiry into their child protection system (Segal, Dalziel, Papandrea, 2013). While this work was concerned with child protection, because of the intertwining of child protection with mental illness, it is highly relevant to the current Inquiry. Over 60 programs were reviewed across portfolios of family support, mental health, infant home visiting and early childhood education; as well as risk level - from low to extreme risk. We found that investing in high/extreme risk populations was likely considerably more cost-effective than low risk; and that family support programs and therapeutic mental health services offered a better return on investment than other portfolios. A sound program logic, whereby

program elements matched well the client population was also critical (Segal L, Opie RS, Dalziel K, 2013). A summary of the results of this research is presented in Table 1.

And How? Core Elements of the desirable clinical/service response

Clinical model for working with traumatised children and their families: A highly skilful therapeutic response of adequate intensity will be needed to create an alternate relational pattern in children exposed to child maltreatment, built on trust and compassion, to build a sense of agency rather than victimhood (Amos and Segal, 2019). This alternate ‘win/win’ relational model, which must be the primary objective of therapy is dubbed hedonic mode (Price, 1995). Trauma treatment is widely found to be effective, and cost-effective (Gospodarevskaya and Segal, 2010) in treating post-traumatic stress disorder. Specific family-based trauma therapies (Furber, Segal, Amos, et al., 2013), especially when embedded in a compassion-based social-work model, can work in this highly traumatised population characterised by intergenerational child maltreatment. The evidence is still being generated but case study analysis is clear as to efficacy.

Core elements of what is needed in a service response to help children in distress and reduce the risk of adult mental illness

We propose the serious exploration of a new *Centres of Excellence model in Infant, Child, Adolescent and Family Mental Health Service (ICAFS MHS)* to replace the current CAMHS model. ICAFS MHS would offer centre-based treatment but also have a strong presence in out-reach-based work, to organisations working with troubled families and to support clients in their homes. The ICAFS MHS would offer clinical training and supervision, employing an inter-disciplinary team. An assured funding based is critical to be able to meet the needs of those aged 0 to 18 and their families in a way that is responsive and flexible and as intensive as required. We have estimated a budget of around 5 times that of current CAMHS services will be required. But much would need to change from the current CAMHS model.

1. Philosophy - A compassion-based flexible responsive service model – that recognises possible histories of trauma and current adversity
2. Family focused, especially to include expectant parents, infants, children and adolescents and their families – to maximise opportunity to address mental health issues/heal past traumas before they escalate and become more intractable. Seek to engage fathers as well as mothers. Separated families represents a major life trauma perpetuating distress. If families can be repaired that is what we must aim for. In a comparative cost-effectiveness analysis of ways to reduce child maltreatment (and associated mental distress), trauma-based therapies and intensive family support came up as the most cost-effective approaches (Segal L and Dalziel K, 2011).
3. Inter-disciplinary, cross agency and cross jurisdictional – rather than adopting the prevalent ‘refer out’ model. Ideally services would be brought together into the one to deal with the high-level mental health problems in infants, children and adolescents and their parents, but also provide social and economic supports (eg income, help with driver’s licence, housing, nutrition, communication/speech/language, employment).
 - Dietitians need to be a core part of the inter-disciplinary team, given strong evidence for the role of a poor diet in mental ill-health (O’Neil et al., 2013; Opie et al., 2015) and the success of dietary interventions in treatment and prevention of relapse (Parletta et al., 2017, Jacka et al., 2017, Bogomolova et al., 2018).
4. Flexible – hours per day/days of the week
5. Location / welcoming non-traumatising locations are needed to undertake therapeutic work, but in addition in locations wherever people with mental illness will be – eg early childhood centres,

primary schools, centre link offices, child protection offices, housing, disability, ED, all staff need to be trauma informed, so as not to escalate mental health issues. This is in addition to employing highly skilled and trained mental health practitioners, who would retain a supervisory connection to the ICAFS MHS

6. Enhance trauma-based therapeutic training – many mental health workers are poorly equipped/trained to deal with the most distressed and disturbed families – infants, children and adolescents. It seems usual for inadequate attention to be paid to on-going on-the-job training or support for attending special training in state-of-the-art therapeutic models (which can be very expensive and typically not supported in the workplace).
7. Combat negative male stereotyping. The domestic violence debate in targeting men – without acknowledging the role of trauma and brain damage and access to substances in the etiology of violence. In the continual focus on violence by men against women (even though men are more likely to die through violence) the inference is there that men's lives don't matter and in the focus on facilitating separation rather than intensive family support services that dads don't matter. The campaign does a great disservice to society and men in particular, in using the very strategies that are decried, of shaming, bullying and type casting is likely to exacerbate mental health problems rather than find lasting solutions. For boys, who are as often as girls the subject of child maltreatment, and where dads are often missing from households, where are the positive male role models? Children may not have a male teacher until late primary school. This is a national scandal. As a society we have put effort into getting more women into science, but have done nothing in the face of a disastrous slump in male teachers in primary schools (<15% workforce is male), and with the situation far worse in early childhood education (and early primary years). Plenty of men would go into these fields if there was not so much discrimination.
8. Examples of community-based interdisciplinary models where mental health issues can be addressed:
 - Collingwood Neighbourhood Justice Centre, with co-located drug and alcohol, justice, housing and other services, with staff having links back to a core agency,
 - Children's Centres in SA, incorporating, community development out-reach, early childhood education, nutrition, parenting programs, OT, speech pathology – but would benefit from infant/child mental health therapeutic capacity and medical presence (eg paediatrician).
 - The Children's Services Unit in CentaCare in SA has employed a child and adolescent psychiatrist with an in-depth knowledge of how to work in a non-traumatising way with distressed children and families to assist in their healing and resocialisation. The combination of specialised mental health expertise and compassion-based social work model has considerable promise.

Funding hurdles

As is the case across the health sector, funding model create a range of perverse incentives. For example, the expensive open-ended Better Access Program is delivering services to the least unwell segment of the population (refs), while community mental health services for children operate under tight budget caps regardless of need. Given that, for the most vulnerable families with serious mental health issues and more complex social and economic contexts there simply are not enough services able to deliver the support required for effective management and a pathway to healing.

Even within the Better Access Items (established to fund allied health services identified in mental health care plans), dietitian services are not covered and this cannot be reimbursed. Attempts to rectify this shortcoming in the MBS have been stonewalled – with an MSAC submission for the inclusion of dietetic services for the treatment of depression - being repeatedly excluded from progressing to formal consideration under the MSAC process by the Department of Health, despite acknowledging the evidence-base, (see above). Dietitian interventions for treatment of mental illness are also identified as highly cost-effective (Segal et al., 2018; Chatterton, et al., 2018) and without the negative side effects of drugs, confirming that subsidising / delivering high quality dietitian services for mental illness would offer an extremely good return in investment. A funding route for dietician services needs to be identified.

More broadly, funding models are urgently needed that support family-based inter-disciplinary work in a variety of community. Essentially inter-disciplinary models are caught up in State/Commonwealth issues – so that inter-disciplinary services are under-funded and under-provided regardless of the evidence with persons with mental illness and their families and the broader economy and the tax payers the clear losers.

Table 1 Effectiveness and cost-effectiveness of programs for addressing child maltreatment (and associated Mental illness)

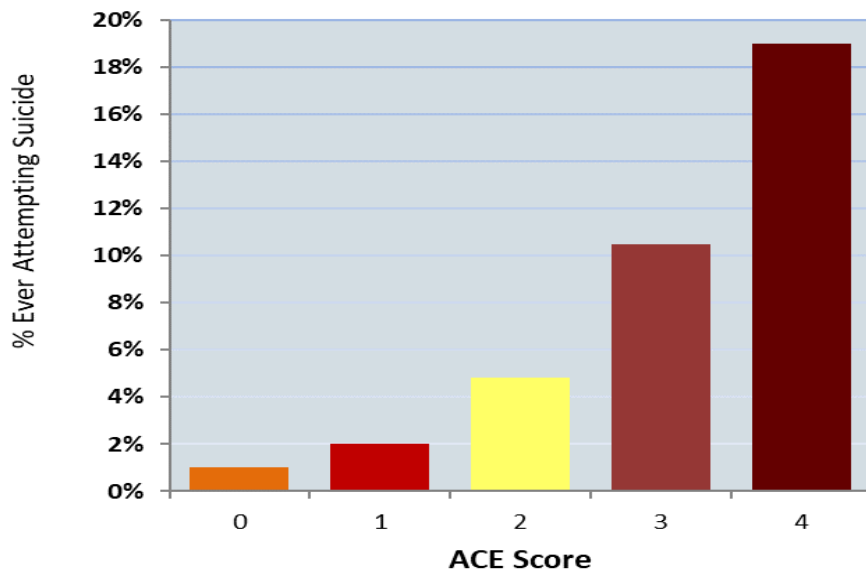
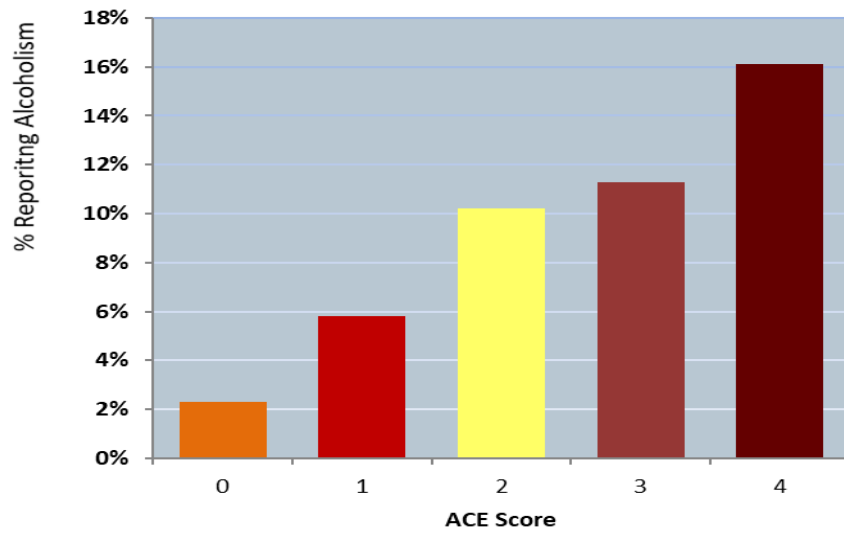
Population Target	Aim/Outcome	N studies	Mean Cost \$/family*	Effectiveness N to treat**	C-E \$/ outcome \$2012
Family support programs					
Children in OHC.	Reunification	N=7	\$8,300	4	\$33,200
High risk of OHC	Prevent OHC	N=7	\$4,300	9	\$38,700
Families involved with CP	Prevent CP report/substantiation	N=9	\$5,900	8	\$47,000
High/extreme risk no CP involvement	Prevent CM	N=4	\$4,500	12	\$50,000
Early childhood education					
C-E Chicago child-parent centres.	Moderate/high risk families. Prevent CM		\$9,600	20	\$181,000
Infant home visiting					
Low risk		N= 3	\$4,580	91	\$901,000
Moderate risk		N=11	\$7492	56	\$>1 million
High risk		N=14	\$9,641	24	\$660,000
Extreme risk/current abuse		N= 5	\$13,296	11	\$158,000

Notes: * relative to control group
 ** number needed to treat per successful outcome
 OHC Out-of-home care
 CP Child protection
 CM Child maltreatment

Source: Segal L, Dalziel K, Papandrea K (2013)

Figures 2A and 2B Number of Adverse childhood experiences and risk of alcoholism and suicide attempt

x



Source: Adapted from Felitti VJ, Anda RF, Nordenberg D, et al. (1998)

B Comments on Productivity Commission Issues Paper on the Social and Economic Benefits of Improving Mental health.

This is a most important inquiry. The extent of mental distress and mental ill-health in children and adults is concerning, with the current service system response clearly inadequate. The breadth of the terms of reference is commendable, especially the focus beyond the mental health sector. I also commend the Commission on what is an insightful and valuable Issues Paper to guide the public debate.

Mortality – p1

The view that most early deaths from mental illness are from physical conditions is based on studies in adults with diagnosed mental illness. In infants, children and adolescents there is a growing body of work that would suggest that in this population a far higher proportion of premature deaths are directly related to extreme psychological distress/mental illness (including drug/alcohol dependence) resulting in excess deaths primarily from suicide and other external causes. For infants and children, parental psychological distress/mental illness (including drug/alcohol dependence), combined with a complex array of family-based adversity, can result in excess rates of premature death of young children from external causes (CDSIRC, 2019; CCYP, 2019; CDRT, 2019; FCC, 2017; OWA, 2017; CDRPC, 2018, COPMM, 2018; Segal et al., current research).

Estimates of production losses due to premature death fail to include attributable deaths in infants, children and early/mid adolescence.

Service gaps p.1

The Issues Paper notes gaps in services for particular groups such as youth. Our work would suggest substantial gaps exist in services for infants, children and adolescents and their families. We estimate service levels are only **20%** of what is needed and that the service delivery model needs a radical overhaul (Segal, Guy, Furber, 2018). Individuals from the most disadvantaged backgrounds, facing multiple adversity, are most at risk of lack of an adequate service response. They need a more intensive response, a higher skill level and often multidisciplinary. Such services are uncommon. It is much easier for an adult with depression (but otherwise their life is OK) to see a private psychiatrist or psychologist through Medicare and have their mental health needs met.

While mention is made of continuity of care, the inability of the service system to address multiple adversity is a core issue. The problem of cross portfolio/cross agency/cross jurisdictional response is arguably more acute for mental illness than any other health problem because mental illness/psychological distress rarely occurs in isolation (Segal et al., 2019). Rather, it almost always presents with a range of serious economic, social, relational adversities that must be addressed simultaneously and in a family context.

Definitions Box 1 p.2

The distinction between a Mental Health Problem, Mental Illness and Mental Disorder seems more suited to the youth/adult context. In relation to infants and children, the suggestion of a hierarchy is likely unhelpful. Infants and children may be exceedingly unwell and extremely troubled – as indicated by unsoothability, aggression, high rates of self-harming behaviours – and caught up in highly disturbing relationship with their parents; but a diagnosis might not be appropriate or could even be unhelpful. In a series of focus groups with child and adolescent mental health clinicians, they let us know that a knowledge of current (and past) adversity exposures and current behaviours/levels of distress was more helpful in understanding children and their needs than a formal diagnosis. The presumed hierarchy will almost certainly underplay the importance of distress in infants and children.

Figure 1 Types of mental disorders p.5

The blue section 'Areas in which interventions can improve mental health' is missing 'Child Protection CP'. Providing far better mental health support as part of child protection services must be a part of an effective preventive response to mental illness. CP services have very high involvement with mentally unwell children and parents. There is the potential, or rather imperative, to work with families to heal trauma and address high levels of mental illness and distress.

Table 1 – p.5. What is in scope – I would strongly support inclusion of substance use disorders. They are clearly intertwined with 'in-scope' disorders, in terms of causal pathway/aetiology and comorbidities and the solutions which, to really make progress, must ultimately be able to address addictions. I don't think the mental health of the community can be addressed without addressing drug and alcohol issues. As noted above, much infant and child distress (which can be extreme) does not necessarily fit into diagnostic categories, so this is not a good way to define scope in pre-adolescents (or even for some adolescents).

Greatest opportunities for improvement p.5

The proposition that focusing on the majority will yield a good return is an empirical question, not a generalisable rule. My research would suggest rather that return on investment and opportunity for benefit are greatest in the more disturbed end, not the mild or moderate end. This relates partly to the extremely high cost at the more serious end and thus capacity for benefit – not just for the individual but also for others in society – family members, household, work colleagues, school community and the wider community. It is a serious flaw in most cost-benefit analyses that they fail to take account of the wider impacts of mental illness (Mortimer and Segal, 2006) and the costs and potential benefits from effective interventions which can improve the lives of others, including the next generations.

The potential benefits for addressing more serious mental illness/distress, the existence of effective interventions of modest cost and lack of cheap effective population approaches at the mild end all support a focus on the more troubled end as offering the best return on investment.

Conceptualising seriousness according to diagnostic criteria is highly problematic. This ignores the fact that level of impact on daily lives is not simply related to diagnosis, but also to severity and acuity of the condition, underlying trauma, comorbidities and associated adversities. The US ACE study (CDC, 2019) has amply demonstrated that risk of poor consequences is associated with multiple adversity not a single clinical diagnosis; (see Figures 2A and 2B).

The term 'young people' is often interpreted as adolescents and youth. In thinking about 'young people' as a group with greatest potential for benefit, the term must include infants (from conception) and childhood, given the well-established evidence of potential brain damage during this period (Shonkoff, et al., 2012), and lack of services (Segal et al., 2018).

Assessment Approach p.7

Figure 3 Assessment components – Add causal pathways into mental illness and its consequences

The four assessment components identified are important, but a critical component missing is 'Understanding the causal pathways into mental illness'. Describing and understanding causal pathways into mental illness and severity of impacts is crucial to identify what is modifiable and how these pathways can be disrupted. It is core to identifying effective preventive interventions and potential benefits. This understanding of causal pathways is also a gap in the current policy debate. In contrast the etiology of mental illness in early life adversity is an increasing focus of the literature (Shonkoff et al., 2012; Amos et al., 2011, 2014, 2019; and many others).

There are many non-pharmacological interventions for which there is sound evidence of efficacy and effectiveness in a clinical trial setting and cost-effectiveness. A thorough literature search to identify the myriads of effective non-pharmacological interventions will be a most useful output of the Inquiry. What is important is that the search include family-based therapies designed to support safe and nurturing parenting, given the intertwining of parenting and mental illness.

A few examples of effective non-pharmacological interventions include

- *Family support programs* to achieve nurturing parenting and reduce child maltreatment). See also Segal et al 2013, note outcomes of intensive family support programs in table 1. While these are child protection outcomes, this will be strongly correlated with mental health.
- *Psychotherapy* for PTSD and other mental diagnoses in children and parents with child abuse histories for example, see for example:
 - Gospodarveska and Segal (2012), re high cost effectiveness of trauma focused therapies to address PTSD + Depression in children.
- Intensive Parenting programs – to help families with severe relational disturbances. Successful programs include, Circle of Security and PPACT. See for example;
 - Furber G and colleagues (2013) - a case series of PPACT a trauma-focused therapy for mothers and children facing intergenerational maltreatment and with multiple mental illness diagnoses
- *Diet to manage major depression* – There is high quality RCT evidence on the effectiveness (Bogomolova S, et al., 2018; Jacka F, et al., 2017; Parletta N. et al., 2017) and cost-effectiveness of dietary interventions to manage depression - including individual and group programs and for various client populations (Segal et al., 2018; Chatterton et al., 2018).

Figure 4 Cost of mental ill health to the community p 8

While recognising that this Figure is illustrative rather than exhaustive, important aspects are missing, such as child protection and cost of lost production through premature death and cost impact on others.

Child protection represents a major area of spending reflecting on parenting failure, often associated with mental illness and substance use. Further, children in contact with the child protection system are at extreme risk of mental illness.

Reduction in incomes - Lost production will arise from premature death, as well as absenteeism, presenteeism, unemployment and exclusion for the workforce - also an extra dot point p9 para 2.

Intangible costs - impacts on others. Mental illness, perhaps more than any other condition, has major impacts on the quality of life of others (and including survival - as victims of violence or neglect). Most at risk are family members, but also work colleagues, members of a community and the broader society – constituting a very large category of un/under-reported cost – in published studies of violence/maltreatment or mental illness. This is a critical point. It means both that the burden of mental illness is invariably grossly under-estimated, but so are the potential benefits of intervention.

State governments have been allocating relatively few resources to community-based child and adolescent mental health services and intensive family support services as a proportion of total 'mental health' expenditures. This is a similar situation for Commonwealth spending on mental health. See Figures 3 and 4. A valuable output of the PC Inquiry will be a current description of the breakdown of mental health services expenditure, to ascertain the allocation to prevention (early in life and intensive community-based supports).

Figure 3 State Government Mental Health payments 2012-13

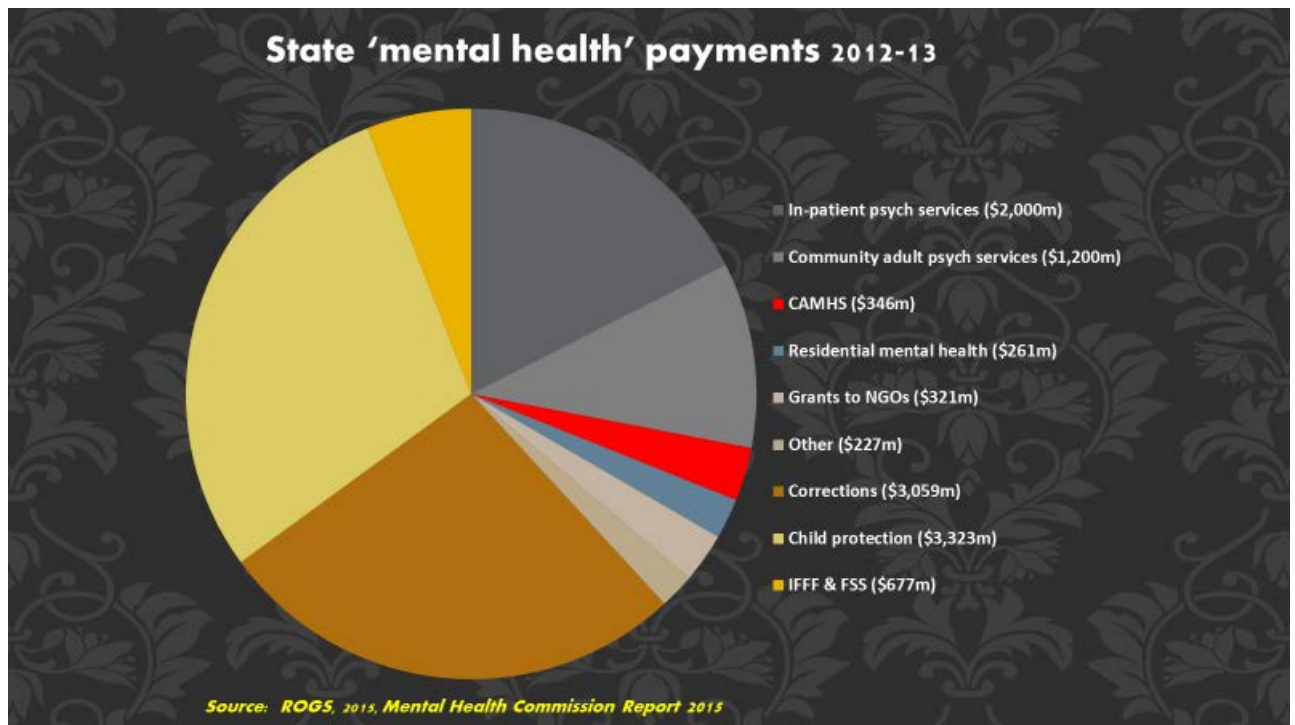
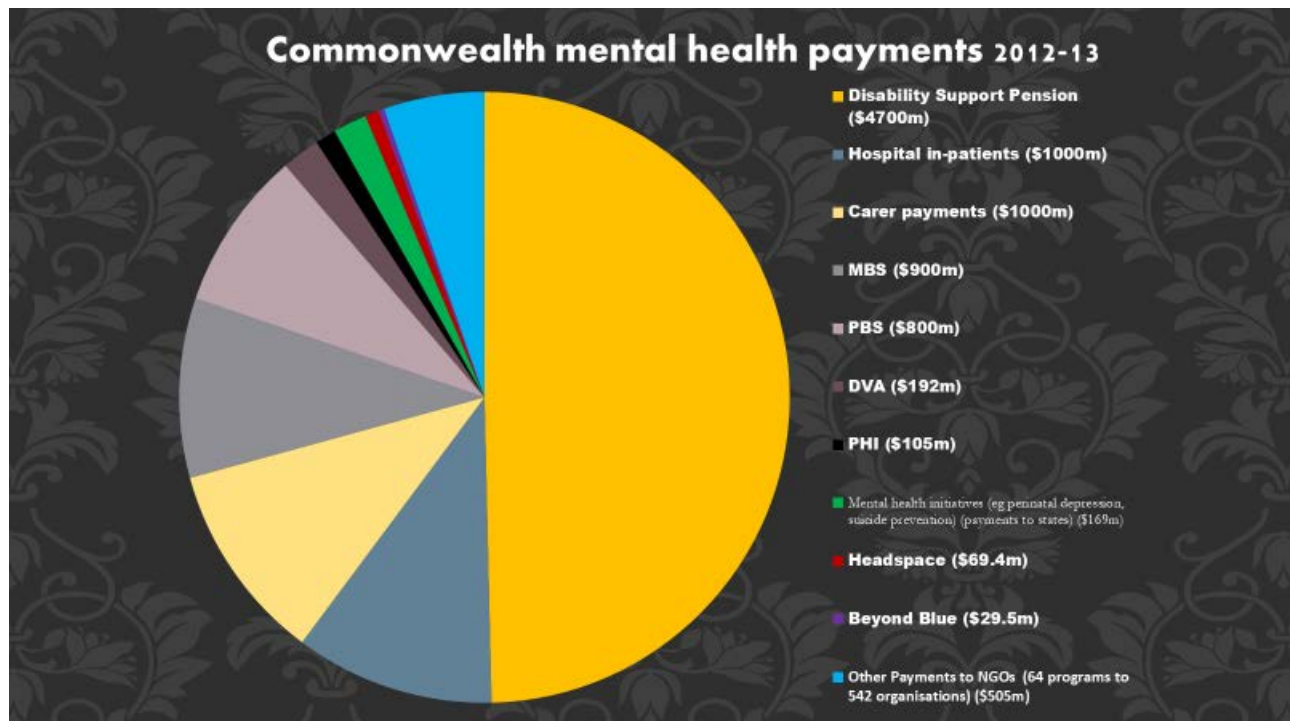


Figure 4 Commonwealth Government Mental Health payments 2012-13



p.10 – comment regarding difference in costs across mental illnesses categories

- We suggest difference in disease burden is more related to complexity and extent and nature of associated adversity – not simply or even primarily about diagnosis. Also, many people will attract more than one diagnosis, further confounding diagnosis as an approach to costing.

Health care system p.11

Actors – include also

- paediatricians - the majority of their work concerns behavioural and development disorders (Hiscock et al., 2016) – note concerns around level of training and whether the predominantly private clinical practice setting supports family-based work and inter-disciplinary teams
- maternal health – pregnancy is a crucial time for address pre-existing mental illness in parents to prevent conditions like post-natal depression (women with history of mental illness and/or childhood adversity most at risk) and associated poor outcomes for children (Segal and Amos, 2018)
- day-programs for persons with serious mental illness (including psychotic illnesses – noting that the content of those programs could be enhanced. An intervention study found clear benefits for participants through a group dietary intervention, but lack of funding meant the program could not be continued (Bogomolova et al., 2018).

Structural weaknesses p.12

Appears to be a conflation of institutional and ED services with crisis/acute; while those settings do provide crisis and acute care so does the Community setting.

Inequitable access needs to be considered also in relation to illness severity, complexity and multiple adversity. Few parts of service system deal well with complexity, especially in the community setting – more community resources to deal with ‘simple mental illness presentation’, little to deal with complexity. We’d suggest this is the major service gap and highlights an important structural weakness in funding and delivery models.

Fragmentation – few services offer the wraparound multi-component, inter-disciplinary response the more vulnerable families require – Difficult (impossible?) for families to access the services and skill sets required to address their complexity and deep and severe trauma histories

How to deliver the necessary flexibility in the community setting: 24/7, where ever and whatever it takes

Funding perverse. For example

- Private partitioners get paid more to deal with less sick / troubled clients.
- Parents who are struggling to parent well – and dealing with profound trauma histories (and current trauma) and mental health issues may have children removed – with little if any access to intensive family support. Children when removed may be placed with another family (or kin) at a foster care cost of ~ \$x/day (\$/fortnight in ‘child-related costs’ plus ~\$ for recruitment and support for foster carers, while the birth parents receive no such financial support.

Figure 5 stepped model of care p.13

This is a useful framework, but some crucial elements are missing:

Under Non-health supports:

- child protection

- intensive family support services,
- early childhood centres

Whole population

- Need support for a respectful way of engaging that is non-judging, non-shaming in institutions that model the type of respectful behaviour that we want others to adopt. Challenge is to create a non-traumatising environments in which people can find help to get well and stay well. Currently too many respected institutions, public campaigns, public debate is bullying in tone, conflates behaviour with goodness (rather than illness) and is highly shaming. The Domestic Violence campaign and approach to refugees or youth involved in the justice system are prime examples.
- Access to drugs/alcohol – still industry pressure to make alcohol freely available despite damage to young brains and amplifies consequences for those who are mentally unwell and their communities. A change in regulations in the NT to limit access to alcohol, including a restricted persons register, has seen a fall in alcohol related violence – observed in a halving of ED attendances for violence and violence related arrests (NTARIT, 2019; PAAC, 2019).
- Access to nutritionists/dietitians to support healthy food choices is critical to a healthy brain and yet dieticians are not funded through Medicare, nor are they typically part of primary and community care / mental health care teams for mental health issues. They tend to be the professional group to be defunded if budgets are tight. For example, every major maternity service should have a dietitian (as well as mental health clinician) as part of the care team, given the important opportunity at this time to address mental health issues (Segal and Amos, 2018) and the impact for the infant of poor maternal nutrition.

Mental health promotion, prevention and early intervention, Suicide prevention p.14.

We agree that health promotion, prevention, early intervention including suicide prevention is most important and an area in which the mental health and human services system is currently failing. We suggest expensive advertising campaigns are unlikely to represent a good investment, given the complexity of the issues and evidence that the primary pathway into mental illness is via adversity and intergenerational trauma transmission – i.e. people are already at high risk - the pathway is not predominantly from well/low risk individuals. In this sense it is very different to say diabetes or heart diseases and the preventive strategies also need to be different. Given the challenges facing those at high risk, intensive on-the-ground support will have to be at the centre of an effective preventive strategy.

- Mental health promotion/prevention needs to be built on an understanding of the causal pathways into mental illness - then options for prevention become clear.
- Important to see prevention in an intergenerational context - healing a young parent might not prevent their mental illness, although could reduce risk and severity of relapse, but might represent primary prevention for their offspring.
- Persons with a child abuse history who experience several times excess risk for suicide - and also boys/men who are far more likely to kill themselves than females. Current research in SA is finding children involved with the child protection system have a far higher risk of death from external causes, starting in early childhood. (Segal, current NHMRC funded project on the consequences of child maltreatment). Given issues of shame and poor sense of self in those with high suicide risk, the adoption of shaming approaches is deeply disturbing.

- We must find better ways to support males. Men are still constructed as ‘privileged’ despite the reality that men die on average 4.4 years earlier than women across the globe and 4 years in Australia, are more likely to commit suicide, do more poorly at school, are more likely to suffer brain damage, and are far more likely to be involved in the criminal justice system. There is a problem of interpreting anti-social behaviour as bad, or a sign of disrespect rather than evidence of a damaged brain and traumatic upbringing which is the most likely explanation.

Mental health treatment

- Comorbidities – Think about comorbid mental illness - given the common causal pathways into a range of mental illnesses is stress and distress in infancy/childhood, comorbid mental illness and physical illness is common. But this also means the potential return on investment is considerable.
- Training upskilling – is absolutely critical – especially in community family-based responses to working with parents and children. All human services personal require training in trauma-informed care to avoid retraumatising vulnerable individuals who represent their client populations. This should include all politicians and senior bureaucrats.
- Specific mental health training to create a workforce of highly skilled practitioners across disciplines able to deliver high quality therapeutic services. Services need to be able to demonstrate capacity to work with highly vulnerable and traumatised populations and funding of services needs to recognise the high skill level required.

Income support /welfare safety-net

- Hard to qualify for disability support or new start/unemployment allowance/benefits. And they do not provide enough to live on which *must* amplify distress. The evidence is clear that extreme poverty is causally linked with mental illness child maltreatment (Doidge et al., 2017b). It is critical society provides a genuine financial safety net to those too incapacitated to work. Otherwise their possible recovery will be seriously undermined. More broadly there is inadequate wrap-around support to this highly vulnerable and disturbed group. Rather they are treated as pariahs and further traumatised again impeding possible recovery.
- Note perverse financial impact for parents who have their children removed, many of whom will have a mental illness often combined with substance use issues and despite the considerable stress and distress this will mean often no support – and yet considerable funds are allocated to support out-of-home care (average at \$/child year) (Productivity Commission, 2019).

Justice

- The importance of mental illness/brain damage in justice involved populations is grossly underplayed in the violence debate and replicated in lack of mental health services available for justice involved persons (Bower et al., 2019; Cumming et al, 2018).

Child Protection

There have been a number of studies of the costs of child maltreatment in Australia (McCarthy et al., 2016). But these are all incomplete, in terms of scope missing cost elements such as premature mortality and intergenerational impacts, the poor quality of data used to inform the estimates and serious methodological flaws. None-the-less cost burden is very high, with major impacts on educational outcomes, productive engagement, and health. Such studies, in estimating mean cost burden per child fails to highlight the highly divergent costs across children – which will vary from a few hundred dollars

per child to several million dollars. This of course is pertinent to thinking about preventive intervention strategies, possible size of benefit and return on investment.

Solutions – cross the human services sector

- **Child Protection**

The evidence concerning what works in protecting children (including assessment of impacts on mental health) is extremely limited. Support for gathering high quality evidence in this area is urgently needed. For example, to address questions such as: Under what circumstances is child removal protective and when is it more likely to exacerbate harms. Linked data provides an extraordinary opportunity to support the interrogation of such questions. Some Programs that appear promising – based on sound program logic and in some cases preliminary case-study evidence:

- *Therapy-based family support services for safe reunification of removed children.* Example: Centacare SA reunification program to support the reunification of infants, children and adolescents with birth families. The program is led by a senior child and adolescent psychiatrist leading a team employing a support social work/trauma-based therapeutic mode. A program evaluation is underway led by Professor Delfabbro, Adelaide University and a preliminary report has been provided to the Department of Child Protection, SA – resulting in an extension of funding. A final report is to be delivered September 2019.
 - Professional foster care with the objective of reunification – work with birth parents to maintain connection and seek to create a safe space for children to return to. There is considerable interest within the community (social work, education, psychology, nursing) in professional foster care, even when limited to highly troubled or disabled children (Habel et al., 2016).
- *Early childhood settings:*
 - Employ high-level mental health clinicians (child and adolescent psychiatrists, speech pathologists, occupational therapists) in Childrens' Centres as per the South Australian model (SADE, n.d.), although while these Centres employ interdisciplinary teams, they are yet to employ full-time infant/child mental health specialists. The advantage of Children's Centres as a preventive setting is that they are (or can be) located in disadvantaged communities, offer a very welcoming, non-traumatising space, engage with parents as well as children and have active community outreach remit to engage with the most vulnerable and marginalised families. These centres offer a wholistic approach which can include direct nurturing of infants, early childhood learning, nutrition / provision of food, health and development assessment, access to parenting programs and other specialised services, familiarisation with primary school. A mental health presence could assist in identification of deep emotional, behavioural and development issues and a capacity to work therapeutically with children and parents to heal past traumas and attend to distressed communication patterns before problems become entrenched.
 - *Maternal and child health*
 - Pregnancy and infancy is a critical period for parents and children alike but most particularly for parents with a child maltreatment history (of which they be more or less aware) and/or history of mental illness. Post-natal depression is a considerable risk for these mothers and exacerbation of mental health/behavioural issues in fathers. However, few jurisdictions offer adequate clinical service support. While there are many infant visiting/community child

health nurse programs, few have mental health trained clinicians or the resourcing to offer a skilled therapeutic response of adequate intensity. If a mother suffers serious post-natal depression or other serious mental illness ensuring the child/children are safe and attachment relationships are intact. More therapeutic live-in programs that can accommodate mothers (and fathers) and their children are needed. We note for example that Helen Mayo House in SA, which offers an intensive trauma-and attachment-based service for women with serious mental health issues or substance use problems has just 6 beds and is unable to take all women who seek out and desperately need this service. They also have been keen to provide an outreach service, but for which there is no funding.

- *Services for Aboriginal communities*
 - Given the very high rates of histories of trauma and mental illness in the Aboriginal population, programs which are sensitive to the circumstances of the Aboriginal community are urgently needed. Exceptionally high levels of serious adversity (major financial stress, parental separation, death of persons close, domestic violence, parental mental illness etc) and associated high levels of mental distress are observed in Aboriginal children. For example, over 45% of Aboriginal children aged 6 to 10 have been exposed in the previous 12 months to 6+ serious childhood adversities and >20% were experiencing very high levels of distress/disordered behaviours or emotions (based in the Strengths and difficulties questionnaire) (Twizemariya et al., 2017).
- *Criminal justice portfolio*
 - Fund genuine therapeutic prison environment. An example is the Boronia Women's Facility in Perth and some of the juvenile settings. But access to mental health services, both medical and other modalities is still a concern even in the more rehabilitative facilities. The impacts on children and associated costs are considerable and need to be taken into account in the planning (Dowell et al., 2018)
 - Cross-portfolio Neighbourhood justice centres have been found to support a successful community-based solution for justice involved youth - that seek to involve all key player in the community - the courts, police, young people, schools, shop keepers, other businesses, local government, welfare agencies, to come up with innovative solutions. (This might include street art programs, co-located services – drug and alcohol, justice, mental health, employment, income support, financial services etc.). The Collingwood Neighbourhood Justice Centre (2019) as resulted in a reported reduction in crime, drug and alcohol use, truancy.

Knowledge of clinicians, service providers and the wider community. Urgent need for Education/ Training/Upskilling p.31

There seems to be limited recognition that disturbed behaviours mean that the brain is not working properly. For example, children whose behaviour is problematic (for themselves and others) will often be identified as naughty or bad, rather than a reflection that they are likely struggling and disturbed

Upskilling of the entire human services sector, including teachers, centre-link, public housing, child protection staff. Simply funding more case finding – identifying persons at risk who need a more intensive and specialised response will achieve nothing but impose a cost if the referral pathway is non-existent. Thus, human services staff need to be trained regarding:

- the underlying source of disturbed thinking and behaviours (usually means damage to the brain) and

- how to deliver trauma informed practice; how to work with distressed individuals without further traumatising them, but rather reducing their distress.

Alongside high-quality mental health training in trauma-based therapies for a wide range of mental health clinicians, as well as other practitioners who work with patients with serious mental health issues including, GPs, Paediatricians, ED workers, midwives, gastroenterologists, dietitians, oncologists, pain specialist.

Any one in a clinical role needs to understand about the impact of trauma and adversity on mind and body. Access to high quality supervision, reflective practice on-going training must be mandatory in the NGO, private as well as government sector, and this must be built into contracts and funding models.

Over-reliance on medications rather than adopting a wholistic approach (family-based psychotherapeutic, with nutrition, income, workplace/school supports etc) has meant almost no progress in curing mental illness, with at best moderate modification of extreme behaviours, but typically with serious side effect profile. with mixed success. Undoubtedly a wholistic approach would work best to enhance mental health and improve participation and workforce contrition

Mental Health funding eg Figure 10

Important to consider funding by age group. In a study of this issues we found little was spent on infants, children, younger adolescents, despite high levels of distress in children and their families and this period presenting the best opportunity for prevention. (Hiscock et al., 2016; Segal et al., 2018).

We note the activities of the NGO need to be considered as part of the budget model. They are an increasingly important player in intensive family support, working with people with serious mental health/drug and alcohol problems and directly offering mental health services.

It can be seen from Figure 10 the government expenditure on mental health as a % GDP is only ~half that of the Netherlands, does government need to increase this share. (Would be helpful to see USA and UK data.

Final note

Much of mental illness is caused by childhood trauma which damages the developing brain and relational blue-print. This is a hopeful story. It suggests that mental illness can be prevented in the young and mitigated in adults (given brain plasticity). Successful intervention studies confirm the possibility of prevention. We just need to create a service system that is consistent with the aetiology of mental illness, where the prevention of mental illness is an accepted reality and where resources are redirected to make this happen, supported by the requisite training. This does not mean taking resources from those currently experiencing distress. The healing of distressed children and parents represents a large part of the solution, if we are to disrupt intergenerational pathways into mental illness and prevent escalation of distress into more intractable scenarios characterised by multiple mental illness diagnoses carrying very high disease burden. In this way, over time, the prevalence of mental illness could be reduced and the associated burden.

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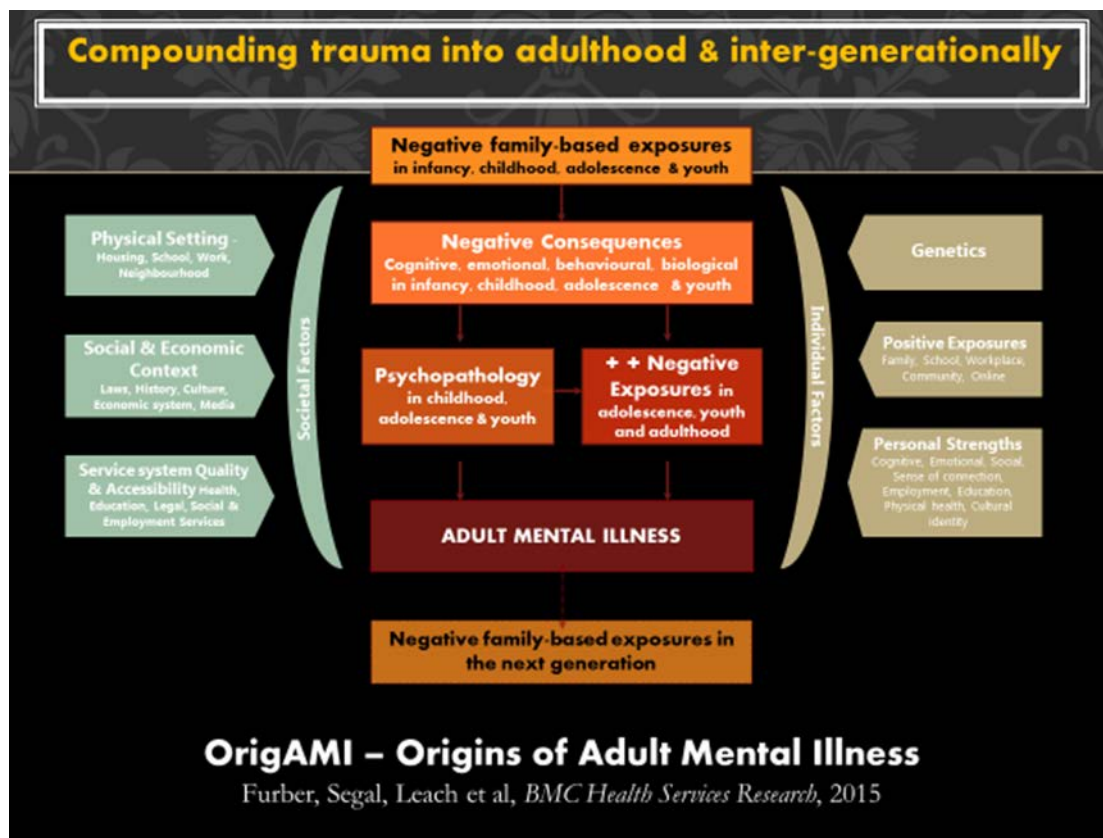
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Annex: Additional Material

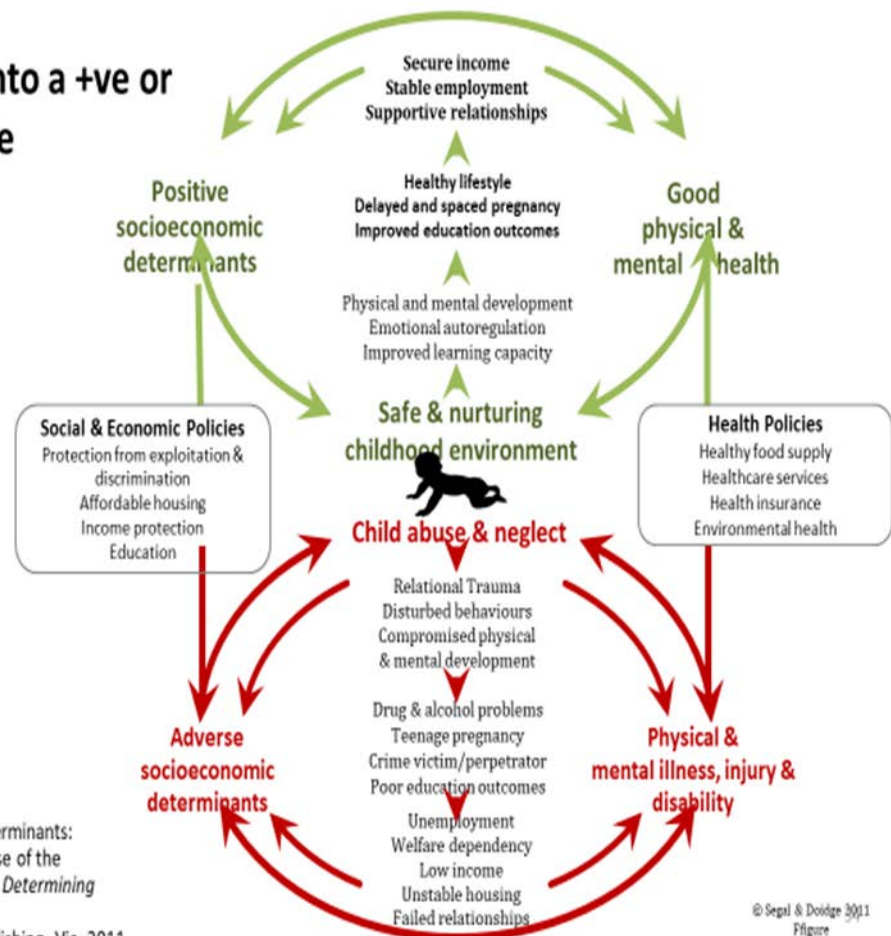
	Males%	Females%	ATSI%
Parent ever in prison	44	48	61
Attend school prior to custody	38	36	42
Placed in OH care	25	40	38
Child abuse or neglect	57	81	59
Alcohol or substance use disorder	63	64	69
Illicit drug use \geqweekly in the year prior to custody	65	65	72
Any psychological disorder	86	92	92
Attention/behavioural disorder	68	82	75
2+ psychiatric disorders	70	92	79
Low IQ < 80	54	31	59

Source: Indig et al; 2009 NSW Young people in Custody Health Survey: Full Report NSW Human Services, Juvenile Justice; NSW Health, Justice Health



	Males%	Females%	ATSI%
Parent ever in prison	44	48	61
Attend school prior to custody	38	36	42
Placed in OH care	25	40	38
Child abuse or neglect	57	81	59
Alcohol or substance use disorder	63	64	69
Illicit drug use \geq weekly in the year prior to custody	65	65	72
Any psychological disorder	86	92	92
Attention/behavioural disorder	68	82	75
2+ psychiatric disorders	70	92	79
Low IQ < 80	54	31	59

The Child as Pivot into a +ve or -ve Entrapping cycle



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Figure

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