Submission to the Productivity Commission Inquiry into *The Social and Economic Benefits of Improving Mental Health*.

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Thank you for the opportunity to submit comments to the Commission. We would like to highlight several issues facing children with mental health problems and disorders. These comments are focused around the structure laid out your very helpful *Issues* paper.

Background

Mental health disorders are common throughout childhood. The most recent Australian epidemiological data reported a 12 month prevalence for at least one diagnosable mental disorder of 14% in children and adolescents (4 – 17 years) (Lawrence et al., 2016). This overall figure included broad range of mental health disorders including emotional disorders such as anxiety disorders, depression, PTSD and neurodevelopmental disorders including attention deficit hyperactivity disorder [ADHD], autism spectrum disorders [ASD], Tourette's and obsessive-compulsive disorders.

This submission is specifically focused on younger primary school age children aged 4 – 11 years. This is a group often overlooked by planners and commissioners who, when considering child and adolescent mental health problems, have tended to focus on the problems facing adolescents and young adults. Whilst it is often pointed out that 75% of mental health problems start before the end of adolescence it is less well recognized that 50%y start before adolescence (Kessler et al., 2005).

For males aged 4 – 11 years the overall 12 -month prevalence for any mental health disorder in the Australian epidemiological study was 16.5%. ADHD was the most common disorder (10.9%) followed by anxiety disorders (7.6%) and conduct disorder (2.5%). Rates of depression were relatively low but not insignificant in this group (1.1%). For girls of the same age the prevalence estimates were 10.6% for any disorder: ADHD (5.4%); anxiety disorders (6.1%); conduct disorder (1.6%); depression (1.2%). The presence of any mental health disorder this early in life increases the risk for significant long-term consequences in terms of development, risk of future mental health problems as well as negative social and academic outcomes.

A gap in existing evidence is the limited data available to accurately quantify the cost impact of mental health disorders in children. Where data exist they have often focused on the costs to health without taking into account the impact on other services such as, education, employment, social services, justice

and housing. Such a narrow health focused perspective is likely to miss a large part of the cost burden. When dealing with mental health disorders that start in childhood the time dimension is likely to be extremely important. Whilst at least 50% of mental health disorders start in childhood many continue to impact throughout life. Studies in ADHD have indicated that costs during adulthood are much higher than those incurred during childhood. The Australian ADHD Professionals Association (AADPA; https://aadpa.com.au/) have commissioned a review of the economic impact of ADHD in Australia this will only be completed after the cut-off date for submissions. We are unaware of any other recent data that robustly quantifies the cost of childhood mental health disorders to Australia. The Commission may consider recommending the funding of a comprehensive review of these impacts to which we would be very happy to contribute.

Although economic and cost data are relatively sparse there have been several reviews of the field. Three of these focused on evaluating the costs and outcomes of interventions to treat and prevent mental health disorders (Kilian, Losert, McDaid, Park, & Knapp, 2010; Romeo, Byford, & Knapp, 2005; Zechmeister, Kilian, McDaid, & group, 2008), whilst one had a much broader focus that included the economic impact of these disorders as well as the cost of supporting those with disorder (Beecham, 2014). We have reviewed the literature identified by Beecham and more recently published studies to summarize the impact of mental health disorders that start in childhood and which often continue to cause difficulties for the individual, their families and broader society across the lifespan.

Consequences of mental ill-health

As highlighted above mental health disorders are common during childhood. After a brief overarching section covering general issues, we will focus on four of the most common disorders (autism, ADHD, conduct disorder and anxiety) for which there is some relevant information about cost.

In general the data suggests that healthcare costs for children and adolescents with a mental health disorder are at least twice as high as children with no identified disorder (e.g. Ford, Hamilton, Goodman, & Meltzer, 2005). Direct non-medical costs (those that are incurred outside the healthcare system but are directly related to the mental health problem, often borne by the education sector or families themselves) account for the major part of the overall costs (up to 90% of the total). It is now very clear that the economic impact of childhood mental health disorders is not limited to childhood. For example data from longitudinal cohort studies in the UK have identified that those with antisocial conduct problems in childhood were less likely to economically active in adulthood (Knapp, King, Healey, & Thomas, 2011). Those with ADHD were also less likely to be working and if in work they were likely to be in less-skilled, lower paid jobs than those without ADHD. In general those with externalizing behaviour problems (such as ADHD or conduct disorder) were more likely as adults to have symptoms of depression and anxiety or abuse alcohol, and more likely to become parents in their teenage years, to have left school with no qualifications, and to experience adversity (Healey, Knapp, & Farrington, 2004).

Autism spectrum disorders (ASD)

ASD is commonly diagnosed around the time of school entry and most commonly has a lifelong impact on these children and their families. Those with ASD have impaired social interactions, display repetitive ritualistic behaviours and have significant communication problems. They suffer from high rates of mental health comorbidities including ADHD, anxiety, depression and conduct disorders. Higher than average rates of out of home care mean that additional housing costs for this group are considerable. In

an analysis of costs for children with ASD that included costs to housing, health, social care and education services, as well as families' out-of-pocket expenditures, national costs in the UK were estimated as £1.3 billion per year (2005/06 £UK, equivalent to $AU 3.4 billion in 2018) for those with ASD aged 4 – 11 years, an average of £23,856 per child ($AU62,546 in 2018) (Knapp, Romeo, & Beecham, 2009). From US data using a similarly broad cost perspective per capita total incremental costs at 2003 prices were: age 3–7, $446,203 ($AU868,382 in 2018); age 8–12, $314,297 ($AU611,672 in 2018); age 13–17, $285,082 ($AU554,815 in 2018) (Gantz, 2007). Rising health care costs for children with autism over time are likely to be due to more children being treated rather than because children receive more intensive treatment. Evidence is needed about how best to use resources to reduce the long-term impact on individuals and their families and about the effectiveness and cost-effectiveness of interventions. Anecdotally many families of children with ASD are tempted to engage in costly therapies that are not themselves supported by evidence of efficacy or effectiveness.

ADHD

The excess health care costs for Australian children aged 4-9 years associated with ADHD were estimated at $12.3 million per year in 2012 ($14 million in 2018 terms) (Sciberras et al., 2017), but the full scope of the economic burden of ADHD is much broader. The full costs of ADHD include healthcare for the individual and family, plus education, social services and justice sector costs, and productivity losses both for the individual and family members. There are no direct estimates for Australia, but a Dutch study estimated the cost at €9,860-14,483 per child per year (2012 €, equivalent to $21,026-30,884 per child in 2018 $AU) excluding justice sector costs, with the largest component in education (Le et al., 2014). Children with ADHD have poorer educational outcomes than their peers and require additional school-based resourcing. A study in the US showed that children with ADHD incurred an additional $4,689 per year (2013 $US, equivalent to $8,991 in 2018 $AU) in education sector costs. ADHD has wider economic implications for families, with up to a third of ADHD costs being attributed to family members, including lost productivity (Doshi et al., 2012; Le et al., 2014). Mothers whose children have ADHD have reduced workforce participation compared to the mothers of children without ADHD (Callander, Allele, Roberts, Guinea, & Lindsay, 2019). Chorozoglou et al (Chorozoglou et al., 2015) estimated that over 11–22 years of follow-up, a community sample of 3-year-old children at risk of ADHD had 17·6 times higher average costs per annum than did controls across most domains. Delays in receiving a clinical diagnosis of ADHD also result in greater long-term costs: individuals who were not diagnosed until adulthood incurred societal costs of €13,608 (2013 costs, equivalent to $AU29,167 in 2018) more per year than their same-sex sibling, particularly with regard to low economic productivity, receipt of more state benefits, and higher costs for health and social care (Daley, Jacobsen, Lange, Sorensen, & Waldorf, 2015).

As they get older children with ADHD are more likely to have other mental and physical health problems (including multiple comorbidities) and substance abuse, even if their ADHD is in remission (Agnew-Blais et al., 2018; Erskine et al., 2016; Molina et al., 2018), with correspondingly higher healthcare costs related to those comorbidities (Libutzki et al., 2019). For substance abuse the rates are twice those in the non-ADHD community. Those with ADHD are likely to start earlier and have more difficulty quitting than those without ADHD (Wilens & Morrison, 2011). Taking medication for ADHD does not increase rates of substance use and may help to reduce rates and increase rates of quitting (Wilens & Morrison, 2012). They are also less likely to complete high school and more likely be unemployed (Erskine et al., 2016) and to be financially dependent on their families or welfare systems (Altszuler et al., 2016), or to

be homeless (C. T. Gordon & Fabiano, 2019). Young adults with a history of ADHD in a US study earned 25% less per year than their ADHD-free counterparts, and were forecast to earn over half a million US dollars less over their lifetimes (Altszuler et al., 2016). People who had ADHD as children are more likely to engage in criminal behaviours with associated costs to the justice system, victims of crime, and to the individuals themselves (Fletcher & Wolfe, 2009), with public justice sector costs accounting for up to 3% of the ADHD cost burden (Doshi et al., 2012). Within the adult and youth prison services rates of ADHD are much higher than in the general population with figures from the Scandinavia suggesting that around one third of adult male prisoners and 15% of women in jail have ADHD, few of whom are formally diagnosed with hardly any receiving treatment. A recent survey of ADHD within the Scottish Prison Service estimated the identified that the financial burden of medical and behaviour-related prison care for inmates with ADHD across the UK could be conservatively estimated at around £11.7 million annually ($AU25.2 in 2018) (Young et al., 2018). Those with ADHD are four times more likely to cause or be involved in traffic related accidents (Barkley, Murphy, & Kwasnik, 1996) and visit emergency departments more frequently (Leibson, Katusic, Barbaresi, Ransom, & O'Brien, 2001). Mortality rates for those whose diagnosis was delayed until adulthood are four times those in the general population (Dalsgaard, Ostergaard, Leckman, Mortensen, & Pedersen, 2015).

Conduct Disorder

Conduct disorder (CD) is characterised by repetitive patterns of severe antisocial, aggressive or defiant conduct. Oppositional defiant disorder (ODD) is a much milder and less impairing condition characterized by less severe, but still impairing, oppositional behaviours. Whilst less common that ODD CD is still relatively common with a prevalence rate of about 5%. When CD arises early in life (pre-adolescence) it persists into adulthood in about half of all childhood cases. CD is associated with a much greater impact than ODD on individuals, families and society and is the focus of this section. Despite the severe consequences relative few data are available to quantify the economic impact of CD.

A review of the literature identified a small cluster of cost papers (Beecham, 2014). Data from the US showed that costs were far higher for those with CD than those with ODD or those with no disorder, and that the differences grew as the children matured (Foster & Jones, 2005). School costs accounted for the highest proportion of total cost and were six times those for children without CD. Next highest were costs to the justice system which accounted for 20% of the total cost (Foster & Jones, 2005). The top 10% of individuals accounted for roughly half of all expenditure. Unexpectedly the presence of ADHD symptoms did not increase the public costs although the authors do raise questions around the validity of their data in this respect.

In a UK study costs for those with CD were again much higher than for those without (Romeo, Knapp, & Scott, 2006). Here the service costs fell mainly to the health care system and education, but importantly nonservice family-borne costs (e.g. time taken off work, additional time spent preparing meals, shopping, cleaning) far outweighed the service-related costs at 78% of the total.

Anxiety Disorders

Anxiety disorders have high prevalence in children (7.6%) compared to the other disorders highlighted in this review, however there are far fewer data available to assess their economic impact. Beecham (2014) identified only one study that investigated cost of illness estimates for young people with anxiety and these estimates were calculated from a small sample (N = 118) of anxious youth aged 8 – 18 years). This Dutch cost of illness study focused on assessed the mean annual costs per child as €2,748 per

annum (2003 prices, $AU6,307 in 2018) for direct health care, direct nonmedical care, and indirect and out-of-pocket expenses (Bodden, Dirksen, & Bogels, 2008). Inpatient care, day treatment, and parental productivity losses each contributed around a quarter to the total costs. The annual national cost at 2003 prices was calculated to be €20.3 million ($AU46.6 million in 2018). Knapp et al (2011) identified that childhood anxiety problems were associated with lower income at age 30 but not with being employed or occupational status.

Effectiveness & cost of current programs and supports

There are currently no Australian evidence-based guidelines for the assessment and management of ADHD, CD or anxiety disorders arising in childhood. Autism CRC with the financial support of the National Disability Insurance Agency (NDIA) has published Australian guidelines for the assessment and diagnosis of Autism but we are unaware of any Australian guidelines for treatment. Australian ADHD guidelines were developed in 2008 however these were not officially endorsed or implemented. There are however several well-developed evidence-based guidelines from Europe and North America. These generally agree on most important clinical questions and are internationally recognized as describing best practice. The National Institute for Health and care Excellence (NICE) guidelines for all four disorders highlighted here are particularly helpful as they are mostly up to date with the current literature and include an assessment of cost effectiveness.

- Autism spectrum disorder in under 19s: support and management Clinical guideline [CG170] Published August 2013: https://www.nice.org.uk/guidance/cg170
- Attention deficit hyperactivity disorder: diagnosis and management NICE guideline [NG87] Published March 2018: https://www.nice.org.uk/guidance/ng87
- Antisocial behaviour and conduct disorders in children and young people: recognition and management Clinical guideline [CG158] Published March 2013 (Updated April 2017): https://www.nice.org.uk/guidance/cg158
- Social anxiety disorder: recognition, assessment and treatment Clinical guideline [CG159] Published May 2013: https://www.nice.org.uk/guidance/cg159

Together these provide a clear description of the evidence base for efficacy of current treatment approaches and make recommendations for evidence based clinical pathways. Cost effectiveness for each intervention recommended is detailed. Until Australian guidelines are available the NICE guidance probably represents the best alternative.

Treatment for ADHD

Despite the high economic burden, ADHD is one disorder for which there are effective treatments which have been shown to improve multiple outcomes. Management of ADHD includes medication, psychological or psychosocial therapies, parent training, and educational or environmental interventions, sometimes alone and sometimes in combination. Behavioural training for parents has

been shown to improve positive parenting, reduce negative parenting and oppositional symptoms (Daley et al., 2018), and is recommended for younger children with comorbid ODD or CD (National Health & Medical Research Council, 2012; National Institute for Health & Clinical Excellence, 2018a, 2018b). Psychological therapy (such as cognitive-behavioural therapy) is recommended for and improves ADHD symptoms for older children/ adolescents who have the cognitive skills to engage with the intervention (National Health & Medical Research Council, 2012; National Institute for Health & Clinical Excellence, 2018a). Stimulant (methylphenidate, dexamphetamine and lisdexamfetamine) and non-stimulant (atomoxetine and guanfacine) medications are licensed for the treatment of in Australia and are effective at reducing symptoms and improving social functioning and quality of life. Medications are now recommended as the first-line treatment for ADHD in most national guidelines, following psychoeducation and environmental adjustments, (National Institute for Health & Clinical Excellence, 2018a, 2018b). Several studies using linked national databases in Scandinavia and Hong Kong have demonstrated reduction in important longer-term outcomes to be associated with medication treatment for ADHD. In particular a reduction in criminality (Ginsberg et al., 2015; Lichtenstein et al., 2012), trauma related ED visits (Man et al., 2015), serious transport accidents and motor vehicle crashes (Chang et al., 2014; Chang et al., 2017)

As well as being clinically effective at improving outcomes for children, treatment for ADHD has also been shown to provide value-for-money in cost-effectiveness studies. The strongest evidence is for medication; multiple analyses have demonstrated that the benefits of treating children with stimulant medication are worth the cost (King et al., 2006). In Australia ADHD is often not diagnosed until relatively late in childhood (Efron et al., 2013) and, as in many countries outside North America, evidence suggests that ADHD continues to be under-diagnosed and under-treated in Australia (Raman et al., 2018). Recent data also highlight the considerable variation in practice across the country (Care, 2015). Given these gaps and variability in access to treatments known to be effective and value for money, improving access for all children to evidence-based treatments for ADHD has the potential to give very large economic returns.

Treatment for conduct disorder

The high costs of supporting those with conduct disorder and the likely downstream cost and societal implications suggest that early treatment may be key to reducing costs. In the UK, NICE has endorsed several, mainly parent and school based behavioural interventions, as effective and cost effective. It has been estimated that evidence based parenting programmes may be cost-saving to the public sector within 5–8 years, and save £16,435 per family over 25 years ($AU40,378 in 2018) (Bonin et al., 2011). However these programmes are difficult to implement and there remains a there is a paucity of evidence on whether they can be rolled-out and run effectively in routine practice, and on how to encourage parents to complete the course, identify and target groups of parents likely to benefit, how to engage hard-to-reach populations and on whether the benefits will last into adulthood. This is a very important consideration for service commissioners as these programmes have a face validity, 'look good' and are relatively easy to commission. However, if not well implemented they will not change outcomes in a meaningful way and cease to be cost effective.

For adolescents with CD there is strong evidence to support a programme of Multi Systemic Therapy (MST, Henggeler et al., 2009). This is a multi-approach, multiagency, system of therapy that is costly in

time and money which has been judged as too expensive to deliver in most public services. An economic analysis of data from a randomised effectiveness trial of a similar package of MST for child abuse and neglect in the US did however find that the net benefit of MST, versus enhanced outpatient treatment, was $26,655 ($US 2015, equivalent to $AU41,355 in 2018) per family at 16 months post-baseline. This meant that every dollar spent on MST recovered $3.31 ($AU5.13 in 2018) in savings to participants, taxpayers, and society at large (Dopp et al., 2018). Also an implementation of MST for severe conduct disorder in a German-speaking environment showed a significant potential of cost savings compared to other intervention methods and that the costs of MST per case were between 40 % and 64 % lower than these of standard interventions (Rehberg et al., 2011). This suggests that a more thorough economic analysis of MST for those extreme cases which are likely to already be having a significant economic impact, is worth considering.

Treatment for anxiety disorders

The evidence on cost-effective interventions for treatment of childhood anxiety disorders is quite limited. A cost-effectiveness study indicated that individual cognitive behaviour therapy is favourable to family cognitive behaviour therapy 1 year after treatment, mainly due to slightly (but not statistically significant) improved outcome scores (Bodden, Dirksen, Bogels, et al., 2008).

Gaps in current programs and supports available

As highlighted in previous reviews fragmentation of care has a significant impact on the delivery of mental health services in Australia. Whilst this is well-known the complexities of how fragmentation impacts on services for child mental health are not always recognised. Within the health systems there are not only the traditional primary and secondary (tertiary) care splits but also a division of labour between paediatrics and specialist mental health services. Although paediatricians provide much of the care for those with mental health problems most have not had the opportunity to receive a comprehensive training in this field of practice. They also often must work in relative isolation without the support of a multidisciplinary care team. Child and adolescent mental health services (CAMHS) on the other hand have very limited capacity and have set the bar for acceptance of referrals at a very high level to manage workload. In many areas this results in a service gap that particularly impacts on those with a significant mental health disorder but who do not meet the severity or complexity criteria required by specialist child and adolescent mental health services. Whilst headspace has, to an extent, filled this gap for adolescents and young adults there are as yet no similar services for Australian children.

Whilst we have relatively good evidence for making treatment decisions at a disorder level we are still some way from precision/personalised approaches to treatment that ensure the right treatment is delivered to the right patient at the right time.

It is however clear that in Australia, as in other countries, only a minority of those with a disorder actually receive treatment. For example a recent analysis of data from the Longitudinal Study of Australian Children found that less than 20% of children with mental health problems had accessed MBS-rebated mental health services (Hiscock et al, unpublished data). Using data from the same study Mulraney et al (2019) found that only 10% of those children with the highest levels of symptoms received a minimally adequate ‘dose’ of treatment (defined as 4–7 MBS-funded attendances plus medication or ≥8 attendances [with or without medication] within a 12-month period).

Few studies have looked at treatment gaps for individual childhood disorders however there are data pertaining to ADHD where the available evidence suggests that in Australia there is under-recognition and under-treatment as well as considerable variation in practice. Efron and colleagues have demonstrated in independent studies that detection and diagnosis rates in Australia are lower than expected with diagnosis often delayed, preventing children from accessing early intervention (Efron et al., 2013; Efron et al., In Press). Data from the Australian Pharmaceutical Benefits Scheme (PBS) shows a rate of ADHD medication use in adults of 0.23% - ten times lower than the prevalence estimates for this group, suggesting that the vast majority are not receiving medication (Raman et al., 2018). The Australian Atlas of Healthcare Variation indicates that there is also considerable variation in prescribing for ADHD both between and within States (Care, 2015). These issues are not unique to Australia. Sayal et al (2018) reviewed the global literature pertaining to ADHD and concluded that whilst estimates of the administrative prevalence (clinically diagnosed or recorded) have been increasing over time they continue to vary worldwide and that ADHD is still relatively under-recognised and under-diagnosed in most countries, particularly in girls and older children.

Potential barriers to care for ADHD are likely to include sociodemographic factors,female sex, older age, non-white ethnicity, rural residence, and lower family socioeconomic status. Others have highlighted the importance of increasing knowledge about ADHD among parents, teachers, and primary care clinicians and the need to reduce ADHD-related stigma (Sayal et al., 2018). This is particularly relevant to Australia. A recent Royal Children's Hospital Child Health Poll identified significant gaps in mental health literacy. For example only a third of Australian parents are confident they could recognise the signs of a mental health problem in their child, with a further third of parents believing a child's mental health problems might be best left alone to work themselves out over time. Less than half of parents (44%) reported being confident they would know where to go for help if their child was experiencing social, emotional or behavioural difficulties (https://www.rchpoll.org.au/polls/child-mental-health-problemscan-parents-spot-the-signs/). These findings highlight the need for research into interventions that enhance the knowledge of and communication between these key adults could improve access to care. Streamlining care pathways and bridging gaps between primary health-care professionals, specialist education professionals, and specialist children's health services have also been proposed as ways to overcome the barriers to access, liaison and consultation (Wright et al., 2015).

Studies strongly suggest that the benefits seen in randomised controlled trials are not sustained when transferred to real world clinical practice, suggesting a need to improve standards of routine care. For example, the influential NIMH funded Multimodal Treatment of ADHD study (MTA) demonstrated clear benefits of a structured approach to medication treatment for ADHD in a randomised controlled trial up to 14 months. However after the structured treatment approach was withdrawn and patients selected their own treatment via a community provider the added benefits of the structured approach were lost (Swanson et al., 2018). These findings are echoed by several other long term follow up studies that also find real world outcomes to be poor compared to short term efficacy and effectiveness studies. One key reason for this gap between what seems possible and what is actually happening is very likely to be limited implementation of evidence based approaches to care in day to day clinical practice (Scotland, 2008). Practitioners tend to over-estimate their adherence to guidelines (M. K. Gordon et al., 2016) and have a tendency to favour 'clinical improvement' over 'optimised care' as a clinical outcome (Kovshoff et al., 2013; Kovshoff et al., 2012).

Likely effectiveness of alternate programs and supports

In addition to the obvious issues of reducing fragmentation of services there are several other opportunities for improving effectiveness of care for children with mental health disorders and reducing the immediate and longer-term costs and burden of illness.

Improving mental health literacy for parents and professionals

As highlighted by the recent RCH Child Health Poll there is a clear need to improve mental health literacy and understanding of parents. There is also a need to improve mental health literacy amongst professionals working with children from across all disciplines and backgrounds including but not limited to health, education, social work and justice. Improved literacy and training is likely to increase recognition of mental health problems and disorders and should improve early intervention for those at risk or in the early stages of developing a disorder.

Increased recognition of those at risk of, developing and with established mental health problems.

There are existing screening tools for children's mental health disorders that are reasonably sensitive (i.e. they pick up most of those with a problem) but are only moderately specific (i.e. they identify a large number of false positives). While this means they are not appropriate for population-level screening, due to the burden of follow-up assessment created by the false positives, these approaches can be effective when targeted at high-risk groups or those who are starting to show problems. Australian research has shown this approach to be effective in depressed adolescents (Mihalopoulos, Vos, Pirkis, & Carter, 2012), but has not been well studied for children or for the other disorders discussed here.

Reducing adverse childhood experiences

The causes of mental disorders lie in the interaction between genetic predisposition, neurobiological manifestation, and environment exposures. Adverse childhood experiences such as maltreatment, sexual abuse, and neglect have considerable long term impacts on physical and mental health (Clemens et al., 2018). Whilst prevalence rates vary considerably between studies a review by the Australian Institute of Family Studies concluded that all types of child abuse and neglect occur at significant levels in the Australian community (CFCA Resource Sheet— April 2017). The WHO has suggested that worldwide around 90% of cases of child maltreatment are not adequately recognized and treated in the healthcare system. A reduction in child maltreatment and responding to identified cases would have a significant impact on the mental health of Australian children, adolescents and adults with corresponding economic benefits to our community. It is however important not to become over focused on the environmental causes. ASD, ADHD, anxiety and conduct disorder are all highly heritable and often occur even in the absence of any clear environmental triggers.

Reducing variability through improved implementation of guideline driven evidence based clinical protocols in routine care

There are currently neither imperatives nor incentives for clinicians or health services to implement the evidence-based protocols described in available clinical guidelines. Although this a universal problem across medicine it is particularly a problem for mental health. As there are no NHMRC endorsed guidelines for childhood mental health guidelines it would necessary to follow the recommendations of other recognized evidence-based guidelines such as those from NICE or the Scottish Intercollegiate

Guidelines Network (SIGN). Whilst these are recognized as being high quality they relate to a very different and almost completely publicly funded system of healthcare. This makes some of the suggested clinical pathways more difficult to implement in Australia. Many of the North American clinical guidelines are still consensus-driven rather than evidence-based, limiting their relevance to modern practice. Whilst the development of Australian guidelines would be a big step forward it is also important to look at some of the examples where evidence-based clinical pathways have been developed and successfully implemented for childhood mental health disorders in other healthcare settings (e.g. Coghill & Seth, 2015 described below), and to ask the question whether these could, with minor modification, be implemented in Australia. Although this process would require significant funding to implement, there is great potential to reduce the weighty personal, societal and economic burden of these disorders

Improving the use of outcome measures to guide treatment

This is related to, but different from, formal implementation of guidelines. It is now generally accepted that routine measurement of outcomes improves the management of most chronic disorders. In diabetes for example it would be inconceivable for treatment decisions not to be based on routine measurements of blood glucose and HBA1c. Mental health has been very slow to take up these approaches. Notwithstanding the fact that we do not yet have biomarkers for mental health disorders there is however now good evidence that the routine use of symptom measures in mental health leads to improved outcomes. For example our own work in ADHD has demonstrated that the routine use of symptom measures to guide treatment decisions improved clinical outcomes from being poor, to a position where they match those from clinical trials (Coghill & Seth, 2015).

Stepped care

Those providing mental health care for children and adolescents have for many years used informal stepped care approaches with different 'tiers' of care providing increasingly sophisticated care as complexity increases. Whilst often clearly described in strategic documents, implementation of these frameworks has always been challenging. The barriers to implementation involve several inter-related issues including: a lack of coordination between services and levels of care; a lack of training opportunities for those expected to manage the mild (e.g. primary care) and moderate (e.g. paediatricians) cases that make up the bulk of those with mental health problems; a lack of capacity for specialist services expected to manage those with the most severe services. Together these almost always result in a service gap for those with significant problems but who fail to clear the high bar set by specialist services; poor communication across all levels of service. Colleagues in Germany are conducting a series of pragmatic clinical trials for stepped care approaches to manage ADHD across the lifespan (Dopfner et al., 2017; Geissler et al., 2018; Zinnow et al., 2018). Similar studies in Australia may be the best way to address these issues.

Improved care for children with moderate mental health problems.

One of the most critical gaps in care in many parts of Australia, particularly those less well-off regions where there are fewer private practitioners, is in provision of services for those with moderately severe mental health problems. On the one hand primary care physicians find the level of intervention (most often psychological rather than pharmacological) required for this group challenging and on the other they do not meet the level of complexity currently required by specialist CAMHS services. Where there is good availability private, psychologists, paediatricians and psychiatrists can all support these children

but in areas where these services are not available there is a clear gap. In the youth mental health setting the headspace model has demonstrated that it can address this service gap and although more data are required initial outcomes are promising. To date a similar approach has not been developed for younger children. RCH is developing a proposal for 'kidspace' that adopts some elements of the headspace model whilst recognizing that the needs of children are different to those of adolescents and that this will require a different professional mix, different treatment approaches and better integration between professionals.

Conclusions

Taken together we hope we have demonstrated just how great an impact childhood mental health problems have on individuals, families and society. That this impact clearly relates closely to the terms of references of the Commission. That there are important gaps in current provision and that there are several alternative approaches that if implemented have the potential to considerably reduce the human and economic costs of mental health disorders occurring during this very important stage of development.

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