

## Preliminary findings in developing an e-health intervention for child conduct problems

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### Introduction

Conduct problems (CPs) include Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). These disorders are the most frequent cause of referral to child/adolescent mental health services (Scott, Knapp, Henderson & Maughan, 2001). ODD involves a pattern of negativistic, hostile and defiant behaviour toward authority figures (APA, 2000). Specific *DSM-IV-TR* (Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition, text revision) criteria include refusing to comply with rules, frequent loss of temper, frequently blaming others for his/her mistakes or behaviour and often deliberately angry, resentful and spiteful (APA, 2000). CD is associated with a more severe pattern of delinquent behaviours (APA, 2000). *DSM-IV-TR* diagnostic features include aggression towards people and animals, destruction of property, deceitfulness or theft and serious violations of rules (APA, 2000).

Most mental health problems begin earlier in childhood and adolescence. Conduct problems are the most reliable precursors of all types of adult mental health issues, including schizophreniform, eating, antisocial, mania and substance use disorders (Kim-Cohen, Caspi, Moffitt, Harrington, Milne, & Poulton, 2003) and depression and anxiety (Copeland, Shanahan, Costello, & Angold, 2010). As well as affecting the sufferer, CPs affect the sufferer's family, and the wider community, placing a burden on the social services, the police, the prison service, schools and public health. Research shows this persists, with 40% of 8 year olds with CD repeatedly convicted of crimes including theft, vandalism, and assault in adolescence (Farrington, 1995). There are large lifetime costs on public services for children with CPs. In 1998 values were calculated to be \$140, 038 for each conduct disordered child, \$125,996 for each conduct "problem" child, while lifetime costs for each healthy child was valued at \$14, 846 (Scott et al., 2001). Furthermore, children with early onset problems are among the most resistant to treatment when it is delayed until later childhood (Loeber, 1991). In light of this evidence, it has been argued that early intervention for the treatment of childhood CPs is critical (Kim-Cohen et al., 2003; Copeland et al., 2010).

Behavioural family intervention (BFI) has become one of the most widely used therapeutic interventions for CPs. BFI has been applied to a variety of child behaviour problems, particularly antisocial behaviour, non-compliance, tantrums, and defiance. This intervention focuses on improving child-parent relationships and teaching parents how to manage disruptive behaviour (Serketich & Dumas, 1996). BFI aims to produce positive changes in children's behaviour via changes in aspects of the family environment, which are implicated in the maintenance of the problem behaviour (Dadds & Hawes, 2006). This may include attempting to change a variety of factors including parents' behaviour, marital relationship, the behaviour of siblings, household organisation and the provision of age-appropriate toys in the home (Griest, Forehand, Rogers, Breiner, Furey & Williams, 1982). Through extensive efficacy-based research, BFI programs have proven to be highly successful. A review by Brestan and Eyberg (1998) of "29 years, 82 studies, and 5272 children" led them to conclude that behavioural parent training for CPs is perhaps the best supported and most effective of all psychosocial interventions for mental health problems. Furthermore, in a meta-analysis conducted by Serketich and Dumas (1996), the average child whose parents participated in a BFI, were better adjusted following treatment than approximately 80% of children whose parents did not participate.

In Australia, less than 24% of children who require treatment, access evidence-based interventions (National Mental Health Survey: Sawyer et al., 2000). This is due to a range of factors including mental health literacy in families, isolation from services, and resource limitations within existing mental health services. For those in rural areas in particular, there are a number of potential barriers to seeking help. Firstly, accessibility of mental health services in rural areas is very low compared to accessibility in major cities (Griffiths & Christensen, 2007). Secondly, those who live in rural areas struggle to identify agencies that provide mental health services (Bartlett, Travers, Cartwright, &

Smith, 2006). Furthermore, the services were considered either poor or marginal, suggesting there is little trust in the quality of such services (Bartlett et al., 2006).

A further barrier to the effective treatment of childhood CPs in rural areas is the lack of ongoing support. Treatment for rural families can involve significant travel and time away from home to receive intense but brief city-based services. Dadds et al. (2012) found poor long-term outcomes for behavioural change for rural children attending Royal Far West (RFW), a city based clinic. RFW are New South Wales' leading centre for the treatment of mental health problems in children from rural regions. The findings from Dadds et al. (2012) reflect issues with the delivery model of the intervention. Families attending RFW receive the manualised intervention in an intense week long (5 day) intervention period in the city. The child/family then returns home and return to RFW later for a 6-month follow-up assessment. Despite these families receiving an evidence-based intervention (Dadds & Hawes, 2006), treatment effect sizes were unusually small ( $d = 0.26 - 0.38$ ). This compares with an average success rate of approximately 55% at 6 months from international meta-analyses (e.g Brestan & Eyberg, 1998) and studies with urban families (e.g Hawes & Dadds, 2005). Clinicians have suggested that one week of intense intervention, with no chance for practice and feedback, may be a possible reason for the lack of effectiveness. It is also possible the rural families are already coping with other stressors unique to their living circumstances, so that when they return home, the lack of ongoing support makes it difficult to enact skills they have learnt without any feedback. It appears this short-term travel model is associated with poor outcomes, and the present study will address this. As BFI's are typically delivered weekly, and the short-term travel model involves compacting this process into a few days, the intervention in the current study will adopt the typical weekly process to attempt to improve outcomes for these families.

### The research project

In partnership with Royal Far West (RFW) – New South Wales' leading centre for the treatment of mental health problems in children from rural regions- this project aims to address the barriers to treatment faced by families in rural areas, and to facilitate a more efficient and effective service for these families. This research project will involve utilising an e-health model for rural children with conduct problems that delivers weekly evidence-based treatment sessions and individualized consultations with clinical psychologists for parents via the internet. This will be referred to as Access Early Intervention (EI). The present study aims to evaluate the efficacy of the EI model in a randomized controlled trial comparing EI with treatment-as-usual (TAU). Overall, the present study will discuss the development of the platform, and evaluation of an E-health evidence-based program for the treatment of childhood CPs, under clinical conditions. The present findings relate to a preliminary subset of participants in the study. The project remains ongoing until completion in 2018.

### Methods and procedure

Participants were parents who contact Royal Far West (RFW) themselves. This happened because they have were referred there by referral agents such as GPs and school counsellors. They were placed on the wait list to attend RFW for an assessment visit. Participants were then given their initial appointment time for their weeklong visit. During this visit, those who had appointments scheduled with a psychologist and satisfied inclusion/exclusion criteria were given information about the research. Participants interested in participating signed consent and commenced treatment as soon as was practically possible.

Participants were randomly allocated to one of two treatment conditions: Treatment-as-usual (TAU) or Access Early Intervention (EI). TAU consists of the following: referred children and their families travel to RFW and are accommodated for 1-week at the Manly facility. The child is assessed by a multidisciplinary team over the week. A follow-up week-long accommodated visit is then scheduled at which time the child receives the BFI as described below, delivered face-to-face with an individual therapist. The child/family then returns home and RFW communicates via telephone and mail with the referring (local) service, generally paediatricians, GPs, and schools, about the nature of the treatment received and suggestions for ongoing management. The family returns to RFW 3-months later for follow-up assessment. EI consists of the same assessment and 3-month follow-up with actual attendance at Manly, but the intervention (AccessEI) and other assessments will be conducted by internet/telephone.

The intervention that forms the core of EI is the E-version of Behavioural Family Intervention (Dadds & Hawes, 2006). It focuses on managing child aggression, non-compliance, rule-breaking and disruptive behaviour. It aims to modify unhealthy parenting practices by targeting negative reinforcement contingencies operating in the family. Parents are taught to encourage good behaviour by giving positive reinforcement and rewards (attachment-rich), and discourage bad behaviour through the provision of consistent, emotionally neutral punishment (attachment-neutral).

## Results and discussion

Parent questionnaire measures (N=26) and clinician diagnostic ratings (N=24) were the key outcome indicators of the present study. In addition, website acceptability was indicated via website user ratings (N=12). Results indicated that before and after treatment parents reported improvements in their feelings about their children, parenting behaviours and parenting knowledge. On standardised measures of behavioural disorder symptoms parents' rated reductions in their children's oppositional behaviours from before to after treatment. Clinician rated diagnoses indicated that children in the e-health intervention reduced in their conduct problem severity to a greater extent than those in the treatment-as-usual condition. Data collected via website user reports indicated that the website features and content was acceptable and user friendly. The preliminary data from this ongoing research project suggest that a therapist assisted e-health intervention for child conduct problems may be effective in the treatment of child conduct problems.

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### Presenter

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