National Implementation Plan: Internet Parent Child Interaction Therapy (I-PCIT) Program for the Treatment of Childhood Behaviour and Conduct Disorders: Aligned With the National Children's Mental Health Strategy

Karitane Submission 2

Proposal for unsolicited bid for Commonwealth funding January 2020

Recommendations

- That the Federal government supports Karitane to undertake a national implementation and scaling of Internet-Parent Child Interaction therapy (I-PCIT) as the gold standard evidence-based intervention for young children with early signs of emotional disturbance **to enable** reach families in rural and regional parts of Australia
- Invest $53,823,252 over 5 years to expand the trained I-PCIT workforce to 142 staff across all Australian states and territories (currently delivered in NSW only)
- That the government supports the treatment of approx.16,400 children with significant behavioural **and** conduct disorders with I-PCIT as per the First 2000 Days[1] principles of early intervention & prevention and aligned with the National Children's Mental Health Strategy to achieve up to an estimated $1.21bn ROI (WSIPP[2)] with up to A$22.58 for every dollar invested.

Executive Summary

It is estimated that approximately 22,199 of children between the ages of two and seven years in Australia display **the highest levels** of disruptive behaviour difficulties (ABS, 2016)). Research evidence indicates that early signs of emotional disturbance in young children are likely to lead to a poor developmental trajectory consisting of ongoing, increasingly significant mental health concerns across the lifetime[3] . Such significant, early behavioural and emotional concerns place tremendous stress and financial burden upon the affected individual, his or her family, and the larger community[4].

Parent-Child Interaction Therapy (PCIT) has been found to be one of the most effective, early treatment approaches for early disruptive behaviour concerns, demonstrating unprecedented, long-lasting positive parent and child psychological outcomes and cost savings to the larger community[5].

Some challenges of scaling the program in Australia have historically included, stringent training requirements, specialized equipment and limited access to services located in metropolitan Sydney. Fortunately, empirical research now demonstrates that outcomes for **internet-based PCIT** meet, and in some cases, exceed those of clinic-based PCIT. The digital health delivery of PCIT adaptation now serves to decrease health disparities due to accessibility difficulties between urban and rural families in Australia[7,8].

Karitane has pioneered PCIT efforts in New South Wales (NSW) and across Australia since 2005 by training dozens of therapists, publishing a multitude of empirical PCIT research papers, and presenting at international PCIT conferences.

Home to the PCIT-based Toddler Clinic and the innovative digital hub (Virtual Clinics), a network of digitally delivered, evidence-based parenting programs, Karitane was recently awarded $240,000 and a further year of recurrent funding through the NSW Mental Health Innovation Tender in 2017. This project aimed to disseminate internet-based PCIT to families in NSW.

Preliminary results of I-PCIT roll out indicate large treatment effects, paralleling those of highly powered I-PCIT intervention research. Such outcomes highlight the critical need for and potential impact of a larger scale treatment dissemination and training effort. The current proposal is innovative and impactful as it would pose the first national evaluation of Internet-PCIT outcomes, positioning Karitane and the Australian Government to evaluate and publish noteworthy, large-scale evaluation outcomes as part of the National Children's Mental Health Strategy.

Specifically, it is proposed that current funding would enable:

1) the immediate growth of Karitane's direct I-PCIT delivery through the employment of 20 full time I-PCIT therapists, able to treat over 5,000 children and families over the course of five years and

2) the full PCIT and I-PCIT training of an additional 120 I-PCIT therapists across Australia able to treat over 16,500 families in total over the course of 5 years.

3) The total required budget of the proposed effort is estimated at $53.8m, for which a return on investment of up to $1.2bn is expected.

The following summary aims to provide a thorough empirical understanding of PCIT and Internet-PCIT while justifying the potential outcomes of this powerful, data driven investment in the mental health of vulnerable young children, their families, and the larger communities in which they reside.

What is the social need that is addressed by the project?

Behavioural and Emotion Disturbance in young children: A Critical Need for Effective, Early Intervention

Some difficulty adjusting to parenthood is common and normal, however severe and persistent problems can develop into chronic mental health concerns for parents and severe behavioural and conduct issues for children. Left untreated, such behavioural patterns become entrenched and these issues typically persist[9]. Affected children are placed at greater risk of developing further psychopathological conditions[10] such as chronic behavioural and conduct disorders[11,12,13].Such difficulties can manifest as mental illness or social and emotional difficulties, and have been linked with eventual substance misuse and criminal activity[14] . Severe behavioural and emotional difficulties place enormous stress upon children, families, and the greater societies in which they live[15] . Financially, return on investment research estimates have consistently found that early intervention serves as a long-term investment toward preventing serious and costly psychopathological conditions later on [4,15,16,] .

The first 2000 days of life (0-5 years) is a critical period for early intervention. Early brain development forms the base for all future learning. Child development is a dynamic,

interactive process impacted by relationships, experiences and environments. [17]

The Role of Parent-Child Interaction Therapy (PCIT)

Parent-Child Interaction Therapy (PCIT) (http://www.pcit.org)[18] is a highly effective parent-training program that aims to improve two facets known to be critical to healthy development: the quality of the parent-child relationship and child compliance. Over 50 years of empirical research including numerous longitudinal and randomised controlled trials of PCIT have supported its strong evidence-base (Ward, Theule, & Cheung, 2016). A number of unique mechanisms contribute to the robust nature of PCIT: 1) it utilises live 'coaching' of parent-child dyads to teach and practice evidence-based parenting skills from behind a one-way mirror during parent-child play interactions, 2), treatment is guided by an intensely data-driven treatment approach, including weekly standardised assessment of child behavior difficulties, and parent skills, 3) daily at-home practice of therapy techniques reshape previously ineffective parenting skills and 4) parents must reach mastery criteria to progress through and graduate from the program.

Treatment Access Barriers

PCIT is a powerful, and effective program designed for dissemination to a specialised population of children with clinically significant behavioral and emotional concerns. It is not expected nor intended that PCIT is applied as a universal treatment to all young children displaying varying levels of such difficulties. In fact, research supports the availability of a range of treatment service options in addition to evidence-based treatments to serve the needs of a variety of children and families[19].

Despite its existence, various service-based and implementation-based barriers have impeded PCIT's widespread dissemination across Australia. Specifically, stringent therapist training requirements and reliance on specialised equipment (e.g., one-way mirrors, wireless communication systems) has meant that delivery of PCIT is challenging for many under-resourced community-based mental health clinics, particularly those in regional and remote areas. Although alternative clinic-based early intervention exists, services are often delayed, far past the point in which families are referred, forcing them to sit on long waitlists through times of increasing stress and behavioral escalation. Furthermore, oftentimes, only those regional and remote families with economic and social means are able to travel thousands of kilometers for specialist services, thereby further widening the disparity in developmental outcomes for children in families with and without available resources.

PCIT is particularly amendable to internet-based delivery given its use of **live coaching** using a one way-mirror and bug-in-the-ear microphone. Instead, such technology can be easily replaced with a video-conferencing screen and blue tooth microphone/earpiece. In recent years, an adaptation of the PCIT model from an 'in-clinic' to 'telehealth' model has gained

momentum and a growing evidence-base [7,8] , demonstrating its robust effect on a host of critical parent and child behavioral and emotional variables. However, like clinic-based PCIT services, dissemination of the internet-based adaptation in real world Australia has notably lagged, thereby providing a ripe opportunity for large-scale dissemination of this cost-effective, highly effective early intervention model.

About Karitane

Established in 1923, Karitane is a trusted leader in parenting, early intervention & prevention services across NSW. We deliver high-quality, evidence-based support for families with a range of needs and vulnerabilities. We are internationally recognised for our expertise in PCIT for children with behaviour and conduct disorders, supporting teenage parents, young parents in custody and parents with perinatal anxiety and depression. Karitane supports families from aboriginal and culturally and linguistically diverse backgrounds and designs innovative services, including place-based and digital health delivery to ensure that families receive the right level of care, in the right place, at the right time.

Of note, Karitane is an internationally regarded leader in PCIT and pioneered use of this evidence based therapy with toddlers. We have the only level 2 certified PCIT trainers in Australasia, and our staff members have published numerous papers, book chapters, and conference presentations.

In formal academic partnership with UNSW and Western Sydney University, Karitane also has an extensive history of clinically-oriented multidisciplinary health research and research translation in child and family health, perinatal and infant mental health, early intervention, parenting, early childhood development and psychopathology, and works in formal partnership with multiple other universities.

Karitane is therefore well positioned for innovation and development, and with the support of NSW Health Minister we formally launched the Australian industry-leading digital health strategy in February 2019 to support and treat early parenting and toddler behavioural difficulties. The hub has fostered new digital-first evidence-based parenting programs and has encouraged innovation across the child and family health sector.

New parents are typically young, digitally-savvy, and seeking support services online. Such aptitude presents an opportunity to deliver high-quality perinatal mental health services in a more accessible way, regardless of where a family lives. We now have an opportunity to link up services nationally in a way that hasn't been available before in child and family health. Access to parenting support should not depend on what state a family lives in. A strong referral network and nationally consistent online service delivery of this specialised treatment will ensure continuity of care and high quality support nationally. Karitane is a member of the national peak body, the Australasian Association of Parent Child Health (AAPCH) with the Karitane CEO the Chair of this group. This network permits a broad understanding of interstate issues, rapid sharing of best practice initiatives and national referral networks.

Why I-PCIT?

PCIT Background and Evidence-Base

It is well established in the attachment and clinical psychology literatures that children with strong, positive parent-child relationships and a secure attachment to a primary caregiver are likely to develop strong social skills, positive behavioural trajectories, and healthy emotion regulation abilities [20,21,22;], which in turn, serve to protect against later psychopathology [23] 1), and promote childhood resilience[24] . Conversely, those with insecure attachments and negative parent-child relationships demonstrate increased rates of internalizing and externalizing behaviour difficulties [25,26] , lower social competence [25] , and later adolescent mental health difficulties [27] .

Parent and child mental health are inexorably linked, such that poorer mental health in mothers has been clearly associated with poorer outcomes in their children [28, 29].

PCIT focuses on developing two primary factors known to serve a protective role within the long-term trajectory of healthy childhood development: 1) the cultivation of a strong, positive parent-child relationship and 2) implementation of evidence-based, developmentally appropriate skills to teach and reinforce child compliance. Extensive empirical research consistently demonstrates significant improvements in child behavior difficulties, improved parenting skills, and decreasing parenting stress following PCIT[30] . Treatment gains have been found to extend to the home and school settings[31], generalize to untreated siblings [32] , and maintain up to six years post-treatment[33]. Additional research has directly compared PCIT to other well-known treatments for child behavior difficulties, including Triple P. Results indicated stronger effect sizes for PCIT with regard to child behavior difficulties and undesirable parent behavior as compared to Triple P programs [34].

The robust nature of the treatment has lent itself well to **adaptations for populations** beyond typically developing children with clinically significant disruptive behavior difficulties including children with trauma histories [35], autism[36], separation anxiety[37], selective mutism[38] , children with developmental delays[39] and younger toddlers from the age of 18 months [40] with equally impressive results.

Format-based adaptations have included a brief intensive version[41], teacher and school-based program as well as home-based [42] and group-based treatment designs[43].

Given the dyadic focus of PCIT, treatment may be delivered to any primary caregiver including fathers who are often underserved in perinatal mental health, despite 1 in 10 experiencing perinatal depression[44] . Furthermore, PCIT has demonstrated efficacy with diverse and vulnerable populations[45] including maltreated children [46] , indigenous families [47] , parents with significant mental health concerns[48] and child welfare populations [49].

The Development of Internet-Based PCIT Services

Emerging research (rated as promising on the Spectrum of Evidence) has focused on delivering PCIT over the internet using live video to families in rural and remote areas, making it an increasingly accessible treatment for families across Australia. Comer et al. (2017) compared internet delivered PCIT (I-PCIT) to standard clinic-based PCIT amongst children aged 3-5 years with disruptive behaviour disorders. Researchers found evidence of improved child behaviour problems and decreased burden on caregivers across time, regardless of treatment condition. Additionally, there were no differences between conditions with regard to the number of sessions needed for parent/care-givers to meet mastery criteria. Treatment satisfaction was high across both conditions, as rated by two questionnaires. Amongst the children who received I-PCIT, 70% showed a positive treatment response immediately after completion of the program and 55% continued to show treatment response at a 6-month follow-up. Furthermore, results found that around half of the children treated with I-PCIT no longer met criteria for a disruptive behaviour disorder at posttreatment and 6-month follow up time points. Most notably, I-PCIT was associated with fewer barriers to treatment participation as compared to clinic based PCIT, which highlights its particular suitability for families in rural, regional and lower socioeconomic areas.

PCIT Fidelity

PCIT practice is developed and governed by PCIT International. The US organization espouses excellent treatment integrity and fidelity within implementation of the evidence-based model via ongoing training, certification, and continuing education of therapists and trainers (www.pcit.org). By creating an interface between the scholarly activities of PCIT researchers and the expertise of front-line clinicians, PCIT International builds upon the strong scientific base of treatment implementation while maintaining delivery of high-quality clinical care for children and families.

Population Demand

In Australia, it is estimated that approximately 88,796 children (estimates based on 2016 census; ABS, 2016) across the continent may be eligible for PCIT. Despite such a large need, the specialized, intensive nature of PCIT should be noted as most appropriate for children displaying the most concerning levels of disruptive behavior. Research has noted the benefits of maintaining a variety of treatment options within communities [50]. It follows then that less-intensive interventions targeting child disruptive behavior may better fit the needs of families of children with less severe disruptive difficulties while providing less-costly, time-intensive treatment options. It is therefore expected that the top 25% of children, or approximately 22,199 between the ages of two and six years, 11 months displaying the most costly, deleterious levels of disruptive behavior difficulties may be in greatest need of and most likely to benefit from the rigor and robust impact of PCIT.

Karitane's PCIT Workforce and training credentials

As an Australian centre of excellence and lead provider of PCIT, Karitane serves a critical role in PCIT dissemination, with the only Level 2 accredited PCIT trainer since 2005 (http://www.pcit.org/australia.html) and under review as a Master trainer (the highest level of credentialing achievable) . Additionally, Karitane maintains a network of four PCIT level-1 trainers, certified PCIT therapists, and psychologists and social workers many of whom are in the process of advancing their PCIT training status, thereby increasing their training reach and capacity. Karitane is an active member and participant of PCIT International. Over the past 12 years, Karitane clinicians have consecutively attended 8 PCIT conferences internationally to present research and run training workshops to a growing, international network of PCIT researchers and clinicians. At the most recent 2019 PCIT International Conference in Chicago, Illinois, USA, Susan Morgan (MMH, PCIT Level II trainer at Karitane **was awarded** the prestigious Research and Innovation award for her multi-decade long empirical contributions to PCIT at Karitane.

Additionally, the Karitane Digital Health Hub offers I-PCIT and significantly raises the benchmark in perinatal mental health service availability for young children and families across Australia – for both young children and their parents. The service is accessible, innovation-driven, and stands to make a significant difference in the lives of vulnerable young families.

Taken together, Karitane maintains the necessary skill, expertise, capacity, and dedication to implement and disseminate PCIT treatment on a large scale. Federal-level funding would significantly boost service delivery to reach any Australian family in need of support, regardless of location, ensuring equal opportunity for high quality clinical intervention to children, families, and their communities.

Dissemination & Workforce Capacity Building

Widespread PCIT Dissemination Efforts

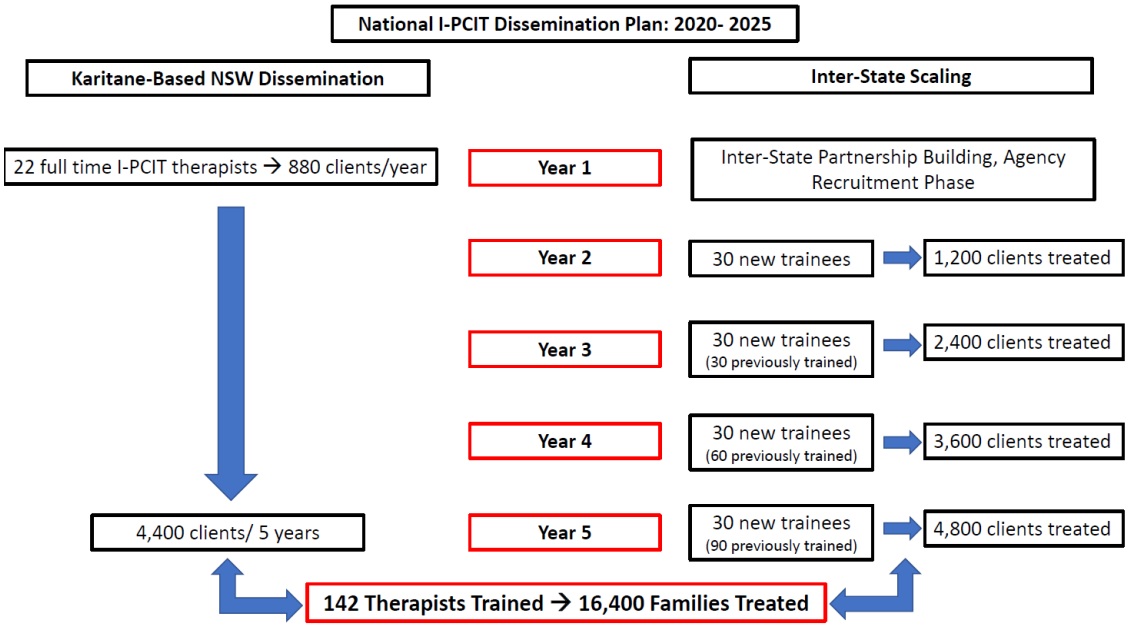
Systematic dissemination and implementation of evidence-based treatment is critical to effective intervention and prevention efforts within early childhood mental health concerns. PCIT has been successfully disseminated on an international scale including 18 countries and within all fifty states across the United States (www.pcit.org). Systematic efforts have examined PCIT dissemination and implementation across multiple US states including Delaware [19] and Pennsylvania [51]. Results emphasize the importance of **a stage-based, collaborative systematic dissemination approach.** Stakeholders unite to form a core dissemination team who are tasked with planning, training, delivering, and empirically measuring the dissemination and implementation effort[19]. Following the successful training of 143 clinicians over a four-year period across the US state of Delaware, authors noted the importance of careful pre-screening of therapist suitability and emphasized the importance of ongoing evaluation throughout the dissemination process [19]. Ultimately, a self-sustaining training model was formed such that certain trained clinicians attained trainer status, enabling maintenance of ongoing training efforts within their communities [19] . Authors highlighted the match between PCIT training requirements (e.g., extended in-person in-vivo training, advanced training, ongoing consultation call and video review) and components known to be most effective across the training literature [19,50]. Finally, authors noted the benefit of grant funding to enable under-resourced clinician training.

In 2017-2018, Karitane ran a highly successful trial of I-PCIT in regional NSW for the NSW Ministry of Health to deliver the intervention to rural and remote families. Current calculations indicate large effect sizes, parallel to those achieved in large-scale, clinic-based service delivery. Furthermore, preliminary evidence also suggests I-PCIT may be more effective than clinic PCIT with higher retention and completion rates. Karitane's multi-decade long research and clinical record in the successful delivery of internet and clinic-based PCIT and current workforce comprised of multiple, certified PCIT trainers and therapists, position Karitane to lead the dissemination and implementation of internet-based PCIT services across Australia, with the ability to commence immediately upon the receipt of funding.

A five-year implementation and dissemination plan is provided below

Given previously discussed empirical evidence demonstrating the astounding, long-term benefits of PCIT, the following proposal is likely to result in a formidable, long-lasting impact upon children demonstrating the highest levels of disruptive behaviour concerns as

well as their families, communities and the social and economic systems in which they live. Additionally, the plan includes an integral evaluation component, enabling cost effective, national data collection and publication of the first large-scale examination of internet-based PCIT dissemination and implementation in the world.



Alignment with National Children's Mental Health Strategy & Principles of Early Intervention and Prevention & First 2000 Days

I-PCIT is strongly aligned to the new National Children's Mental Health Strategy which focuses on the 0–12 age group, and aims to maintain mental wellbeing and prevent mental health difficulties. It will improve delivery of supports for early childhood, parenting and early education. I-PCIT will support the Children's Mental Health Strategy aim of providing evidence based interventions that embed protective skills in early childhood, create mentally healthy home environments, support parents, and prevent or treat early childhood trauma.

PCIT Endorsement and Value for Money

The Title IV- E Prevention Services Clearinghouse

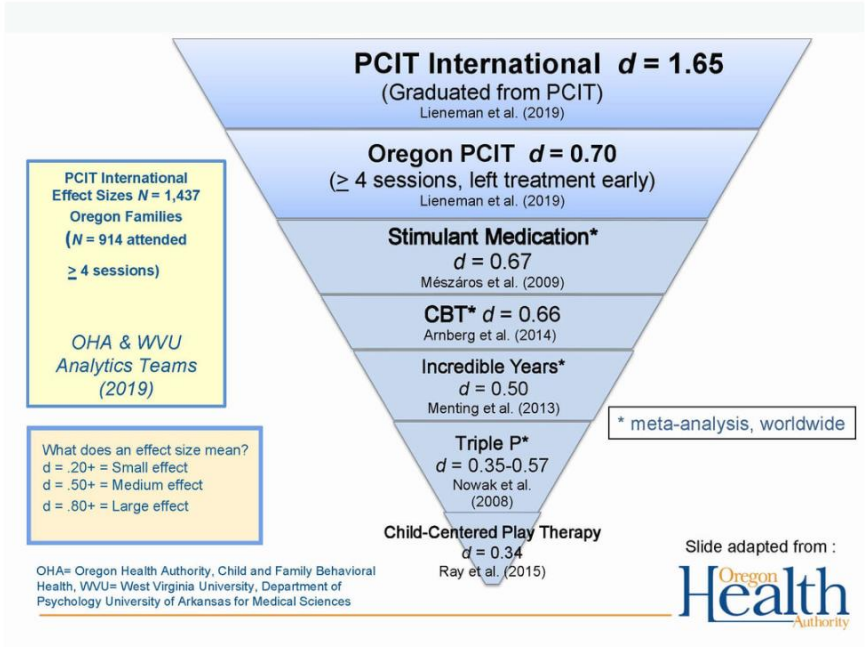
This unit was established by the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services (HHS) to conduct an objective and transparent review of research on programs and services intended to provide enhanced support to children and families and prevent foster care placements. The US IV-E Prevention Services Clearinghouse, which determines what can be funded under the Family First

Prevention Services Act, has announced the first slate of options for states in December 2019, which includes PCIT interventions.

The Prevention Services Clearinghouse, developed in accordance with the Family First Prevention Services Act (FFPSA) as codified in Title IV-E of the Social Security Act, rates programs and services as *well-supported*, *supported*, *promising*, or *does not currently meet criteria*.

PCIT was rated as one of the few "well-supported" programs that will be funded.

Relative Impact per "Dose": Treatment Magnitude



The above figure demonstrates the magnitude of PCIT outcomes which have been found to be superior to other well-known evidence-based programs including Triple P, the Incredible Years, and Child-Centered Play Therapy. Specifically, effect size calculations allow researchers to ascertain the relative impact of interventions by examining the strength of the relationship between outcomes. A small effect is generally classified as ≥ .2, while a medium effect is ≥ .5, and a large effect is ≥ .80.

Stimulant medication, a commonly used and highly effective pharmacological intervention for the treatment of disorders such as Attention-Deficit Hyperactivity Disorder (ADHD) has an effect size of .67 (a medium effect). In contrast, effect sizes of Triple P, a well-known and widely disseminated parent program in Australia range from .35 - .57 (a small- medium effect). In contrast**, PCIT completion results in a 1.65 effect size,** an unbelievably powerful result. Furthermore, recent research indicates an effect size of .7 for those families receiving at least 4 sessions of PCIT prior to discontinuing the program [54] . Such striking results highlight the unique impact of each successive session "dose" on children's clinical outcomes.

The Washington State Institute for Public Policy (WSIPP)

The Washington State Institute for Public Policy (WSIPP) [55] is a nonpartisan public research group located in Olympia, the hub of Washington State government. WSIPP is a team of multidisciplinary researchers who conduct applied policy research for the state legislature in a creative and collaborative environment. WSIPP is strongly committed to the core values of nonpartisanship, quality, and impartiality. Created in 1983, WSIPP has become nationally and internationally recognized for the design, depth, and quality of its research reports (wsipp.wa.gov).

PCIT has demonstrated returns up to A$22.30 per dollar invested.

Furthermore, analyses indicate a 95% likelihood that the benefits of PCIT will outweigh costs (wsipp.wa.gov). Additional cost-benefit research further indicates high benefit – cost ratios. Goldfine et al.[56] indicated a cost of $1,025 (USD) per child with an initial start-up cost of $14,063 (USD), while Aos et al., [57] indicated that PCIT benefits outweighed costs by $3,427 (USD). Taken together, results consistently indicate financially compounding benefits of PCIT implementation and dissemination particularly in light of estimates indicating the enormous, compounding financial cost and societal burden of untreated childhood psychopathology [58] . Such evidence highlights the critical need for and multi-level benefit of early identification and effective treatment of young children exhibiting symptoms of psychopathology.

Indicative Internet-PCIT Investment /Budget (negotiable)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Staff						
Program Director	$120,000	$120,000	$120,000	$120,000	$120,000	$600,000
Administrative Assistant x3	$180,000	$180,000	$180,000	$180,000	$180,000	$900,000
Trained I-PCIT Clinicians (increasing numbers trained per annum)	$2,500,000	$6,250,000	$10,000,000	$13,750,000	$17,500,000	$50,000,000
I-PCIT Qualified Trainers	$220,000	$220,000	$220,000	$220,000	$220,000	$1,100,000
Technology/Data Assistant (100%)	$60,000	$60,000	$60,000	$60,000	$60,000	$300,000
TOTAL:						**$52,900,000**
Training Materials/Measures						
1. Books and Manuals						**$196,002**
I-PCIT Equipment						
Internet Dongle						
Webcam						
Video Editing Software						
Training I-PAD						
External Harddrive (4TB)						
256GB USB x7						

Microsoft Office						
Total						**$40,000.00**
Training Team Travel and Accommodation						**$47,250**
Catering for 2,800 training days						**$28,000.00**
Accommodation + Food + Expenses (interstate training)						**$120,000**
Evaluation Measures- Free						
TAI= Free Measure						
EDS= Free Measure						
The Dyadic Adjustment Scale (DAS- Marital Satisfaction)= Free Measure						
Strengths and Difficulties Questionnaire= Free Assessment						
Caregiver Strain Questionnaire= Free Assessment						
DPICS= Completed by therapists, costs included in treatment materials						
DERS (parent emotion regulation) = Free Assessment						
Depression, Anxiety, Stress Scale (DASS-21) = Free Measure						
Experiences in Close Relationships Scale (Adult Attachment) = Free Measure						
Evaluation Measures- Cost						
ECBI ($2/i-admin/session): $336,000						**$336,000.00**
PSI						**$28,000.00**
CAPI						**$128,000.00**
Grand total						**$53,823,252**