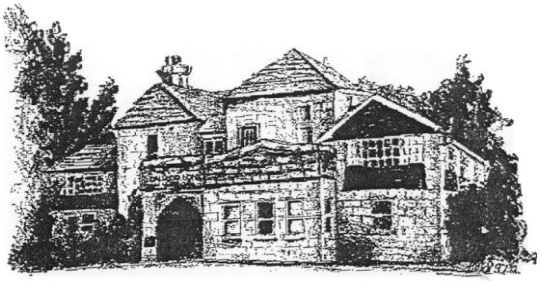

Dalwood Spilstead Service

Intervention and Support Services

Health
Northern Sydney
Local Health District

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The Dalwood Spilstead Service

Intervention and Support Service

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".. in order to develop normally, a child requires progressively more complex joint activity with one or more adults who have an irrational emotional relationship with the child. Somebody's got to be crazy about that kid. That's number one. First, last and always."

Urie Bronfenbrenner.

Making a difference that will last a lifetime!

Contents

Service Summary

The Dalwood Spilstead Intervention and Support Service functions as a tertiary unit of the Northern Sydney Local Health District (NSLHD) within the Primary and Community Health Service and is supported by the Dalwood Spilstead charitable trusts.

The service provides intervention and support for vulnerable families and children at risk in collaboration with the Department of Communities and Justice (DCJ) across the following service streams:

1. Out Of Home Care
2. Intensive Family Support for clients managed by the DCJ child protection service.
3. Brighter Futures
4. Step Down Family Support

The single governance "Spilstead Model" (SM) enables a seamless continuum of care for families moving between DCJ program streams.

Two modes of service delivery are available:

1. **Specialist Neuro-sequential Model Trauma Service** providing Neuro-sequential Model (NM) Assessment and Consultation services for families throughout NSW who have been referred by DCJ or other agencies.

2. **The "Spilstead Model" Whole Family Service** for client families living in the Northern Beaches and Lower North Shore regions who have been referred by DCJ or other professionals.

1. Specialist Neuro-sequential Model Trauma Service

Developed by Dr Bruce Perry, Child Trauma Academy, USA, the Neurosequential Model (NM) is a developmentally-informed, biologically-respectful approach to working with at-risk children which provides a way to organize the child's history and interpret current functioning.

The service components include:

a. Individual NMT (Neuro-sequential Model of Therapeutics) Assessment.
b. NMT Implementation and Review
c. Neuro-sequential Model trauma informed practice training for child and family professionals and foster carers.

2. The "Spilstead Model" Whole Family Service

This "one stop shop" Model is unique in ensuring a holistic approach with all services for both parents and children provided under one service umbrella and from the one team. This enables optimum engagement with families and ensures maximum co-ordination and consistency of service delivery. The Spilstead Model (SM) has been designed to integrate a comprehensive range of evidence-based interventions for vulnerable families and children at risk within a trauma-informed and relationally sensitive therapeutic milieu. The SM combines parent support, home visiting, and parent-child attachment interventions with multi-disciplinary centre and home-based early childhood education and development programs, in an environment of family centred and strength-based practice.

The service components include:

2) **Family Services:**

a. Case management, professional home visiting and counselling. Including Aboriginal specific support.
b. Individual NMT (Neuro-sequential Model of Therapeutics) adult assessment.
c. Fathers / Men's Program
d. Parenting Education Programs
e. Parent Self-Care and Support programs.
f. Volunteer Home Support Program
g. Parents In Action Group and Aboriginal Advisory Group

3) **Child Development Services:**

a. Individual NMT child assessment and case planning.
b. Home-based Early Childhood Education and Early Intervention
c. Infant Supported Playgroups
d. The Spilstead Therapeutic Preschool Program
e. Outreach education services to mainstream preschools and schools.
f. Allied Health Therapy Services including Speech Pathology, Occupational Therapy, Clinical Psychology and Art Therapy

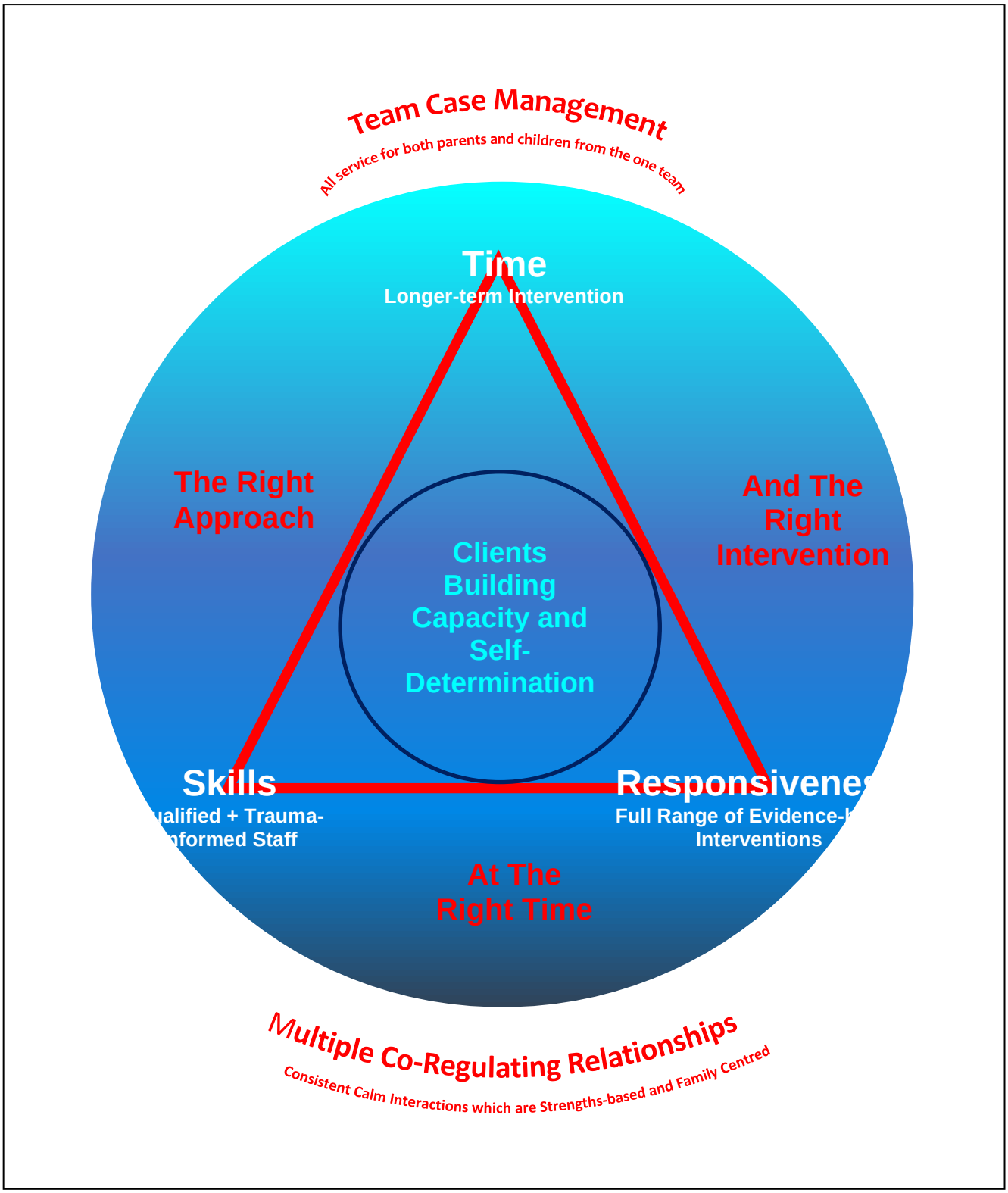
4) **Parent/Child Interaction Interventions:**

a. Parent/Child Interaction Groups
b. Attachment focused Parent/Child Interaction interventions

The Dalwood Spilstead Service (DSS) is cost effectively able to offer comprehensive and intensive intervention and support for vulnerable families via an interdisciplinary team approach. The Dalwood Spilstead Service is now internationally recognised for its unique and highly successful models of care which have been validated via both short term and longitudinal research.

THE SPILSTEAD MODEL

Of Milieu Intervention



SPECIALIST NEURO-SEQUENTIAL MODEL TRAUMA SERVICE

Background - The Neuro-sequential Model Of Therapeutics

Research has indicated that the common denominator for families presenting to child protection service is early childhood trauma. Neuro-science is now dictating that these families receive a "trauma informed" approach which is able to target the neuro-biological causes of dysfunction.

Developed by Dr Bruce Perry, trauma expert from the Child Trauma Academy,USA, the world's best practice Neurosequential Model (NMT) is a developmentally-informed, biologically-respectful approach to working with at-risk children which provides a way to organize the child's history and interpret current functioning. "The NMT integrates several core principles of neurodevelopment and traumatology into a comprehensive approach to the child, family and their broader community. The NMT process helps match the nature and timing of specific therapeutic techniques to the developmental stage of the child, and to the brain region and neural networks that are likely mediating the neuropsychiatric problems." www.childtrauma.org. (see Perry, 2006; Perry and Hambrick, 2008; Perry, 2009).

The Dalwood Spilstead Service has been fortunate to be able to partner with the Child Trauma Academy as one of only three organisations in Australia now Phase II certified in the NMT clinical online assessment tool and treatment approach. This approach has proven to be of immeasurable value to those children in greatest need who were previously the most difficult to treat due to their background of severe abuse and neglect. NMT is able to expand the benefits of conventional therapy by prescribing "therapeutic" interventions which can be implemented throughout the child's day and across various settings. It is clear that NMT has great potential to also assist all children from vulnerable backgrounds.

Services

A Neuro-sequential Model of Therapeutics assessment and consultation service is provided for children and young people from across NSW. Children identified with a history of significant trauma by government and non-government agencies (NGOs) are offered a comprehensive NMT assessment and individual intervention program. Referrals have been received from NSW DCJ as well as several NGOs including the Benevolent Society, Anglicare and Phoenix Rising. These NGOs have indicated a high demand for the NMT assessment and intervention recommendations. Clinicians are offered a 1 day training program providing background re the NMT approach to trauma-informed practice plus information re the assessment and consultation service prior to making a referral.

The NMT assessment and consultation includes:

- Collation of all background information, norm-referenced assessments conducted plus interviews with carers, case workers and teachers.
- Clinic visit – 2-4 hours:
    - Psychometric assessment if not already conducted.
    - Clinical Observation of Postural Behaviour, J. Ayres. Screening of neurological soft signs plus resting and activity heart rate and ocular-motor functioning.
    - Play observation and completion of Play or Adolescent Activity Preference Checklist.
- Completion of NMT metrics on-line and NMT Metric report
- Completion of comprehensive assessment report.
- Tele-conference or face to face feedback session to case workers and carers:
    - Feedback re assessment results.
    - Finalisation of intervention plan focussed on a bottom-up approach to address neuro-developmental needs following the **Regulate, Relate and Reason** hierarchy:
        - **Regulate**: addressing the sensitized stress response and developing regulation via a combination of:
            - Routine: a familiar structured routine supports regulation.
            - Relationship: consistent predictable unconditionally co-regulating care.
            - Rhythm: patterned repetitive somato-sensory activities.
        - **Relate**: enhancing relational health via increased contact and support from therapeutic adult relationships and mentors.
        - **Reason**: enhancing language and learning strategies.
- Further telephone consultation as needed to support implementation of intervention plan.
- 12 months follow-up via tele-conference or full assessment review if required.

THE SPILSTEAD MODEL WHOLE FAMILY SERVICE

The Spilstead Model (SM) of intervention, has been designed to maximize the benefits of the three primary evidence-based interventions for vulnerable families and children at risk, within a comprehensive integrated and trauma-informed approach. The SM combines parent support, home visiting, and parent-child attachment interventions with multi-disciplinary centre and home-based early childhood education and development programs, in an environment of family centred and strength-based practice.

This "one stop shop" program is unique in it's ability to provide a holistic approach with all services for both parents and children provided under one service umbrella and from the one team. This enables optimum engagement and containment for families and ensures maximum co-ordination and consistency of service delivery.

The Core Components Of The Spilstead Model

- Single governance with integrated services provided by the one team.
- Team Case Management addressing family **Safety, Home, Social, Community, Economic and Empowerment needs.**
- Integration of 3 evidenced based modes of intervention within a NM trauma informed practice approach. NMT Phase II Certified Service.
    1. Family home visiting and support services supporting parent **Health and Education**.
    2. Parent / child attachment interventions supporting healthy relationships and parenting **Skills.**
    3. Intensive child developmental focus including a therapeutic preschool supporting **Child Development, Skills and Education**.
- Routine outcome measurement regime integrated into clinical practice to review: Family Safety, Home Environment and Economics, Social and Community Participation, Empowerment, Parent and Child Health, Parent and Child Education and Skill Development.

As a tertiary unit of the Northern Sydney Local Health District, the program gives priority to those families with complex parental issues (ie mental illness, substance abuse, domestic violence, social isolation, Aboriginal or refugee background) and children who are experiencing social, emotional or developmental delays/disorders. These families present with a multiplicity of both parent and child risk factors plus early indicators of poor childhood resilience. Families co-design a package of services tailored to meet the individual needs of both parents and children.

The DSS Spilstead **Parents In Action Group** and Aboriginal Advisory Group assist in guiding service planning, co-ordination of parent programs and provides parent support.

The Spilstead Model Whole Family Service Description

1. FAMILY SERVICES:

Case Management, Professional Home Visiting and Counselling Services

A Family Counsellor is allocated to each family to provide individual assistance for each parent to plan for their own needs. Services include:

- Individual counselling. Utilizing a strengths-based regarding safety planning.
- Professional home visiting. Utilising a family-centred approach to housing needs.
- Referral, advocacy and assistance with welfare issues.
- NMT Parent assessment and planning.
- Parent physical and mental health support.
- Financial counselling and mentorship.
- Grandparent support group.

Helping families to make closer connections

Fathers / Men's Program

The **"Dads @ Dalwood"** program is designed to maximize engagement and participation for fathers and male carers in the family. A male family counsellor co-ordinates this program which provides dedicated support for men via:

- Ensuring father friendly access and orientation.
- Dads e-mail group and webpage.
- Individual counselling
- Activities afternoons for children and father's
- Dads playgroups
- Evening groups

D@ds Playgroup

This program is supported financially by the Osborne Family.

Parent Self-Care and Support Programs.

Weekly leisure and support group programs are available for parents to build social connections, self-care and regulation skills. Programs include:

- Somato-sensory regulatory activities such as:
  - Pottery
  - Creative Art
  - Yoga
  - Cooking
  - Drumming groups.
- Personal Development Programs:
  - Introduction to adult education via TAFE Outreach programs.
  - First Aide
  - Budgeting and Money Management
  - Fashion and Beauty
- Support Groups:
  - Parents In Action Group
  - Aboriginal Advisory Group

Parents In Action Group

Parenting Education Programs

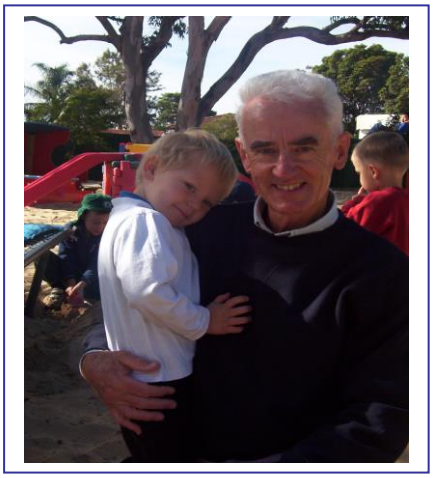
Regular parent education and support programs are offered to assist parents to build confidence and skills in areas where they have identified need. ie:

- Child development and play ideas for home.
- Promoting emotional development and positive behaviour using programs such as:
  - Circle of Security Parenting Program
  - Marte Meo transactional Analysis
- Child safety and first aid.

An introduction to adult education program is provided on site in partnership with the local Technical and Further Education TAFE outreach team.

Volunteer Home Support Services

A team of trained and professionally supervised volunteers provide weekly home visiting services for families who are in need of additional social support. These volunteers visit for 2 hours per week, provide personal support and assist families with a wide range of home or parenting tasks.



Volunteer support

This program is funded by the Dalwood Dog Show.

2. CHILD DEVELOPMENT SERVICES

Each child is offered a full developmental screening assessment. An early childhood educator or teacher is then allocated to each child. Education and multidisciplinary early intervention support is then able to be planned according to the child's age and developmental needs.

Teacher Outreach and Monitoring

Children who are managing in mainstream settings or attend school are offered regular consultation services and monitoring of development via school or centre visits. Services include assistance with classroom programming, strategies for individual learning or behavior needs and family advocacy. Services are then reviewed via an annual Individual Education Planning IEP meeting.

Individual remedial tuition is available to school aged children via a team of retired teachers under the Dalwood Spilstead **Volunteer In School Individual Tuition (VISIT**) program.

Home-based Early Childhood Education and Early Intervention.

Children under 2 years are offered early education services by an experienced educator via weekly or fortnightly home visits of 1-2 hours.

Services include:

- Individual home visiting play sessions with at least one parent participating in the session.
- Regular monitoring of developmental progress via formal developmental screening.
- Parent education and support to promote parent / child relationship and play stimulation.
- Toy Library resource for parents.
- Provision of home based activity suggestions and resource material.

Getting in early

The Spilstead Therapeutic Preschool

54 children (12 months – 6 years) are able to attend the Spilstead Therapeutic Preschool program 2 days per week

The program provides:

- Ratio 1 teacher: 3-5 children. Plus a trained voluntary aide per group.
- Maximum class sizes of 5 children.
- Annual NMT assessment and planning for each child.
- Attachment based model of service delivery to promote emotional and social development using Circle of Security principals.
- Regular monitoring of developmental progress via formal developmental screening.
- Individualized education programming.
- Highscope curriculum framework with intensive language and literacy focus.
- Preschool environment and activity routine informed by the Neuro-sequential Model of Therapeutics. (Perry 2007).

Caring Classrooms

Meeting Individual Needs

Therapy Services

Children who demonstrate delays in their development are provided with specialist therapy intervention according to their needs. Services include individual, group and classroom programs and can be offered flexibly throughout a range of settings. A multidisciplinary team approach is provided including the following specialist interventions:

- Speech Pathology Clinical Psychology, Occupational Therapy, Art Therapy and Play Therapy
- Regular consultation by a special education teacher.
- Medical consultation with a Paediatrician and/ Child Psychiatrist.

Speech Pathology and Clinical Psychology services are funded by the Child's Play Sponsorship project under the auspice of the Rotary Club of Balgowlah.

Infant Supported Playgroups

Children under 3 years are offered participation in a weekly infant playgroup facilitated by an Early Childhood Educator.

The Home-based Early Childhood Education program is also supplemented by a weekly playgroup involving all parents with children in this age group.

3. PARENT/CHILD INTERACTION INTERVENTIONS

Trained staff are available to work intensively with parents and children when needed in order to promote attachment and positive parent/child relationships.

One of the following evidence-based interventions may be provided:

- Parent/Child Interaction Therapy (PCIT).
- Watch, Wait and Wonder
- Circle of Security individual program.
- Mart Meo video feedback program.
- Theraplay Dyadic Therapy

Parent / Child Thematic Playgroup programs involving a parent information session followed by a parent/child play session focusing on a specific theme further promote:

- Promoting child development and play skills.
- Parent and child attachment and interaction.
- Practical parenting skills via short-term targeted programs covering:
  - specific areas of child development
  - child-lead play
  - home-based play and development activities.
  - behaviour support and positive parent leading skills.
- Parent support via parent discussion and feedback.

Promoting "Parent" Play!

4. FAMILY STEP-UP PROGRAM

In order to provide a gradual transition and exit from the service at the family's own pace the service also offers an opportunity for parents to continue to receive support and some services at a less intensive level.

This program has been designed to ensure some ongoing support and intervention for families who have confirmed with their Family Counsellor that they no longer need intensive Family Services including regular family counselling.

Parents in the Step-Up program often find that they are in a great position to be able to offer support and mentorship to other parents in greater needs.

Opportunities to support others include:

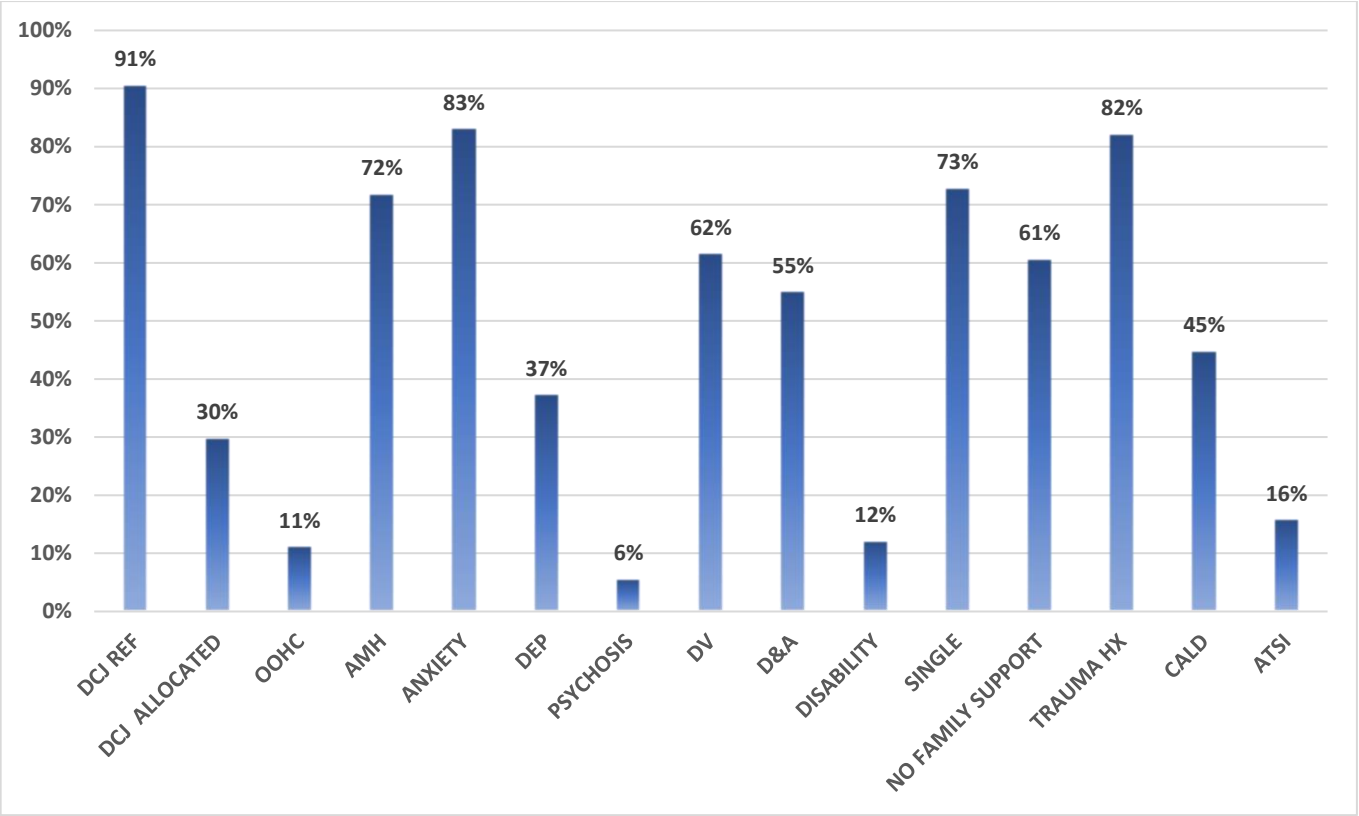
- Participation the Dalwood Spilstead Parents In Action Group (PIAG)
- Becoming a Dalwood Spilstead volunteer
- Mentorship and peer support for others in need

Volunteering!

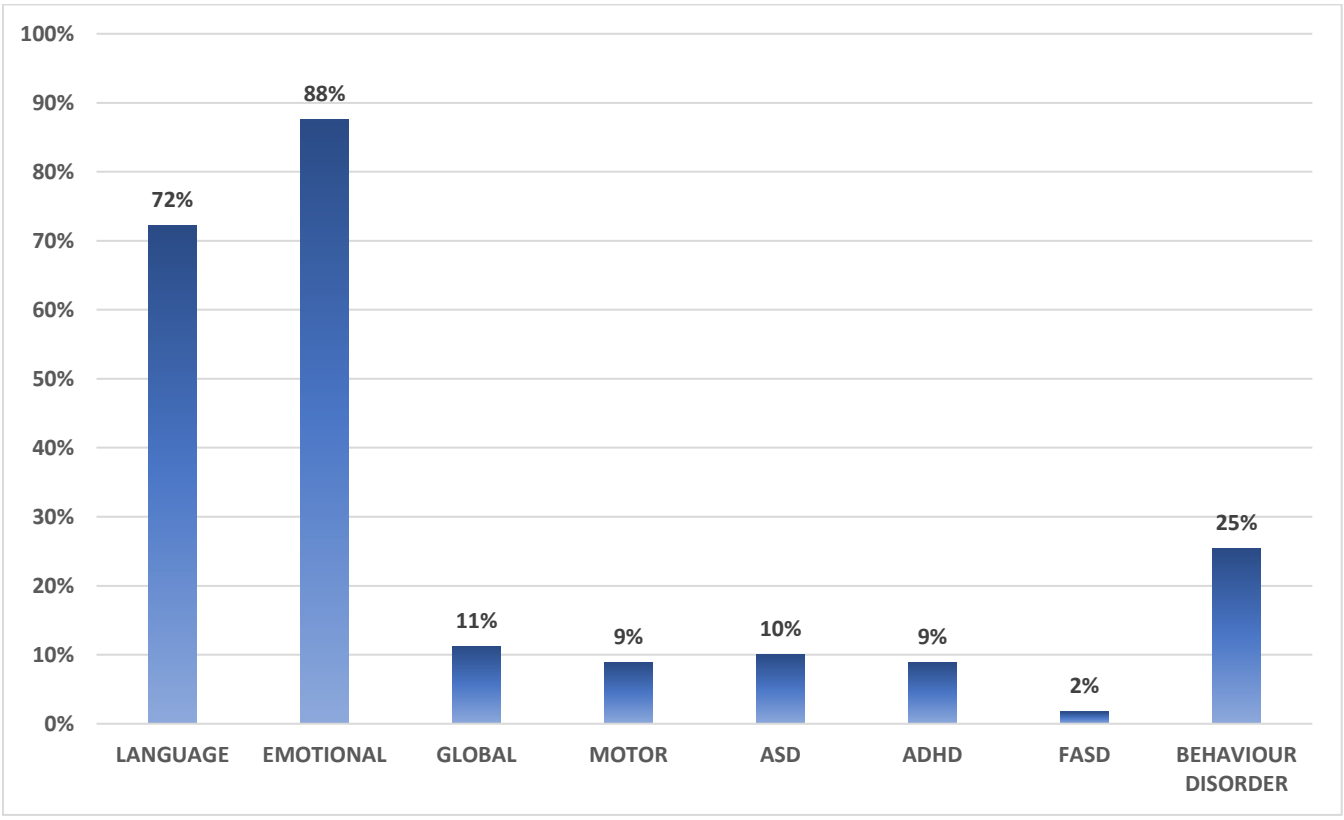
Sharing Skills!

Whole Family Service Caseload Profile 2020

Parent and Family Presentation N = 107



Child Developmental Issues N = 169



Referral Data 2020

2020 Total Referrals **42**

Referrals Source

- **DCJ CSC** **35** (83%)
  - DCJ Brighter Futures 25 (59%)
  - DCJ CP / OOHC 10 (24%)
- **D&A / Adult Mental Health** **4** (10%)
- **Other** **3** (7%)

Referral Outcome

- **Offered services** **36** (86%)
- **Unable to contact** **3** (7%)
- **Assessed and referred to secondary tier service** **1** (2.3%)
- **Assessed as Ineligible by BFAU** **2** (5%)

Engagement Rate of Eligible Referrals **35 (97%)**

Average Total Caseload **90 families**

Average Length of Participation **2.8 years**

Literature Review

The negative impact of early childhood adverse experience on long term life outcomes is well understood (Amaya-Jackson, 2016; Felitti et al., 1998; Felitti, 2009; Gilbert et al., 2010; Gilbert, Breiding, Merrick, Thompson, & Ford, 2015; Zarnello 2018;). There is now a large body of evidence that has consistently confirmed Felitti's (2009, p.131) statement that "what happens in childhood—like a child's footprints in wet cement—commonly lasts throughout life. Time does not heal; time conceals" (Anda et al., 2006; Brown et al., 2010; Clarkson Freemen, 2014; Flaherty et al., 2013; Lambert, King, Monahan, & McLaughlin, 2017; Oh et al., 2018; Shonkoff et al., 2012). Children who are exposed to Adverse Childhood Experiences (ACEs) including social disadvantage, maltreatment, parental mental health problems, substance abuse or domestic violence are more likely to develop both physical and psychological problems later in life (Amaya-Jackson, 2016; Anda et al., 2006; Brown et al., 2010; Clarkson Freemen, 2014; Felitti et al., 1998; Felitti, 2009; Flaherty et al., 2013; Gilbert et al., 2010; Gilbert et al., 2015; Lambert et al., 2017; Oh et al., 2018; Shonkoff et al., 2012; Zarnello 2018). They are pre-disposed to disease, neuro-developmental disorders, school failure, conduct problems and psychiatric illness (Anda et al., 2006; Briggs-Gowan, Carter, Bosson-Heenan, Guyer, & Horwitz, 2006; Brown et al., 2010; Clarkson Freemen, 2014; Filippo et al., 2012; Flaherty et al., 2013; Gilbert et al., 2010; Gilbert et al., 2015; Lambert et al., 2017; Mayo et al., 2017; Oh et al., 2018; Shonkoff et al., 2012.)

Advances in neurology, epigenetics and behavioural science have further provided an understanding of the aetiology and neurobiological mechanisms underlying this developmental emergency in terms of the impact of early stress and disrupted attachment on the infant's brain architecture (Bucci, Marques, Oh, & Harris, 2016; Fox, Levitt, & Nelson, 2010; Gaskill & Perry, 2012; Hambrick et al., 2020; Lupien, 2009; Perry, 2005; Shonkoff et al., 2012; Shonkoff, 2012;). Studies of toxic stress indicate that antenatal and early childhood trauma can alter multiple neurological circuits and systems including the Limbic-Hypothalamus-Pituitary-Adrenal Axis, the Amygdala mediated fear response and the neuro-endocrine immune circuitry (Bucci et al., 2016; Hambrick, Brawner & Perry, 2019; Meaney, 2010; Perry, 2009;). Indeed, Shonkoff et al suggest that "many adult diseases should be viewed as developmental disorders that begin early in life" (2012, p.232).

The evidence-base in relation to effective early intervention for children at risk is equally robust (Liming & Grube, 2018). Targeted support for vulnerable families via professional home visiting is widely recognised as effective in improving both parent and child wellbeing (Doyle, 2017; Heckman, Holland, Makino, & Rosales-Rueda, 2017; Howard & Brooks-Gunn, 2009; Lowell, Carter, Godoy, Paulicin, & Briggs-Gowan, 2011). The Nurse-Family Partnership (NFP) program which has now provided services to more than 200,000 families in 43 states across the U.S. is the most cited program with proven benefits. This research has demonstrated positive changes with regards to home environment, parenting attitudes, and maternal mental health for parents of both boys and girls at age two years. Improved cognitive skills for both boys and girls, enhanced early socio-emotional skills for girls at age six years and sustained social-emotional improvements particularly for boys to age twelve years have also been recorded (Heckman et al., 2017). Specific programs targeting the parent-child relationship such as Parent Child Interaction Intervention (PCIT) have also demonstrated proven benefits for

vulnerable children aged two to seven years in terms of social/emotional development. A meta-analysis including 23 studies and 1144 participants found PCIT to have large effect size outcomes across multiple measures including parent-related and child-related stress as well as child behaviour (Thomas, Abel, Webb, Avdagic, & Zimmer-Gembeck, 2017).

The most profound and long-lasting benefits however have been associated with programs which offer centre-based early childhood education interventions, rather than home-visiting or case-based services (Wise, Da Silva, Webster, & Sanson, 2005). The High Scope Perry Preschool Project (PPP), implemented in Ypsilanta Michigan in 1962, provided 58 preschool children from low SES families who had IQ scores between 70-85, with intensive small group early education plus weekly teacher home-visits (Schweinhart, 2000; Schwienhart et al., 2005; Schweinhart & Weikart, 1990; Schweinhart & Weikart, 1997). Analysis of 35 years of data following participants to the age of 40 years has indicated that although the program did not mitigate sustained gains in IQ, highly significant and lasting changes were effected in "character skills" resulting in reduced aggressive, antisocial and rule-breaking behaviour (Heckman, Pinto, & Savelyev, 2013). These improvements in social/emotional development had positive impacts on education, economic, health and social outcomes with a resultant annual return on investment of between 7 and 10 % (Heckman, Moon, Pinto, Savelyev & Yavitz, 2010; Nores, Belfield, Barnett, & Schweinhart, 2005;). Similarly, the Abecedarian project in Chapel Hill North Carolina from 1972 to 1977, offered disadvantaged children an educational day-care intervention between the ages of 6 weeks and school entry (Campbell et al., 2012; Campbell, Ramey, Pungello, Sparling & Miller-Johnson, 2002). Experimentally evaluated "life-cycle benefits" of the program have indicated exceptional and sustained benefits in education, earnings, general adult health and reduced crime for participants in their mid-30s with a baseline rate of return at 13.7% (Campbell et al., 2014; Garcia, Heckman, Leaf, & Prados, 2017).

Further, the evidence suggests that the most effective approach to early intervention is integrated service provision (Oberklaid, Baird, Blair, Melhuish & Hall, 2013). Shonkoff and Phillips (2000) reported that "programs that combine child-focused educational activities with explicit attention to parent-child interaction patterns and relationship building appear to have the greatest impact" (p. 244). Carrey, Curran, Greene, Nolan and McLuckie, (2014, p.3) observe that "even the most rigorously tested programs with high fidelity (Nurse-Family Partnership) must be part of a comprehensive approach". Several factors including poor continuity of care across developmental phases, lack of "two generation models" with parallel services for parents and children as well as inconsistent staff qualifications and training have been noted as hinderances to the provision of quality integrated care (Carrey et al, 2014).

Finally, a trauma-based approach is considered essential in the management of families where there are multiple risk factors and intergenerational stress (Amaya-Jackson, 2016; Hambrick, Brawner & Perry, 2019; Perry, 1995; Perry, 2009; Shonkoff et al., 2012; Zarnello, 2018). The Neurosequential Model (NM) is a neurobiology-informed approach to clinical problem solving which is developmentally sensitive. The model, developed by Perry (2006; 2013; 2014) is not designed as a specific therapeutic technique or intervention but rather a tool to inform case planning for clients who have experienced early childhood trauma and their families. Evidence has emerged regarding the value of this "bottom-up" approach which focusses directly on the client's neuro-developmental organization starting from

the lowest level of identified impairment then informs the progression of intervention following an appropriate neuro-developmental sequence. (Hambrick et al., 2018; Hambrick et al, 2020; Perry, 2015; Perry & Dobson, 2013).

Despite these strong indications that comprehensive integrated care across multiple domains of early intervention is best practice, there continues to be surprisingly limited research conducted evaluating programs offering this model of care. The Centre for Independent Studies highlighted the scarcity of evaluations which examine the impact of intervention via standardised outcome measurement and the absence of long-term program evaluation. It was noted that this makes it impossible to "determine which programs are effective, let alone generate benefits in excess of their costs" (Jha, 2016, p. 19). McLuckie et al (2019) identified "5 pillars of direct practice for children 0-5 at risk for experiencing mental disorders" (p. 12) each with similar aims for children, parents and families however noted limited efforts toward integration or co-ordination of these programs and interventions.

The Dalwood Spilstead Service (DSS) functions as a tertiary unit of the Northern Sydney Local Health District (NSLHD), in Sydney Australia. In response to international evidence the Spilstead Model (SM) of early intervention, was designed in 2004 in order to maximize the benefits of the three primary evidence-based interventions for vulnerable families and children at risk, within a comprehensive, integrated and trauma-informed approach. The SM combines parent support including distinct father services, home visiting, and parent-child attachment interventions with multi-disciplinary centre and home-based early childhood education and development programs, in an environment of family centred and relational practice. This "one stop shop" (French et al, 2005; Hetrick et al,2017; Jha, 2016.; Ovretveit, 2011) program is unique in its ability to provide a holistic approach with all services for both parents and children provided under one organisation and one team. This enables optimum engagement with families and ensures maximum co-ordination and consistency of service delivery. In addition, the single team model enhances the creation of a therapeutic milieu of predictable, co-regulating and relational care for both children and families (Mahoney, Palyo, Napier, Giordano, 2009; Thomas, Shattell & Martin, 2002; Walker, 1994).

The DSS is certified at the advanced Phase II (Train The Trainer) level in the Neuro-sequential Model Network (NMN) through the Child Trauma Academy USA (Gwynne, Duffy, Dowling, & Howitt, 2020). NM of Therapeutics (NMT) assessments are offered for both parents and children in order to inform case management and the provision of the most relevant bottom-up approaches to trauma and the development of self-regulation.

The independent evaluation of the NSW Brighter Futures program conducted by the Social Policy Research Centre in 2010 further identified the SM in Northern Sydney as achieving superior results in family engagement and retention, family goal achievement and cost effectiveness with a greater range of services provided at a lower cost (Hilfery et al., 2010). The cost benefits of this integrated single governance approach have persisted. A review commissioned by the NSW Ministry Of Health and conducted by Oxford University concluded that the SM represented an advance in child protection services in NSW, and that it should be extended more widely across NSW and Australia (Melhuish, 2014).

1. Pilot Research

Pilot evaluation of an early intervention programme for children at risk

Kerry Gwynne,[1] Bijou A Blick[2] and Gabrielle M Duffy[3]

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Aim: Children from vulnerable families, where there is social disadvantage, parental mental health problems, substance abuse or domestic violence, are at risk of attention, language, learning and behaviour problems because of poor attachment and lack of stimulation in the early years. Three primary modes of early intervention have been shown to produce sustained improvements in children's health, education and well-being despite these risk factors. This pilot aimed to evaluate the Spilstead Model (SM) of early intervention in Australia, which provides a uniquely integrated model of centre-based care, incorporating all three best-practice approaches.

Method: The study targeted all new clients who attended the SM programme over a 12-month period. A battery of standardised clinician and parent-rated measures assessed parent, child and family functioning via pre-post test research design.

Results: Results indicated large effect size changes ($P < 0.01$) in parent/child interaction; reduced parent stress; parental satisfaction; parent confidence; parental capacity; family interactions; child well-being; and total family functioning. A total of 71% of children who presented on initial developmental screening with delays in the clinical range were found to be within the normal range on post-testing; 41% moved from the below average range to scores within the normal range in language development. Parents noted improvements in externalising behaviours of large effect size (1.46).

Conclusions: (i) Results were highly positive for both children and parents; (ii) the synergistic nature of the SM may have the potential to maximise outcomes for families via a cumulative programme effect; and (iii) implications for further research were established.

Key words: child at risk; early intervention; outcome measurement.

Children from vulnerable families, where there is social disadvantage, parental mental health problems, substance abuse or domestic violence, are at risk of attention, language, learning and behaviour problems because of poor attachment and lack of stimulation in the first 5 years.[1–4] Research has shown that these children can later demonstrate emotional disorders, school failure and conduct problems.[1,3,4,5–8]

Studies of early brain development[1,2] have helped to explain this 'developmental emergency' in terms of the impact of early experience on the development of the infant's brain architecture.[1,2,3,9] Children who have experienced prolonged maltreatment or trauma in these crucial first years are considered to be the most significantly 'at risk' because of the effects of cortisol and the early cementing of the Limbic-Hypothalamus-Pituitary-Adrenal axis and autonomic nervous system pathways.[10–12]

Key Points

1. Review of evidence-based service delivery for children at risk in the early years.
2. Model based on single governance and integration of service delivery.
3. Positive outcomes for families and children with large Effect Size results.

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There is a growing body of evidence, however, indicating that early intervention services can produce sustained improvements in children's health, education and well-being despite these risk factors. Three primary modes of effective intervention have been identified: (i) parent–support and home-visiting services; (ii) parent–child attachment interventions; and (iii) centre-based early childhood programmes. Historically these have been trailed as stand-alone programmes however integrated service delivery models are emerging.[2,3,13–18]

Direct mediatory and moderating influences on children's behaviour and development have been evidenced as a result of several parent-support programmes, which provide relationship-based support for high-risk mothers.[19–24] The Olds, a 20-year 'Nurse Home Visiting Program', research confirmed the value of professional parent support via regular home visiting for young, single first-time mothers.[23] Rates of child abuse and neglect were reduced, while parent health and employment potential improved. At 15 years, the children demonstrated reduced antisocial behaviours. Family-centred practice and a strength-based approach are considered key.[2,4,24,25]

Positive outcomes have also been reported for both parents and children as a result of interventions, which directly target the promotion of parent–child attachment. The structured Parent–Child Interaction Therapy Program developed by Eyberg in the 1970s has been the most extensively evaluated, with

results indicating strong evidence for improvements in behaviour and emotional development for vulnerable preschool children.[26,27] Toddler-Infant Psychotherapy, Interaction Guidance and the Watch, Wait and Wonder programme also have been shown to promote positive changes in the parent–child relationship as have programmes that incorporate video feedback.[28–32]

On reviewing the efficacy of early childhood intervention in 2005, the Australian Institute of Family Studies concluded, however, that the most 'positive effects on child outcomes were the result of centre-based interventions, as opposed to home-visiting or case management interventions'.[33] This evidence stems from three renowned US centre-based early intervention programmes, which have been evaluated against control group peers longitudinally via randomised allocation design.

The High Scope Perry Preschool Project, implemented in Ypsilanta Michigan in 1962, provided 58 preschool children from low socio-economic status (SES) families who had IQ scores between 70 and 85, with intensive small group early education plus weekly teacher home visits.[34] Results at age 40 years indicated highly significant programme benefits in terms of educational attainment, earnings, reduced criminal activity and lower welfare receipts. The Abecedarian project in Chapel Hill North Carolina from 1972 to 1977 offered disadvantaged children an educational day-care intervention between the ages of 6 weeks and school entry. The experimental impact study indicated that, by 21 years of age, the experimental group experienced durable gains in IQ, academic achievement and tertiary education.[35,36] Finally, the Chicago Child–Parent Centre Program provided comprehensive educational services plus some family support to children from low-income families aged 3–6 years. At the age of 22, participants demonstrated higher education, lower rates of violent arrests and school dropout. A cost-benefit analysis of these programmes has indicated a return of $3.78–17 for every $1 invested.[34,37]

An integrated approach to interventions for vulnerable families and children at risk has increasingly been discussed.[2,3,13–17] Shonkoff and Phillips reported that 'programs that combine child-focused educational activities with explicit attention to parent-child interaction patterns and relationship building appear to have the greatest impact'. The integration of health and educational services has further been recommended by the Organisation for Economic and Co-operative Development (OECD)[32] and introduced into nine OECD nations. Evaluation of the UK Sure Start Local Programs (now Sure Start Children's Centres) has endorsed the Integrated Children's Centre model, which incorporates early learning (including special education), child and family health services and family-support services.[2,15,16,38]

In response to this evidence, the Spilstead Model (SM) of early intervention in Sydney has been designed to maximise the benefits of these best-practice interventions within a comprehensive integrated centre-based approach. The SM combines parent support, home visiting and parent–child attachment interventions with multi-disciplinary centre-based early childhood programming, in an environment of family-centred and strength-based practice. As a tertiary unit of the Northern Sydney Central Coast Area Health Service, this 'one stop shop' programme is unique in its ability to provide holistic yet intensive services for both parents and children under one service umbrella and located on the one site. This enables optimum engagement with families and ensures co-ordination and consistency of service delivery.

The service is targeted towards those families with complex parental issues (i.e. mental illness, substance abuse, domestic violence, social isolation/CALD background) and children under school age who are experiencing social, emotional or developmental delays/disorders. These families present with a multiplicity of both parent and child risk factors plus early indicators of poor childhood resilience.[1,2,3,9]

Evaluation of this resource intensive model is essential, however, to validate its potential benefits within the Australian context. This pilot aimed to establish procedures and a determining sample size for a more extensive study. A pilot study with 20–30 degrees of freedom for error was recommended for obtaining reliable sample-size estimates.[39]

Method

The study targeted all new clients who attended the Spilstead programme during 2005/2006. Clients were drawn from the Northern Beaches region of Sydney, which has a fairly homogeneous population with only 11% from non-English-speaking backgrounds.[39] Clients were referred by a range of professionals including health welfare and educationalists. Consent was obtained, with only clients who participated in the programme, for a full 12 months. A research development steering committee of infant mental health, child development experts and biostatistician established the following evaluation regime, incorporating standardised and norm-referenced measures that demonstrated strengths in both reliability and validity:

- The Parent Stress Index[40]
- The Being a Parent Scale[41]
- The Child Behaviour Checklist (18 mths–5 years)[42]
- The Brigance Developmental Screen[43]
- The Northern Carolina Family Assessment Scale[44]
- Norm-Referenced Language Assessments[45,46]
- Goal Attainment Scaling[47]

Specific Speech Pathology measures were utilised to assess the children's individual speech and language skills.[47] Goal Attainment Scaling, which measures both the appropriateness of the goal setting for the sample, as well as the overall achievement of goals, was conducted for two child-focused and two parent-focused goals. Goal Attainment Scaling scores between 50 and 60 are considered optimal. Administration of the measures was conducted prior to service entry and again 12 months post admission.

Statistical analysis

Power analysis revealed that, in order to achieve a power of >0.8 at $P < 0.05$ level of significance and determine an effect size >80, a minimum sample size of 20 would be required.[48]

Pre- and post-test research design was utilised where each child or parent acted as his or her own control. Parent-rated tools were completed by the child's primary carer in each family. Clinician-rated measures were scored on post-testing by a non-treating therapist to reduce bias, and pre-post testing of

norm-referenced child developmental assessments were conducted by the same clinician in order to ensure inter-rater reliability. Results were analysed for statistical significance by using a paired two-sample *t*-test, by a separate research assistant who was blinded to the client referral and pretest details. The effect size of change on post testing was calculated.[48]

Intervention provided

Utilising a partnership approach, parents elicited their own goals before formally contracting with the service in regard to an agreed service plan. The core components of the SM included (i) family support provided by an allocated family counsellor who co-ordinated services for parents; (ii) allocation of an early childhood educator to address each child's needs; (iii) regular professional home visiting; (iv) parent–child interaction intervention; and (v) centre-based early childhood interventions.[49,50]

Parents attended individual counselling and psycho-educational group programmes such as Triple-P and supported playgroups, as well as more intensive parent–child interaction programmes via either home or centre-based interventions. A designated Dads programme optimised father involvement, and families in greatest need were also offered weekly volunteer home visiting by a trained support worker.[49,50]

Infants received weekly home-based early childhood education visits plus a weekly supported playgroup. Children between 2 and 6 years attended an early intervention preschool 2 days/week with a ratio of 1 teacher : 5 children. A relationship-based model of care promoting positive attachment and individualised educational programming with a strong literacy focus was provided. This programme was strictly designed in adherence with the seven features of best practice identified as key components of the Perry, Abecedarian and Chicago interventions.[33] Intensive Speech Pathology, Clinical Psychology, Occupational Therapy and Art Therapy interventions, as well as medical consultation with a paediatrician/child psychiatrist, were available as required.

Results

Twnety-three new client families were admitted to the Spilstead programme at Dalwood in 2005/2006. Of the 42 children within these families, 39 (92.8%) were less than 5 years, and 23 (54.8%) were less than 3 years of age. Six families (26%) were from Culturally and Linguistically Diverse (CALD) backgrounds, and two families (8.7%) reported an Aboriginal or Torres Strait Islander heritage. These percentages are significantly higher than the local demographic.[51]

All families were referred with both parental issues and child developmental delays. Table 1 summarises the presenting risk factors on referral and the children's pre-entry diagnoses.

Four families (17.4%) presented with only one parental risk factor. Twelve families (52%) presented with >3, and seven families (30.4%) had evidence of five or more parental risk factors.

Of the 39 under 5 years, 24 children (61.5%) (at least one from each family) presented with diagnosed developmental or emotional delays. Of these children, 20 were enrolled into the early intervention preschool programme, while 4 children under the age of 2 years received home-based early childhood education and therapy services.

Tables 2 and 3 summarise the results of pre-post analysis on measures of family functioning, including scales that were based on parent and clinician ratings, respectively. These results indicate that both parents and clinicians reported highly significant levels of change for parents as a result of the 12-month admission.

Pre- and post-developmental screening was conducted for 23 of the 24 children less than 5 years who received intensive early intervention during the study period. On initial assessment, 14 children (61%) demonstrated delays considered to be in the clinical range, at 1 standard deviation or more below the mean, on the Brigance Developmental Screen. A total of 39% demonstrated skills at 2 standard deviations or more below, and 22% were more than 2.5 standard deviations below the mean. On retesting, however, 11 of the 14 children (79%) had progressed at least 1 standard deviation or more in their skills, and 10 of these children (71%) had progressed from the clinical range of delay to the normal range for their age. Figure 1 illustrates the children's progress according to standard deviations on the Brigance Developmental Screen.

Pre-post Speech Pathology assessments were conducted for the 17 children who presented on intake with speech and language delays. Of the children, 11 (65%) demonstrated delays at

Table 1 Presenting family and child issues and diagnoses

Parent issues ($n = 23$ families)		**Child diagnosis** ($n = 39$ children under 5 years)	
Parent history and/or diagnosis	*n*	Child diagnosis	*n*
Current DOCS-managed child protection concerns	10	Global developmental delay	12
Parent with mental illness	13	Language delay	25
Parent with recent history/current drug and alcohol problems	7	Autistic spectrum disorder	7
Recent history/current domestic violence	10	ADHD	7
Isolated single parent	10	Emotional disorder, e.g. anxiety	19
Parent with intellectual disability or learning difficulties	3	Behaviour disorder	17
Severe parenting difficulties	21	Motor delay	13

ADHD, attention deficit hyperactivity disorder; DOCS, Department of Community Services.

Table 2 Results on measures of family functioning: parent-rated scales

Measure	Mean pre standard score	Mean post standard score	Effect size	*T*-test sig. level
Parent Stress Index – Short Form ($n = 21$)				
Parental distress	74.43	52.92	0.73	$P < 0.01$
Parent child interaction	87.24	60.05	1.38	$P < 0.01$
Difficult child	86.14	68.10	0.77	$P < 0.01$
Total stress	88.95	64	1.03	$P < 0.001$
Being a parent scale ($n = 16$)				
Parental satisfaction	3.24	4.47	1.099	$P < 0.001$
Parent sense of efficacy	4.14	5.36	1.204	$P < 0.001$

Table 3 Results on measures of family functioning: clinician-rated scale

Measure	Mean pre standard score	Mean post standard score	Effect size	*T*-test sig. level
Northern Carolina family assessment scale ($n = 21$)				
Environment	0.62	1.143	0.56	$P < 0.001$
Parental capacity	2.33	3.62	1.29	$P < 0.001$
Family interactions	–0.57	0.57	1.47	$P < 0.01$
Family safety	0.66	1.24	0.73	$P < 0.001$
Child well-being	–0.95	0.53	1.55	$P < 0.001$
Total family functioning	–0.76	0.38	1.67	$P < 0.001$

Table 4 Norm-referenced measures of child development

Measure	Sample size (*n*)	Mean Pre score (percentile ranking)	Mean post score (percentile ranking)	Effect size	T test sig. level
Brigance Developmental Screen	23	21.6	44.44	0.75	$P < 0.001$
CELF/PLS-4 receptive total	17	8.765	18.58	0.565	$P < 0.02$
CELF/PLS-4 expressive total	16	13.88	18.94	0.25	$P < 0.03$
CELF/PLS-4 total	17	10.35	15.94	0.33	$P < 0.03$

CELF, Clinical Evaluation of Language Fundamentals; PLS-4, Preschool language scales.

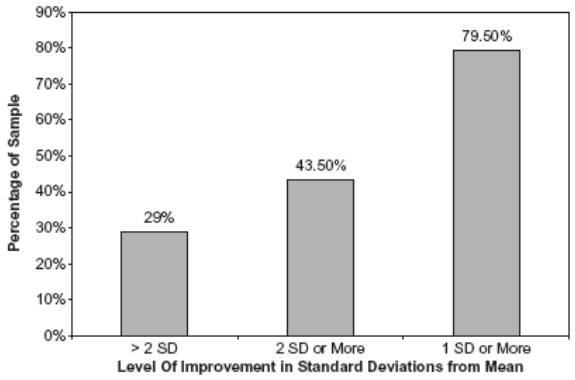

Fig. 1 Improvement on Brigance testing for children initially in clinical range ($n = 14$.).

>2 standard deviations below the mean on initial testing. The remaining 6 (35%) were found on pretesting to be 1–2 standard deviations below the mean. Of the children, 9 (53%) improved in one area or more of language development by at least 1 standard deviation on post-testing, and 7 children (41%) moved from the below average range to scores within the normal range for their age on at least one aggregate area of language development. Table 4 summarises the results of item referenced developmental and language assessments.

Table 5 records the results of changes in child developmental factors, on the parent-rated Child Behaviour Checklist. Parents noted large effect size behavioural improvements in the areas of attention, aggression and externalising behaviours.

The Goal Attainment Scaling results summarised in Table 6 indicate that the service was able to set and achieve appropriate goals with clients at an optimal level.

Table 5 Results on child development measures: parent-rated scale

Measure	Mean pre score	Mean post score	Effect size	*T*-test sig. level
Achenbach child behaviour checklist empirical scales ($n = 21$)				
Reactive	61.5	58	0.52	$P < 0.05$
Anx./depression	58	55	0.26	$P < 0.1$
Somatic	54.7	54.2	0.09	$P < 0.05$
Withdrawn	65.6	58.4	0.82	$P < 0.001$
Sleep	58.7	54.7	0.53	$P < 0.01$
Attention	62.9	53.5	1.37	$P < 0.001$
Aggression	67	55.3	1.26	$P < 0.001$
Achenbach composite scores				
Internal	61	54.5	0.73	$P < 0.001$
External	65.7	52.5	1.46	$P < 0.001$
Total	64.5	47	2.01	$P < 0.001$

Table 6 Goal attainment scaling results

Goal Attainment Scaling	Sample size	No of goals measured	Standard score	Significance of goal setting	Significance of goal attainment
Child goals	23	2	60.65	High	High
Family goals	21	2	55.76	High	High

Discussion

The limitations of this kind of pilot are numerous. The small size of the sample and lack of control group comparison prohibit conclusive evaluation of the intervention model. Administration of the item-referenced clinical measures by an independent blinded researcher and inclusion of a more comprehensive psychometric assessment of child development would have been optimal. The results of this study indicate, however, that, despite the modest sample size, the battery of measures devised able to effectively investigate a range of family and child variables on both parent- and clinician-rated measures.

The outcomes for both children and parents following their participation in the SM of early intervention were found to be positive.[2,33] The large effect size results reported in relation to parental stress, parent/child interaction, parent's sense of confidence and satisfaction and total family functioning were achieved despite the relatively short duration of the programme.[2,33] The children's improvements in behaviour, language and overall development were also remarkable. Many of them would not be eligible for disability services.

These outstanding results would appear to mirror the emerging evidence from overseas in regard to the value of integrated centre-based interventions.[13,14,15,16,17,33,38] The synergistic nature of the SM, which combines the three primary best practice modes of intervention, may have the potential to maximise outcomes for families via a cumulative programme effect. As demonstrated in prior research, positive benefits in regard to long-term life outcomes for programme participants would be anticipated as well as substantial long-term cost-benefit savings to the community.

It should be noted that this model of service delivery has benefitted from governance within Child and Family Health. The advantages of the health framework where multidisciplinary and multimodal interventions are routine and services can be co-ordinated across the life-span cannot be overstated. Indeed, health services may be in a unique position to truly facilitate a seamless continuum of care from early identification of risk to intensive intervention. The SM is critically enhanced by collaboration between health and early education services.[32]

There are many implications for further investigation. A more extensive study incorporating a cohort of clients whose progress could be measured across several years of intervention would ensure a more detailed analysis of individual service components. Comparative data collection from a matched sample of families receiving alternative models of care would enable comparison of secondary versus tertiary services, and longitudinal follow-up studies replicating those conducted overseas are required to evaluate sustainability of outcomes over time. In the interim, this pilot has indicated that the SM demonstrates the potential for achieving positive outcomes for vulnerable families and children at risk in the Australian context.

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Resources

Approximately 40% of funds are provided by community bequests, sponsorship and donations.

The program is further supported by:

- 30 preschool aide volunteers
- 36 home visiting volunteers
- 6 retired teacher volunteer tutors
- Regular donations of equipment and materials from the Dalwood Auxiliary

Hooray! We've got a new playground!

Benefactors

The Spilstead Service is grateful to a large number of individual and organisational benefactors for their commitment and regular support including:

- The Dalwood Auxiliary
- The Rotary Club of Balgowlah
- The Dalwood Dog Show Committee and Pedigree Community
- The Balgowlah RSL Club
- The Osborne Family
- Norman Disney and Young
- The Roth Charitable Foundation
- The Sabemo Trust
- The Ainsworth Foundation
- The Skal Club of North Sydney
- The Fairbridge Foundation
- The Manly Warringah Leagues Club
- The Dee Why RSL
- The McLean Foundation
- The Forestville RSL
- Ruach Ministries
- The Wiles Family
- The Copp Family
- The Lane Family
- Manly Council Staff
- Myer, Warringah Mall Staff
- The Warringah Mall Club
- The Thomas Family
- The St George Foundation
- The GIFT Group
- The Balgowlah Sisterhood
- The HG Foundation

"THE TRUE MEANING OF SPILSTEAD"

Time has passed so quickly,
but memories shall always stay,
Of a place that helped our children,
To grow in every way.

A place that taught them laughter,
Respect and honesty,
Caring, kindness and understanding,
and the importance of being free.

Free from any fear they feel,
Free form any pain,
To be themselves, to grow, to learn,
To never be ashamed.

Through education, imagination,
laughter, fun and tears,
You taught our children, no trepidation,
But ways to confront their fears.

Change became so obvious,
As time progressed each day,
their learning became insidious,
Through the act of simple play.

As parents we were taught to hope,
To eliminate "fear of failure".
We were listened to, we were understood,
and we modified our behaviour.

For what chance is there for any child,
If a parent cannot see,
It is us that they look up to,
It is us that set them free.

For our children are the seeds we planted,
Through a simple act of love,
In the hope that one day...their spirit will grow,
Like the essence of, a peaceful dove.

Mrs D. Leckie 2004.