IN THIS ISSUE

- Family Partnership Model: Connecting and working in partnership with families
- Building positive, lifelong attachment bonds
- Linking motor development in infancy and early childhood to later school learning
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President’s report

Julian Grant
President, MCaFHNA

What an exciting time we are having as a specialisation! We are pushing forward with our strategic goals and creating our place in the future of child and family health care in Australia. Australia’s health workforce is changing in both the primary health care environment and in the multidisciplinary space of the early years. Our goal is to be front and centre in both of these spaces. In this report I present our most recent achievements and briefly outline our plans for the future.

Our recent fifth biennial conference Connections; with Families, with Communities, with Colleagues was an enormous success, with over 650 registrations. Held in Canberra to celebrate their centenary, the most exciting part of the conference for me was the reality of the connections being made! I left with an overwhelming sense of nurses from all states and territories wanting to band together more strongly to present the voice of maternal, child and family health nurses in Australia. Also of significance were the improving quality and number of presentations by child and family health nurses for child and family health nurses. This means that many of us are working hard to develop a body of evidence to underpin our practice.

Announced at the conference were our two major achievements since the last journal. These are the announcement that we have ratified our name change and that we have ratified our change in constitution. Both of these achievements address our organisation’s goals to “unify us nationally as a group while respecting and maintaining the value and contribution of individual states and territories” and to “raise the profile of our organisation within the profession of nurses and midwives, the community of child health professionals, employees and consumers”.

We believe that by changing our name from the Australian Association of Maternal Child and Family Health Nurses (AAMCFHN) to Maternal, Child and Family Health Nurses Australia (MCaFHNA) we have rebranded ourselves with a name that has a marketing advantage of being able to be spoken freely and quickly, be remembered and that still represents our work. There was significant debate around the inclusion or exclusion of the word ‘maternal’ in the title. Indeed the majority of states and territories no longer include ‘maternal’ in their work-based title. However, if we are to be truly inclusive and represent the work of all our members, our name also needs to be inclusive. As such ‘maternal’ has remained. Our understanding is that the new title represents child and family health nurses, as much as it represents maternal and child health nurses.

The changes in our constitutional rules mean that for the first time, every member of a state or territory group is also a member of MCaFHNA. Until now the national group only had a membership of two elected members from each state or territory. This change is representative of our respect and value of all existing state and territory groups and the work that they do. They will remain in the hands of their state and territory members. The added bonus is that membership now offers everyone additional membership to the national body. A membership of over 1000 compared to one of 16 significantly improves our lobbying capacity and our representation on national boards and committees. We are currently ironing out the details of capitation/payment, national distribution lists, and a secure web log-on for all members. For now check out http://www.mcafhna.org.au/ Visual changes to represent our diverse population are on their way.

Our plans for the coming months include working on a range of position papers and most importantly working to develop a set of national practice standards. We have set up a project working group and would ask all members to consider if you would like to contribute to this very important activity. If you are interested, please contact your local state or territory representative and let them know. We are supported in principle for this through the Coalition of National Nursing Organisations (CoNNO) and the Australian Nursing Federation (ANF). We do, however, need funds to support us to progress. If you have any ideas, please speak to your representatives.

Given that this very special journal edition covers a range of presentations that brought us together at the conference I will leave the report for now. Happy reading.
Connections was the theme of the recent national conference held in Canberra on 9–11 May and this was indeed an opportunity for us to connect with our colleagues in other states and territories. Coming together at a conference is also an opportunity for maternal, child and family health nurses to celebrate who we are and what we stand for.

This was the fifth biennial conference held by the association. The first was held in Melbourne in 2005 and the theme of that inaugural conference was Coming together nationally. At the time the association was barely nine years old and it was a brave initiative on the part of the then committee to commit to the expense of holding a major conference. There was much discussion about how many nurses would attend this inaugural conference, and to the committee's surprise and delight, over 500 registered. Since then the national conference has gone from strength to strength and is now an established event on the maternal, child and family health nursing calendar, with over 650 delegates attending this year.

It is instructive to reflect on why the national conference has been so enthusiastically embraced by maternal, child and family health nurses across Australia. I would like to think it is because we recognise the common purpose for which we all strive, which is the health and wellbeing of families with young children in our communities. These shared goals unite us and make us strong as a national group. The history of our respective states and territories has dictated our employment circumstances and this tends to accentuate the differences between us, yet we should remember there are more commonalities between us than differences. We must continue to 'connect' so that we emphasise the positives and work together towards our common goal nationally.

This issue of the journal brings to our readers the papers of three distinguished keynote speakers from the Canberra conference. I wish to thank Dr Crispin Day, Professor Paula Barrett and Dr Jane Williams for making the papers from their presentations available for publication in the journal. Dr Day has given us continuing insights into the Family Partnership Model that will prompt us to reflect on our practice. Professor Barrett reminds us that the foundations of our ability to connect with others are learned in infancy in our first relationships. Dr Williams calls our attention to the connection between motor development in infancy and early childhood and later literacy and learning.

The next issue of the journal will contain three further papers from conference keynote speakers. Providing the full papers from six keynote addresses will not only remind our members of the enjoyable time they had at the Canberra conference, but will enable them to read and reflect again upon the conference theme and content.

From the editor’s desk

Carolyn Briggs
Editor

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Family Partnership Model
Connecting and working in partnership with families

Abstract
The Family Partnership Model (FPM) is a well-established, evidence-based framework for goal-orientated, partnership practice (Davis & Day 2010). It provides maternal, child and family nurses and parents with a clear and structured method to navigate and make sense of the process of helping. This paper reviews the core components that underpin FPM partnership practice, the Model’s helping process, the essential practitioner qualities and skills and the development of FPM tools and guides. Evidence from routine evaluation indicates that the Model is strongly endorsed by many trained practitioners. This paper goes on to summarise the findings from a number of recent qualitative and ethnographic studies that have examined the processes and challenges of integrating and using FPM in routine practice. The sustained use of FPM requires courage from practitioners to redefine their role and practice so that it reflects the values and methods of the Model. This is more easily achieved when nurses receive effective supervision, supported by the FPM Reflective Practice Handbook, and dedicated support and resources of their organisation.

Keywords: Child, family, outcomes, evidence-based practice, therapeutic alliance.

Introduction
This paper will summarise a number of important concepts that underpin the Family Partnership Model (FPM). It will then review some of the challenges that arise for practitioners and their services when FPM is used in practice.

An effective partnership between parents and maternal, child and family nurses is essential if mothers and fathers are to succeed in giving their children the best possible start in life. This is because parents’ decisions and choices determine whether they take advantage of universal health care or seek help from nurses when they are struggling or concerned about their children. It is also parents who make choices about their depth of engagement with health practitioners and their participation in care.

As a consequence, parents determine how the skills, knowledge and experience of practitioners can be used. For example, what parents disclose about their situation determines practitioners’ assessment and judgement and how they subsequently use their knowledge and expertise. Mothers and fathers who are confident and comfortable will fully confide their child’s development and their journey as parents, making it easier for practitioners to employ their skills to best effect. Parents who are wary or even hostile will be more cautious and circumspect, resulting in practitioners offering help on the basis of a partial and incomplete picture of a family’s situation.

The challenge of developing effective partnership relationships is reflected in the frequent discrepancies between the mental health care intervention priorities of parents, children and practitioners (for example, Hawley & Weisz 2003). Furthermore, the drive towards the standardisation of care and concerns about professional and managerial authority and autonomy can also constrain the way that practitioners and services are willing and able to engage openly and successfully to meet families’ expressed needs and priorities.

The most consistent predictors of successful health care engagement and outcomes are the interpersonal qualities and skills of practitioners, the characteristics of the relationship and therapeutic alliance (for example, Cahill et al. 2008; Castonguay & Beutler 2006; Karver et al. 2006) and the use of structured and goal-orientated interventions for people with long-standing and complex difficulties.

The eye of the beholder
The challenge of building and maintaining effective parent-practitioner partnerships is further underlined by the subjective and personal way in which we, as humans, process information about our experiences (Mahoney 1991). Personal, subjective constructs fuse together feelings, behaviour and beliefs. They evolve to help make our experiences of the world, ourselves and other people more predictable, meaningful and less threatening. As a consequence, humans actively, though not necessarily...
consciously, construct and make sense of their experiences, paying selective attention to those that are more familiar and of greater personal significance. These processes begin early, for example, infants almost immediately spend more time looking at their mothers than other people and respond differentially to the sound of their mother’s voice. A sensitive parent who enjoys parenthood will notice and attribute positive meaning to tiny changes in her baby’s cries, whereas a stressed parent who feels overwhelmed may not notice these changes in inflexion and may feel pestered and harassed by her baby’s cries.

This innate drive to interpret and make sense of the world affects the meaning that parents and practitioners give to their encounters with each other. Some parents may be more sensitive, guarded or even antagonistic with practitioners because of past experiences and concerns. Some practitioners may attend more closely and selectively to issues of child safety and family difficulties rather than, for example, family resourcefulness and competence.

Personal constructs that are sufficiently supple to adapt to and accommodate new experiences tend to be more helpful and effective compared to constructs that are rigid, inaccurate and inflexible. A mother who has repeated experiences of feeling let down by others is likely to be more sensitive to and more likely to interpret actions of a nurse as being signs that she too is unreliable or untrustworthy. As a consequence, the mother may be more guarded and cautious towards the child and family nurse. Parents, like all of us, do not deliberately hold unhelpful or inaccurate constructs; they do so, predominantly, to protect themselves from potential harm. Deeply held constructs need, firstly, to be respected and appreciated rather than disregarded or directly challenged, so that we can see the world as parents see it (Davis & Day 2010). This mother may subsequently modify her construct if the child and family nurse consistently demonstrates her reliability and trustworthiness to the mother by what she does.

The FPM

The FPM is a well-established, evidence-based framework for goal-orientated, partnership practice (Davis & Day 2010). It aims to provide a clear and structured method to navigate and make sense of the process of helping. Its fundamental components are represented in Figures 1 and 2.

In contrast to many disorder-specific programmes, FPM has intentionally sought to address the varied and multiple outcomes of real families in the real world. These outcomes may range from clarifying and managing child and family difficulties, increasing family resilience, improving wider family and social support and increasing the effectiveness of multiagency involvement and, in doing so, ensuring that FPM does no harm. FPM is future- and goal-orientated rather than concentrated on understanding past experience. It concentrates on helping parents move forward, and “get out of the hole that they may have found themselves in, rather than explore the reasons for why they found themselves in the hole in the first place” (Day, Ellis & Harris 2011; Ellis & Day 2013). In common with other approaches that use an ecological approach to human development (Bronfenbrenner & Morris 2006), FPM is not solely problem-focused but interested in the way that family resilience interacts with risk factors to affect and improve child and family outcomes. It has mainly been used across the professionals working with children and families but has, more recently, been used in the fields of adult mental health and learning disability. The impact and outcomes of the model have been evaluated in

Figure 1: The FPM helping process
a number of successful randomised and comparative trials over a 20-year period (for example, Davis & Spurr 1998; Davis et al. 2005; Barlow et al. 2007; Kemp et al. 2011).

FPM is underpinned by a structured but non-linear helping process (Figure 1), in which the building and maintenance of a working partnership between the helper and the family is central to the successful accomplishment of the other tasks of helping. The FPM assumes that the strength and effectiveness of this partnership determines the way in which the other tasks of the helping process are addressed, negotiated and completed. While Figure 1 sets out the sequence by which the tasks of the helping process are undertaken, the FPM does not expect each subsequent task to be fully completed before moving onto the next. The child and family nurse does not need to fully explore a family’s entire circumstances before moving on to the development of a shared understanding. In most circumstances, parents and practitioners need to have undertaken sufficient exploration to develop an adequate and accurate understanding of significant aspects of the family’s circumstances and needs. This sufficient understanding then forms the basis for negotiating family goal-setting, strategy planning, implementation and progress review. Each subsequent task progresses the helping process as well as reveals more knowledge and experience to enrich the parents’ and practitioners’ exploration, understanding and subsequent development of further goals, if appropriate. Our recent work suggests that enabling families to achieve carefully chosen, very early change through carefully selected goals, or ‘quick wins’, has the effect of galvanising parents’ hope and reinforcing the value of the parent–practitioner partnership.

Partnerships are neither client- nor practitioner-led but genuinely seek to successfully combine the knowledge, expertise and experience of both parents and professionals. Partnership does not mean parity or equal contributions. There will be instances during the helping process when parents are much more knowledgeable than the nurse, and other occasions when the reverse is true. Of central importance is that parents and practitioners work closely together openly, explicitly and in a negotiated way, especially when fundamental differences and disagreements exist. In developing the concept of partnership, we have sought to contrast this with expert, dependent, adversarial, and avoidant parent–practitioner relationships.

The early tasks of the helping process — partnership, exploration and understanding — often lead to spontaneous, unpredictable forms of change (Harris & Day 2012). Encouraging parents to explore and reflect on their circumstances and situation stimulates new thoughts, insights and ideas: that is, adaptation and modification of constructs. At the same time, practitioners may also adapt and modify their constructs about the parents, their circumstances or even themselves as helpers. The capacity to generate these unprompted changes appears to be strongly related to practitioners’ ability to listen, to encourage parents to talk and accurately capture and share parents’ experiences and, in doing so, resist the temptation and urge to control and direct the conversation, problem solve and give advice.

FPM (Figure 1) also relies on helping parents to achieve more clearly planned and focused change through undertaking the tasks of goal setting, strategy planning, implementation and review. This enables families to focus their energy and efforts on
that is genuinely involved and in touch with parents’ experience, that is, felt as caring, encouraging and sustaining; (ii) connected, various helping roles in which they are perceived as (i) supportive, They need to be able to occupy, move between and balance the helping process require agility from child and family nurses. A successful partnership and the ability to guide parents through what we think. capacity to work in partnership that has most meaning rather than process, that is, it is what parents say about our qualities, skills and experienced by parents that has most significance for the helping process, that is, practitioners’ capacity to demonstrate them to families, particularly in partnerships that they experience as more difficult and challenging, such as when practitioners feel threatened, anxious, or have antipathy or anger towards parents. However, consistent with construct theory, it is the way in which the qualities and skills of the practitioner are construed and experienced by parents that has most significance for the helping process, that is, it is what parents say about our qualities, skills and capacity to work in partnership that has most meaning rather than what we think.

A successful partnership and the ability to guide parents through the helping process require agility from child and family nurses. They need to be able to occupy, move between and balance various helping roles in which they are perceived as (i) supportive, that is, felt as caring, encouraging and sustaining; (ii) connected, that is, genuinely involved and in touch with parents’ experience and circumstances; (iii) facilitative, that is, capable of enabling things to happen and making things easier; (iv) influential, that is, the capacity to inspire, enthuse and motivate; and (v) purposeful, that is, to be focused, determined and tenacious.

**Adopting FPM and use in practice**

FPM is widely recognised in national and state policy in the UK, Australia and New Zealand. Manualised FPM programmes exist for training practitioners, supervisors and facilitators. As a result, FPM has been successfully disseminated to thousands of practitioners across Europe and Australasia. The FPM’s capacity to effect child and family outcomes is influenced by three interrelated factors (Kirkpatrick 1994): (i) the capability of the FPM and its training programmes to generate practitioner interest and endorsement, (ii) the ability of practitioners to acquire key FPM knowledge and skills, and (iii) the capacity of practitioners to effectively and successfully incorporate the Model into routine ongoing practice. Evidence for generating practitioner interest and endorsement is strong. Table 1 shows the high ratings of interest and endorsement that FPM receives from practitioners. For example, routine training evaluation indicates that over 90% of practitioners recommend FPM training programmes (Table 1). Evidence from routine training evaluation also shows that practitioners significantly increase their knowledge of FPM as well as their commitment towards the Model (Table 2). The routine evaluation of skills acquisition is more complex to evaluate, though we have long-standing evidence that FPM training is associated with significant improvements in practitioner skills, qualities and self-efficacy (for example, Davis et al. 1997).

More recently, a series of ethnographic and qualitative studies have examined the integration of the FPM into routine practice and its sustained use over time (Fowler et al. 2012; Harris & Day 2013, Rossiter et al. 2013; Hopwood et al. 2013). These studies have provided an exciting and interesting perspective on what is takes for practitioners to adopt and integrate FPM into practice. The first striking feature is that adoption of the FPM by practitioners not only involves embracing the theoretical concepts and associated

| Table 1: Practitioner interest and endorsement of FPM after Foundation training |
|-----------------------------------------|------------------|------------------|
|                                       | Post-Foundation training rating mean (SD) | % of practitioners who strongly/very strongly agree |
| Practitioner recommendation of FPM training (scored 1–5)¹ | 4.7 | 97.6 |
| FPM is useful to my everyday practice (scored 1–5)¹ | 4.6 (0.7) | 93.2 |
| Confidence in using FPM (scored 1–4)¹ | 3.4 (0.5) | 99.7 |
| FPM will help me to be more effective with families (scored 1–6)² | 4.1 (1.1) | 85.9 |
| FPM is an appropriate approach for families (scored 1–6)² | 4.1 (0.8) | 83.3 |
| Families will benefit from FPM (scored 1–6)² | 4.1 (1.0) | 82.8 |
| Likely to regularly use FPM with families (scored 1–6)² | 3.8 (1.1) | 75.9 |
| FPM is easy to adapt to meet the needs of families (scored 1–6)² | 3.8 (0.9) | 66.7 |

¹ FPM Foundation course evaluation measure items (n=308)
² FPM in practice questionnaire items (n=163)
skills and qualities of the Model but also requires an emotional commitment and attitude of mind on behalf of practitioners to redefine their way of working with families. Practitioners need to relinquish the role of expert and adopt the role of partner, exercising restraint on giving advice and solutions, promoting a shared approach to expertise, and facilitating rather than directing parents towards achieving successful outcomes and change. It requires courage and strength to openly examine and reflect on practice, manage the desire to guard and protect existing knowledge, and to invest trust in and learn from parents.

The adoption and use of FPM is as much a personal, emotional journey for practitioners that needs to be respected and appreciated as an exercise in learning and knowledge acquisition. Using FPM in practice is not simply a process of implementing a set of skills and procedures with parents. It requires ‘living practice’ in which practitioners remain alert and considered about the way that they use and adapt the FPM to the needs of individual families and confidently manage the ensuing dilemmas and challenges involved in working with parents and children who have complex lives and difficulties. These can include building sound partnerships in which practitioners can contribute their own observation and seek parental expertise without alienating parents or becoming an expert, and remain supportive and connected to parents’ experiences while maintaining purpose, thus facilitating change and influencing and challenging parents appropriately.

Recent advances in FPM practice have been marked by the introduction of a series of practice tools and guides. The tools and guides are a clear, flexible and parent-friendly way for parents and practitioners to explore and accomplish the core tasks of the helping process. They encourage openness from the start between practitioners and parents about what FPM is and the Model’s methods and the tasks of helping. They are an explicit reminder about the FPM’s core content and process that enable practitioners and parents to maintain the course and purpose of FPM more easily. They also allow practitioners to work alongside parents rather than lead them through the tasks of the helping process, so that practitioners and parents can concentrate on how they are working in partnership. In using the tools and guides, practitioners need to continue to be thoughtful and sensitive about the way in which they employ their skills and qualities to build effective partnerships and avoid the risk of expert leading and becoming instructive.

The FPM Reflective Practice Handbook (Day & Davis 2009) is now widely used by practitioners as the basis for FPM casework reflection and discussion about the use, quality and effectiveness of FPM with families. The Handbook summarises the Model and includes the FPM summary sheet that captures information for practitioners about the time and energy directed towards each of the tasks of the helping process for each parent with whom they are working. Over time, the summary allows practitioners and supervisors to examine the flow through the helping process and to identify successful, effective practice as well as potential challenges and blocks. The summary sheet is used in conjunction with a set of reflective practice prompt sheets that encourage individual, peer and supervised reflection about specific aspects of the FPM.

Sustaining FPM in practice

Systematic examination of FPM in practice has highlighted the inseparable and interdependent relationship between the way that FPM shapes and influences individual child and family nursing practice and how adoption of FPM across nursing and other teams shapes and influences established practices within an organisation

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Table 2: Practitioner knowledge acquisition of FPM after Foundation training

<table>
<thead>
<tr>
<th></th>
<th>Post-Foundation training</th>
<th>% of practitioners who strongly/very strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnership building skills and knowledge (scored 1–5)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>4.6 (0.6)</td>
<td>95.8</td>
</tr>
<tr>
<td>Exploration skills and knowledge (scored 1–5)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>4.6 (0.6)</td>
<td>93.2</td>
</tr>
<tr>
<td>Construing skills and knowledge (scored 1–5)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>4.6 (0.6)</td>
<td>99.7</td>
</tr>
<tr>
<td>Goal-setting and strategy planning skills and knowledge (scored 1–5)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>4.4 (0.8)</td>
<td>83.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Before FPM Foundation training mean (SD)</th>
<th>After FPM Foundation training mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total about FPM score&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6.7 (2.5)</td>
<td>7.9 (5.6)</td>
</tr>
<tr>
<td>Knowledgeable about FPM (scored 0–100)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>24.7 (24.4)</td>
<td>64.4 (30.2)</td>
</tr>
<tr>
<td>Well equipped to use FPM (scored 0–100)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>26.0 (27.6)</td>
<td>64.0 (31.2)</td>
</tr>
<tr>
<td>Committed to using FPM (scored 0–100)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>26.0 (27.6)</td>
<td>64.1 (31.2)</td>
</tr>
</tbody>
</table>

<sup>1</sup> FPM Foundation course evaluation measure items (n=308)

<sup>2</sup> FPM in practice questionnaire items (n=163)
Similarly, the ability and capacity of individual nurses to successfully adopt and implement FPM is not solely governed by their individual commitment and interest but is highly influenced by wider organisational characteristics (Greenhalgh et al. 2004). Organisational support through regular and effective supervision enables nurses to maintain and renew their individual commitment to FPM, particularly when the FPM Reflective Practice Handbook is used. It also encourages an open and common ethos and language to develop across practitioners that reflects the values and concepts that underpin FPM. It provides consistent expectations and practice methods for practitioners as well as consistent service experiences for parents.

Supervision is only one of a number of important ways in which FPM must be taken care of and nurtured within organisations if it is to be successfully embedded and maintained over time. Sustained use of FPM requires organisational champions to promote the outcomes that FPM has achieved in research trials and the interest and endorsement that it receives from practitioners.

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**Table 3: Practitioner perception of organisational support for FPM implementation**

<table>
<thead>
<tr>
<th>Post-Foundation training rating mean (SD)</th>
<th>% of practitioners who strongly/very strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager has actively supported use of FPM (scored 1–6)²</td>
<td>3.6 (1.0)</td>
</tr>
<tr>
<td>Senior managers have championed the use of FPM (scored 1–6)²</td>
<td>3.4(1.3)</td>
</tr>
<tr>
<td>Manager has offered time and resources to put FPM into practice (scored 1–6)²</td>
<td>2.9 (1.3)</td>
</tr>
<tr>
<td>Regular organised discussion with colleagues about FPM (scored 1–6)²</td>
<td>2.9 (1.1)</td>
</tr>
<tr>
<td>Receive regular FPM supervision (scored 1–6)</td>
<td>2.6 (1.3)</td>
</tr>
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¹ FPM in practice questionnaire items (n=163)
during initial FPM training. FPM champions also need to be able to make a straightforward case to senior managers of how FPM helps to meet key strategic goals, leads to service and workforce improvement as well as better outcomes for children and families. Regular briefings that provide case examples, audit data and the voice of parents are very effective in developing and maintaining the commitment of service leaders, managers and supervisors. Senior managers often make a significant initial investment in FPM through supporting its training programmes. There is a sharp contrast in the way that UK practitioners trained in FPM rate the availability of organisational support to implement FPM (Table 3) compared to their own approval and endorsement of the Model shown in Table 2. Similar data is not currently available from the Australian context.

The gap that appears to exist in the UK between organisational investment in training nurses and other practitioners in FPM and subsequent support to sustain its use and effectiveness over the longer term is of crucial importance for achieving better outcomes for children and families. This requires organisations to commit sufficient practitioner time and resources to ensure the effective use of FPM by child and family nurses. This should be supported by clear operational guidance on monitoring the use of FPM through electronic and other patient record systems, routinely available peer-support and supervision, and the use of routine audit to monitor child, parent and family impact and outcomes. Without these measures in place, managers may simply be relying on ‘train and hope’ to improve child and family outcomes and faith to maintain the quality and effectiveness of FPM practice in their organisation.

Acknowledgements

This paper was prepared as a keynote address for the Maternal, Child and Family Health Nurses Australia, 5th Biennial National Conference, Canberra, 2013. I would like to thank the generosity of the Conference Committee in inviting me to address the conference.

References

Building positive, lifelong attachment bonds

Abstract
The promotion of positive health and wellbeing of children and adolescents is a vital concern for public health care systems. A prevention approach to addressing mental health concerns requires understanding of factors that lead to resilience and protect against emotional distress. One of the most consistent factors predicting future emotional wellbeing is the development of strong, positive attachment bonds. Throughout our life, our attachment figures may change from parents to communities to animals and to infants of our own; benefits and challenges of these relationships are discussed, as are methods of establishment including touch and gaze. Lastly, a list of recommendations is provided for building positive, lifelong attachment bonds in a health care setting.

Introduction
Positive health and wellbeing of children and adolescents is a key concern for public health systems. The development of positive, stable attachments has consistently been found to predict healthy emotional wellbeing (Kafestios & Sideridis 2006). Early formation of attachment bonds begins in utero, as a foetus responds to, and recognises, the sound of their mother's voice. Whilst positive attachments with both mother and father role models are vital to infant growth and development, children also benefit from emotional bonds built with health care professionals, school and community members as well as with animals. This paper presents recent advances in understanding of attachment and wellbeing as well as providing practical recommendations for building positive lifelong attachments.

How does attachment relate to resilience?
In reaction to a historical focus on risk and vulnerability, research and clinical practices have recently moved towards a positive approach of examining protective factors and resilience. A frequently used, and less frequently defined term, resilience is the set of protective factors one uses to adapt to stressful situations in order to minimise adverse outcomes (Greenberg 2006). These factors include individual characteristics (such as biological or cognitive factors), relationship qualities (including support networks and attachments), and environmental factors (such as socio-economic status [SES] and living circumstances). Resilience has been shown to predict both externalising and internalising behaviour problems (Calkins, Blandon, Williford & Keane 2007). If resilience is the basis for future emotional wellbeing, it can be considered that this base is laid upon the foundation of social and emotional skills as well as both strong peer and parent attachments.

Social and emotional skills are a crucial milestone in young children’s future academic, psychological and social development. The Collaborative for Academic, Social and Emotional Learning (CASEL 2011) has defined socio-emotional competence as: self-awareness, social awareness, self-management, relationship skills and responsible decision-making. These skills provide us with the ability to successfully establish and negotiate peer interactions, develop a positive self-concept and better understand and regulate our emotions.

Delays in socio-emotional skills are suggested to stem from difficulties in the parent–child relationship, in particular the parent–child attachment (McCabe & Almatura 2011). Attachment is the enduring emotional bond formed between two individuals. Stable, secure attachments enable children to feel comfortable, viewing the world as a safe and predictable place. Although initially a child will be dependent on this attachment figure for safety and reassurance, as they develop, the child gradually internalises this attachment bond. Relationships that promote stability and trust lead to children who perceive the world as dependable and trustworthy, which is an earlier stage in empathy development. Rather than the old adage “Nobody will love you until you love yourself”, attachment theory posits we all must be shown love before we can learn to love ourselves.

Who needs to know about attachment bonds?
Whether negative or positive, our strongest human emotions are often linked to our bonds with others. These attachment bonds are a complex phenomenon comprising and developing from a range of relationship components. The following sections will highlight the importance of developing a broad range of attachment bonds.

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including those with parents, through community involvement, and animal relationships, as well as recommendations for facilitating attachment, including touch and gaze.

Fathers who are involved throughout the prenatal, birth and postnatal periods are more likely to have better health outcomes for themselves, their partners and their children (Plantin, Olukoya & Noy 2011). Encouragingly, over recent decades fathers have been increasingly participating in both parent training as well as attending childbirth (Plantin et al. 2011). Although strong stable attachments with both parents are important, father–child attachments appear to have different outcomes compared with mother–child attachments. A strong attachment bond with fathers seems to be related to autonomy, adaptability and confidence; whereas strong attachments with mothers have been linked to skills in emotion regulation, self-soothing and self-esteem. Secure father–child attachment appears to encourage children to explore their environment, giving them the courage to climb trees, make new friendships, tackle and overcome challenges with a sense of curiosity rather than fear. Comparatively, strong mother–child attachments seem to provide children with a sense of security, with children learning that their feelings are a valid experience as well as one which can be tolerated or regulated rather than be overwhelming. Establishing emotional understanding from early childhood is a precursor to emotion recognition in one’s self and others, which leads to skills in emotional self-regulation as well as empathy skills.

Despite the important roles fathers play in child development, new dads often report receiving minimal support after birth (Plantin 2007). Whilst couples typically foresee parenthood as a shared partnership, many pre- and post-partum programmes predominantly focus on the effects of child rearing on prospective and new mothers. Furthermore, although fathers are often seen as the primary support for new mothers, their own support needs and networks are frequently ignored.

Fossil evidence from over half a million years ago has shown that human–animal bonds are not a recent development. Inclusive of food, veterinary bills, toys and training, we can spend exorbitant amounts of money on our animal friends and unlike children, they will not return the favour when we need taking care of. However, in return, we form a bond of mutual affection, a relationship in which animals and their humans experience positive and loving attachments. Current research shows that bonds between humans and animals have benefits for both our mental and physical wellbeing; human–animal companionship demonstrating relationships with fewer medical complications, increased survival rates following coronary artery disease, decreases in antisocial and violent behaviour, and increased social awareness (see O’Haire 2010). Childhood and old age can typically be a stage where an individual may feel powerless or helpless; however, the responsibility of caring for an animal can be an empowering action. Furthermore, these relationships are non-verbal and consequently are non-judgemental and accepting, which provides a trusting, supportive environment for individuals.

Although this article has predominantly focused on the importance of developing strong attachments in infancy, strong attachment relationships are integral for wellbeing throughout our lives. According to the belongingness hypothesis, humans have a biological need to develop and maintain strong and secure interpersonal relationships (Baumeister & Leary 1994). Whilst the formation of social bonds is related to positive emotional responses, humans relate being ignored, excluded and rejected to negative emotions.

The presence, or absence, of love has inspired millions of artworks, and undoubtedly led to a few wars throughout history, and the need to love and feel loved is often described as an obsession. Young and middle adulthood periods are often defined by this search for attachment figures, whether in the form of partners, friendships or children. Although much focus is placed on establishing, rather than maintaining, these relationships, throughout our lives we continue to yearn for these connections. As we age, elderly people, especially those who have lost their partners, are often deprived of touch and physical bonds. Furthermore, older adulthood is marked by the need for individuals to redefine their identity beyond paid work and often experiences of loneliness, helplessness, hopelessness and even depression occur.

Involvement in the community has demonstrated a relationship with positive health outcomes in older populations (Golding 2011). Specifically, engagement in community activities has been related to increased confidence, self-reported fitness and health, social inclusion and self-esteem (Strachan, Wright & Hancock 2007). Giving back to the community can be empowering; in particular during life periods when we may be feeling helpless or like a burden, we can learn how to become useful to others. Additionally, participation in community projects provides opportunities to establish relationships across cultural and age divides, promoting interconnectedness in the social environment.

**How to build strong lifelong attachments**

Of our five senses, touch is the first to develop with early stimulation occurring in utero through the mother’s abdominal wall. Being held and breastfed as a newborn are primary soothing strategies for infants as well as an essential aspect of future growth and development. In addition to being an integral aspect of building attachment, touch has been shown to have positive physiological and biochemical effects (see Field 2010). Field’s (2010) review highlighted that touch increases levels of oxytocin (often called the ‘love’ hormone), serotonin (a neurotransmitter responsible for our mood and sleep), dopamine (another neurotransmitter related to reward-seeking behaviour), endorphins (neurotransmitters which block pain and are related to pleasure) and immune system functioning as well as decreasing heart rate, blood pressure and cortisol rates (commonly called the ‘stress hormone’). Essentially, skin contact and massage help both caregiver and child to feel happier, more affectionate and attentive, as well as less anxious, depressed and stressed.
Touch is also a key element of social interactions. Although there has been significant controversy regarding the use of touch, “good touch” is a social reinforcement, a physical display of attachment. Good touch is a method of providing support, comfort or praise for another individual. Additionally, touch can also be utilised as a method of expressing warmth, distress, dominance, romantic interest and to increase compliance. Incorporating good touch into expressions of love allows one to not just hear that you love them but also feel it too.

In addition to touch, mirroring is a key factor in how infants perceive and interpret the world. Mirroring is when an individual matches the verbal and non-verbal communication of another individual, although this process is often a mutual influence with each individual affecting each other (Watson, Futo, Fonagy & Gergely 2011). Emotions are experienced at a physiological basis and, understandably, without knowledge of their purpose this can be overwhelming. Infants cannot yet understand why their heart is racing or their muscles are tensing, nor can they verbalise their experiences or ask if it is normal to experience these things. Through purposeful reflection of an infant’s emotional response, a caregiver can indicate an understanding and validation of emotions. Simply put, when a child is crying, if a caregiver looks the infant in the eye and frowns or displays sadness, this shows the infant that other people also experience sadness and it can be tolerated. This brief transaction supports emotion-regulation skills in infants, encouraging them to recognise that their emotions are valid experiences that can be appropriately regulated.

As well as encouraging infants to better understand and regulate their internal experiences, mirroring is also used by infants to understand their environment. From infancy children begin to orient to the distress of others, at which time the infants themselves typically becomes distressed (Preston & de Waal 2002). Hypothesised to be an evolutionary phenomenon, the purpose of mirroring in this instance can be explained by examining a herd of wild animals; for example, if one zebra were to spot a lion or any other predator it would give an alarm call, alerting the other zebras to the danger and the need to escape. As well as encouraging greater group survival rates, this phenomenon is also beneficial to decrease the need for hypervigilance (that is 10 pairs of eyes are better than one) and increase productive activity. Specifically in infants, a mother’s response to a specific stimulus (for example a scream or a smile when seeing a spider) can cue the infant to perceive that stimulus as either safe or threatening. Mirroring anxious and fearful affect to infants alerts them to something in their environment being threatening or dangerous whilst demonstrating calm and happy facial expressions to infants encourages them to feel safe and secure.
1. **Provide education to parents about the importance of touch for their children** — As outlined above touch has innumerable psychological, physiological and developmental benefits for children. Encourage parents to involve touch in their daily interactions with their children for the promotion of physical attachment. Suggestions may include: carrying infants on their chest rather than putting them in a pram, using massage as part of a pre-sleep relaxation routine, and incorporating touch as an important aspect of praise.

2. **Provide parents with information on mirroring** — Encourage parents to look their child in the eye. When a child appears distressed, determine their likely emotion and demonstrate the expression of successfully tolerating that emotion. Although employing soothing behaviours may quickly manage an infant’s emotional state, mirroring expresses that the infant’s emotions are not dangerous and can be self-managed. Furthermore, demonstrating calm and relaxed expressions provides infants with a sense of safety and security.

3. **Don’t forget about fathers** — As fathers may often be less likely to approach health care services for support during antenatal and post-natal periods, try to incorporate a family-oriented approach in treatment delivery. Fathers can play a vital role in the health outcomes of their partner as well as their newborn, so encouraging their increased involvement is beneficial to all involved. Remember to be aware of their support needs throughout this period.

4. **Encourage parents to incorporate touch into their relationship** — After childbirth, couples often decrease their touch of each other. Intimacy, affection and oxytocin increases are all seen following touch, which logically leads to stronger and healthier relationships. Remind parents of the importance of working to maintain their relationship through handholding, hugging and massage.

5. **Attachment is important for adults too** — Attachment in infants is more frequently focused on as a key part of growth and development; however, this means it can be easy to forget the importance of secure relationships in adulthood. According to Erikson’s psychosocial stages, young and middle adulthood (25 to 64 years) are the stage of our lives in which it is most important to form intimate and loving relationships, have children, adjust to changing roles as a parent, and give back to the community. This is the time for humans to find and express love, raise and release children and work towards the betterment of society. Encourage others, and yourself, to consider how to reflect on these aspects of your own life. As you age, will you feel accomplishment, not only on a professional level, but also in your interpersonal relationships? What will the footprint that your existence has left on society look like?

For further reading see *The Whole-Brain Child* by Dr Daniel J Siegel and Dr Tina Payne Bryson, Bantram.

### References


Abstract
The link between motor development in the early years and a child’s later cognitive ability at school has been the subject of intense debate for the past 30 years. The Millennium Cohort Study undertaken in the United Kingdom (Hansen, Joshi & Dex 2010) supports a relationship between the two, finding that the delayed achievement of key motor milestones at just nine months of age is significantly associated with poorer cognitive development at five years of age. The Australian Early Development Index (AEDI) (2012) reports that nearly one quarter of children starting school are ‘at risk’ in their physical and cognitive development. The following discussion presents new research in the area of motor development and cognition, focusing on the influence that motor experiences in infancy and early childhood may have on subsequent higher level cognitive abilities necessary for academic achievement in school.

Keywords: school readiness, motor skills, primitive reflexes, sensory-motor development, literacy.

Introduction
Many Australian school students are struggling to achieve. The Australian Bureau of Statistics (2011–2012) reports that 33% of children aged 15–17 function at the minimum baseline level of reading proficiency and 11% failed to reach even a baseline level. Numeracy skill assessment reflects a similar result: 38% and 20% respectively. The Australian Early Development Index (AEDI) (2012) surveyed 96.5% of children (n=289,973) enrolled in their first year of primary school (between five and six years of age). The children were assessed for developmental vulnerability across a number of key developmental domains: physical health and wellbeing; social competence; emotional maturity; language and cognitive skills; communication skills and general knowledge. The survey found that 22% were vulnerable in one or more domains of which 10.8% were vulnerable in two or more. Developmental vulnerability affects readiness for learning, and this affects later achievement (Duncan et al. 2007). In Western Australia, a school readiness survey of four- to six-year-olds found that 25% of children were ‘at risk’ of learning problems and that 10% had a ‘severe risk’ (Hart, Brinkman & Blackmore 2003). This lack of school readiness does not occur ‘out of the blue’, and it could be argued that it is pedagogically determined. In Norway, a country with one of the highest levels of literacy in the world (ABS 2006), children do not start formal literacy and numeracy education until seven or eight years of age when the majority of children will be neurologically ready to learn. Australian children are expected to achieve academically at a very young age when brain development in many children is still considered immature and unready for the higher cognitive skills of academic learning (Shonkoff & Phillips 2000).

Much of how a brain grows, connects and gains neurological readiness for learning is based on a child’s genetic profile as well as the experiences he or she has in the early years of development (McCain, Mustard & Shanker 2004). Social support and emotional stability have been found to be key ingredients of physical, emotional and cognitive health (Perry 1995). However, there are also strong links to motor development and movement experiences and the role they play in preparing a brain for learning readiness (Melillo & Leisman 2004; Ayres 2005). The Millennium Cohort Study undertaken in the United Kingdom (Hansen, Joshi, & Dex 2010) found that the delayed achievement of key motor milestones at nine months of age is significantly associated with poorer cognitive development at five years. The AEDI (2012) reports that 22.7% of five-year-olds are vulnerable, or ‘at risk’, in their physical development — gross and fine motor skills, physical readiness for the day and physical independence — when they begin school. So while movement experiences in infancy and early childhood are only one part of developmental foundations, they are an important one.

Thelen (2004) argues that the foundations of complex human thought and behaviour have their origins in action. Movement provides input into the nervous system via the senses of touch, hearing, sight, balance and proprioception (the awareness of the position of joints and muscles), stimulating higher cognitive processes. Children need to “actively participate in events, not just perceive them” (Pick 2004, p. 38). The increased cognition that is required for movement, and the increased neural feedback received from the movement, is an important part of learning and is more stimulating to the brain than passive responses (Zull 2006). When babies reach out for an object they are stimulating more sensory systems than if they just look at it. Babies who crawl on
their tummies and creep on their hands and knees are stimulating thousands more neural pathways than a baby who can only lie, or sit, in one position. Children swinging along a set of ‘monkey bars’ stimulate their bodies and brains more than children who sit playing games on a computer.

Movement stimulates the memory of time and space, and these memories persist, so that as an infant repeatedly attempts a task, the movement is refined and the infant can develop fluid, controlled and automatic movements (Thelen 2004). A baby who is learning to creep up the stairs will do this action repeatedly. Once that pattern of movement is ingrained in the neural pathways the baby will then progress to the next level by mastering the descent of the stairs. Repetitive movement patterns create an automatic sense of body position and self-control (Thelen 2004). Mastering motor proficiency with sensory integration is foundational to learning (Ayres 2005). A child who has little experience in practising body movements may have a poorly developed sense of body, spatial and temporal awareness, difficulty sequencing tasks, and expected milestones may be more difficult to achieve. These seemingly “small” inadequacies in basic motor proficiency can have enormous flow-on effects into other developmental areas. These limitations can cause frustration at not being able to control one’s own body and can create emotional withdrawal, aggressive or inappropriate behaviour (Thelen 2004). A child who cannot confidently hold a pencil and use it to write smooth and flowing letters may feel incompetent in comparison to peers. A child who continuously fumbles with the ball in sport may stop playing, reducing opportunities to refine motor skills and maintain an active and healthy lifestyle. A child who cannot smoothly move the muscles that control their eyes as they read across a page may be challenged by the tasks of literacy. It is not unsurprising that children who have behavioural or learning challenges, report significant long-term improvement in motor, behavioural and academic skills (Reynolds, Nicolson & Hambly 2007; Hawke 2008). These programmes are based on the premise that in order to bring about mature, higher-order levels of perceiving, thinking and acting, the foundational structures through which neural messages flow may require prematurity, birth trauma, stress and physical or emotional trauma (Perry et al. 1995), are now understood to be antagonistic to optimal brain development. The weak activation and/or the late inhibition of the primitive reflexes of infancy are early signals of neurological immaturity (Prechtl HFR 2007). Primitive infant reflexes initially act as the controllers of the brain, enabling a baby to survive immediately after birth. The Moro Reflex, the Asymmetric Tonic Neck Reflex (ATNR), and the Tonic Neck Reflex (TLR) amongst others, also provide the infant with in-built opportunities to move. They should, however, be inhibited in the first year of life when voluntary movements are mastered (Castro et al. 2002). Research of UK school-age children struggling academically and/or behaviourally, noted the presence of immature motor skills and primitive motor reflex responses (Goddard Blythe 2005, 2008). Specific motor movement patterns, such as rolling, crawling and creeping, and the accompanying sensory inputs are a key to primitive reflex inhibition (McGowan 1990; Goddard Blythe 2005).

Unfortunately it appears that many essential movement opportunities for the healthy brain development of babies and young children are diminishing in our modern, technologically driven, safety-conscious societies. Some babies are rarely out of ‘containers’ — cots, high chairs, baby baths, car seats, play pens, bouncinettes, walkers, prams — designed for safety reasons or as ‘mothers helpers’, but which restrict movement when used for long periods (Brown 2009). Many parents are concerned about placing awake babies on tummies due to an over-anxiousness about sudden infant death syndrome. As a result, tummy time is reduced or non-existent. Although transport in approved capsules is also crucial and sleeping on backs is highly recommended, tummy time is also crucial for the development of head, neck and upper body control that enable a baby to crawl and then creep on hands and knees. Older children are also restricted in play opportunities that promote movement — backyards are smaller, playgrounds have less moving equipment, and of course there is ‘screen time’ — TV, computers, tablet devices and mobile phones. Modern technology may have enabled children to develop a whole new set of skills, but at what cost? Melillo and Leisman (2004) argue that any activity that increases sitting time and decreases active upright movement comes at an enormous developmental price. Children no longer work their bodies against gravity, a key activity that promotes physical competence and brain maturity.

Development of the brain is structured and ordered. Casey et al. (2005) report that functional imaging of late childhood and adolescent brains “show that brain regions associated with more basic function such as motor and sensory processes mature first” (p. 108). These are then “followed by association areas that are involved in top-down control of thoughts and action” (Casey et al. 2005, p. 108). Diamond (2000, 2002, 2007), Thelen (2004) and Ayres (2005) maintain that basic sensory-motor skills form the foundation for higher-order cognitive abilities. Cognitive development is integrally entwined with movement experiences, which lay the foundations for the next level of brain development. Babies need to push up from the floor, reach, roll and commando crawl, creep and cruise before walking in order to develop strong neural foundations and normal development of sensory motor skills including vision and proprioception. These skills can ultimately influence how well children are able to actively engage cognitive skills in everyday living.

Foundational brain structuring begins at conception and continues during rapid growth periods of early childhood. These periods can be affected or ‘stalled’ by numerous congenital and/or environmental conditions. Adverse in utero conditions,
additional sensory and motor stimulation to strengthen and streamline neural pathways to and from higher cortical levels of the brain.

Determining the effect of early motor experiences on later learning is challenging as many variables exist in early childhood populations. This may, in part, explain why there is limited research in this area. Assessing the presence of motor immaturities in school-aged children and implementing a programme that aims to improve motor development through a specific reflex-sensory-motor programme is one way of determining a relationship between the two. In a bid to address the paucity of research in this area, three small research projects are briefly overviewed and the relationship between motor development and later learning discussed.

**Why do some learn more easily than others? What physical factors influence effective learning?**

The aim of this Melbourne University School of Education Master’s thesis, “Why do some learn more easily than others? What physical factors influence effective learning?”, was to look for possible links between learning difficulties and neuro-physiological development, sensory motor integration skills, the retention of primitive reflexes and the development of postural reflexes (Holley 2010).

A convenience sample of 40 grades 1 and 2 students, their teachers and their parents participated in the study. Of these 40 students, 20 were receiving literacy support and 20 had been identified by their teachers as achieving typically for their age. Children with a diagnosed condition or language difficulties were excluded from the study. The children’s neuro-physiological development was tested with the Quick Neurological Screening Test (QNST) (Mutti 1998), a series of sensory motor integration activities (Ayres 2005) and Goddard Blythe’s reflex tests (Goddard 2005). Several literacy assessment tools were also utilised. These tools were deemed valid, reliable and culturally appropriate for the cohort (Holley 2011). Further data was collected from teacher and parent questionnaires. Ethics approval was obtained from the Melbourne University Ethics Committee and the Victorian DEECD Education Policy and Research Division.

**Findings**

Demographically the two groups were relatively matched, the main difference being the need for literacy support. When the two groups were compared, the group requiring literacy support did not perform as well as their ‘typically achieving’ peers in the following areas: visual and auditory perception, tactility, balance, coordination and sensory motor activities. This group also had a significantly higher level of retained primitive reflexes, particularly the TLR. These findings were supported by parent and teacher observations that these children generally had more difficulties across all domains of development.

This study supports the idea that there is a link between learning and physiological development. Children struggling with literacy were also found to have primitive reflexes normally found only in first year of life. While only a small study, Holley’s research supports the contention that children with learning difficulties are more likely to have motor development delays and active primitive reflexes.

According to Nelson (2000), the brain is receptive and responsive to motor stimulation throughout life, and so exposing children to a specialised exercise programme should improve brain function. The following two research projects aimed to demonstrate that literacy and learning readiness could be improved through the implementation of a specially designed sensory-motor programme. The programmes incorporated the movements of early infancy in response to research that reported that many children with learning and/or behavioural challenges also demonstrated the presence of aberrant positive primitive reflexes.

**No child should fail**

The “No child should fail” pilot study of a sensory-motor-speech programme (Mirabella, Sassé & Schriever 2008) was implemented in one of the most disadvantaged school districts of Victoria where the AEDI findings suggested that more than one-third of children beginning school were “at risk” of academic underachievement and/or learning failure in the years ahead. Ethics approval was gained from the Victorian DEECD Education Policy and Research Division. The aim was to establish objectively whether or not a specifically designed motor and speech development programme would obtain superior results in reading improvement compared with the standard reading programme. The motor-speech programme, called the Special Reading Programme, included a 25-minute daily routine of reflex inhibition exercises (ATNR,
**Findings**

Both control and intervention groups showed an improvement in the children's reading skills, as would be expected at the end of the school year. However, the improvement gradient was more obvious for the children in the intervention programme. In addition, despite the low literacy skills in the Grades 1 and 2 intervention group, at the end of the Special Reading Programme this cohort had caught up with their peers (Figure 1). Furthermore, the children in the Grades 3, 4 and 5 intervention group showed statistically significant improvement in reading comprehension compared to the control group (Figure 2).

Children are asked to draw "the very best picture" of themselves that they can in a five-minute period. The illustrations are scored against a checklist of criteria, categories and items. The raw scores are then converted to standard scores and percentile ranks (PR) which take into account the child's exact age. The PR score shows the child's score compared to 100 children of the same age, that is, 98/100 is a high score and 9/100 is ninth from the bottom. This data enables the researcher to see where a child is developmentally for his or her age, compared to children of the same age. Goddard Blythe (2005) reports a strong correlation between the DAP percentile rank scores and neurological scores obtained via testing for balance, coordination, reflexes and visual processing. Children with low PR scores are highly likely to have neurological immaturities that prevent them from learning easily at school. The DAP is repeated at the end of the school year, in this instance, after nine months of the UP programme (Figure 3).

**Unlocking Potential**

Unlocking Potential (UP) is a sensory-motor-perceptual programme for schools (Schriever, Sassé & Williams 2011) based on teacher feedback and results of the "No child should fail" study. The aim of the study was to test the hypothesis that the UP programme will improve a child's developmental readiness for learning. This paper reports on only first data findings of one area of testing.

All Grade 1 children (n=42) in a small, private infant school in a large capital city in Australia participated in a daily, 25-minute programme of movement activities. The activities specifically replicated the movements necessary for reflex inhibition in infancy and the natural movement patterns of infants and young children. Teachers were trained for two full days in the implementation of the programme. Parents were also informed in a parent meeting of its purpose and were encouraged to do 'follow-up' activities at home as part of 'active homework'.

Children were pre-tested to determine their neurological readiness for learning through a "draw-a-person" (DAP) test (Naglieri 1988). DAP has long been accepted as one way of assessing the developmental status of a child. Children's drawings change over the course of development and developmental status can be estimated by the quality and detail contained within their drawings. DAP can easily be administered by a teacher in a classroom and children enjoy the activity. DAP provides an accurate representation of change in a child's ability over time by utilising a highly validated, standardised scoring system.

Children were not blinded to the study so they knew which were the intervention and control groups. This may cause the Hawthorne Effect, whereby teachers may unconsciously change their teaching strategies. Teachers also identified a more in-depth training programme may have improved the efficacy of the intervention programme implementation.
the post-test (16%), and for children performing at or above their ability for age: 40% in the pre-test and 84% in the post-test (Table A). These results are reflected in a marked increase in the percentile rankings for most children except five whose rankings decreased (Figure 4). The extremely low scores of these five children indicate a level of neurological functioning that most likely requires a more intensive, individualised and multidisciplinary approach to remediation.

**Discussion**

The work of Holley supports earlier research that found children who have motor development delays also have learning challenges. Children with learning problems were also more likely to have neurological and motor development difficulties, the presence of primitive reflexes — particularly the TLR.

While only small studies, the results from both the “No child should fail” and “Unlocking Potential” programmes support the hypothesis that children who participate in regular sensory-motor-based programmes that incorporate basic movement patterns of infancy and early childhood, will make valuable gains in their ability and learning skills. Almost all of the children participating in the programmes made considerable progress in their abilities. While further research is needed to confirm these propositions, these three studies add further data to existing claims that motor developmental immaturities will impact upon learning at school. Many children are arriving at school with developmental immaturities that preclude them from learning easily and that may set them up for long-term failure (Shonkoff & Phillips 2000). Developmental immaturities may be further exacerbated by the ‘crowded academic curriculum’ that is heavily focused on the cognitive skills of literacy and numeracy (NCCA 2010). Australian children may be suffering from a ‘double whammy’ — expected to be neurologically mature enough for learning at five years of age, and then provided with very limited movement opportunities once they arrive in the classroom. While ‘windows of opportunity’ enable a baby and young child to learn, practise and automate certain motor patterns easily the research suggests that it is possible to replicate and instil foundational motor patterns necessary for

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**Table A: DAP pre-test and post-test: ability for age**

<table>
<thead>
<tr>
<th>Level of ability</th>
<th>Pre-test (Feb 2013)</th>
<th>Post-test (Dec 2013)</th>
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<tbody>
<tr>
<td>Below ability for age</td>
<td>25 (60%)</td>
<td>7 (16%)</td>
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<tr>
<td></td>
<td>(13 had ability &lt;5 years)</td>
<td></td>
</tr>
<tr>
<td>At ability for age</td>
<td>13 (30%)</td>
<td>15 (36%)</td>
</tr>
<tr>
<td>Above ability for age</td>
<td>4 (10%)</td>
<td>20 (48%)</td>
</tr>
<tr>
<td></td>
<td>(16 had ability &gt;3 years above actual age)</td>
<td></td>
</tr>
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n=42 n=42

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**Figure 3: DAP pre-test and post-test of Grade 1 boy**

Pre-test: Actual age 7 years 1 month, neurological age: 5 years 3 months
Post-test: Actual age: 7 years 10 months, neurological age: 11 years
higher order learning in school-aged children. It just takes longer, requires more effort and is not as economically efficient (Karoly et al. 1998). Providing babies with the opportunities to move in the first years of life is an important part of ensuring that neuronal pathways essential to higher cognitive function are established before a child reaches school and where cognitive demands increase. A longitudinal study that looks at the effect that in utero, birthing and early experiences have on motor development, and that continues into the early years of schooling, is much needed.

Recommendations

The past 20 years of research, and these few small studies, suggest a link between early motor development and later learning. Preparation for school begins in infancy. If babies and young children have limited or compromised movement opportunities there is the potential for specific neurological pathways and physiological processes to remain uninitiated. Babies in the first year or so need to reach, grasp, roll, crawl, creep and cruise. Toddlers should walk, run, bob up and down, and jump. Preschoolers need to hop, march, gallop and skip. Without these patterns of movement automatically in place, a developmental flow-on effect occurs as these motor skills activate pathways that form the foundational networks for higher-order action and cognition. Understanding this link is important for health professionals and teachers alike. Health professionals play an important role in the prevention, detection and early intervention of motor development delays. School teachers who are trained in the neurological underpinning to cognitive development and learning will more successfully assist those with learning difficulties. Regardless of class size, or the structure of buildings, children will learn more easily if they are neurologically ready to do so.

A sharing and accepting of information between education and early childhood health professionals can benefit those children who need help. If teachers and health professionals have a sound knowledge and understanding of the physiological mechanics of the way a child learns and is able to identify and address such things as retained reflexes and sensory motor integration issues, then both cognitive and neuro-physiological factors could be addressed and any remedial intervention could be much more successful. To achieve this end, the following recommendations are made:

- Increasing the awareness of parents in supporting opportunities for their infants and children to move is a key strategy. Parents are at the heart of any health intervention strategy. They are the role models, motivators and important instigators of physical activity behaviours in their children.
- Employ the regular use of early screening tools to assist in the detection of early motor delay. In Australia, developmental assessment for three-year-olds is currently available through general practitioners; however, training for practitioners is scant and the assessments are often undertaken in settings that are not conducive to accurate results (Glascoe 2000). To be effective, screening must be undertaken by well-trained, skilled and professional experts (Oberklaid 2000), such as maternal, child and family health nurses (MC&FHNs). Physical and other key developmental skills of all infants in the first year and then again for all children at three years of age should be assessed. This allows time to identify children who have “slipped through the net” of earlier assessments (Williams & Holmes 2004) and enable intervention strategies to be put in place well before a child arrives at school and risks failure. It is important to monitor children with “borderline deficits”; the assumption that the “child will grow out of it” may be misplaced (Williams 2006).
- Provide opportunities for movement within our infant and early childhood environments and for school-aged children. The movements of early infancy that inhibit primitive reflexes and stimulate the development of important postural reflexes: tummy time, commando crawling and creeping on all-fours are particularly important. School curriculums need to include daily exercise programmes that enable children to establish and/or consolidate important motor-based neurological pathways that form the foundations of thinking and learning.

Laying the foundation for higher levels of cognition required for literacy and numeracy begins in infancy and early childhood. Providing infants and young children with movement opportunities may just be one factor in assisting the development of children, but it is an important one. Research suggests a link between early movement and later cognitive learning. Babies and young children who have reduced opportunities to move, such as constantly sitting, may experience long-term repercussions across a number of developmental domains. Importantly, it may negatively impact on children’s learning potential.

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Figure 4: Pre- and post-test comparison of percentile rankings (n=42)
State and territory reports

**Australian Capital Territory**

It was an honour to host the 5th biennial national conference. Canberra was glorious with its autumn colours and sunny blue skies for the three days in May.

The conference theme of *Connecting* has been successful for our association and the wider ACT maternal and child health nursing community.

Following on from Julian Grant’s presentation, we are keen to work together nationally to drive the move towards national standards and national agendas.

One of our recent achievements has been to update our website, making it more accessible www.cafnaact.org.au. Janine Wolf our past Secretary has turned her skills towards the website and is keeping it up to date with our activities.

This year we have held two very informative general meetings for our members. Firstly, Megan Taylor talked of her experience of becoming and now working as a nurse practitioner — a journey perhaps some of our nurses may be considering in the future.

Daniel Nicholls joined us another evening to talk about clinical supervision/reflection — which is about to be introduced to the ACT maternal and child health nurses.

Richard Fletcher is going to be the invited speaker to our 2013 twilight seminar. The event will be posted on the website. Attendees from the surrounding district are most welcome to attend; it will be a great evening.

Cathy Eccles, one of our members, is actively involved in the BFHI national working party with the expectation of developing a national position statement on advertising at health professional seminars.

The ACT association membership is maintained with 30 members — new members are always welcome.

*Christine Burrows,*  
President, Child and Family Health Nurses Association  
Australian Capital Territory

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**New South Wales**

On the 16th of February 2013, CAFHNA held the 2012 AGM and a ‘Have Your Say workshop’. The facilitated workshop invited members to have a say in the direction and running of CAFHNA. It was a great day and I would like to thank the members that attended and actively participated. The outcomes of the work done during the day will be used to inform the 2013 CAFHNA planning.

I would like to welcome the 2013 General Committee Members and say good bye to Joan Stort and Larraine Palmer from the general committee. Their hard during their time on the general committee is more than appreciated.

At the AGM a motion was unanimously passed to cease production of the CAFHNA Journal. Although this journal will be missed by many, the Editorial Committee will continue to develop the e-newsletter and explore the use of new technology. The Editorial Committee will remain committed to the promotion of child and family health nursing as a specialty, showcasing achievements and keeping members informed about contemporary issues related to the role of the child and family health nurse. I would like to give recognition and thanks to those CAFHNA Editorial Committee members past and present, for all their hard work and time given over the years in the production of the Journal, and particularly to Sue Mapletoft, who has chaired the Editorial Committee for the past five years.

In August 2012 the first Inaugural Joint Conference `Moving Forward’ (CAFHNA, Karitane & Tresillian) was held at Dolton House in Sydney. This joint NSW conference is timed to occur in the lay year between the bi-ennial national conferences, and will provide our members with an opportunity to continue their professional education each year. Members can appreciate the time and work needed in addition to the regular work of the committee, to hold such an event, it was therefore very pleasing to receive very positive evaluation feedback from members verbally and/or by evaluations. Members expressed how they enjoyed the presentations, the relevance of topics, the beautiful venue and the networking aspect of a conference. The CAFHNA committee members are already preparing for the next joint conference to be held in May 2014 so I urge members to help support this worthwhile event by putting a note in your next year’s diary.

*Julie Maddox,*  
President, Child and Family Health Nurses Association (NSW)
Northern Territory

The Northern Territory group has a small membership and with all active members forming the management team it has meant that there is some time lag in responding to requests such as the biennial report.

However, the Northern Territory Association is in the process of updating their constitution to reflect that the association has links to Maternal Child and Family Health Nurses Association Australia. We are refining a five-year plan, which will formalise our current financial support for Charles Darwin University, Child & Family Health Nursing Course Student of the Year; and some financial support on application to the association for members who wish to pursue further professional development.

Gail Clee,
President, Northern Territory Child and Family Health Nurses Association

Queensland

None of us can predict what the year will bring and how it will shake out ... personally or professionally. Earlier this year, Mother Nature expressed her wrath here in Queensland and especially in Bundaberg and Rockhampton. Many of our colleagues experienced the fury of Australia’s weather with the extreme heat, bushfires and in the aftermath of Cyclone Oswald.

As a small association we are aware of the challenges. As a starting point, earlier this year we compiled and distributed our first QCAFHNA Member Satisfaction Survey. This was the first in a series of surveys which we believe will be critical to the improvement of our state association. One area of concern was how we can continue to grow memberships in order to better represent and have a stronger voice for those child and family health nurses currently working in Queensland. The results have been very encouraging and affirming.

In May the biennial MC&FHN conference was held in Canberra. Prior to the conference, child and family health nurses across Queensland had the opportunity to answer three questions and share their views. The responses we received demonstrated we all have much to be proud of, much to celebrate, and also many challenges ahead of us. But together ... we are strong.

For those of you who were able to attend, I’m sure you will join me in congratulating all of the organising committee for their fantastic work. I also want to personally thank the QCAFHNA members who diligently staffed our ‘stand’, inside the national association area, for the entire conference — early morning, morning tea, lunch and afternoon tea. As a result we had two new members join and many more people take our brochure. So for us the theme Connections had very positive and tangible results!

Jan Finlayson,
President, Queensland Child and Family Health Nurses Association

Victoria

Last month’s national conference was a huge success with a strong contingent from Victoria. We would like to extend a special thank you to the Canberra branch for their friendly hospitality. The flashbacks to the gala dinner at Parliament House bring a ready smile for those that attended and will take a long time to fade.

The Victorian Government is currently progressing a comprehensive reform agenda to improve outcomes for vulnerable children and young people as a response to the Protecting Victoria’s Vulnerable Children Inquiry Report. The MCH Service as an important part of the broader service system to support the wellbeing of the Victorian population is under review. The broad aim is to maintain the current strengths of the MCH service as a high-quality, evidence-based universal service, while improving outcomes for vulnerable children and families. The scope of the review is to consider the latest evidence, examine service components, consider a range of existing and emerging challenges, and identify options to enhance, refine or modify the planning, delivery, evaluation and outcomes of the MCH service.

An emerging approach to service design is the explicit adoption of a differentiated approach for providing universal services. The notion of progressive or proportionate universalism views universal platforms through a stepped approach to services with the capacity to increase service responses to those most in need. (DEECD & MAV — Information Bulletin 3/4/2013).

We wait to see what this means for our service and workforce!

Awards

Again, this year we will offer a number of awards to our members for professional development. There is a grant of $750 and two scholarships of $1000 to support members with their endeavours and the 2013 Fran Morris Award ($250). Please see our website for qualifying criteria. Two of our members were assisted to attend the recent national conference in Canberra.

Helen Watson,
President, Victorian Association of Maternal and Child Health Nurses
Western Australia

Congratulations to Christine Burrows and the Canberra conference committee for an inspiring and enlightening event. CHNWA sponsored three delegates in the WA contingent and has received glowing reports from all attendees. CHNWA members are also excited about the announcement that Perth will be the host city for the 2015 conference, and this certainly has created a positive buzz around the state.

Planning is under way for the biennial state conference to be held at Rottnest Island in late August/early September 2014. The conference will have a different format from previous years to enable delegates to soak up the island atmosphere and make the most of their overseas experience!

The Act governing the Commissioner for Children and Young People has been subject to a mandatory review and CHNWA made a submission to the Public Sector Commission. The incumbent, Michelle Young, has been a strong advocate for supporting the role of family child health nurses. She recently released an issues paper on the topic of supporting parents and has called for the adoption of proportional universality in a child health context. Although this paper discusses the WA context, it will resonate with child health nurses in all jurisdictions. The paper can be accessed on the Commissioner’s website at http://www.ccyp.wa.gov.au

In WA, four-year-olds usually have their health and development assessment undertaken by community school health nurses. The ongoing deficiency in the school health FTE, as identified by a number of parliamentary enquiries, was the subject of an election promise this year. The Barnett government promised an additional 150 school nurses for the state. CHNWA welcomes the announcement. Currently, school nurses undertake the four-year-old school entry assessment and follow up children with identified conditions. An increase in establishment will allow school health nurses to undertake preventative school health care in addition to school entry screening activities.

CHNWA recently set up a YouTube channel for use by members. Interested members will have the opportunity to learn how to record a clip using their smart phones and tablets, and upload the clips onto the CHNWA site at the combined workshop and Christmas in July dinner. The aim is to share our combined knowledge across the state using technology.

CHNWA memberships are due 1 July 2013, and this can easily be done by going to our CHNWA.org.au website and following the prompts. Whilst in our website check out what merchandise is available, catch up on our blog section, and lots of other members-only offerings.

Leonie Hellwig, Chairperson, Community Health Nurses WA
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For example, Child and Family Health Nurses Association (NSW) 1999, Competency standards for child and family health nurses, Child and Family Health Nurses Association (NSW), Petersham, NSW.

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