Centre for Community Child Health

murdoch children's research institute

UNDERSTANDING AND MEETING THE NEEDS OF FAMILIES FACING MULTIPLE CHALLENGES:

TOWARDS A NEW SYNTHESIS

Tim Moore

Early Years Conference – *Today's Children Tomorrow's Future* –
Cairns, Queensland, 17th May 2018

Centre for Community Child Health

OUTLINE

- Setting the scene
- Learnings from a review of evidence regarding the first 1000 days
- Challenges facing families
- Approaches to helping families meet these challenges
- Implications for action
- Concluding comments

SETTING THE SCENE

- In recent years, we have seen a greatly increased public awareness of issues such as the stolen generation, institutional and other child abuse, family violence, bullying, and sexual harassment
- These are all relational issues - we are going through a major slow motion reappraisal of how we should relate to one another
- These are the subject of much public agonising and government efforts to devise ways of addressing these complex / wicked issues
- What we are doing is not working, for all sorts of reasons
- This presentation is part of our ongoing efforts to understand some of the reasons why and what can be done

Centre for Community Child Health

LEARNINGS FROM REVIEW OF EVIDENCE REGARDING THE FIRST 1000 DAYS

Centre for Community Child Health

Tim Moore, Noushin Arefadib, Alana Deery & Sue West (2017).
The First Thousand Days: An Evidence Paper.
Parkville, Victoria: Centre for Community Child Health, Murdoch Children's Research Institute.

Full paper: http://www.rch.org.au/uploadedFiles/Main/Content/ccchdev/CCCH-The-First-Thousand-Days-An-Evidence-Paper-September-2017.pdf

Summary: http://www.rch.org.au/uploadedFiles/Main/Content/ccchdev/CCCH-The-First-Thousand-Days-An-Evidence-Paper-Summary-September-2017.pdf

THE FIRST 1000 DAYS: KEY FINDINGS

- First, research in this area is rapidly advancing, and our understanding of the specific mechanisms that impact upon development is becoming more and more detailed and nuanced
- Second, the new research has revealed whole aspects of biological functioning that were not previously recognised as playing a role in development, such as telomere effects and the role of the microbiome
- Third, the first 1000 days is the period of maximum developmental plasticity, and therefore the period with the greatest potential to affect health and wellbeing over the life course

THE FIRST 1000 DAYS: KEY FINDINGS (cont)

- The adaptations and changes that occur during this period are not only (or primarily) neurological, but affect all bodily systems
- For example, the developmental origins of health and disease (DOHaD) evidence focuses on biological changes which can have lifelong effects
- New knowledge about the neurobiological processes whereby experiences become biologically embedded – genetics, epigenetics, telomeres, synaptic pruning, and the role of the microbiome
- Some of these neurobiological changes can be transmitted across generations in various ways

THE FIRST 1000 DAYS: KEY FINDINGS (cont)

- These changes are shaped by the lifestyles and conditions experienced by parents before conception, and by experiences and exposures in the womb
- *Specific experiences and exposures* that shape development and well-being include: caring relationships, family environments, physical and built environments, community environments, environmental toxins, nutrition, stress, and poverty
- *General features of the environment* that shape development include: social climate change, mismatch conditions, and the social determinants of health and well-being

THE FIRST 1000 DAYS: IMPLICATIONS

We also looked at what action we could take to improve outcomes during this period and considered various options, including:

- *continue to invest in research*
- *disseminate the key messages to professionals and the general public*
- *improve and refine services during the preconception, pregnancy and infancy periods*
- *change the environmental conditions under which families are conceiving, carrying and raising young children*

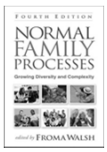
This presentation focuses on the last of these options

Centre for Community Child Health

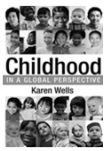
CHALLENGES FACING FAMILIES

SOCIAL CLIMATE CHANGE: IMPACT ON FAMILIES

Trask, B.S. (2010). **Globalization and Families: Accelerated Systemic Social Change.** New York: Springer.



Walsh, F. (Ed.) (2012). **Normal Family Processes: Growing Diversity and Complexity (4th Ed.).** NY: Guilford Press.



Wells, K. (2009). **Childhood in Global Perspective.** Oxford, UK: Polity.

Golombok, S. (2015). **Modern families: parents and children in new family forms.** Cambridge, UK: Cambridge UP.

Parke, R.d. (2013). **Future Families: Diverse Forms, Rich Possibilities.** Chichester, West Sussex: Wiley-Blackwell

SOCIAL CLIMATE CHANGE

- The dramatic economic and social changes that have occurred in developed nations over the past 50 years have significantly altered the conditions under which families are raising young children
- Many of these changes have been beneficial for most families, but have been accompanied by a widening gap between those who are benefitting and those who are not
- Gaps in family functioning are cumulative: the more advantaged families are initially, the better they are able to capitalise and build on the enhanced opportunities available, so that the gap between them and those unable to do so progressively widens

SOCIAL CLIMATE CHANGE (cont)

- There has been an increase in the numbers of families with complex needs, and more pockets of intergenerational disadvantage, underachievement and poor health and developmental outcomes
- There are more parents whose own parenting was compromised
- Although such families may only constitute about 8%-10% of all families, children who are members of these families are thought to compose 70% of all children who have mental health problems and adjustment difficulties
- These children and families consume a highly disproportionate percentage of the costs and resources designated for mental health, education services, criminal justice and welfare services

IMPACT ON COMMUNITIES

- Communities are more socially fragmented, with many becoming little more than dormitory suburbs
- There is less trust and reciprocity, and more concerns about personal safety
- The built environment is less pedestrian-friendly and more dependent upon cars
- There are reduced opportunities for physical activity
- Continued population growth combined with the steady shift to cities is outstripping the capacity of cities to provide the basic physical and social infrastructure to support families adequately

Centre for Community Child Health

APPROACHES TO HELPING FAMILIES ADDRESS THESE CHALLENGES

APPROACHES TO HELPING FAMILIES

The default approach to helping families facing complex challenges has been

- *to target those most 'at risk',*
- *to seek to provide them with additional services, and*
- *to ensure that these services are evidence-based.*

Each of these strategies can be interpreted and applied in different ways with different effects.

DEFAULT STRATEGY 1: *TARGETING THOSE MOST 'AT RISK'*

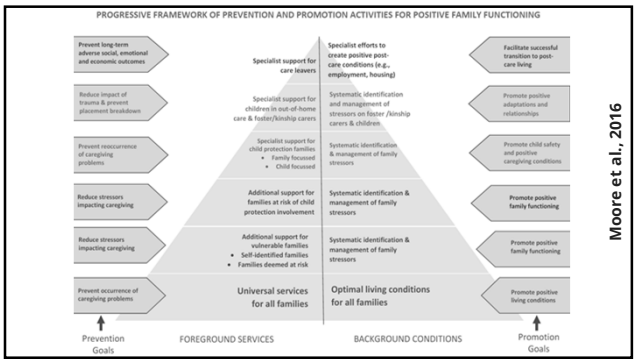
- How we identify those who are most 'at risk' or vulnerable can affect how effectively we are able to engage them
- The usual approach to identifying families who are vulnerable is to use a *risk-based approach*: the more risk factors evident in the family circumstances, the more 'at risk' the family is deemed to be and the more 'in need' of additional services
- There are problems with this approach: not everyone who is facing challenges will be experiencing problems in raising their children, and some are likely to experience the provision of extra help as stigmatising
- An alternative to this risk-based approach is a *response-based approach* that provides help on the basis of concerns raised by the family themselves – this increases the likelihood that they will make good use of the services provided

DEFAULT STRATEGY 2: *PROVIDING TARGETED FAMILIES WITH ADDITIONAL SERVICES*

- Relying solely or mainly upon services ignores what we know about the importance of the immediate physical and social environments in which families are living, and the relatively minor role played by services
- The capacity of parents to raise their children in ways that they (and we) would wish is compromised by factors beyond their control
- For many of them, these externalities – housing, finances, family violence etc. – are more salient and more stressful than the immediate care and parenting needs of their children
- A major focus of work with parents, therefore, is to seek to remove (or at least manage and stabilise) these barriers to family functioning and parenting

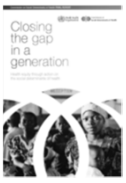
FOREGROUND AND BACKGROUND FACTORS

- ***Foreground factors*** in people's lives are the problems they present with – e.g. with parenting and care of children – *these are the problems that are most salient to professionals*
- ***Background factors*** are the underlying causes of the foreground or presenting problems and may either be internal (personal factors in the parent) or external (circumstances in which families are living) or a combination of both – *these are the problems that are most salient to families*
- If these background factors are not addressed, then the impact of direct foreground services is weakened – either they do not work at all (because the parent is too preoccupied with other issues) or they are effective in the short term only



Moore et al., 2016

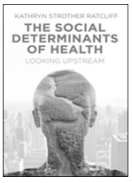
THE SOCIAL DETERMINANTS OF HEALTH



Commission on Social Determinants of Health (2008). **Closing the gap in a generation: Health equity through action on the social determinants of health.** Geneva: WHO

The Marmot Review (2010). **Fair Society, Healthy Lives: Strategic review of health inequalities in England post-2010.** London, UK: University College London.

Michael Marmot (2015). **The Health Gap: The Challenge of an Unequal World.** London, UK: Bloomsbury Publishing.



Kathryn Strother Ratcliff (2017). **The Social Determinants of Health: Looking Upstream.** Cambridge, UK: Polity.

Michael Marmot (2015). **The Health Gap: The Challenge of an Unequal World.** London, UK: Bloomsbury Publishing.

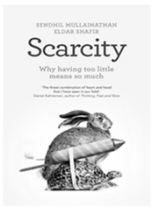
The conditions in which people lead their lives … are the main influences on their health.

Good conditions of daily life, the things that really count, are unequally distributed, much more so than is good for anything, whether for our children's future, for a just society, for the economy and, crucially, for health.

The result of unequal distribution of life chances is that health is unequally distributed.

Being at the wrong end of inequality is disempowering, it deprives people of control over their lives - their health is damaged as a result.

And the effect is graded – the greater the disadvantage the worse the health.



Sendhil Mullainathan & Eldar Shafir (2013). **Scarcity: Why having too little means so much.** London, UK: Allen Lane.

- Scarcity means having less than you feel you need. It underlies many of today's social problems
- Scarcity captures the mind: it orients us automatically and powerfully towards unfulfilled needs, and thereby changes how we think, how we interpret what we see, how we weigh our choices, and ultimately what we decide and how we behave.
- When scarcity captures the mind, it makes us more attentive and efficient regarding the task in hand, but at the cost of neglecting other life tasks – thereby making us less insightful, less forward-thinking, and less controlled.
- In this way, scarcity perpetuates scarcity by making us less efficient in the rest of our lives.

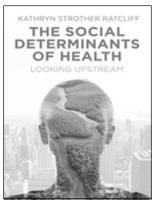
C. Karelis (2007). **The Persistence of Poverty: Why the Economics of the Well-Off Can't Help the Poor.** New Haven, Connecticut: Yale University Press.

Traditional economics just doesn't apply to the poor: when we're poor, our economic worldview is shaped by deprivation, and we see the world around us not in terms of goods to be consumed but as problems to be alleviated.

Poverty and wealth don't just fall along a continuum: they are fundamentally different experiences, each working on the human psyche in its own way.

The poorer you are - when you don't have enough money to pay rent or car insurance or credit cards or even food – the less likely you are to do anything about any one problem: poverty is less a matter of having few goods than having lots of problems

The core of the problem is not lack of self-discipline or a lack of opportunity: the cause of poverty is poverty itself



Kathryn Strother Ratcliff (2017). **The Social Determinants of Health: Looking Upstream.** Cambridge, UK: Polity.

The social determinants of health are

1. the *conditions of life* people are exposed to because of the way their society is built – how we live, how we work, how we move from place to place, and what we eat and drink; and
2. the *causes or triggers of those conditions of life* – such as government policies, social structure, and the actions of a powerful actors and organisations.

THE UPSTREAM METAPHOR

There I am standing by the shore of a swiftly flowing river and I hear the cry of a drowning man. So I jumped into the river, put my arms around him, pulling to shore and apply artificial respiration.

Just when he begins to breathe, there is another cry for help. So I jump into the river, reach him, pull him to shore, apply artificial respiration and then just as he begins to breathe, another cry for help.

So back in the river again, reaching, pulling, applying, breathing and then another yell. Again and again, without end, there's the sequence.

You know, I am so busy jumping in, pulling them to shore, applying artificial respiration, that I have *no* time to see who the hell is upstream pushing them all in.

John B. McKinlay (1979), quoting his friend the medical sociologist Irving Zola

DOWNSTREAM, MIDSTREAM AND UPSTREAM APPROACHES TO PUBLIC HEALTH

Public health, among other organizations and groups, can work to create greater fairness in the distribution of good health at three levels:

- the **downstream**, *immediate health* needs of populations that are marginalized,
- the **midstream**, *intermediary determinants*, or material circumstances such as housing conditions, employment and food security; and
- the **upstream**, *structural determinants* such as social status, income, racism, and exclusion.

(National Collaborating Centre for Determinants of Health, 2014)

DOWNSTREAM, MIDSTREAM AND UPSTREAM APPROACHES

Downstream interventions	Midstream interventions	Upstream interventions
Seek to increase equitable access, at an individual or family level, to health and social services These changes generally occur at the service or access to service level ***They are about changing the effects of the causes***	Seek to reduce exposure to hazards by improving material working and living conditions, or to reduce risk by promoting healthy behaviours These changes generally occur at the micro policy level: regional, local, community or organizational ***They are about changing the causes***	Seek to reform the fundamental social and economic structures that distribute wealth, power, opportunities, and decision-making These changes generally happen at the macro policy level: national and transnational ***They are about diminishing the causes-of-the-causes***

(National Collaborating Centre for Determinants of Health, 2014)

DEFAULT STRATEGY 3: *ENSURING THAT SERVICES ARE EVIDENCE-BASED*

- In seeking to improve the efficacy of services provided to such families, governments have increasingly sought to ensure that services are evidence-based, and begun to compile lists of evidence-based programs for services to choose from.
- However, properly understood, evidence-based practice is not reducible to a list of evidence-based programs, but involves making decisions about services based on several sources, including the needs and preferences of the families themselves.

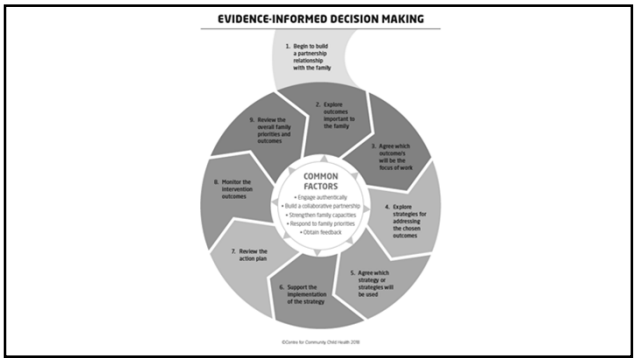
RETHINKING EVIDENCE-BASED PRACTICE

Moore, T.G. (2016). **Towards a model of evidence-informed decision-making and service delivery.** *CCCH Working paper No. 5.* Parkville, Victoria: Centre for Community Child Health, Murdoch Children's Research Institute.

Moore, T.G., Beatson, R., Rushton, S., Powers, R., Deery, A., Arefadib, N. and West, S. (2016). **Supporting the Roadmap for Reform: Evidence-informed practice**. Parkville, Victoria: Centre for Community Child Health, Murdoch Children's Research Institute.

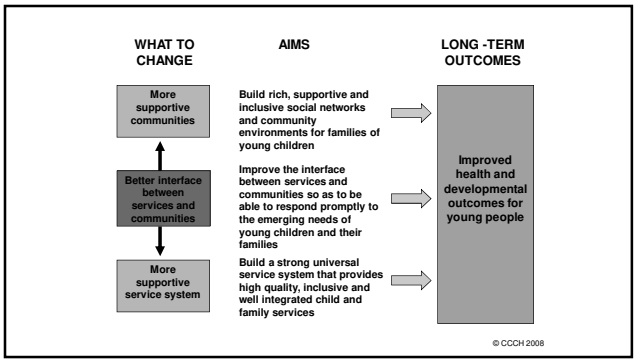
RETHINKING EVIDENCE-BASED PRACTICE

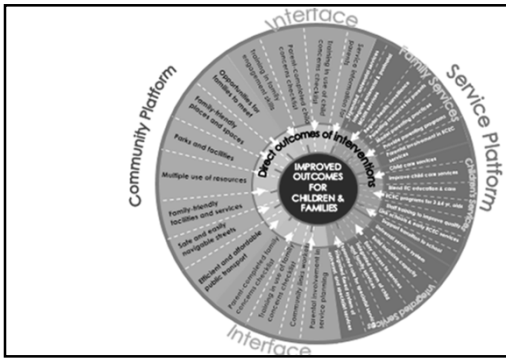
- Evidence-based practice is often interpreted narrowly as selecting from lists of 'proven' interventions
- Properly understood, it is much broader than this and involves integrating three sources of evidence:
  - *evidence-based programs*,
  - *evidence-based processes*, and
  - *client and professional values and beliefs*
- EBP is best understood as a decision-making process that integrates all three of these elements on an ongoing basis
- We have developed an *evidence-informed decision-making framework* based on this model



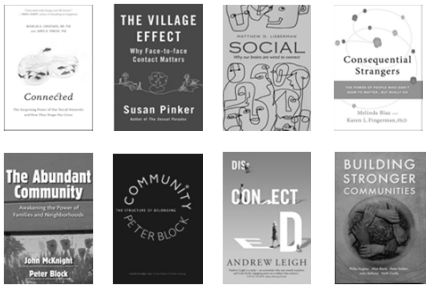
Centre for Community Child Health

IMPLICATIONS FOR ACTION





SOCIAL NETWORKS AND COMMUNITY PRACTICE

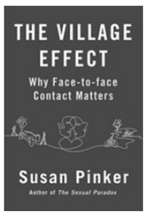


NATURE AND IMPORTANCE OF RELATIONSHIPS

- Relationships are critical to almost all aspects of healthy child development but continue to be important for adult well-being: relationships of all types have a significant impact on the development and well-being of those involved
- Relationships also have flow-on effects: what are known in the mental health field as 'parallel processes' operate at all levels of the chain of relationships and services, so that our capacity to relate to others is supported or undermined by the quality of our own support relationships
- This is true of the relationships between professionals (such as home visitors) and parents, managers and staff, staff and colleagues, and trainers and trainees.

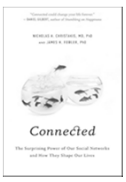
Matthew Lieberman (2013). **Social: Why Our Brains are Wired to Connect.** Oxford, UK: Oxford University Press.

- Our brains are designed to respond to and be influenced by others: *we are wired to be social*
- Social bonding stimulates the pleasure circuits of the brain, whilst social rejection and isolation leads to pain that is neurologically identical to physical pain
- Social support and social connections can buffer us against the stress of the most difficult moments in our lives
- Increasing the social connections in our lives is probably the single easiest way to enhance our well-being
- Social connections determine wellbeing directly, but also bolster health, providing a second indirect route to wellbeing



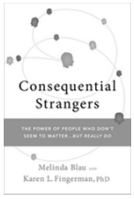
Susan Pinker (2015). **The Village Effect: Why Face-to-Face Contact Matters.** London, UK: Atlantic Books.

- If we don't interact regularly with people face-to-face, the odds are we won't live as long, remember information as well, or be as happy as we could have been.
- Physiological immunity, enhanced learning, and the restorative power of mutual trust derive from face-to-face contact with the people in your intimate circle – the 'village effect' not only helps you live longer, it makes you want to.
- Our relationships with the people we know and care about are just as critical to our survival as food, shelter and money – but not just any social contact, but only the kind that takes place in real time, face-to-face.



Christakis, N.A. & Fowler, J.H. (2009). **Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives.** NY: Little, Brown and Company.

- Human being do not just live in groups: they live in social networks, which affect everything from emotions to health to politics
- Our connections affect every aspect of our lives: how we feel, what we know, whom we marry, whether we fall ill, how much money we make, and whether we vote all depend upon the ties that bind us.
- Our connections do not end with the people we know: beyond our own social horizons, friends of friends of friends can start chain reactions that eventually reach us
- While we are connected to others by six degrees of separation, our influence on each other in social networks obeys three degrees of influence



Blau, M. & Fingerman, K.L. (2009). **Consequential Strangers: The Power of People Who Don't Seem to Matter. . . But Really Do.** New York: W.W. Norton.

- Each of us has a unique collection of consequential strangers - people outside our circle of family and close friends.
- They range from long standing acquaintances to people we encounter on occasion or only in certain places.
- *They are as vital to our well-being, growth, and day to day existence as family and close friends.*
- Although loved ones are universally important, all relationships influence our physiology and psychology - we don't necessarily need a lot of relationship; its variety that affects our well being.
- Where we live, work, shop and mingle has everything to do with the relationships we cultivate, and therefore our quality of life: we simply can't separate our relationships from the places we inhabit.

SOCIAL SUPPORT AND FAMILY WELL-BEING

- Social support is linked to a number of child and family outcomes, including low birthweight, child abuse and neglect, maternal adjustment, mental health and physical health

Family isolation can be the result of various factors:

- *geography* (living in rural and remote areas),
- *physical* (cut off from the local neighbourhood by a main highway),
- *poor health, disability or special ne*eds,
- *cultural isolation* (not being able to speak the language),
- *social isolation* (being new to an area and not knowing anyone),
- *lack of money* to reciprocate hospitality,
- *lack of education*, and
- *lack of transport*.

OTHER ENVIRONMENTAL IMPACTS

Built environments

- The way we design and build neighbourhoods have a range of personal and social benefits, such as promoting healthier lifestyles and contributing to reducing the risk of non-communicable disease
- Societal changes over decades have dramatically reduced the need for physical activity in daily life while creating many barriers to such activity
- Features of the built environment that promote healthier lifestyles include easy access to facilities, services, and social infrastructure; parks and recreational facilities; and stores selling fresh produce, while poorly designed neighbourhoods have less connected street networks and limited access to shops and services, but an oversupply of fast food restaurants

OTHER ENVIRONMENTAL IMPACTS (cont)

Access to natural environments

- Access to nature and green space can have a significant impact on children's their life-long development
- Benefits include reduced stress and aggression, lower risk of obesity' better physical and mental health, and better educational attainments
- Exposures to nature and environmental factors also have a wide range of health and social benefits, including increased social interactions between families and children, and greater social trust and community perceptions of safety
- Children living in poverty are more likely to lack access to natural environments as well as to be exposed to environmental hazards

IMPROVING THE INTERFACE

Improve the interface between services and communities takes a number of forms:

- Engaging parents more effectively
- Engaging communities more effectively
- Co-production and co-design
- Place-based approaches

Centre for Community Child Health (2010). **Engaging marginalised and vulnerable families.** *CCCH Policy Brief No. 18.* Parkville, Victoria: Centre for Community Child Health, Murdoch Children's Research Institute

Moore, T.G. (2017). Authentic engagement: The nature and role of the relationship at the heart of effective practice. Keynote address at ARACY Parent Engagement Conference ~ *Maximising every child's potential* ~ Melbourne, 7th June.

WHAT VULNERABLE FAMILIES NEED

Reviews of the evidence (CCCH, 2010; Moore et al., 2012) suggest that what vulnerable and marginalised families need are services that

- *help them feel valued and understood, and that are non-judgmental and honest*,
- have respect for their inherent human dignity, and are responsive to their needs, rather than prescriptive,
- *allow them to feel in control and help them feel capable, competent and empowered,*
- are practical and help them meet their self-defined needs,
- *are timely, providing help when they feel they need it, not weeks, months or even years later, and*
- provide continuity of care – parents value the sense of security that comes from having a long-term relationship with the same service provider.

COMMUNITY ENGAGEMENT

Moore, T.G., McDonald, M., McHugh-Dillon, H. & West, S. (2016). **Community engagement: A key strategy for improving outcomes for Australian families.** *CFCA Paper No. 39*. Melbourne: Child Family Community Australia, Australian Institute of Family Studies.

EFFECTIVE COMMUNITY ENGAGEMENT STRATEGIES

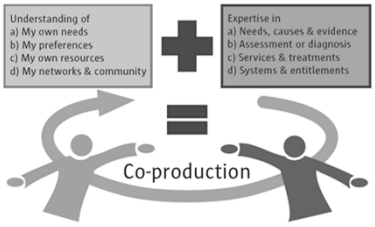
Effective community engagement involves:

- *starting from the communities' own needs and priorities rather than those dictated from outside*
- inviting and building local autonomy, giving leadership to people in the community and acting as a resource to them
- *building the capacity of families and communities to meet their own needs more effectively*
- having a flexible service system that can be tailored to meet local needs
- *balanced partnerships between providers and consumers based on mutual trust and respect*
- working *with* communities, not doing things *for* them or *to* them
- *information sharing so that communities can make informed decisions*
- providing communities with choices regarding services and intervention options

Sam Morley (2015). **What works in effective Indigenous community-managed programs and organisations.** CFCA Paper No. 32. Melbourne: Aust Institute of Family Studies.

The following factors are common to successful community-managed programs and organisations:

- the community has ownership of and control over decision-making;
- culture is central to the program, including an understanding of local context, history and community leaders;
- local Indigenous staff work on the program or in the organisation;
- good corporate governance exists;
- Indigenous staff are working on programs and existing capacity is harnessed;
- trusting relationships with partners are established;
- flexibility in implementation timelines.



Murray (2010). **Fair Start: A Personalised Pathway for disabled children and their families**

PARENT ENGAGEMENT RESOURCE (PER)

- The *Parent Engagement Resource* is designed to help practitioners who work with the families of young children to have meaningful conversations with families about psychosocial factors that may be compromising parenting and family functioning.
- The PER uses a parent-response format and a family-centred approach that avoids making judgements or apportioning blame, and gives parents control over the decisions made

Centre for Community Child Health (2013). **The Parent Engagement Resource: A handbook for practitioners.** Parkville, Victoria: Centre for Community Child Health, Murdoch Childrens Research Institute

PARENT ENGAGEMENT RESOURCE (cont)

- The PER is a 16-item questionnaire, with two 'lead in' questions and two 'lead out' questions
- It addresses 12 psychosocial issues that are known to affect parental and/or family functioning and have an adverse affect upon child development and well-being
- Each of the 12 central questions focuses on parental concerns about the impact of the particular issue on the child or children
- The PER includes decision-making algorithms for each question to guide the professional in responding to parental concerns

Centre for Community Child Health

CONCLUDING COMMENTS

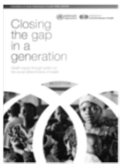
CONCLUDING COMMENTS

- The dramatic changes that have occurred in our societies over the last half a century have affected the conditions under which families are raising young children, and therefore children's developmental and health outcomes
- While some of these changes are for the better, not all of the benefits have been equally distributed, and some of the changes appear not to be beneficial at all
- While we need to improve our services to families, especially in the light of the evidence about the first 1000 days, we need to place a much greater focus on building more supportive communities, and ensuring that the services we provide a much more responsive to emerging family and community needs

CONCLUDING COMMENTS (cont)

- One of our main aims should be to improve the conditions under which families are raising young children
- This implies a more oblique approach to meeting the needs of families facing multiple challenges
- It also suggests a lighter approach to service delivery – sometimes less is more
- It also implies a different way of working with families and communities – using a more responsive, interactive and collaborative approach

THE SOCIAL DETERMINANTS OF HEALTH



Commission on Social Determinants of Health (2008). **Closing the gap in a generation: Health equity through action on the social determinants of health.** Geneva, Switzerland: World Health Organisation.

According to the WHO's *Commission on Social Determinants of Health* (2008), action to promote health must go well beyond health care - it must focus on the conditions in which people are born, grow, live, work, and age, and in the structural drivers of those conditions, namely inequities in power, money, and resources.

Action on the social determinants of health must involve the whole of government, civil society and local communities, business, global fora, and international agencies.

It will also take a dual focus on the health of the planet and the health of human societies

Susan Prescott (2015). **Origins: An early life solution to the modern health crisis.** Perth, Western Australia: The University of Western Australia Publishing.

The importance of a healthy start applies to virtually all body systems. Adverse conditions in early life can have lasting effects on all aspects of growth and development.

These very early effects on both structure and function shape our physiological (functional), immune, metabolic, and even psychological and behavioural response patterns to the environment, and can have lifelong effects. Most importantly, these effects can influence our susceptibility to diseases decades later.

It is logical that promoting 'optimal conditions' in early life is the best hope we have of hardwiring 'healthy' physiological, structural, immune, metabolic and behavioural-response patterns in order to prevent so many avoidable diseases.

Dr. Tim Moore
Senior Research Fellow
tim.moore@mcri.edu.au

Melbourne Children's
A world leader in child and adolescent health

Centre for Community Child Health
The Royal Children's Hospital Melbourne
50 Flemington Road Parkville Victoria 3052 Australia
www.rch.org.au/ccch

The Centre for Community Child Health is a department of The Royal Children's Hospital and a research group of Murdoch Children's Research Institute.