

# Regional Initiatives: Building Health and Wellbeing in the First 1000 Days

First 1000 Days Australia and The Australia-Indonesia Centre



UNIVERSITAS  
INDONESIA  
*Veritas Publicus, Veritas*

FACULTY OF

MEDICINE



MONASH  
University



THE UNIVERSITY OF  
MELBOURNE

© First 1000 Days Australia, 2018  
ISBN 978 0 7340 5444 9 (print) | 978 0 7340 5443 2 (online)

First published June 2018

This work is copyright. It may be reproduced in whole or part for study or training purposes, or by Aboriginal and Torres Strait Islander community organisations, subject to an acknowledgment of the source. It is not for commercial use or sale. Reproduction for other purposes or by other organisations requires the written permission of the copyright holder.

Additional copies of this publication (including a PDF version on the First 1000 Days Australia website) can be obtained from:

**First 1000 Days Australia**

Indigenous Health Equity Unit, Centre for Health Equity  
Melbourne School of Population and Global Health

The University of Melbourne, Vic. 3010 AUSTRALIA

**T** +61 3 8344 3175

**E** iheu-admin@unimelb.edu.au

**W** www.first1000daysaustralia.org.au

**Authors:** Elizabeth McLachlan, Endang Surjaningrum, Indah S. Widyahening, Dewi Friska, Dessie Wanda, Jane Fisher and Kerry Arabena

**Managing Editor:** Jane Yule @ Brevity Comms

**Report Design and Printing:** Svetlana Andrienko @ Studio Elevenses

**For citation:** First 1000 Days Australia & The Australia–Indonesia Centre 2018, *Regional Initiatives: Building Health and Wellbeing in the First 1000 Days*, Indigenous Health Equity Unit, The University of Melbourne, Melbourne.

**Terminology**

Unless noted otherwise, throughout this document the term ‘Aboriginal’ should be considered inclusive of both Aboriginal and Torres Strait Islander peoples.

# Table of Contents

<b>Acknowledgments and Abbreviations</b>	<b>ii</b>
<b>Introduction</b>	<b>1</b>
<b>Family Empowerment and NCD Prevention through a Healthy Start to Life</b>	<b>2</b>
About the project	2
The situation in Australia	3
The situation in Indonesia	6
<b>The First 1000 Days</b>	<b>8</b>
First 1000 Days Australia	8
First 1000 Days in Indonesia	9
<b>NCD Prevention from Early Life/The First 1000 Days</b>	<b>10</b>
Pre-conception	10
Pregnancy	10
After birth	11
NCD prevention and policy	12
<b>Roundtable Discussions: Themes</b>	<b>14</b>
Family empowerment	14
Gender	16
Cognitive development	19
Preparing for parenthood	23
Community and culture	25
Workforce and education	28
Policy	29
Research	31
<b>Conclusion and Recommendations</b>	<b>32</b>
<b>References</b>	<b>34</b>

## Acknowledgments

The authors would like to thank all the participants who attended the roundtable forums, and their sponsoring organisations, as well as the following people and organisations for their valued contributions to the project:

- Professor Rizal Damanik, Insitutut Pertanian Bogor
- Belinda Morton, Families as First Teachers
- Lisa Thorpe, Bubup Wilam for Early Learning: Aboriginal Child and Family Centre
- Samantha French, Aboriginal Housing Victoria
- Olivia Burr, The University of Melbourne
- Rebecca Ritte, The University of Melbourne
- Dr Rina Agustina, Universitas Indonesia
- Dr Budi Wiweko, Universitas Indonesia
- Puskesmas Cengkareng, Father Class Program
- National Population and Family Planning Board (BKKBN) Jambi
- SAD Program
- The Australia–Indonesia Centre

## Abbreviations

<b>AHV</b>	Aboriginal Housing Victoria
<b>BKB</b>	Bina Keluarga Balita
<b>BKKBN</b>	Badan Kependudukan dan Keluarga Berencana Nasional
<b>BKR–Genre</b>	Bina Keluarga Remaja dan Generasi Berencana
<b>FaFT</b>	Families as First Teachers
<b>NCDs</b>	non-communicable diseases
<b>NGOs</b>	non-government organisations
<b>NT</b>	Northern Territory
<b>WHO</b>	World Health Organization

## Introduction

Throughout 2016–2018, the Australia–Indonesia Centre, a joint initiative of the Australian and Indonesian governments, funded 13 project groups that together formed a Health Cluster to further the prevention of non-communicable diseases (NCDs).

Collectively, the aim of the Health Cluster was to increase understanding, research and knowledge on the importance of reducing NCD risk factors in both Australia and Indonesia, and to influence policy and practice in the effective primary prevention of NCDs (The Australia–Indonesia Centre 2016).

This Regional Initiatives paper is the result of the work of one of these Health Cluster projects – ‘Family empowerment and non-communicable disease prevention through a healthy start to life (the first 1000 days)’.

The project’s focus is on the early years, antenatal engagement, the holistic prevention of NCDs, and building strong family environments to ensure that all children thrive, with a particular lens on families in the Indigenous communities of Australia and Indonesia.

Formed by a team of leading academics from the University of Melbourne, Universitas Indonesia, Institut Pertanian Bogor and Monash University, the project involved holding two roundtable discussions, one in Indonesia and one in Australia, on enabling family empowerment and NCD prevention through a healthy start to life. They involved around 50 policy makers, frontline

workers, academics, service providers and representatives from non-government organisations (NGOs) to share and develop novel strategies for NCD prevention from within the early infancy period that are applicable to the Indigenous communities of Australia and Indonesia. The roundtables provided a platform to discuss, evaluate and offer recommendations on current research, programs and policies in Australia and Indonesia, and to build a core knowledge base about the importance of the first 1000 days.

The Regional Initiatives paper presents the key themes and recommendations from these two roundtable discussions around the prevention of NCDs during the first 1000 days of a child’s life, which includes the pre-conception stages (before the child is conceived). It begins by providing an overview on the two countries involved, Australia and Indonesia, and their policies and actions surrounding the first 1000 days and NCD prevention. The paper then briefly examines the literature on the origins of NCDs from early infancy, and presents the key themes from the roundtable along with some case studies from both countries. Finally, it puts forward recommendations for future policy, education and research.

*The roundtables provided a platform to discuss, evaluate and offer recommendations on current research, programs and policies in Australia and Indonesia, and to build a core knowledge base about the importance of the first 1000 days.*

# Family Empowerment and NCD Prevention through a Healthy Start to Life

There is now a body of research that recognises the importance of a healthy start to life, particularly the first 1000 days from conception to the age of two, on an individual's health and wellbeing throughout the life course (First 1000 Days Australia 2018; Moore et al. 2017; The Lancet 2016).

The influences on an infant from pre-conception stages to two years of age are increasingly shown to affect the risk factors for non-communicable diseases in the future. This period of a child's life also presents a unique opportunity to lay a strong foundation for the health and wellbeing of that child throughout their life course and for future generations.

NCDs are now the most common cause of pre-emptive morbidity and mortality in the world and were the cause of approximately 70 per cent of deaths worldwide in 2012 (WHO 2017). As such, they can have resounding adverse social and economic impacts on individuals, families, communities and countries. Addressing primary prevention of NCD risks is especially challenging in families experiencing vulnerabilities, as they often have the most to gain from such interventions due to the disproportionately high burden of disease.

Also known as chronic diseases, NCDs are caused by non-infectious agents, are non-transferrable, tend to be of long duration, and are the result of a combination of genetic, physiological, environmental and behavioural factors (WHO 2017). Examples of NCDs include autoimmune diseases, cardiovascular disease, cancers, respiratory diseases, diabetes, and musculoskeletal disorders (Baird et al. 2017).

## About the project

Formed by leading academics in the field of Public Health and Community Medicine from the University of Melbourne, Universitas Indonesia, Institut Pertanian Bogor and Monash University, The Project Group is led by Professor Kerry Arabena, Executive Director of First 1000 Days Australia at the University of Melbourne. It consists of a core team:

- Dr Indah Widyahening, Universitas Indonesia
- Dr Dewi Friska, Universitas Indonesia
- Dr Dessie Wanda, Universitas Indonesia
- Professor Jane Fisher, Monash University
- Professor Rizal Damanik, Institut Pertanian Bogor
- Dr Endang Surjaningrum, The University of Melbourne
- Ms Elizabeth McLachlan, The University of Melbourne

The overall objectives are:

- To **explore** research, policies and approaches that target infancy and early childhood, that support good health and wellbeing, and that will reduce NCD risk factors throughout the life course.
- To bring together stakeholders and experts from a range of sectors to increase **collaboration**.
- To **learn** innovative approaches and knowledge from other experts and countries.
- To provide **recommendations** for research, policy and implementation strategies that will prevent NCD risk and promote good health and wellbeing during the first 1000 days and beyond.

## Project methodology

The project team engaged at various times using video conferencing and met for the first time at the Indonesia–Australia Research Summit in Indonesia in 2016. After some delays on the project, the two Australian researchers travelled to Indonesia in 2017 where they were able to meet with the Indonesian delegates to establish its direction. This also gave them the opportunity to engage with other key stakeholders and to visit a first 1000 days program at a community health centre.

In October 2017, eight Indonesian delegates joined 16 Australians to hold the first roundtable discussion on 'NCD prevention from early childhood and family empowerment'. This purposefully coincided with the First 1000 Days Australia Summit at which the Indonesians were able to exchange their wealth of knowledge and present on their research.

The roundtable in Brisbane saw 24 representatives from policy, community and government health services, nutrition, midwifery, local council and NGOs come together to share their knowledge and experiences on working in the first 1000 days' time period in different contexts and cultures. Professor Kerry Arabena facilitated the discussion, which was guided by participants' priorities and experiences before using the UN's Sustainable Development Goals (UN 2015) as a framework to approach the prevention of NCDs during the first 1000 days. The roundtable concluded with a discussion on strategies and recommendations for future research.

In November 2017, Universitas Indonesia hosted the second roundtable in Jakarta, which brought together a range of prominent policy-makers, academics, NGOs and representatives from health services. Six Australian delegates, three of whom were from the First 1000 Days Australia Council, joined 20 Indonesian professionals at the roundtable who were invited to present on

their work. Participants were then offered the chance to discuss the presentations and draw conclusions and recommendations for addressing NCDs from the early years in Australia and Indonesia. The roundtable concluded with the opportunity to put forward research questions.

The core team held a concluding meeting to define their aims and actions for the project and for working together in the future. This Regional Initiatives paper emanated from these discussions and the findings from the roundtables. Its purpose is to provide a framework from which to articulate a vision for 'what works' across Indonesian and Australian Indigenous populations to address and prevent NCDs during early life, from pre-conception to the age of two.

### Limitations and challenges

The main challenges were language barriers, associated unexpected costs, managing multi-party International contracts and utilising finances across the two countries. These were minimised by exceptional efforts from all the core team to cooperate and overcome barriers. As each researcher lacked a depth of knowledge about the other country's systems, experts and culture, the project was challenging, but also rewarding as the team worked together to learn and explore. The Indonesian researcher based at the University of Melbourne was key to managing these limitations as she was able to navigate the systems of both countries and to translate if required.

### Defining Indigeneity

The most prominent challenge faced during the project was the conceptualisation of 'Indigenous'. In Australia there exist distinct definitions and little contradiction on the identification of the Indigenous populations (Aboriginal and Torres Strait Islander people). In Indonesia, however, there remains some ambiguity on the definition of Indigenous, creating a major barrier to narrowing the focus of the project.

Due to these contested definitions of Indigeneity in Indonesia, it was decided that the project would use the Indigenous-conceived of and led model of the First 1000 Days to explore NCD prevention and programs in both countries. First 1000 Days Australia is a holistic model that takes an ecological perspective, including everything that contributes to health and wellbeing.

The project scope would include all Indonesian programs, but the focus would be on Indigenous programs where possible. There has not yet been any distinction made in examining Indigenous populations in Indonesia, however, predominantly the work in Australia is focused on Aboriginal and Torres Strait Islander people and programs.

## The situation in Australia

### Aboriginal and Torres Strait Islander people

Aboriginal and Torres Strait Islander people are now known to have inhabited Australia for approximately 65,000 years (Davidson & Wahlquist 2017), making them the oldest continuing culture on the planet. At the time of colonisation in 1788, Australia was made up of communities with more than 250 languages, 120 of which are still spoken today (AIATSIS 2017).

Aboriginal and Torres Strait Islander peoples have many diverse and rich cultures, and are renowned for strong connections to family and community and a unique attachment to their lived environment and ecosystems. Today, Aboriginal and Torres Strait Islander people make up 2.8 per cent of the Australian population of 25 million (ABS 2017), have a much younger median age (22 years) than the non-Indigenous population and a greater percentage (11.4%) aged 0–4 years (ABS 2017). A growing majority (79%) of Aboriginal and Torres Strait Islander people live in urban settings (ABS 2017).

Culture continues to be central to the health and wellbeing of Aboriginal and Torres Strait Islander people, which is demonstrated in the continuing use of Indigenous healers and practices, and the decisions they make regarding their own health and wellbeing (Australian Government 2013:9). Aboriginal and Torres Strait Islander people have a holistic view of health and wellbeing. As such, connection to culture, past and attachment are ways to improve people's health and wellbeing, resilience and self-esteem (Emerson, Fox & Smith 2015):

*Aboriginal and Torres Strait Islander health means not just the physical well-being of an individual but refers to the social, emotional and cultural well-being of the whole Community in which each individual is able to achieve their full potential as a human being thereby bringing about the total well-being of their Community. It is a whole of life view and includes the cyclical concept of life–death–life (National Aboriginal Health Strategy Working Party 1989).*

Aboriginal and Torres Strait Islander people in Australia share with other Indigenous peoples the experience of colonisation that has been the cause of, and continues to exacerbate, inequity and vulnerabilities. They are also united by the sharing of 'a continuing legacy of resilience, strength and determination' (Australian Government 2013:8). The racism they experience continues to have enormous impacts on health – it affects access to services, reduces a sense of self and self-esteem, and increases

## Australia

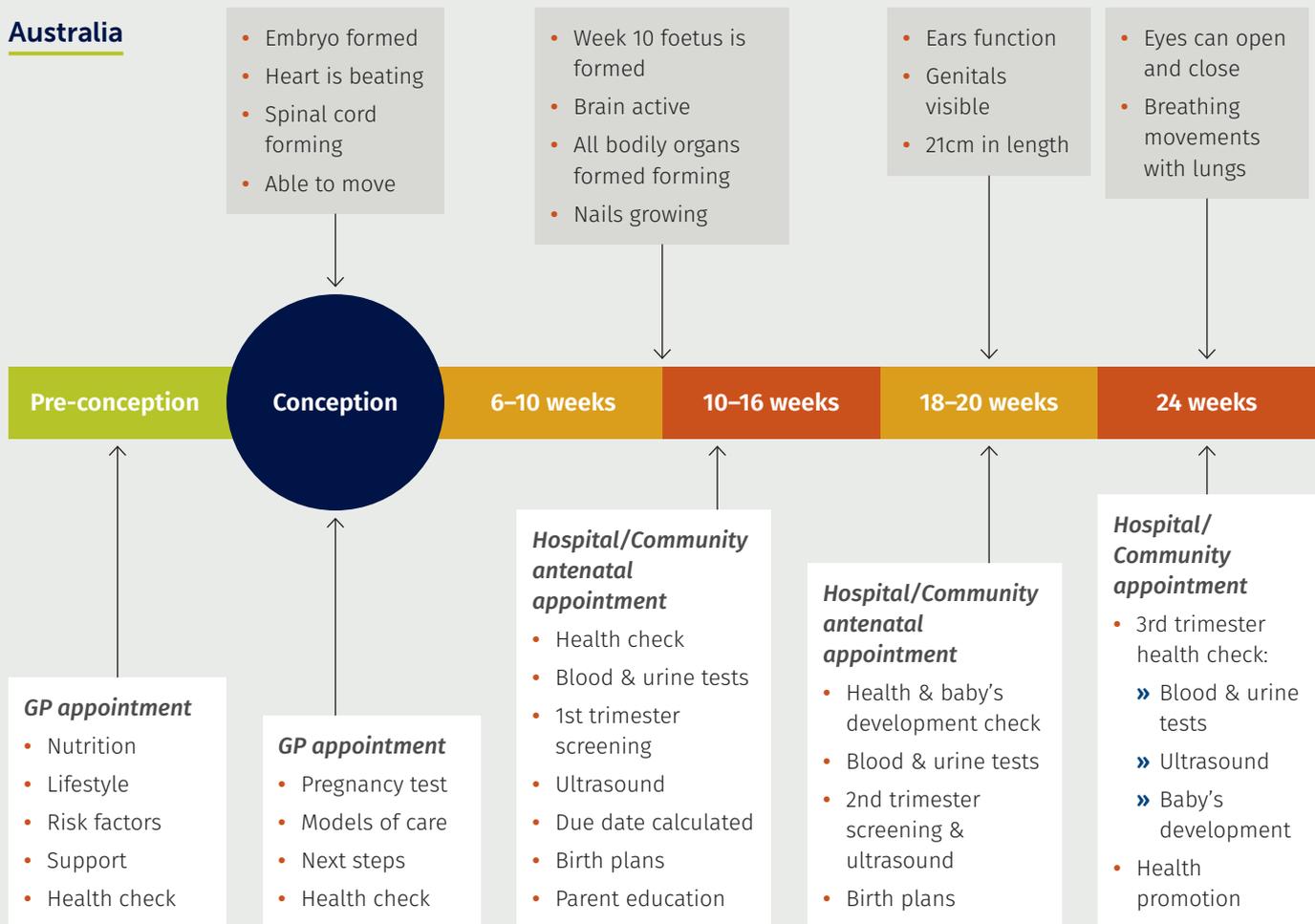


Figure 1: Pregnancy development and intervention timeline Australia

episodes of self-harm (Moore et al. 2017). Aboriginal and Torres Strait Islander Australians also endure ongoing human rights violations, such as the separation of so many of their children from their families into out-of-home care. The legacy of colonisation has resulted in complex intergenerational trauma and other vulnerabilities such as drug and alcohol abuse, domestic violence, and a disproportionate burden of non-communicable diseases (Moore et al. 2017:26). Compounding this, Aboriginal and Torres Strait Islander people are constantly described in deficit and negative images and language, which only serve to maintain this situation.

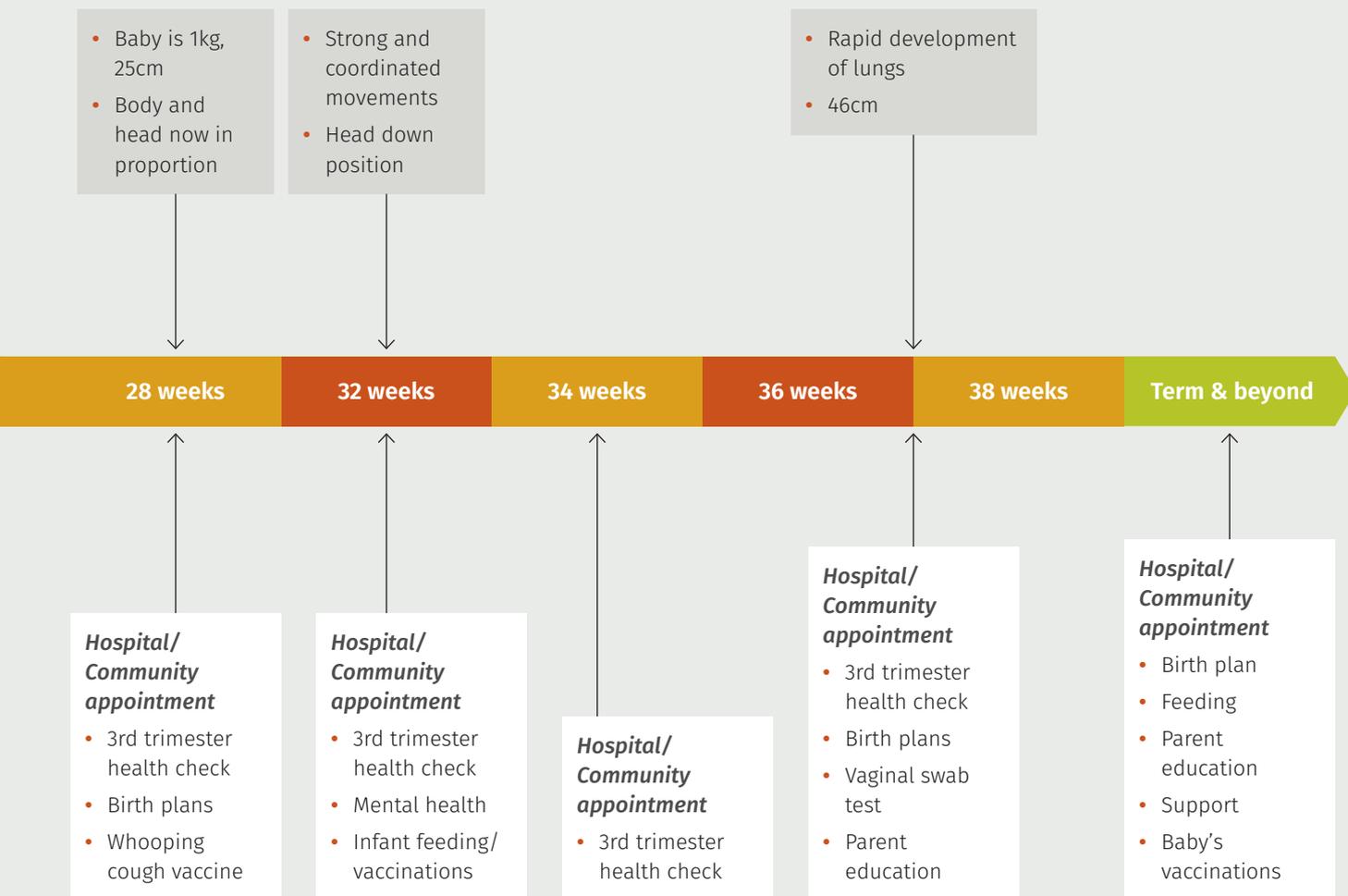
### Australian health system

The Australian political system consists of three levels of government – federal, State and Territory, and local – all of which take responsibility for funding, governing and managing different aspects of the health system. Although funding predominantly comes from the federal government, most hospitals are managed by State governments. Federal, State and Territory, and local governments also fund and deliver community health

programs and Aboriginal and Torres Strait Islander health services, as well as a range of other services. In particular, local government takes responsibility for guiding community and home care services, as well as public health and health promotion initiatives such as immunisation, smoking cessation and promoting physical activity and environmental health-related services.

The health system in Australia is made up of both private and public sector providers and is supported by various other agencies. In 2013/2014, 68 per cent of overall health funding came from government, with the remaining 32 per cent made up from individuals, including out-of-pocket expenses, private health insurance and accident cover schemes.

Australia has a universal public health insurance scheme, Medicare, which covers or subsidises Australian citizens' public hospital treatment and medical practices, along with a wide range of prescribed pharmaceuticals. Medicare also covers the scheduled cost for an appointment with a doctor (bulk billing), who may choose to charge more than this and, if so, the patient must pay the gap fee. While the



public system is available to all Australian citizens free of cost or at minimal cost, people can choose to pay for a variety of private health cover plans and care packages to suit their own needs. They may opt to pay for private health insurance that offers bonus benefits, covers various medical treatments and extras and enables them to access private hospitals. There are a large number of private hospitals, which are also partly funded by the Australian Government and fall under government regulation.

**The Australian Government funds more than 140 Aboriginal Community Controlled Health Services (ACCHSs) across Australia. These integrated primary health services were initiated, and continue to be governed and managed, by the Aboriginal community in which they are located. The services take a holistic approach to health delivering multi-functional services in the one location. The aim of ACCHSs is to deliver culturally appropriate, first contact health services to the Aboriginal community they serve (NACCHO 2018).**

The current Australian health system is complex with a lack of coordination between services and providers, which often leaves people isolated in the system and without any continuity of care (AIHW 2012:10). As such, it can be viewed as inadequate in preventing and treating people with chronic or multiple health problems.

With regard to the planning and delivery of maternity services in Australia, this is State based with a variety of options and models of care dependent on a woman's choice and their situation. Women have the options of their antenatal care taking place with an obstetrician general practitioner at a private hospital, community care, midwife-led care (private and public with either the same midwife or a small group of midwives, or a public hospital model with multiple midwives and doctors. Figure 1 refers to the range of care models and the services that a pregnant woman is likely to visit in Australia.

## Indonesia

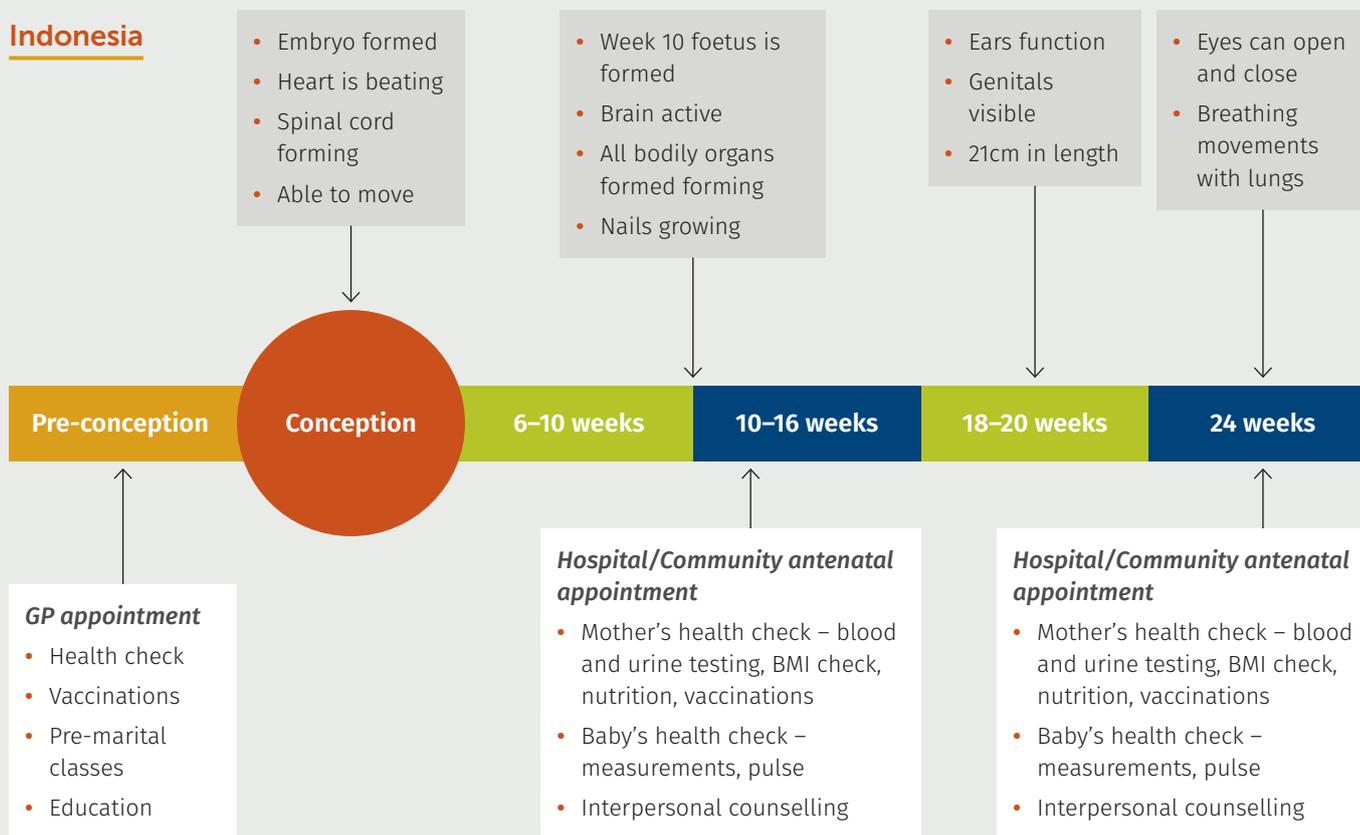


Figure 2: Pregnancy development and intervention timeline Indonesia

## The situation in Indonesia

### Indonesian people

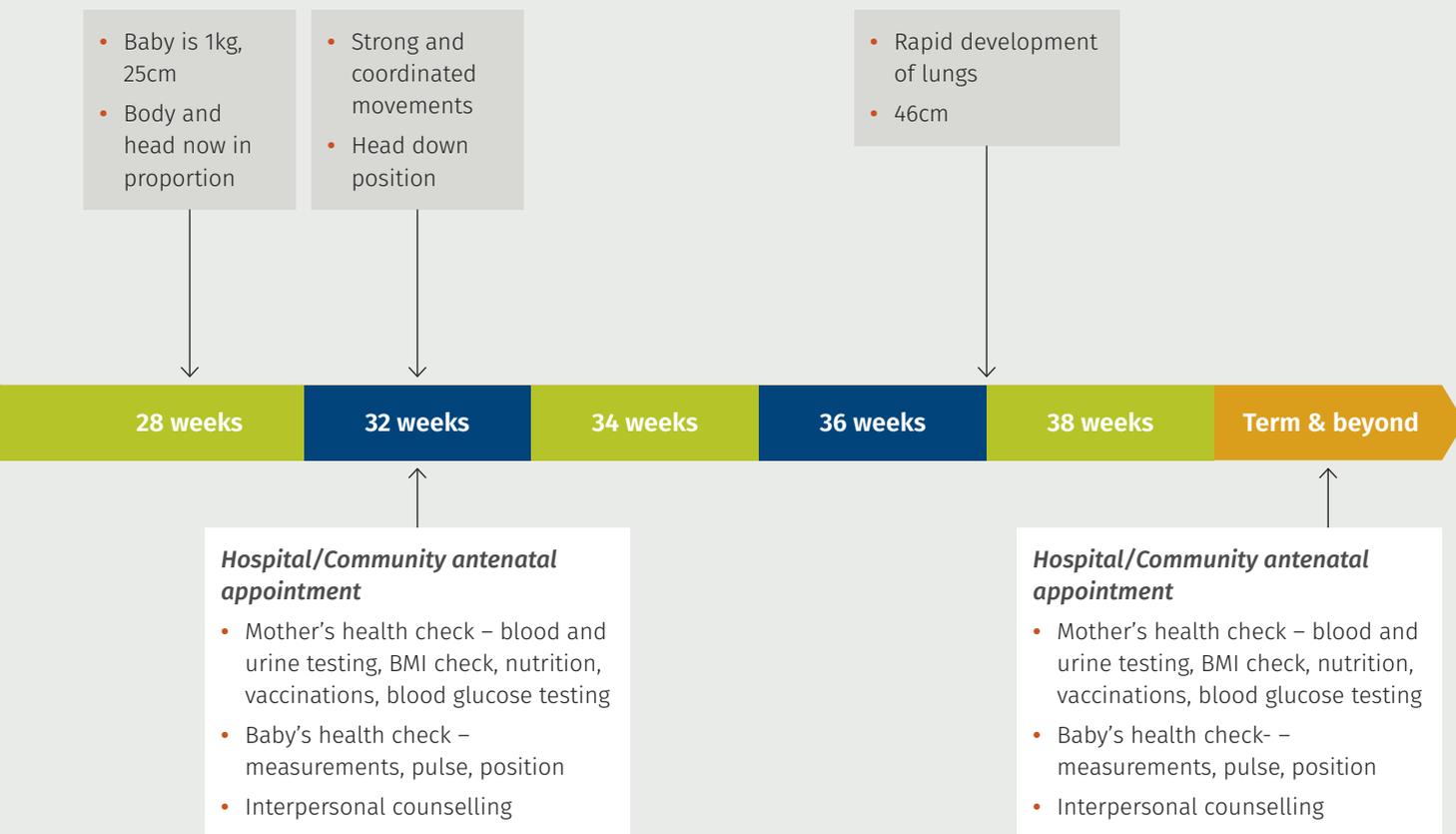
Indonesia is an archipelago country with an estimated total of 17,504 islands and home to more than 250 million people (BPS 2016), three-quarters of whom live in Java and Sumatra. Indonesia's lowest population is located in the eastern regions, namely Maluku and Papua. This large population includes numerous ethnic, cultural and linguistic groups who speak 724 distinct languages and dialects. The government recognises 1,128 ethnic groups. Several of the largest ethnic groups form more than 80 per cent of the population (Ananta et al. 2015) with the largest ethnic group being Javanese (40%), followed by Sundanese, Malay, Batak and Madurese.

Despite the richness of the multi-ethnicity of Indonesian people, statistics on ethnicity are limited. This situation has arisen out of past political concern that knowing the 'truth' about ethnic composition could result in social and political instability. However, Indonesia is a signatory to the United Nations Declaration on the Rights of Indigenous Peoples (UN 2007), with the Government arguing that the concept of Indigenous people is applicable to all Indonesians, claiming that all are entitled to the same rights with the exception of the ethnic Chinese. However, several acts, policies and international conventions ratified by the country show an inconsistency to this position.

The contested definition of Indigenous in Indonesia has two meanings. The Ministry of Social Affairs identifies Indigenous communities as *komunitas adat terpencil* – remote or geographically isolated Indigenous communities (International Work Group for Indigenous Affairs 2018). Recent government acts and decrees, however, use the term *masyarakat adat* to refer to Indigenous peoples, meaning that the Indigenous populations are those from the many groups that originate in Indonesia. Indonesia's Indigenous peoples' organisation, Aliansi Masyarakat Adat Nusantara, estimates that the number of Indigenous peoples in Indonesia lies between 50 and 70 million people (AMAN & AIPP 2017). Despite this relatively high number, these peoples are increasingly experiencing criminalisation and violence, often related to investments in Indigenous territories and the destruction of their environment (IWGIA 2018).

### Socio-demography and health status

The Indonesian population is relatively young, with a median age of 27 years (BPS 2016) and with the highest proportion under four years of age. The Indonesian Demographic and Health Survey 2012 reported that more than 90 per cent of Indonesian people are literate, and that literacy among females was 98 per cent in 2011 (BPS, BKKBN, Kemenkes—MoH & ICF International 2013). Data indicate that the longer women remain in education the more likely they are to delay the age at which they



marry, which in turn impacts on the age at which they have children. The survey also reported that 10 per cent of adolescents had started childbearing (BPS, BKKBN, Kemenkes—MoH & ICF International 2013).

Indonesian family structure is influenced by the cultural affiliation of family members. Birth order is important in determining levels of obligations, which reflect hierarchies of responsibility.

The life expectancy in Indonesia was 69 years in 2015 (The World Bank 2016). Disease epidemiology patterns in Indonesia show the increase of NCDs, while infectious diseases remain a major aspect of the disease burden. According to the Global Burden of Disease Study (Institute for Health Metrics and Evaluation 2010), stroke is the leading cause of death among Indonesians followed by cancer, with common risk factors that include hypertension, smoking, and hypercholesterolemia. Dietary risks, high blood pressure and tobacco smoking are the top three risk factors contributing to the highest proportion of burden of disease in Indonesia.

### Indonesian health system

Indonesia is a new emerging middle-income country, with the country's GDP per capita at \$3,603 in 2016 (The World Bank 2018). The administrative governance of Indonesia is divided into 34 provinces and 514 districts/municipalities, with the lower administrative units being sub-districts and

villages. These governments and districts are given full autonomy in all public services including health services, which were decentralised to provincial and district governments and organised under the Ministry of Home Affairs (Mahendradhata et al. 2017). Province and district health offices are responsible for planning and managing service delivery from the Ministry of Health (MoH) to local governments. The MoH is responsible for regulation, ensuring the availability of resources, including personnel, and supervision of social insurance schemes.

Other agencies are also involved in the health care system, such as the Social Security Managing Agency (Badan Pelaksana Jaminan Sosial) and the National Board of Population and Family Planning (Badan Kependudukan dan Keluarga Berencana Nasional or BKKBN). At the local government level, district/municipality health offices organise health services, which are provided through puskesmas, primary health care centres, and their networks, including health service posts or posyandu that exist in all villages. Local government is responsible for the provision of physical and social health services, and, together with central government, for financing public primary health care. Decentralisation improves the potential for local government to plan, budget, and implement programs tailored to local needs.

# The First 1000 Days

## First 1000 Days Australia

The internationally recognised 1,000 Days movement was established to improve maternal and infant nutrition during the first 1000 days of a child's life, and explore how interventions in this period could impact on the child's health throughout their lifetime.

Aboriginal and Torres Strait Islander people in Australia have broadened the remit of the 1000 Days movement to a holistic intervention applicable to the Australian context for families experiencing vulnerability, with a focus from conception to the age of two. The First 1000 Days Australia model seeks to build a healthy foundation for the life course for children across Australia. It aims to improve access to comprehensive primary health services, increase early years and antenatal engagement and build strong family environments by addressing drug and alcohol misuse, family empowerment and parental education, family nutrition, early life literacy, justice and child safety. As a result of its holistic nature, First 1000 Days Australia is a key early life prevention strategy for non-communicable diseases.

First 1000 Days Australia has broadened the model to include holistic, biological and cultural perspectives based on the ever-growing body of international evidence on this time being critical for a child's development. The movement is led by Professor Kerry Arabena at the University of Melbourne and is guided by the First 1000 Days Australia Council, a group of leading Indigenous practitioners and researchers in this area.

*First 1000 Days Australia aims to provide a coordinated and comprehensive approach to strengthen resilience, leadership and innovation in Aboriginal and Torres Strait Islander families to give their babies the best start to life.*

First 1000 Days Australia is an Indigenous designed and led model that will utilise a strengths-based approach to strengthen the capacity of families to raise culturally knowing and motivated children, encourage family-based entrepreneurial solutions, and provide comprehensive early life services that move beyond a programmatic response.

First 1000 Days Australia is developing strategies and processes to support a model that uses the period from pre-conception to the age of two, as a time to:

- **Build resilience** – Support families, organisations and communities to better prepare for, respond to and transform from disruption in Australia and elsewhere in the world.
- **Learn and innovate** – Generate important new knowledge that addresses some of the most complex issues facing our families, and catalyse innovation through cross-cultural and interdisciplinary exchange.
- **Lead regional initiatives** – Foster high levels of commitment to and alignment with the vision, values, resources and infrastructure to support family strengthening before and during the first 1000 days.
- **Generate and use evidence for impact** – Produce robust, applicable research evidence about what works, promote the implementation of high-impact and cost-effective programs, and build a workforce with the capacity to influence the adoption and scale of such interventions.

The First 1000 Days Australia model is currently a growing, grassroots movement in Australia. It has been written into several key documents including the Redfern Statement (NCAFP 2016) and the Children's Rights Report (AHRC 2015), and is being implemented as a research model in four pilot regions. Although the model guides programs and policies, it is yet to be taken up by government on a large scale.

The roundtable discussions utilised the First 1000 Days Australia model as a framework to explore current strategies on NCD prevention in both Australia and Indonesia.



Participants at the second roundtable discussion held in Jakarta, November 2017

## First 1000 Days in Indonesia

First 1000 Days of Life in Indonesia is conceptualised within the National Movement of Scaling Up Nutrition. The movement was declared in 2013 to be part of an international commitment to achieve a strategic plan to scale up nutritional health, particularly in guiding nutritional interventions to reduce the number of children who are stunted, currently 37.2 per cent of children under the age of five (Kementrian Kesehatan RI. 2013). The movement applies two intervention types focusing on nutrition.

The first, 'specific intervention', aims to directly prevent and reduce potential conditions resulting from nutrition deficiency. The intervention is conducted by the Ministry of Health through its *puskesmas* or health centres and is integrated in health service posts or *posyandu*. It targets three groups:

- 1 Pregnant women – to increase the intake of supplement foods, iron and folic acid and iodine deficiency eradication.
- 2 Postpartum mothers and babies aged 0–6 months – target groups for breastfeeding education and early breastfeeding programs.
- 3 Breastfeeding mothers and children aged 7–23 months – through child growth monitoring at their *posyandu*.

The second intervention is an indirect approach called the 'sensitive intervention', which targets the general population and is multi-sectoral, involving other ministries and boards, including the Board of Population and Family Planning, agriculture, education and health. This intervention aims to prepare young females for pregnancy and parenting. In addition, it takes into consideration the influence of poverty, education and gender inequality on malnutrition and identifies these as areas that need to be addressed. Currently, the Indonesian government facilitates the implementation of the program in 100 districts/municipalities (Tim Nasional Percepatan Penanggulangan Kemiskinan 2017).

Since the declaration, several district governments have implemented the program in various ways. For example, in 2013 the District Tolikara health office in Papua established a team to monitor and guide nutritional support to pregnant women through the delivery process until their babies are two years of age. Over the past five years, the program has reduced maternal and child mortality by 90 per cent. *Posyandus* in other districts provide education about nutrition and parenting to midwives and community health workers.

# NCD Prevention from Early Life/The First 1000 Days

The first 1000 days is now widely considered a period of ‘maximum developmental plasticity and, therefore the period with the greatest potential to affect health and wellbeing over the life course’ (Moore et al. 2017).

The determinants of an individual’s health ‘operate at early life stage – maternal and infancy, adolescence, adulthood and older age – both to immediately influence health and as a foundation for future health’ (AHMAC 2017:12). There now exists a substantial body of work on the origins of adverse health conditions and chronic diseases from early life, in particular obesity and heart disease (Gluckman et al. 2008; Barker 2004; Hanson & Gluckman 2015; Uauy et al. 2013). The first 1000 days can also set the foundation for future health and wellbeing that can either build resilience or, alternatively, increase the likelihood of high-risk lifestyles, such as excessive alcohol consumption or drug use, that will cause NCDs. As such, the first 1000 days from pre-conception also presents significant opportunities to benefit a child’s own and future generations by improving health and wellbeing in infancy.

## Pre-conception

The Lancet Commission on Adolescent Health and Wellbeing (Patton, Sawyer, Santelli et al. 2016) and The Lancet Series on Pre-conception Health (The Lancet 2018), showed the importance to children’s health outcomes of their mother, and, to a lesser degree, their father enjoying good pre-conception health and wellbeing. Although it is difficult to define the pre-conception period, it has been shown that a parent’s lifestyle (diet, fitness, weight) prior to conception is associated with an increased risk of their future children developing ‘cardiovascular, metabolic, immune, and neurological morbidities’ (Fleming et al. 2018) later in life. Further, approaches that support and improve good health and wellbeing during adolescence are vital because it is during this developmental period that people are more susceptible to setting a lifestyle and habits that are likely to be maintained into adult life (Patton, Olsson, Skirbekk et al. 2018:458).

In addition, there is a growing body of evidence showing the importance of interventions (nutritional and other) at conception, rather than during pregnancy (Stephenson et al. 2018), on the health and wellbeing of any children in the future. This, therefore, emphasises both the importance of holistic, population-level interventions that will improve the health and wellbeing of people when they are planning a pregnancy, but also of programs that promote the establishment of healthy habits during adolescence that can be carried forward throughout life.

The age of conception also affects health and wellbeing outcomes, with adolescent motherhood a strong predictor of low birthweight, pre-term birth and stunting in the infant (Patton, Olsson, Skirbekk et al. 2018:459). Pregnancies that occur when the mother is at a younger age are more likely to result in adverse outcomes for the child and therefore higher risk factors, as the pregnancy is less likely to be planned (Baird et al. 2017: 6). The earlier that women become pregnant, the less likely they are to continue education, gain employment and further their skills and social development (Baird et al. 2017:6).

## Pregnancy

Prior to birth, the human body grows and changes at a faster rate than at any other point in its development, and is enormously influenced by its environment. It is during this stage, as it prepares for birth and survival outside the womb, that the foetus is highly malleable and changes according to the environment of the womb. If the foetus is subject to adverse conditions – such as to chronic stress or lack of nutrition – it will adapt to survive in an external environment accordingly (Moore et al. 2017:4–6). This adaptation continues after birth. Environmental influences include the mother’s metabolism, exposure to stress, nutritional intake and/or body composition.

Changes that occur in utero can persist across the lifespan and have been associated with an increased risk of chronic diseases (Moore et al. 2017:7). This can be referred to as *predictive mismatch*, one aspect of the Developmental Origins of Health and Disease hypothesis and one of two mismatches widely associated with the onset of NCDs and chronic diseases in later life. *Predictive mismatch* occurs during foetus development in utero, which is designed to assist the foetus to manage life after birth, and is also often found to lead to allergies, insulin resistance and a range of other NCDs.

The second mismatch, *evolutionary mismatch*, occurs as a direct result of changing global environmental conditions and living situations, such as the comforts of modern living associated with globalisation and Westernisation, migration caused by conflict, urbanisation and climate change. These changed global conditions mean that, during development, infants are not exposed to those original conditions for which they were evolutionarily adapted – such as heat and cool, feast or famine (Moore et al. 2017, 15). This has created a situation in which bodily systems – metabolic, immune and other – do not develop to their fullest capacity (Moore et al. 2017: 15). This is increasingly thought to impact on people’s physical and mental health throughout the life course, including people’s susceptibility to NCDs and chronic conditions.

## **After birth**

### **Microbiomes**

Microbiomes are the collections of micro-organisms (bacteria, archaea, viruses, protozoa and fungi) that reside within the body’s various surfaces and secretions (Jandhyala et al. 2015). Within the first 1000 days of a child’s life, their microbiome structure is acquired through a rapid accumulation of bacteria before and soon after birth (Moore et al. 2017:16). There is increasing evidence that early life exposure to healthy or pathogenic microbial influences can have a lasting imprint on the human epigenome, impacting on one’s resilience to disease and other conditions (Moore et al. 2017:16). Microbial diversity can be influenced by the health of the mother and the environment, for example, whether or not the child is born via caesarean, experiences stress during pregnancy, is breastfed, or has access to green spaces and good hygiene (Moore et al. 2017:16). Especially considering the growing importance of inflammation-driven NCDs, an imbalance of microbiota is known to influence some of the earliest onset NCDs such as allergies and asthma (Jandhyala et al. 2015).

### **Social and environmental factors**

Social determinants of health affect the world that babies are born into, their ‘access to economic resources, status and autonomy’, which in turn influence development in early stages (Moore et al. 2017:20). As parents tend to replicate their own childhood environments – social inequity can be transferred across generations. Reducing

social inequities and improving social and environmental conditions will lessen predisposing factors to chronic conditions and reduce the development of behavioural and biomedical risk factors (AHMAC 2017). Therefore, to combat health inequities we must address the social determinants of health (Moore et al. 2017:21).

Poverty can have an enormous impact on the health and wellbeing outcomes of a child in the first 1000 days. It increases chances of sporadic working hours, domestic violence, smoking, antenatal care – caregivers are more likely to be stressed and less engaged due to external pressures.

Children require consistent response patterns and nurturing care to be able to learn appropriate behaviours and develop appropriate emotional responses (Lo, Das & Horton 2017:10). Stress on caregivers affects their capacity to provide nurturing care to their child, which in turn creates stress hormones in a child that can interfere with their mental health and behaviour in later life. According to the National Scientific Council on the Developing Child (2005/2014: 2):

*Toxic stress during this early period can affect developing brain circuits and hormonal systems in a way that leads to poorly controlled stress response systems that will be overly reactive or slow to shut down when faced with threats throughout the lifespan.*

This is important for NCD risks as many high-risk behaviours stem from poor mental health and a lack of social and emotional development. This in turn increases the risk of unhealthy behaviours, such as smoking and excessive consumption of alcohol.

Rapid learning occurs after birth, a time when brain connections are either strengthened through regular use or fade if not utilised. Access to available resources and time for learning opportunities, activities and socialisation can provide a platform for optimal cognitive development throughout the life course. This demonstrates the importance of a stimulating, cognitive learning environment, and a carer’s capacity to provide this environment, in giving the child opportunities to learn and to form the basis for its future (Moore et al. 2017:10; Emerson, Fox & Smith 2015).



*Dr Rina Agustina, Dr Dewi Friska, Dr Sundari Indriastuti, Maroochy, Aunty Lynne Matsen, Dr Indah Widyahening, Dr Dessie Wanda at First 1000 Days Australia Summit, Brisbane, 2017*

A child's interaction with their caregiver/s has an enormous impact on their future health and wellbeing. This is because a child needs secure attachment to learn behaviours, as it communicates and responds to the way a caregiver reacts. Secure attachment involves a caregiver responding to a child's stress in a consistent and caring manner so that the child can depend and trust the carer to react accordingly and respond to them.

Continual neglect or lack of response will cause a child to experience sustained stress. Trauma, abuse and neglect have strong links with cognitive and language difficulties, lower educational attainment, unemployment, poverty, heart disease, cancer and other NCDs (Moore et al. 2017:33). Inconsistent responses affect the way the child learns to interact with the world – learned behaviours that can lead to disruptive social relationships and conduct. This in turn may result in the development of adverse health risk behaviours, such as smoking, alcohol and obesity, as coping mechanisms (Moore et al. 2017:34).

Children are more susceptible to their physical environment and therefore more affected by environmental issues such as housing stability (Moore et al. 2017:38). It is also important they have access to nature as this improves children's cognitive, emotional and physical development (Moore et al. 2017:38). An isolated child and caregiver may result in a loss of support and socialisation, thereby increasing stress for the carer and reducing opportunities for the child. Infants and carers can benefit substantially from a supportive community environment (Moore et al. 2017:37).

## NCD prevention and policy

### Australia

Australia is committed to the World Health Organization's Global Action Plan for the Prevention and Control of Chronic Diseases, which aims to 'substantially reduce premature mortality by 2025' (Moodie, Tolhurst & Martin 2016:223). However, although policy language is changing to more prevention-focused approaches, the bulk of funding, policy and implementation remains predominantly focused on the treatment and management of NCDs (Moodie, Tolhurst & Martin 2016:223). This is because the current Australian health system is built around treating and curing illness. However, given that people may live for many years with non-communicable diseases, this approach may not be best suited to their management. NCDs are also the primary cause of health system utilisation – in a health system that is not equipped to manage long-term conditions (AHMAC 2017:9).

Australia has had some great successes in NCD prevention strategies, but 'with the exception of tobacco control, the data suggests there is little or no progress being made in preventing and controlling risk factors for chronic diseases in Australia' (Moodie, Tolhurst & Martin 2016:224). In 2011, NCDs were responsible for nine out of 10 deaths in Australia (AIHW 2014) and for 83 per cent of premature deaths (AHMAC 2017:9). More than 7 million Australians are currently living with a chronic condition, which have major impacts on life quality as well as social and community

costs, and personal (discrimination and isolation) and economic impacts. Aboriginal and Torres Strait Islander Australians remain disproportionately affected by NCDs and experience a much higher prevalence of risk factors than non-Indigenous Australians (AHMAC 2017:5).

Australian policies on NCD prevention are guided by the National Strategic Framework for Chronic Conditions (AHMAC 2017), which the Australian Government endorsed in 2017 through the Council of Australian Governments (COAG). There are also national and State policies for individual conditions, along with the targets to be met by 2025 that are contained within the WHO Global Action Plan.

In 2007, the National Preventative Health Taskforce was established in Australia. With a focus on tobacco control, obesity and alcohol the taskforce established a number of targets, and in 2009 COAG endorsed the National Partnership Agreement on Preventive Health (COAG 2009). This agreement also contained targets but was abolished in 2014 with little progress made towards them.

The Australian Government acknowledges that a coordinated, multi-sectoral and holistic response is required to tackle NCDs, as conditions are most often preventable and caused and influenced by behavioural, structural, social and environmental determinants. The National Strategic Framework states explicitly that a coordinated and cohesive approach over a sustained period is required, which should 'empower individuals and families to make healthy choices, facilitate local leadership and encourage wider societal responsibility to address broader factors that influence health' (AHMAC 2017:19). The environmental and social impacts of NCDs mean that a service-driven approach alone cannot prevent ill health; tackling the inequities in society – the social determinants of health – is also imperative (Moore et al. 2017:20).

## Indonesia

Non-communicable diseases in Indonesia became a leading cause of death between 2010 and 2012, overtaking communicable diseases (MoH, Republic of Indonesia 2016). It is estimated that they account for 71 per cent of total deaths, having increased from 50.7 per cent in 2004 (WHO 2014). The four major diseases are cardiovascular diseases, cancers, diabetes and chronic respiratory diseases, with cardiovascular disease the leading cause of deaths. Diabetes is of particular concern, with an annual growth prevalence of 6 per cent. The number of people with diabetes is predicted to nearly double from 7.6 million in 2013 to 11.8 million in 2030 (Ivanova, Laursen & Thon 2013).

Premature deaths were significantly higher for cerebrovascular disease, diabetes and asthma (Schröders et al. 2017). The report also noted Indonesian mortality registration system data that indicates stroke, diabetes and ischemic heart disease as the most prominent causes of death in an urban district, with stroke, other heart diseases and chronic respiratory disease the leading causes of death in rural districts.

Indonesian policies on NCDs are guided by the World Health Organization's (WHO) Global Strategy for the Prevention and Control of Noncommunicable Diseases. Despite ratifying this agreement, Indonesia's policies and approaches to NCDs remain fragmented and lacking in funding and focus (Schröders 2017). Of particular concern, considering the country's high rates of tobacco use, is the Indonesian Government's failure to ratify the WHO Framework Convention on Tobacco Control and an inconsistent application of accessible universal health coverage.

Low- and middle-income countries have recently witnessed a dramatic rise in the occurrence of NCDs. This has been blamed on the changes in diet and lifestyle associated with rapidly growing economies, globalisation and urbanisation (WHO 2017). A systematic review revealed a strong association between inadequate or unhealthy diet and a wide range of NCDs (Schröders et al. 2017). National data estimate that 16–21 per cent of all Indonesian men and 26–31 per cent of all women were overweight, while almost 5 per cent of the whole population was obese.

An economic analysis estimated that the total cost associated with NCDs in Indonesia, from 2012 through 2030, will be \$4.47 trillion. The number is 5.1 times Indonesia's 2012 GDP, and almost 170 times its total health expenditure (Bloom et al. 2015), demonstrating the impact that effective preventative approaches could have.

## Roundtable Discussions: Themes

Despite the first 1000 days originating as a nutritional intervention, there was overall agreement that an expanded, holistic version of the first 1000 days is required to enable children to live healthy and happy lives. A nutritional intervention alone cannot overcome the inequities, historical context and intergenerational trauma that greatly affects children and their families.

The complex causes and risk factors that contribute towards NCDs necessarily require an approach that is multi-sectoral, collaborative and holistic. The project aims to broaden the first 1000 days from taking a focus on nutrition to include other aspects and the determinants of health and wellbeing. These overarching themes are explained in more detail here, along with examples of effective programs where appropriate and relevant.

### Family empowerment

To improve a child's health and wellbeing outcomes throughout the life course, approaches are needed that address social inequities and the social determinants of health. Approaches and strategies that build capacity for families, increase the even distribution of wealth and resources, support and empower parents and carers with education and skill development, improve gender equity and improve intergenerational living conditions were considered of optimal importance throughout the discussions. Suggestions to tackle our society's inherent inequities included the implementation of universal health cover, building economic capacity and implementing a basic wage. Only when families experiencing vulnerability and disadvantage also have the capacity to be agents of their own health and wellbeing will we be able to prevent NCDs and improve health and wellbeing outcomes over the long term.

### A definition of family

A broad, non-biological definition of family was found to be important, inclusive of any and all the immediate carers of a child, whether that be the 'mother' and 'father', the carer or nurse, grandparents, aunts and/or other family members in communal living situations.

### Feature program: More than a Landlord, Australia

#### *Aim/objective*

More than a Landlord is a strengths-based project that employs a life-coaching model to work with Aboriginal and Torres Strait Islander individuals and families to develop plans to meet their aspirations and goals. This model aims to improve the health and wellbeing of individuals, their children and families, while simultaneously enabling them to sustain their housing and maintain their homes. By providing people with agency over their lives, the model moves from a deficit service focus of responding to family crises to responding to family aspirations. It is a holistic intervention that attempts to address inequities and break cycles of trauma and poverty to improve and sustain the health and wellbeing of families and future generations.

#### *Who is involved?*

More than a Landlord is available to Aboriginal and Torres Strait Islander families and individuals living in social housing who opt in to the program. Aboriginal Housing Victoria (AHV) employs three Aboriginal or Torres Strait Islander life coaches to work with families to support them in developing and enacting plans to reach goals and aspirations for themselves and their families. These goals can encompass anything from gaining employment, finishing their education, quitting smoking or joining a sports team to ensuring their child enjoys a stable and enjoyable family environment.

#### *Who designed and leads the project?*

More than a Landlord was funded by the Australian Government Department of Social Services and the Victorian Department of Health and Human Services. Initially the project was meant to focus on improving nutrition, but AHV believed a more holistic approach was required, one that would also support families to address complex barriers to achieving good health and wellbeing. To achieve this, AHV worked with researchers at the University of Melbourne to devise a survey about their tenants' aspirations.

AHV brought together a group of key stakeholders, organisations and community members to discuss and guide how best to progress the project. To engage the community, AHV organised various community events, in particular for families, so as to build relationships, introduce families to the More than a Landlord project and recruit tenants to work as peer researchers on the program. A small group of peer researchers was then trained to carry out the survey and to engage with, and promote the survey to, other tenants.

## **Overview**

The first stage of the project was to work with the University of Melbourne to develop and carry out a household survey that would capture the context in which tenants were living – with a particular focus on housing, health and wellbeing, community and culture – and measure the ambitions of families. Following completion of the survey in July 2017, families were able to opt in to the More than a Landlord program, at which point they were assigned a life coach. The program remains in the early stages, but is growing quickly and expanding.

Life coaches provide a low-intensity intervention to support people to identify their aspirations, increase social connectedness, and strengthen their capacity to participate in positive opportunities. They schedule time to meet with their assigned individual or family at least every fortnight, with the intention of building a sound and trusting relationship. They then work with the individual to identify their aspirations and develop a plan of the short-, medium- and long-term goals required to meet these aspirations.

Life coaches then act as navigators who connect people to appropriate supports, services and organisations and identify opportunities that will help them to achieve their goals, such as avenues and access to further education and training, family and domestic violence support, resumé writing and financial planning. Sometimes life coaches need to start with overcoming small-scale challenges such as dealing with maintenance issues or paying bills. Once these smaller goals have been achieved, space is ideally created to begin focusing on longer term goals and aspirations.

While the life coaches are there to support tenants to be autonomous, people often need to be connected to experienced organisations providing the specialist skills or training required. Life coaches and other AHV staff are currently working to establish a database of these organisations and services to determine which ones are culturally safe and appropriate for Aboriginal and Torres Strait Islander people.

## **Case study**

A family participating in the program had previously been experiencing serious domestic violence and had then faced the terrible situation of the father taking his own life within the family home. Following this, the two daughters in the family also made suicide attempts.

Both the daughters and their mother began to access the More than a Landlord program and, after some time, told the life coach their story. The mother was by now pregnant with her third child, causing her further stress and risks to the unborn child. For months, the family had been living in only two rooms of the house, the other rooms too tainted with tragedy. While the mother had retained a job throughout this time, home life had been chaotic for the whole family.

Once the life coach heard the story s/he advocated for the tenants to move house. Within two months, the family had moved to a four-bedroom home that was a safe and stable environment for the pregnant mother. The life coach has also been able to support the two daughters to become involved in community sport that is providing the adolescents with social and physical benefits.

## **Achievements**

The program aims to upturn the service-driven, deficit approach that is yet to see benefits for people's health and wellbeing. Instead, its objective is to enable Aboriginal and Torres Strait Islander families to determine their own needs and aspirations with regard to self-determination, self-esteem and independence. The project has already seen some tenants gain more autonomy and much improved self-esteem. Life coaches have seen this translate into people being able to recognise mental health instability and illness, and either seek help or start to work through these challenges independently using methods they have learned to overcome mental health conditions. Life coaches have already identified more than 200 self-identified goals that tenants have achieved.

Due to increasing demand for the program, AHV is soon to implement the same model in another larger region in Victoria.

### Challenges

Due to the complex, chaotic lives of many of the AHV tenants, and the impacts of intergenerational trauma and entrenched cycles of poverty, reaching aspirational goals will be a slow process. Many face a large number of barriers on a daily basis, which is challenging for both life coaches and tenants. However, the stability for tenants of having a regular life coach to support them to build resilience and to establish methods of dealing with both successes and failures will ultimately provide long-term transitioning to achieve the autonomy, independence and confidence needed to attain their aspirations.

### In the future

Aboriginal Housing Victoria aims to roll out aspiration-based, life-coaching programs in other regional areas. The key focus of the program is Mums, Dads and young children as it reorients its more traditional approaches to supporting families to meet their goals and aspirations. The life coach strongly believes that reaching families early, particularly adolescents before they have children, is the only way to break cycles of trauma and entrenched social inequities. An intervention for people at the age of 12, a time when they are talking at school about goals and aspirations, could be the ideal entry point to shifting the mindset of adolescents on their plans, aspirations and needs as well as other lifestyle choices.

*The power of reorienting people's perceptions to believe they can think about positive change and can begin to establish aspirations and goals, is what makes the difference between one teenager wanting to smoke weed and sit on the couch and another believing they can be a doctor.*

## Gender

### Supporting women

Positioning the first 1000 days in a gendered context was considered important to ensuring the health and wellbeing of carers and children. There is a distinct need to avoid positioning the First 1000 Days as a model that both places responsibility exclusively on women, and assumes they have intuitive knowledge about parenting. Any interventions and approaches that consider the health and wellbeing of infants and children during the first 1000 days must also acknowledge and consider the risks for mothers in that time. The first 1000 days exists within a gendered social context in which family violence is common, in particular for women during pregnancy when rates of domestic violence are known to rise (Campo 2015).

Participants perceived there was also a need to consider the impact of caregiving on the carer, primarily the mother, and emphasised the need for approaches that focus on women's health rights. Any interventions need to ensure that carers can exist healthily and happily while supporting their children. This is reflected in the World Health Organization's efforts to develop a Nurturing Care Framework, which is currently reviewing the available evidence and providing guidelines later in 2018.

Perinatal depression and anxiety are major problems that can affect all family members and communities and have the potential to impact on the health and wellbeing of a child throughout their life. In Australia, 1 in 10 women experience perinatal depression during pregnancy and 1 in 5 mothers of children aged up to 24 months reported being diagnosed with depression (AIHW 2012). Perinatal depression and anxiety demonstrate the impacts of parenting on the social and emotional wellbeing of women. Participants thought that more emphasis in policy, programs and resources was required on the causes of perinatal mental health problems and their impacts, especially on younger pregnant women, some of whom lack the life experiences needed for good parenting.

Participants noted the need to focus on behaviour and on culture to prevent violence against women. The Ministry of Religion in Indonesia runs a program in the context of family planning in primary education, which focuses on relationships and preparation at pre-conception stages. Religion is taught from an early age at schools, and focuses on the importance of good relationships between men and women, including expectations that men must have respect for women.

### Involving fathers/the role of men

The role of men was considered to be extremely important during the first 1000 days and more consideration needs to be given as to how to value their contribution in families. The history of gender inequity and pervasive family violence, that is most often perpetrated by men and still exists in both countries, makes this a sensitive area to navigate. However, participants agreed on the need to involve men in a powerful and positive way, as carers, role models and fathers. Participants often referred to the need for strengths-based programs for men and the promotion of gender equity so as to support appropriate behaviour in males from a very early age.

The inclusion of the father in parenting and role modelling has been shown to have substantial influence on improving, in particular, the mental health and wellbeing of children in the future (Wilson & Prior 2011). Involving men from pre-conception could enable education on how to prepare for fatherhood, so that from conception men are ready to play a role that will prevent NCDs in later life.

Although limited, there are some excellent examples of programs for fathers that already recognise the positive contributions of men in the first 1000 days. For example, in New Zealand the Brainwave Trust examines the science of growing brains and evidence around what stimulates a little brain to grow (The Brainwave Trust: Aotearoa 2015). It is particularly focused on attachments and features work in prisons with young men, teaching them the importance of being a father and how fathers can contribute to their baby doing well. In another example, an Aboriginal man has developed and initiated a men's antenatal class in an Australian regional hospital to promote the importance of rearing a baby.

In Indonesia, a national movement called 'Alert Husband' (for husbands who are preparing, accompanying and caring for their pregnant partner) aims to deliver messages about the male carer or husband's responsibility around birth and to train midwives and community leaders in strategies to prevent maternal mortality (Hill et al. 2014). The active involvement of the male carer is proving promising in a community-based program initiated by a *puskesmas* in Jakarta, and receiving positive responses from young families in the area.

KASIH ('Kelas Ayah Sayang Ibu Hamil'), a class for partners who care for their pregnant wives, at Puskesmas Cengkareng in West Jakarta



**Feature program: Classes for fathers, 'KASIH' in Puskesmas Cengkareng – An innovative approach to first 1000 days, Indonesia**

**Aim/objective**

Classes for fathers 'KASIH' (abbreviated from 'Kelas Ayah Sayang Ibu Hamil' or a class for partners who care for pregnant wives) developed out of a need to improve family support for pregnant mothers, especially from their partners. The program was initially established to reduce maternal mortality, improve the health of infants and support the growth and development of babies.

**Timeline**

The class was initiated in 2016 as a recommendation from the Maternal and Child Health program evaluation. As demand from fathers has increased, the *puskesmas* is considering expanding class numbers.

**Who is involved?**

The program is for husbands who accompany their wives to attend antenatal check-ups in the Maternal and Child Health Unit at the *puskesmas*. Participants are put into classes of 20 people, and each group holds several 30–60 minute sessions (depending on discussion time).

**Who designed and leads the project?**

The class is conducted by Puskesmas Cengkareng, an administrative subdistrict of Jakarta, and is part of the Maternal and Child Health program. The midwife and coordinator of the *puskesmas* runs the activity, but the program is taught by several divisions in the *puskesmas* depending on the class focus. It includes midwives, nutritionists, health promotion workers, pharmacists and doctors.

*Participants agreed on the need to involve men in a powerful and positive way, as carers, role models and fathers.*

**Overview**

Puskesmas Cengkareng is one of nine *puskesmas* in the Municipality of West Jakarta. In 2017, the Ministry of Health estimated that there were more than 12,000 pregnant mothers in the *puskesmas* coverage area. The program is conducted fortnightly in small groups to ensure interaction between health workers and participants is consistent and effective. Each group has several sessions that cover specific topics delivered by specialists in the area. Included is information on the women's experiences during pregnancy, types of health examination required by women, signs of risk factors during pregnancy, nutritional needs during pregnancy, lactation massage techniques to support breastfeeding, information on the benefits of breastfeeding and the best time to start weaning, hygienic behaviours at home, medicines that are safe for the infants, and family planning options.

**Challenges**

When the program began only three participants joined the first group. Most pregnant mothers came alone to receive antenatal care, rather than being accompanied by a partner. However, health workers repeatedly sent invitations to the fathers, persistently spoke to the mothers about inviting their partners to join them, and used word of mouth to encourage participation. These strategies have successfully increased the numbers, and participating fathers are now encouraging others to join.

**Achievements**

Since 2016, the program has attracted significant numbers of men with pregnant partners, and there is currently a waiting list. This has resulted in the program coordinator considering an increase in class sizes to meet the demand. The success of the program has been attributed to the commitment of the health workers in the *puskesmas*.

A statistical comparison between 2015 and 2016 indicators has revealed possible impacts from the program. These include (i) maternal mortality declining from 12 to 6; (ii) the number of infants born with low birth weight decreasing from 137 to 52 (a baby is considered low birthweight if it's born below 2500 grams); and (iii) the number of pregnant mothers with Chronic Energy Deficiency declining from 408 to 312.

**In the future**

It is expected that this class could act as a reminder of the role of fathers in taking equal responsibility for the health of their family, especially for their wives during pregnancy. The data indicates that the class could contribute to a decline in maternal mortality, to improving the health of pregnant mothers and to helping fulfil the health rights of children.

## Cognitive development

Early learning opportunities and resources provide children with the foundation they need to develop and enjoy good health and wellbeing throughout the life course. They are also a platform for opportunities in education and other areas. Enabling all children access to these resources and opportunities is critical for a strong start to life.

### Early detection

The need for appropriate and accurate early detection of cognitive impairments to enable a better understanding of appropriate options and supports for children appeared as a theme throughout the discussions. There is a growing body of research on the importance of the first 1000 days on a child's cognitive development (Emerson, Fox & Smith 2015; The Lancet 2016; Lo, Das & Horton 2017). Hearing health, for example, was raised by Professor Kerry Arabena to highlight the importance of detecting cognitive impairments early:

*The early detection of hearing impairment to enable better learning opportunities and support might have prevented many young men from disruptive behaviours that lead them into juvenile detention in the Northern Territory. A focus on hearing health as bad hearing means children cannot communicate and often leads to them not engaging well at school. More than 90% of the young men in the NT Royal Commission (imprisoned in the Northern Territory) had undiagnosed hearing problems [see Dingle 2011]. Yet no one knew – their parents didn't know how to keep their kids' ears clean.*

Australia is now concentrating on cognitive aspects of child health and wellbeing with programs in early life literacy, and others that work with the neuroplasticity of brains. Participants acknowledged there were successful programs operating in this space, and many benefits to building the foundation for a child's ability to develop, learn and be resilient. The Abecedarian Approach, for example, is 'a combination of teaching and learning strategies for use in early childhood settings and parenting programs designed to enhance children's

cognitive, emotional and communication outcomes and readiness for school' for children aged 0–5 years (AIFS 2016). There is also 'Early Start to Kinder', a Victorian Government initiative that works closely with nurses to make sure children are starting at playgroup early and attending two years of kindergarten (State Government of Victoria 2018). The program is premised on research that shows the benefits for many children of having these years at playgroup and kindergarten.

One participant also described a program at Monash University developed by two students with a focus on building strong brains. Staff at Menzies School of Health Research then moderated the program for Aboriginal communities so that it was culturally appropriate and relevant for the community (Menzies School of Health Research n.d.). This meant the program was delivered to the whole community, who were required to understand and, in turn, take ownership of it.

### Children with disabilities

There was agreement on the benefits of identifying developmental delays and using this to provide the appropriate supports to enable a child to function at capacity. In both countries the power of social stigma was seen to inhibit families from being assessed for developmental delays. Participants discussed the limited supports available for families and infants with disabilities in Indonesia and Australia, in particular appropriate supports for Indigenous families. The system in Indonesia means that schools are obligated to accept children with disabilities even when they may not have the capacity to look after them. This in turn means that parents shoulder the risks for their child at a school and must pay for all extra support, which can create an environment where children with disabilities are not welcomed at school, generating further stigma.

Participants called for a shift in social attitudes and behaviours towards people with disabilities as it was noted that the labelling of a child (or adult) as being 'disabled' can trigger exceptional treatment that may not always benefit the child. It is vital that responses are strengths based and involve the provision of appropriate supports, rather than differentiating the individual as one who cannot participate fully in society.



Families as First Teachers Program, Yirrkala

## Feature program: Families as First Teachers, Australia

### Aim/objective

The Families as First Teachers (FaFT) program is an early learning and family support program for Indigenous families living remotely. Its aim is to improve the health and developmental outcomes for the children in these families by working with them prior to school entry. FaFT early learning activities place an emphasis both on child and adult learning and are described as dual generational. Programs involve capacity-building activities and learning opportunities for adults as well as children within playgroup sessions.

This case study focuses specifically on FaFT as it operates within the Yirrkala community in North-East Arnhem Land in the Northern Territory (NT).

### Timeline

Pilot sites for Families as First Teachers in the Northern Territory began in 2009 and the program has recently secured funding through to the end of 2020.

### Who designed and leads the project?

FaFT is place-based, which means that although the central elements of the program are the same across communities, it is responsive to individual community

contexts, needs and priorities. FaFT as a model was initially designed in Queensland but adapted in the Northern Territory to make it appropriate and suitable for families in different contexts through the NT Department of Education. It places a strong emphasis on health and capacity building.

### Overview

FaFT is currently operating in five urban programs and 32 others in remote sites across the Northern Territory. The key components of dual generational early childhood learning in FaFT programs are:

- quality child-centered early learning experiences
- nutrition, health and hygiene
- facilitated adult-child interactions through the Abecedarian Approach (AIFS 2016) including conversational reading, learning games, enriched care-giving and language priority
- adult learning opportunities
- linking families with support services and agencies.

The Yirrkala service has two staff, a Family Educator and a Family Liaison Officer. Home visits are also key for relationship building and engagement in the Yirrkala community.

### Strengths

The strengths of the FaFT program lie in its holistic nature, addressing health and development as foundational to learning and school success while remaining connected to traditional knowledge systems, language and pedagogies. Through partnering with experts in cultural and service-delivery domains, families are given knowledge and resources to exercise their learning within a culturally safe environment – a playgroup. Moreover, children are learning at the same time as adults, and develop routines around hygiene (positive eating behaviours, nose-blowing, hand-washing, teeth brushing) that support good health.

FaFT uses culture to strengthen ties between children and their carers and families, providing a strong platform from which they can grow and develop with a strong sense of identity and self-esteem. The environment and activities provide a space for parents or carers to connect and form relationships and attachments with their children, which vastly benefit the child's future health and wellbeing. The program simultaneously increases learning opportunities to improve cognitive development and introduces positive behaviours and attachments through socialisation.

FaFT has the potential to become an integrated service model connecting families with services through its existing relationships with organisations that are able to support families appropriately with parenting, health and wellbeing. In 2017, Yirrkala FaFT worked with 17 different partner organisations and groups (local and visiting) to deliver its program. Acting as navigators to connect families to organisations and services, Yirrkala FaFT provides a platform from which families are supported to access appropriate services when there is a need, reorienting the traditional service-driven approach.

*The place-based approach encourages and enables parents and carers to set their own agendas, both for themselves and their children within the program, and to pass on fundamental skills and knowledge through first language and in culturally relevant and respectful settings.*

### Challenges

A multi-faceted strategic approach has been implemented to reach, and establish relationships with, families who have young children and remain disengaged. This approach includes:

- Visiting each household in the community at the start of every year to ensure staff know who and how many young children are living in the community.
- Holding sessions with families at the commencement of each term to revise the program and set new joint goals and priorities.
- Running a daily bus service to engage and transport families to and from playgroup, including letting families know what is happening that day and encouraging attendance.
- Having regular learning-on-Country sessions to allow families to teach Yolngu culture and knowledge, and to promote wellbeing.
- Maintaining a closed Facebook page to bring FaFT families together, and share upcoming events, information, photos and videos.
- Creating a community-wide early years services pamphlet that describes each service and what it provides.
- Holding seasonal women's fitness classes.
- Attending funerals and cultural events that occur within the community to provide support and show respect for cultural practices and connections.
- Running community events and participating in/ supporting school events such as discos, sports, fetes and assemblies.
- Negotiating for families living outside the community to travel free to and from playgroup on a local bus service.
- Facilitating two blocks of six-week professional swimming lessons at the town pool each year.
- Offering ASQ-TRAK (child development) screenings to all families.
- Designing and producing resources in local language for use at home.

The greatest learning has been the critical factor that relationships play in the success of a program/service/ project.

### **Achievements**

At Yirrkala FaFT, recent years have seen high levels of participation with more than 90 per cent of children in the community enrolled and engaging in the program, and a sustained improvement in daily attendance rates. The program has demonstrated success in supporting children to transition successfully to preschool with the engagement of their families. The place-based approach encourages and enables parents and carers to set their own agendas, both for themselves and their children within the program, and to pass on fundamental skills and knowledge through first language and in culturally relevant and respectful settings.

Although Yirrkala FaFT has not been formally evaluated, in 2017 it won the Northern Territory Early Childhood Award for Excellence in Community Engagement. Formal evaluations of other FaFTs have been done on a Territory-wide level by the Northern Territory Government, which conducted a process evaluation in May 2011. From this, the initial broad approach was narrowed and the decision made to focus on early education, specifically using the Abecedarian Approach (AIFS 2016). Professor Joe Sparling, creator of this approach, worked with the NT Government to develop a tailored version that was specific to Indigenous families.

*Participants strongly believed that families were in the best position to care for their children and had the knowledge to do so.*

The FaFT program continues to be widely accepted in remote communities across the Northern Territory and is frequently seen as an employer of choice for Indigenous workers. FaFT is responsible for high levels of employment across the Territory, and in 2017 won the Chief Minister's Award for Excellence in the Public Service for improving Aboriginal and Torres Strait Islander employment outcomes.

### **In the future**

The staff at Yirrkala FaFT believe in the importance of the first 1000 days and are committed to supporting mothers, fathers, carers and babies from conception to two years. To this end, they are currently seeking to establish a traineeship for a young person who has recently graduated from senior secondary school to become an early childhood worker, with a particular focus on children and their families from 0–2 years.

This year, in partnership with Miwatj Aboriginal Health Corporation, Yirrkala FaFT is working to address four priority areas, starting with iron deficiency (anaemia) or what is known more commonly in the community as 'weak blood'. Staff have commenced pre-testing to record iron levels and identify children for intervention. Playgroup will support families through provision of high-iron foods, Vitamin C supplements, nutrition sessions and home visits. A de-worming program will also be run simultaneously for children needing this intervention. On-Country excursions that involve the collection of traditional foods, as well as input from senior community women, will be a key element of the project. Simultaneously, Yirrkala FaFT will offer adult healthy eating education delivered through a visiting public health nutritionist and dietician.

Yirrkala FaFT is soon to initiate adult capacity-building sessions at the playgroup to build knowledge on how health and wellbeing in the first 1000 days benefits learning and behaviour throughout the life course. The sessions will explore the impacts that health, learning opportunities, environment and culture can have on a child's ability to thrive and build resilience. As part of the new program, staff will offer group trips to the local shops to identify iron-rich foods. The cohort will then be tested at the end of a 10-week period. This model allows not only for education but also for direct interventions in a supported (non-threatening) environment at playgroup, as well as a means for families to access resources to support behaviour change.



*Dr Endang Surjaningrum, Ms Elle McLachlan, Professor Iskandar, Professor Rizal Damanik at Institut Pertanian Bogor, Indonesia*

## **Preparing for parenthood**

### **Pre-conception and family planning**

While both Indonesian and Australian participants agreed on the importance of pre-conception and family planning, there was some divergence due to culture and context on the most appropriate approaches. Within Indonesia, under the Coordinating Ministry for Human Development and Culture, there exists programs that aim to educate adolescents about reproductive health and provide family planning in the villages. In every district, villages are selected on a needs basis and targeted to promote, monitor and provide relevant programs. Most programs target nutrition, especially anaemia, which is a consistent focus of current programming in Indonesia.

Raising the age of sexual debut and, in turn, possible pregnancy is known to have positive impacts on the trajectory of a person's life course and for any children they may have. In Australia, many Aboriginal and Torres Strait Islander women are giving birth during adolescence; 15 per cent of Aboriginal and/or Torres Strait Islander births were to women aged 11–19 in 2015 (AIHW 2017:40). There was strong sentiment around preventing unwanted pregnancies and raising the age of conception. Participants also expressed frustration on

the lack of current focus and funding in this area and the complexities around approaching this effectively. Funding was recently removed from many programs actively working in this area in Australia.

Indonesian policy currently advocates abstinence before marriage, which has some unintended repercussions, such as many people marrying very early. Currently, the minimum age for legally marrying in Indonesia is 16 for women and 18 for men, despite education programs and advocacy to raise the marrying age to 21. Participants explained that in Indonesia it is generally unacceptable to have intercourse before marriage, so to get around this social taboo people marry young. Once married, a woman is generally expected to have children and thus will often leave education. Men too may not complete their education if they marry young, meaning that many couples do not benefit from the advantages a full education provides.

While not discussed at length, the importance of the availability and accessibility of meaningful work for young people was also noted for its influence on adolescents and prospective parents. One participant suggested that it was not possible to alter a child's first 1000 days without also improving employment opportunities at pre-conception stages.

### Importance of adolescence

Broadening the remit of the First 1000 Days model in Australia involved the inclusion of pre-conception stages, with a focus on being ready for parenting, and on sexual and reproductive health, as well as the age of sexual debut and health and wellbeing during adolescence. It is also a time of great change that can determine and alter an adolescent's life trajectory.

*We are talking about adolescents but it is not adolescents – it is the little girl and boy who are about to have their menstrual cycle – that is when we need to be educating – we don't normally pinpoint that this is the time.*

There is an opportunity, prior to conception, to educate young people about the realities of parenting and being ready for its responsibilities and demands. This is also the time to educate them on the development stages as well as the importance of nurturing care for the child in infancy and across the life course.

*We want to teach people that they are giving birth to future Elders, not just children.*

Adolescence provides a great window of opportunity for capacity building and empowering youth to improve their own health and wellbeing outcomes and, in doing so, that of their children. Harnessing the energy and abilities of adolescents, who are also at the forefront of technology, would enable them to invest in and lead health and wellbeing approaches and strategies including health promotion activities. Education and skill development are central to achieving this.

In Indonesia different sectors take varying approaches to the goal of ensuring that the younger generation are prepared for family life. A couple to be married in Indonesia are required to attend pre-marital counselling prior to marriage registration, and to undertake a health check, with the woman prescribed an iron and folic acid tablet to prevent anaemia. Religious officers were trained so that they could pass on knowledge during pre-marital counselling. The family planning sector also runs family education programs for adolescents and their parents.

*Harnessing the energy and abilities of adolescents, who are also at the forefront of technology, would enable them to invest in and lead health and wellbeing approaches and strategies including health promotion activities.*

## Community and culture

### Community led and self-determined

There was a strong belief, particularly among the Australian participants, that others should not overlay views on community but that communities be enabled to determine their own needs and have control over any approaches taken. Participants generally agreed that self-determination approaches would reinforce agency for people, and place-based approaches would ensure they are appropriate for that community. The Save the Children Australia representative described how the organisation takes a generic approach to each community, starting with a situational analysis. In this way, Save the Children aims to work with a community to determine its hopes and aspirations and then looks at evidence-based programs to find those that match up. While doing this, local people are employed and the structure is built around that.

*We have found the yarning mat is one of the most successful tools and has seen a whole range of issues discussed around respectful relationships, parenting, kinship structures and family-led initiatives.*

In communities in Indonesia, young people from different backgrounds are developing groups to meet the needs of the first 1000 days, including a support group for fathers whose partners are breastfeeding (Ayah ASI) and 'Urban Mama', a group that focuses on the reasonable use of antibiotics or medicine.

### Importance of self-determination and treaty

On a larger scale, the health and wellbeing impacts of self-determination and constitutional recognition of Aboriginal and Torres Strait Islander Australians were also noted to be of importance in the long term. Intergenerational treaties, self-determination and agency were believed to affect future health outcomes.

*In Australia we are in a state of intergenerational trauma and we cannot be lifted out of that state until we have a treaty.*

One participant suggested the possibility of researching the long-term health outcomes of New Zealand's Waitangi Treaty, in which the Maori people were recognised as having ownership over their land.

### Valuing family and cultural knowledge on parenthood

The importance of reconnecting with knowledge, culture and ways of being was valued highly by participants as vital for the health and wellbeing of both children and parents. Participants strongly believed that families were in the best position to care for their children and had the knowledge to do so. Yet, in some cases, history has caused a disconnection through the removal of children from their families and their communities.

*How do we return to our ways of being? We have had that knowledge and don't need the science to tell us that. Aboriginal people trying to reclaim their ways need a balance of both science and culture.*

One participant noted how important it is to place value on the story and the family in considering approaches and strategies within the first 1000 days. The family and its history can provide knowledge and context on issues and behavioural risks that the child may face now or in the future.

In Indonesia, family is commonly seen as a non-sectoral leadership unit in the community and is, therefore, an important link to strengthening health and wellbeing. Many young people are reluctant to attend formal health services to discuss their health status and/or family/marital life preferring instead to discuss their concerns with elders in the family. Such a need has been responded to by the family planning sector (BKKBN) with a parent empowerment program that trains parents to deliver messages to their youth on the first 1000 days.

**Feature program: Bubup Wilam for Early Learning:  
Aboriginal Child and Family Centre, Australia**

**Overview**

Bubup Wilam – ‘Children’s Place’ in Woiwuring language – is a community controlled, self-determining and holistic Aboriginal and Torres Strait Islander Child and Family Centre. It was established following a call from the community and community leaders to address a gap in early years learning and children’s services. The vision and philosophy of Bubup Wilam was guided by the community and continues to be led and governed by a Board of Aboriginal community members (AIFS 2014). It provides educational learning, activities and experiences as well as caring for and supporting children for full days from Monday to Friday. Currently, 71 Aboriginal or Torres Strait Islander children are enrolled.

The Centre supports the education, health and wellbeing needs of Aboriginal and Torres Strait Islander children aged six months to six years and their families or carers by providing holistic, integrated support and learning including:

- Health and wellbeing, swimming and nutrition programs.
- A transition to primary school program that includes mentors from the school for each child.
- Supported referrals for families who need access to specialist care or services.
- Access to in-reach services for children with special needs, including a maternal and child health nurse and speech pathologist.
- A culturally appropriate one-on-one enhanced learning model for children.
- An accredited staff training program and placements on site for Certificate III or a Diploma in Children’s Services.
- A professional development program for staff and external workers so that Bubup Wilam can continue to employ more Aboriginal staff who are adept at working with and supporting Aboriginal children and families (AIFS 2016).

Bubup Wilam is located in Whittlesea, a northern suburb of Melbourne with a large Aboriginal and Torres Strait Islander community. Despite this, prior to Bubup Wilam’s establishment, the community had felt isolated with an absence of services or appropriate community and cultural centres.

**Timeline**

Bubup Wilam was built with funding from COAG’s Close the Gap initiative (COAG 2012). Its development began in 2007 and the first children started there in 2012. It was developed as part of a nationwide network of Aboriginal Child and Family Centres that recognise Aboriginal and Torres Strait Islander families have survived a history of colonisation that has deprived and separated families from their culture and past.

**Who is involved?**

An extensive training program in Aboriginal early childhood education for Aboriginal staff enables Bubup Wilam to support staff, enhance their workforce skills and increase the number of Aboriginal personnel. Staff are trained in trauma so they are equipped to work with families and children experiencing complex trauma. Aboriginal people from the community are also often involved in teaching the children, which provides mutual benefits to both children and adults (AIFS 2016).

**Aim/objective**

Bubup Wilam aims to prepare children for school, to build their sense of identity, and hence their strength and resilience so they are able to live happy and healthy futures. It combines Western teaching and Aboriginal pedagogy with methods such as experiential learning, and uses traditional arts and crafts and language to provide children with a sense of belonging, self-esteem and identity.

Bubup Wilam aims to instil and strengthen children’s strong sense of Aboriginal identity and self-esteem as their foundation for lifelong learning, health and wellbeing (AIFS 2016). Grounded in ideals of self-determination and community control, Bubup Wilam supports children to grow and learn through a cultural lens – providing sound education while simultaneously providing children with a sense of their culture, their history and place. Children are taught about their mob through maps and blocks with their name and their mob on them so as to provide them with a sense of place and healing. A traditional Aboriginal smoking ceremony is held every week, and the three and four-year-old children are taken out into the bush to be in nature and learn about the bush and native environment. An Aboriginal Elder supports the children to find out about their past and place if they do not already know.

Bubup Wilam also aims to provide a safe space for children, their families and carers to access people and services they can trust within the community. It takes a life-coaching approach as it works with families to connect them to the services they need to support them to be healthy, responsible and loving carers.



Students from Universitas Indonesia running their first 1000 days' community health program in Jakarta.

Using a strengths-based approach, Bubup Wilam works through a trauma-informed lens: 'to work through trauma yet not be defined by it'. It provides a calm and safe space for the children to learn and for their young brains to make important connections and develop – which they are unable to do in chaos or chronically stressful environments. Children are then able to control and learn to self-regulate their emotions.

An extensive training program in Aboriginal early childhood education for Aboriginal staff enables Bubup Wilam to support staff, enhance their workforce skills and increase the number of Aboriginal personnel.

#### **Achievements**

One of Bubup Wilam's proudest moments came when the teacher at the local school pointed out how he noticed a stark difference in the children who had come from Bubup Wilam.

*The children who come to school from Bubup are different. They appear very strong and are doing well academically.*

One of the children from Bubup Wilam took it upon himself to advocate for doing Welcome to Country at his school at the start of every assembly and now leads the school every week in the Welcome.

Bubup Wilam also won the Victorian Employer of the Year Award in 2016.

#### **Strengths and challenges**

Bubup Wilam's most consistent challenge lies in its battle for funding. Once the Commonwealth monies were finished in 2014, the State Government had been expected to take over funding the early learning initiatives in Victoria, but never did. Since then Bubup Wilam has been reliant on the small amount it receives from government funding received for the three- and four-year-old program. CEO Lisa Thorpe remains adamant, however, that Bubup Wilam will not be limited by deliverables and target-driven grants that risk sacrificing its aims and philosophy. She is also unwilling for Bubup Wilam's success to be determined by short-term and unsustainable funding allocations.

#### **In the future**

Bubup Wilam is yet to be evaluated. The CEO is clear that when the Centre is evaluated, it will be done so by a worthwhile, rigorous and culturally safe organisation or individual.

Bubup Wilam hopes to continue growing and one day to be replicated in many other regions in need of strong Aboriginal and Torres Strait Islander Early Learning Child and Family Centres.

## **Workforce and education**

### **Involving the wider circles of carers in approaches**

The influence on a child's early development and health by an extended circle of carers was considered important to incorporate and to acknowledge, particularly in terms of their rights and value. Carers in various contexts were discussed, as were the possible influence they had on the health and wellbeing of a child within the first 1000 days of their life. In an Australian Indigenous context grandparents, for example, often acted as the primary carers of a child. One participant asked the group to consider:

*How do we educate grandparents that are Stolen Generation and have undergone such trauma?*

A model that acknowledges the impacts of environmental, social and community influences will necessarily involve all the carers who interact with families and infants within the first 1000 days. Participants spoke about the many lesser acknowledged, but important, carers who support children and families at this time. In Indonesia, maids are often the primary carers of the children who also spend a lot of time with the family's driver and other staff. The role of community leaders and religious leaders in drafting and implementing family policies in Indonesia was also discussed.

One participant, a paediatrician, was involved in delivering attachment training to staff on the different stages of an infant's brain development and impacts on that child. The training stressed the importance on that child of each person involved in their development and a whole range of impacts that can become protective factors.

*The influence on a child's early development and health by an extended circle of carers was considered important to incorporate and to acknowledge, particularly in terms of their rights and value.*

### **Valuing the volunteer workforce**

Much of the work of those involved in the caring of infants and children in the first 1000 days is voluntary and done by women. Participants acknowledged the need to label the huge amount of unpaid work involved (midwives, mothers) and discussed using the first 1000 days as an opportunity to value the contributions this workforce makes.

*Cadres or community health workers in Indonesia play an enormous role in supporting pregnant mothers, families and infants from pre-conception throughout the first 1000 days. Their time is completely voluntary and they work many hours a week. Often midwives cannot reach communities in Indonesia and cadres fulfil their role.*

Cadres are recruited from the community and trained as health workers at the puskesmas. They are assigned to monitor the health of pregnant women, guide them to safe delivery in a health facility, and monitor the baby and mothers for several weeks. Cadres also support a village midwife in organising maternity classes (kelas ibu hamil) and delivering services such as immunisation, monitoring and recording the growth and development of all children under five in the neighbourhood, and providing nutrition consultation. Some cadres are trained to assist and encourage mothers to breastfeed the baby.

## **Policy**

### **Collective impact: Multi- or cross-sectoral approaches**

To address the social determinants of health and the complex and wide-ranging causes of NCDs, a collaborative and multi-sectoral approach was deemed necessary. Using the first 1000 days as a model or framework could encourage different sectors to work together to achieve this goal. There was a strong belief that a coordinated approach that involved a range of services should be taken to avoid overlap, allow optimum efficiency, and enable a holistic and ecological approach to health and wellbeing.

A recommended approach from the roundtable was using collective impact to reach a common objective. Each sector or player would work toward their own goals using their own initiative, however working toward a common aim. For example, when using the First 1000 Days Australia Model to prevent NCDs, one sector may focus on child development or education, and another on involving fathers.

Indonesia has brought together government ministries (including the Ministries of Education and of Social Welfare) in looking at the first 1000 days under the Coordinating Ministry for Human Development and Cultural Affairs. The impact and effects of this thus far are unknown or unfelt. It was also noted, however, that coordination needed to align with a community or family-led approach to health and wellbeing.

### **Policy disconnect**

One of the most consistent themes across both countries was the importance of collaboration and coordination, not only between services but also between all levels of stakeholders. Many felt that policy paid lip service to improved actions, but there was little trickle down into actual implementation. There was also seen to be a lack of support for effective place-based programs. While there were many effective programs being implemented

across both countries, these were not always widely known, utilised or funded appropriately so that they could continue successfully and grow. This may have arisen from limitations to sharing knowledges and research so that different regions, sectors and countries could learn from the successes of others. A lack of consistent funding, staff and resources available at ground level can create barriers to implementing government policies and programs.

It was suggested that a first 1000 days framework could inform the upper levels of government meeting the ground-up approaches. To bring all sectors together would require teamwork between central and local governments and a common understanding on why they should work together. It could simultaneously provide a framework for programs currently working independently to collaborate, share learnings and replicate one another or scale-up if they are proving useful. While place-based and regional approaches were commonly believed most appropriate, successful programs could be learnt from and tailored according to the place. This highlights the importance of evaluation and research translation, discussed in the research section in more detail. It also highlights the importance of bringing together a range of stakeholders to share their experiences and learnings.

The autonomy of local government in Indonesia provides an opportunity to translate national action plans into local action that meets community needs. The posyandu (or integrated health service post), which is established by the head of the village and positioned within the community, sits under the central government's home affairs sector at province, district, sub-district and village levels. It provides an excellent platform for a central coordinating role for supporting a family-led, first 1000 days approach as it is led by village midwives and the women's section – the Family Welfare Movement or PKK. Headed up by the wife of the local village leader, the PKK coordinates tasks and activities, focuses on women's empowerment and has specifically initiated health cadres for monitoring pregnant women and breastfeeding mothers. The cadres have an overview of maternal and child health, as well as family health within the village.

**Feature program: Bina Keluarga Balita and Bina Keluarga Remaja dan Generasi Berencana for Orang Rimba tribe: A program focusing on the first thousand days of life to prevent NCDs, Indonesia**

### Overview

Bina Keluarga Balita (BKB) – or, in English, ‘Building groups of families with children under five’ – is a parenting program for families with small children. The program provides comprehensive content and messages on all domains of child development in age-specific ways. It is held during *posyandu* (maternal and child health service at the community) and run by family planning cadres.

Bina Keluarga Remaja dan Generasi Berencana (BKR–Genre) – or, in English, ‘Family Coaching with Teenagers and Youth Planning Program’ – is a parenting education program for teenagers and young people aged 15–24 and their parents to prepare them for future education, marriage and family life with reproductive health and rights in mind.

A first 1000 days approach is being used to educate BKB and BKR–Genre participants about how to prevent NCDs among *Orang Rimba* tribe (‘jungle tribe’) in Jambi Province, Sumatra.

### Timeline

The program started in December 2017 and will initially run for 12 months.

### Who is involved?

The program involves *Suku Anak Dalam* or *Orang Rimba*, one of the remote communities in Jambi Province. This community lives in nomadic groups, has its own social/customary rules, relies on hunting and farming for its existence, and remains independent from mainstream socio-economic, cultural and socio-political life.

The BKB program for *Orang Rimba* is delivered by family planning cadres from villages in which the *Suku Anak Dalam* people live, and guided by family planning workers from the National Board of Population and Family Planning (BKKBN) in Jambi Province. Family planning cadres are volunteers from the local village. The BKR–Genre program will be delivered to the *Orang Rimba* people in their villages by workers from the Centre for Information and Counselling for Adolescents.

### Who designed and leads the project?

Representatives of the National Board of Population and Family Planning in Jambi Province are leading the project.

### Aim/objective

There are several stages to the program. The first is an assessment exploring any government and NGO programs that have involved the *Orang Rimba* people in the area. The second involves setting up a collaboration with Warsi Jambi (or the Indonesian Conservation Community), an NGO that aims to revive the principles of conservation of Indigenous people. Warsi advocates for and assists people living in and around forests, including *Orang Rimba* in Jambi. The third stage is the holding of focus groups involving tribal leaders and heads of families with children under the age of five to explore their views and customs regarding pregnancy, delivery and medical treatment. Another focus group will also be held for unmarried teenagers aged 15–24 to explore their preparation towards marital life.

Family planning workers and cadres are trained on the best methods to educate *Orang Rimba*, and classes arranged for BKB and BKR–Genre to work with them. All mothers of children under five years of age are educated on child development, parenting skills and reproductive health. After the first session, the mothers are divided into several groups according to their child’s age, and a reference committee formed. The classes are conducted in collaboration with representatives from the health, education and early childhood sectors. The focus of the BKR–Genre classes is on healthy life choices for teenagers and on providing information about substance use in collaboration with the police. Monitoring and evaluation of the project is being conducted simultaneously.

### Strengths

The BKB and BKR–Genre have developed quite rich materials such as manuals, sheets, tools and toys. They also have Family Planning workers in district offices who are supported by cadres from Bukit Suban village where *Orang Rimba* live.

### Achievements

The place-based assessment for the program has been initiated, and coordination with WARSI Jambi set up.

More has not been achieved to date, as the *Orang Rimba* community has a unique tradition that prevents health workers from providing antenatal care and delivery. The mother gives birth in a special delivery ward that is removed from the home and can only be visited by the husband, traditional birth attendants and close family members. They are the only people allowed to stay during the delivery.

## Research

Participants agreed that to bring about ethical, meaningful change in health outcomes, any research or intervention requires long time frames and long-term outcomes. Interventions within the first 1000 days that might prevent NCDs would most likely not reveal outcomes for many years. Due to intergenerational trauma and transmission of disease across generations, as well as the huge number of complex risk factors and influences on a child, outcomes may not reveal any substantive differences for a generation or more. This lies in opposition with most government funding schemes and deliverables, which generally demand short time frames and short-term outcomes. While there is a need to advocate for long-term interventions, researchers also need to consider how to measure whether what we are doing makes a difference in the short term as well as in the long term.

### Benefits and risks with indicators and outcomes

Some participants expressed concerns with measurable outcomes and the impact they can have on individuals.

*Care needs to be taken in determining indicators and outcomes so as to avoid placing more pressure on individuals' behaviours without taking into consideration the history and context of which people are enacting these behaviours.*

Outcomes can often become a measure of success and tend to target an individual. As such, they incline towards regulating behaviours of people in vulnerable positions: for example, the negative pressure and associated risks and judgments used to stop people smoking, especially during pregnancy. It is essential that an individual's experiences, context and background be taken into consideration before developing any action, approach or measurement.

Individual health behaviour strategies make it easy to blame the individual. These strategies risk becoming counter-productive as they define people by their vulnerabilities and serve to exacerbate structural and social inequities. To avoid this, indicators need to be generalised, long-term and considered in ways that do not directly compare or judge individuals.

## Evaluation and scaling up

Despite these concerns, participants saw the need to continue evaluating, exploring and investigating programs and services so as:

- To determine best practice approaches.
- To translate and communicate the outcomes of research to support others to learn from successful and effective programs and interventions.
- To provide an evidence base to advocate for future funding and support.

Many participants emphasised taking a strengths-based approach by focusing on successful programs rather than on ones with negative messages. For example, the 'Starting from stunting' program, which has been the government focus in Indonesia thus far, should emphasise the 70 per cent of children whose growth is not stunted. It was also suggested that instead of using biomedical views, such as illness prevention, the focus could turn to social stimulation aspects.

*Mainstream organisations teach workers to work with that baby, however, there is often a much larger picture involving family, history, context, that needs to be understood to be able to develop a successful response to that baby.*

# Conclusion and Recommendations

The project successfully brought together a range of experts from diverse disciplines and sectors in Indonesia and Australia to discuss family empowerment and the prevention of non-communicable diseases for a healthy start to life. It created a multi-sectoral platform for collaborating and sharing knowledge and experiences that has rarely, if ever, taken place before.

The two roundtables involved exploratory discussions around innovative ideas, research and implementation possibilities that revealed some differences of context and culture, but also many similarities. As a result, this Regional Initiatives paper contributes to the growing body of evidence on the impacts of the first 1000 days on the future health and wellbeing of a child, including on the prevalence of NCDs.

While there were challenges throughout the project – logistical, defining Indigeneity and narrowing such a broad area of focus – the conversations and presentations that took place led to sound and innovative recommendations for future research and approaches. These recommendations, listed here, provide exciting possibilities in the areas of education, research, policy and implementation that transcend boundaries of race and country, but find their place within a unique timeframe of opportunity – the first 1000 days.

## **Family empowerment**

- To identify the enabling factors – social, economic and cultural – that contribute to raising strong, healthy and resilient children across Indigenous populations in both Australia and Indonesia.
- To develop and invest in approaches that build leadership and capacity, and economically strengthen families so they are able to enact their own agency.

## **Gender**

- To ensure first 1000 days policies and approaches have a gendered lens so that women are not harmed or marginalised by this work.
- To instigate further research on the causes of perinatal anxiety and depression and on effective prevention strategies.
- To involve men and fathers in the first 1000 days – a new but growing area of implementation.

## **Cognitive development**

- To resource early learning programs and services so they can provide quality support to all children and their families, in particular those with special needs.
- To provide the workforce involved in early learning with education and training on cognitive impairments and how to support children with special needs appropriately and non-discriminatorily.
- To develop, pilot and evaluate culturally relevant assessment tools to identify cognitive developmental delays and impairment within the respective communities.

## **Preparing for parenthood**

- To develop educational and capacity building programs for adolescents that improve knowledge on health and wellbeing, and that equip them to lead implementation and health promotion strategies.
- To work with adolescents and young parents to explore what supports they require/d to improve the health and wellbeing of their children now and in the future.
- To explore the cultural and socio-economic reasons for early marriage and/or sexual debut.

## **Community and culture**

- To explore strengths-based cultural practices that could prevent NCDs and promote health and wellbeing in Indigenous communities throughout the life course.
- To employ innovative messaging techniques and communication technologies to deliver information that advances health and wellbeing, especially to families who struggle with literacy, or who speak a different language, and communities living in remote areas.

## **Workforce and education**

- To develop multi-sector, cross-disciplinary teaching programs embedded in tertiary and higher education to equip the future workforce with the knowledge required to improve health and wellbeing within the first 1000 days.
- To develop engaging, innovative, appropriate and adaptable training programs and educational tools and resources for the local leaders and workforce that will enable them to advance health and wellbeing within their respective communities from the first 1000 days.



Professor Kerry Arabena and Dr Indah Widyahening at the Jakarta Roundtable

## Policy

- To invest in and support the implementation of sustainable, place-based, evidence-driven, family and community-led approaches that build strong families and healthy children.
- To establish a Ministry or group within government to coordinate early infancy approaches involving education, health, wellbeing and other social determinants of health.
- To establish regional positions, or utilise one already in place, to coordinate organisational and service responses within a First 1000 Days framework.
- To map and analyse how programs and approaches become policy so as to position and further the impact of the First 1000 Days on policy and the health system.
- To identify and combat inequities in the health system, thus improving health and wellbeing outcomes for all children.
- To regulate the private sector and call for a commitment to prevent unhealthy advertising and incentivising, especially those campaigns aimed at pregnant women, young children and adolescents.
- To acknowledge, in both Indonesian and Australian societies, the racism that exists within health systems, and that underpins some institutions and programs, and continue to explore ways to combat its detrimental impact on people's health and wellbeing.

## Research

- To invest in qualitative, participatory, strengths-based research methods that educate, build capacity and, as such, enable families and adolescents both to have a voice and to take the lead in research.
- To continue to pilot and evaluate programs and approaches to build the evidence base on what works in the first 1000 days, and to help secure long-term funding, support and scaling up.
- To use strengths-based, participatory research indicators and outcomes when measuring health and wellbeing, and to avoid deficit comparisons that simplify and marginalise individuals or groups.
- To develop an accessible platform for sharing first 1000 days research between disciplines and sectors, and for widely disseminating research and resources to policy makers, funders and others working in the area.
- To pilot more radical, exploratory research, such as implementing a universal basic wage, that will combat the current inequitable way of thinking in which rules and regulations (e.g. conditional cash transfer systems) are imposed on people who have less.

## References

- Aliansi Masyarakat Adat Nusantara (AMAN) & Asia Indigenous Peoples' Pact (AIPP) 2017, *Joint Stakeholders' Submission on the Situation of Human Rights of Indigenous Peoples in Indonesia*, AMAN, Jakarta and AIPP, Chiang Mai.
- Ananta, A., Arifin, E. N., Hasbullah, M. S., Handayani, N. B. & Pramono, A. 2015, *Demography of Indonesia's Ethnicity*, ISEAS Publishing, Singapore.
- Australian Bureau of Statistic (ABS) 2017, *Aboriginal and Torres Strait Islander Population, 2016 Census Data Summary*, ABS, Canberra. Available at: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Aboriginal%20and%20Torres%20Strait%20Islander%20Population%20Data%20Summary-10>.
- Australian Government 2013, *National Aboriginal and Torres Strait Islander Health Plan 2013–2023*, Commonwealth of Australia, Canberra.
- Australian Health Ministers' Advisory Council (AHMAC) 2017, *National Strategic Framework for Chronic Conditions*, Australian Government, Canberra.
- Australian Human Rights Commission (AHRC) 2015, *Children's Rights Report 2015: National Children's Commissioner*, AHRC, Sydney.
- Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) 2017, *Indigenous Australian Languages*, AIATSIS, Canberra. Available at: <https://aiatsis.gov.au/explore/articles/indigenous-australian-languages>.
- Australian Institute of Family Studies (AIFS) 2014, 'Bubup Wilam ('Children's Place') for Early Learning: Aboriginal Children and Family Centre – Knowledge Circle Practice Profiles', AIFS, Australian Government, Melbourne. Available at: <https://apps.aifs.gov.au/ipppregister/projects/bubup-wilam-children-s-place-for-early-learning-aboriginal-children-and-family-centre>.
- Australian Institute of Family Studies 2016, 'Child Family Community Australia: Communities for Children: Facilitating partners evidence-based programme profiles – Abecedarian Approach Australia', AIFS, Australian Government, Melbourne. Available at: <https://apps.aifs.gov.au/cfca/guidebook/programs/abecedarian-approach-australia>.
- Australian Institute of Health and Welfare (AIHW) 2012, *Experience of Perinatal Depression: Data from the 2010 Australian National Infant Feeding Survey*, Information Paper, cat. no. PHE 161, AIHW, Canberra.
- Australian Institute of Health and Welfare 2014, *Australia's Health 2014*, Australia's Health Series no. 14, cat. no. AUS 178, AIHW, Canberra.
- Australian Institute of Health and Welfare 2017, *Australia's Mothers and Babies 2015 – In Brief*, Perinatal Statistics Series no. 33, cat. no. PER 91, AIHW, Canberra.
- Baird, J., Jacob, C., Barker, M., Fall, C., Hanson, M., Harvey, N., Inskip, H., Kumaran, K. & Cooper, C. 2017, 'Developmental origins of health and disease: A lifecourse approach to the prevention of non-communicable diseases', *Healthcare*, 5(1):14.
- Barker, D. J. P. 2004, 'The developmental origins of chronic adult disease', *Acta Paediatrica Supplementum*, 446:26–33.
- Bloom, D. E., Chen, S., McGovern, M., Prettner, K., Candeias, V., Bernaert, A. & Cristin, S. 2015, *The Economics of Non-Communicable Diseases in Indonesia*, The World Economic Forum, Geneva. Available at: <https://www.weforum.org/reports/economics-non-communicable-diseases-indonesia>.
- Campo, M. 2015, *Domestic and Family Violence in Pregnancy and Early Parenthood: Overview and Emerging Interventions*, Australian Institute of Family Studies, Australian Government, Canberra. Available at: <https://aifs.gov.au/cfca/sites/default/files/publication-documents/cfca-resource-dv-pregnancy.pdf>.
- Council of Australian Governments (COAG) 2009, *National Partnership Agreement on Preventive Health*, COAG, Canberra.
- Council of Australian Governments 2012, *National Indigenous Reform Agreement (Closing the Gap)*, COAG, Canberra.
- Davidson, H. & Wahlquist, C. 2017, 'Australian dig finds evidence of Aboriginal habitation up to 80,000 years ago', *The Guardian*. Available at: <https://www.theguardian.com/australia-news/2017/jul/19/dig-finds-evidence-of-aboriginal-habitation-up-to-80000-years-ago>.
- Dingle, S. 2011, 'Most Indigenous inmates suffer hearing loss', *ABC News*, July 2011. Available at: <http://www.abc.net.au/news/2011-07-15/major-hearing-problems-among-indigenous-inmates/2796230>.
- Emerson, L., Fox, S. & Smith, C. 2015, *Good Beginnings: Getting it Right in the Early Years*, The Lowitja Institute, Melbourne.

- Fleming, T., Watkins, A. J., Velzquez, M. A., Mathers, J. C., Prentice, A. M., Stephenson, J., Barker, M., Saffrey, R., Yajnik, C. S., Eckert, J. J., Hanson, M. A., Forrester, T., Gluckman, P. D., Godfrey, K. M. 2018, 'Origins of lifetime health around the time of conception: Causes and consequences', *The Lancet*, Preconception Health 2: April 16.
- Gluckman, P. D., Hanson, M. A., Cooper, C. & Thornburg, K. 2008, 'Effect of in utero and early-life conditions on adult health and disease', *New England Journal of Medicine*, 359:61–73.
- Hancock, C., Kingo, L. & Raynaud, O. 2011, 'The private sector, international development and NCDs', *Global Health*, 7:23.
- Hanson, M. A. & Gluckman P. D. 2015, 'Developmental origins of health and disease – Global public health implications', *Best Practice and Research Clinical Obstetrics and Gynaecology*, 29:24–31.
- Hill, P. S., Goeman, L., Sofiarini, R. & Djara, M. M. 2014, "'Desa SIAGA", the "Alert Village": The evolution of an iconic brand in Indonesian public health strategies', *Health Policy and Planning*, 29(4):409–20. doi:10.1093/heapol/czt027.
- Institute for Health Metrics and Evaluation 2010, *Global Burden of Disease*. Indonesia. Available at: [http://www.healthdata.org/sites/default/files/files/country\\_profiles/GBD/ihme\\_gbd\\_country\\_report\\_indonesia.pdf](http://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_indonesia.pdf).
- International Work Group for Indigenous Affairs (IWGIA) 2018, *The Indigenous World – 2018*, IWGIA, Copenhagen. Available at: <https://www.iwgia.org/en/Indonesia>.
- Ivanova, Y., Laursen, S. & Thon, C. 2013, *Where Economics and Health Meet: Changing Diabetes in Indonesia*, The Blueprint for Change Programme, Novo Nordisk, Sydney. Available at: <http://www.novonordisk.com.au/content/dam/Denmark/HQ/Sustainability/documents/blueprint-changing-diabetes-in-indonesia.pdf>.
- Jandhyala S. M., Talukdar, R., Subramanyam, C., Vuyyuru, H., Sasikala, M. & Reddy, D. N. 2015, 'Gut microbiota in health', *World J Gastroenterol*, 7 August, 21(29):8787–803.
- Kapur, A. 2015, 'Links between maternal health and NCDs', *Best Practice & Research Clinical Obstetrics & Gynaecology*, January 29(1):32–42. doi: 10.1016/j.bpobgyn.2014.04.016.
- Kemntrian Kesehatan RI 2013, *Riset Kesehatan Dasar 2013*, Badan Penelitian dan Pengembangan Kesehatan Kemntrian Kesehatan RI, Jakarta.
- Lo, S., Das, P. & Horton, R. 2017, 'Early childhood development: The foundation of sustainable development', *The Lancet*, January, 389:7.
- Mahendradhata, Y., Trisnantoro, L., Listyadewi, S., Soewondo, P., Marthias, T., Harimurti, P. & Prawira, J. 2017, 'The Republic of Indonesia health system review', *Health System in Transition*, 7(1), World Health Organization, Regional Office for South-East Asia, New Delhi.
- Menzies School of Health Research [n.d.], 'How balloons are improving baby brain development'. Available at: [https://www.menzies.edu.au/page/News\\_and\\_Events/Latest\\_News/How\\_balloons\\_are\\_improving\\_baby\\_brain\\_development/](https://www.menzies.edu.au/page/News_and_Events/Latest_News/How_balloons_are_improving_baby_brain_development/).
- Ministry of Health (MoH), Republic of Indonesia 2016, *Indonesia Health Profile 2015*, MoH, Republic of Indonesia, Jakarta.
- Moodie, R., Tolhurst, P. & Martin, J. E. 2016, 'Australia's health: Being accountable for prevention', *MJA*, 204(6):223–5.
- Moore, T. G., Arefadib, N., Deery, A., Keyes, M. & West, S. 2017, *The First Thousand Days: An Evidence Paper*, Centre for Community Child Health, Murdoch Children's Research Institute, Parkville, Vic.
- National Aboriginal Health Strategy Working Party 1989, *National Aboriginal Health Strategy*, Canberra.
- National Congress of Australia's First Peoples (NCAFP) 2017, 'The Redfern Statement', NCAFP, Sydney. Available at: <https://nationalcongress.com.au/about-us/redfern-statement/>.
- National Scientific Council on the Developing Child 2005/2014, *Excessive Stress Disrupts the Architecture of the Developing Brain: Working Paper 3*, updated edn. Available at: <http://www.developingchild.harvard.edu>.
- Patton, G. C., Sawyer, S. M., Santelli, J. S. et al. 2016, 'Our future: A Lancet commission on adolescent health and wellbeing', *The Lancet*, 387(10036):2423–78.
- Patton, G. C., Olsson, C. A., Skirbekk, V., Saffery, R., Wlodek, M. E., Azzopardi, P. S., Stonawski, M., Rasmussen, B., Spry, E., Francis, K., Bhutta, Z. A., Kassebaum, N. J., Mokdad, A. H., Murray, C. J. L., Prentice, A. M., Reavley, N., Sheehan, P., Sweeny, K., Viner, R. M. & Sawyer, S. M. 2018, 'Adolescence and the next generation', *Nature*, 554.

Schröders, J., Wall, S., Hakimi, M., Dewi, F. S. T., Weinehall, L., Nichter, M., Nilsson, M., Kusnanto, H., Rahajeng, E. & Ng, N. 2017, 'How is Indonesia coping with its epidemic of chronic noncommunicable diseases? A systematic review with meta-analysis', *Plos One*, 12(6):1–31.

State Government of Victoria 2018, 'Early Start Kindergarten'. Available at: <http://www.education.vic.gov.au/childhood/parents/kindergarten/Pages/earlystart.aspx>.

Statistics Indonesia (Badan Pusat Statistik—BPS) 2016, *Statistical Yearbook of Indonesia 2016*, BPS, Jakarta.

Statistics Indonesia (Badan Pusat Statistik—BPS), National Population and Family Planning Board (BKKBN), Kementerian Kesehatan (Kemenkes—MoH) & ICF International 2013, *Indonesia Demographic and Health Survey 2012*, BPS, BKKBN, Kemenkes and ICF International, Jakarta.

Stephenson, J., Heslehurst, N., Hall, J., Schoenaker, D., Hutchinson, J., Cade, J., Poston, L., Barrett, G., Crozier, S., Barker, M., Kumaran, K., Yajnik, C., Baird, J. & Mishra, G. 2018, 'Before the beginning: Nutrition and lifestyle in the preconception period and its importance for future health', *The Lancet*, 391(10132):1830–41.

Stoner, L., Matheson, A., Perry, L., Williams, M., McManus, A., Holdaway, M., Dimer, L., Joe, J. & Maiorana, A. 2017, 'Principles and strategies for improving the prevention of cardio-metabolic diseases in indigenous populations: An international Delphi study', *Preventative Medicine*, 96:106–12.

The Australia–Indonesia Centre 2016, *Health Research Cluster Program*. Available at: <http://health.australiaindonesiacentre.org/publications/>.

The Brainwave Trust: Aotearoa 2015. Available at: <http://www.brainwave.org.nz/>.

The Lancet 2016, 'The Lancet Series on Early Childhood Development'. Available at: <https://www.thelancet.com/series/ECD2016>.

The Lancet 2018, 'The Lancet Series on Preconception Health'. Available at: <https://www.thelancet.com/series/preconception-health>.

The World Bank 2016, Data: Life Expectancy at Birth. Available at: <https://data.worldbank.org/indicator/SP.DYN.LE00.IN>.

The World Bank 2018, The World Bank in Indonesia. Available at: <http://www.worldbank.org/en/country/indonesia/overview>.

Tim Nasional Percepatan Penanggulangan Kemiskinan 2017, *100 Kabupaten/Kota Prioritas untuk Intervensi Anak Kerdil (Stunting) (100 Priority Districts/Cities for Stunting Intervention)*, Sekretariat Wakil Presiden Republik Indonesia, Jakarta.

Uauy, R., Kain J. & Corvalan C. 2011, 'How can the developmental origins of health and disease (DOHaD) hypothesis contribute to improving health in developing countries?', *American Journal of Clinical Nutrition*, December, 94(60).

United Nations (UN) 2007, 'United Nations Declaration on the Rights of Indigenous Peoples', UN, Geneva. Available at: <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>.

United Nations 2015, 'Sustainable Development Goals: 17 goals to transform our world', UN, Geneva. Available at: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>.

Wilson, K. R. & Prior, M. R. 2011, 'Father involvement and child well-being', *Journal of Paediatrics and Child Health*, 47:405–07.

World Health Organization (WHO) 2014, *Indonesia: Noncommunicable Diseases (NCD) Country Profiles*, WHO, Geneva. Available at: [http://www.who.int/nmh/countries/idn\\_en.pdf](http://www.who.int/nmh/countries/idn_en.pdf).

World Health Organization 2017, 'Non-communicable diseases: Fact sheets', Media Centre, WHO, Geneva. Available at: <http://www.who.int/mediacentre/factsheets/fs355/en/>.



