Undernutrition in Pacific Island Countries: 
an issue requiring further attention

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Many Pacific Island countries (PICs) are affected by a ‘double burden’ of high rates of undernutrition coupled with very high rates of overweight\(^a\) and obesity\(^b\) in adults. The burden of adult overweight and obesity, and associated non communicable diseases (NCDs) is widely acknowledged and at least 17 PICs have current national NCD plans or strategies in place.\(^1\)

While addressing overweight and obesity should continue to be a priority, in many PICs undernutrition requires comparable attention. While a few PICs, including Fiji, the Solomon Islands and Tuvalu, have current national nutrition plans; several PICs, including the Cook Islands, Papua New Guinea (PNG), Kiribati, the Republic of the Marshall Islands and Tonga have no nutrition plans, out of date plans or plans that have never been endorsed.

The prevalence of adult overweight in some PICs is among the highest in the world. Over 80% of adults are overweight in the Cook Islands, Kiribati, the Republic of the Marshall Islands, Nauru, Tokelau, Tonga and Western Samoa.\(^2,4\) Adult obesity is also highly prevalent: the Cook Islands and Tonga have rates at or above 60%, while Kiribati, the Republic of the Marshall Islands and Western Samoa have rates above 45%.\(^2\)

While data on the prevalence of childhood overweight and obesity is limited, at the other end of the scale, chronic undernutrition (stunting\(^c\) or a low height for age) is a public health problem in many PICs, with ‘very high’ rates (above 40%) according to WHO classifications\(^5\) in PNG and ‘high’ rates (30% - 39%) in the Solomon Islands.\(^6,7\)

Similarly, the prevalence of anaemia in children aged 6-59 months\(^d\) exceeds 40%\(^6\) in PNG, Fiji, Nauru, the Solomon Islands and Tuvalu, indicating a severe public health problem.\(^7,9,10,11\) (Refer to Figure 1.) The prevalence of anaemia in pregnant women\(^d\) indicates a ‘severe’ public health problem (above 40%) in the Solomon Islands, Fiji, Nauru and Western Samoa.\(^7,9,10,12\)

Key messages
- Globally there is a recognised urgency to address both under and over nutrition.
- Many PICs are affected by the ‘double burden’ of high rates of undernutrition, coupled with high rates of adult overweight and obesity.
- Undernutrition requires further attention in PICs.
- Many PICs do not have current national nutrition plans.
- Limited capacity to address nutrition issues in PICs is compounded and perpetuated by a lack of nutrition training opportunities.

Overweight and obesity
Adult overweight and obesity are direct risk factors for NCDs, such as diabetes and heart disease. Overweight women who become pregnant are at greater risk of complications during pregnancy (including preeclampsia and gestational diabetes) and birth, and their babies are more likely to be born with macrosomia (high birth weight >4000g) having insulin resistance and developing diabetes and obesity later in life.

\(^a\): Body mass index \(>25\, \text{kg/m}^2\)
\(^b\): Body mass index \(>30\, \text{kg/m}^2\)
\(^c\): A child (0–59 months) below minus two standard deviations from median height-for-age of the WHO Child Growth Standards.
\(^d\): Haemoglobin \(<110\, \text{g/l}\)
While data on the prevalence of vitamin A deficiency is limited, the most recent data (from the late eighties, nineties and early 2000's) indicates that vitamin A deficiency in children is a public health issue in several PICs, including PNG, Kiribati and the Federated States of Micronesia.\(^1\)

The importance of improving nutrition, particularly during the period from pre-conception until a child’s second birthday, is globally recognised. Investment in nutrition during this period can prevent the irreversible effects of under and over nutrition and have lifelong impacts on adult and reproductive health, educational attainment, and labour and earning capacity.\(^2\)

Acknowledging this ‘critical window of opportunity’, the World Health Assembly endorsed the 2012 Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition, which sets out the post-Millennium Development Goal nutrition agenda and outlines six global targets to be achieved by 2025:\(^3\)

- Reducing stunting in children under five years by 40%;
- Reducing anaemia in women of reproductive age by 50%;
- Reducing low birth weight by 30%;
- Maintaining no increase in childhood obesity;
- Increasing exclusive breastfeeding rates in the first six months by at least 50%; and
- Reducing and maintaining childhood wasting to less than 5%.

Given the double burden faced by many PICs, there is an urgent need to develop nutrition plans to effectively mobilise resources and direct activities to progress towards the global targets in PICs.

**Country profile: Papua New Guinea**

- Population: 6.5 million.\(^4\)
- Prevalence of overweight in adults: 48%.\(^5\)
- Prevalence of stunting in children under five years is ‘very high’: 48%.\(^6\)
- Prevalence of anaemia in non-pregnant women of child bearing age is ‘high’: 36%.\(^7\)
- Prevalence of anaemia in children aged 6-59 months is ‘very high’: 48%.\(^8\)
- Four nutrition staff are employed at the central level, two with tertiary training in nutrition and dietetics, one trained in food technology and one with no tertiary nutrition training.\(^9\)
- Limited nutrition staff and designated nutrition positions in the 22 provinces.\(^9\)
- The PNG National Health Plan 2012-2020 includes only one nutrition-specific objective: ‘to reduce malnutrition (moderate to high) in children under the age of five years.’\(^10\)
- No tertiary nutrition training opportunities.\(^11\)
- Limited in-service nutrition training opportunities.\(^11\)

**Stunting**

Stunting is difficult to reverse after two years of age and associated with an increased risk of developmental delay, illness and infection. Women of short stature (<145cm) are more likely to have complicated births, die during pregnancy and childbirth and give birth to a preterm or low birth-weight baby (<2500g), perpetuating the intergenerational cycle of undernutrition.

**Figure 1: Prevalence of stunting and anaemia in children < 5 years of age in Pacific Island countries**

![Figure 1: Prevalence of stunting and anaemia in children < 5 years of age in Pacific Island countries](image-url)
In addition to the lack of current nutrition plans, limited nutrition capacity compromises the ability of many PIC governments to effectively plan, prioritise and implement nutrition initiatives. Several PICs, including Tokelau and Tuvalu do not currently have dedicated nutrition positions and in other PICs, including Kiribati and Vanuatu, the qualified nutritionists are employed in roles that are not specific to nutrition.\textsuperscript{15}

Compounding and perpetuating the lack of capacity in nutrition is an absence of nutrition training, with Fiji the only PIC offering specialised nutrition training at the tertiary level. For most PICs, tertiary nutrition training is therefore expensive and time-consuming often requiring travel to Fiji, Australia or New Zealand and leaving the few nutrition positions vacant for considerable lengths of time. For example, the three nutrition positions in the Solomon Islands were all vacant for approximately 18 months when the three qualified nutritionists undertook further nutrition training abroad.\textsuperscript{15} Anecdotal evidence also suggests that workforce attrition rates of internationally-trained national nutritionists are high.\textsuperscript{15}

In-service training opportunities are similarly limited, with training often delivered regionally, making attendance time consuming and costly. Although e-learning in-service opportunities are available, these courses are not always contextually appropriate and rarely provide learning support.

Positioning PICs to reduce the burden of undernutrition will require targeted investment in appropriate nutrition training and the development of realistic nutrition plans. Without this investment, PICs are at risk of stalling efforts to address the double burden and failing to optimally progress towards the global targets of the \textit{Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition}.\textsuperscript{15}

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\textbf{Country profile: Solomon Islands} \\
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- Population: 597,248.\textsuperscript{21} \\
- Prevalence of overweight in adults: 68\%.\textsuperscript{2} \\
- Prevalence of stunting in children under five years is ‘high’: 33\%.\textsuperscript{7} \\
- Prevalence of anaemia in non-pregnant women is ‘very high’: 44\%.\textsuperscript{7} \\
- Prevalence of anaemia in children aged 6-59 months is ‘very high’: 48\%.\textsuperscript{7} \\
- Five nutrition staff are currently employed at the central level including one nutritionist, two dietitians, one diet aide and one nutrition aide.\textsuperscript{15} \\
- High staff turnover as a result of low pay, poor conditions, lack of leadership and staff accepting scholarships and other employment opportunities limits the capacity of the nutrition unit.\textsuperscript{15} \\
- No tertiary nutrition training opportunities. \\
- Regular in-service nutrition training is limited to courses on infant and young child feeding and the Baby Friendly Hospital Initiative which is delivered to health workers across the provinces. Resource and capacity limitations preclude full coverage of these trainings, as well as the delivery of broader trainings.\textsuperscript{15}
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WOMEN’S AND CHILDREN’S HEALTH KNOWLEDGE HUB

References


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Compass: Women’s and Children’s Health Knowledge Hub is a partnership between the Burnet Institute, Menzies School of Health Research and the Centre for International Child Health, University of Melbourne. The Knowledge Hubs for Health are an Australian Agency for International Development (AusAID) initiative that aims to build knowledge, evidence and expertise and inform health policy dialogue relevant to Asia and the Pacific.

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This research has been funded by AusAID. The views represented are not necessarily those of AusAID or the Australian Government.