

Demographic trends and population issues: current and potential impact on child health

LAURENCE H. LEWIS*

SALESI F. KATOANGA DSM, MPH*

Introduction

Increasingly, as Pacific governments concern themselves with planning for equitable and sustainable national development, there is a marked move towards better integration of the various sectoral programmes. Population and health are often singled out as natural allies: population factors are perceived to impact on health conditions, and health status in turn is seen to influence the processes of demographic change. indeed, many concepts, including crude birth and death rates, maternal and infant mortality, expectation of life, sit comfortably in either discipline. In many Pacific island countries, despite arguments that it encourages too narrow a perspective, responsibility for developing population policy and managing population programmes falls within the substantive jurisdiction of the health ministries. Focussed programmes directed to improved reproductive health, maternal and child health and family planning, create inextricable linkages between population issues and child health.

Undoubtedly, most planners recognise that the role of population in development involves far more than its linkage with health and, conversely, the importance of health in development is far wider than its linkages with demographic variables. It is worth examining, nonetheless, given the considerable common ground, first, how the unique features of the demography of the Pacific contribute to some of the underlying problems in child health, and second, how emerging population trends might be expected to alter the prospects for achieving the health goals of the World Summit for Children.

The demography of the Pacific Islands

To most of the world, the Pacific island countries are

* Mr Lewis is the Adviser on Population Censuses and Surveys and Dr Katoanga is Adviser on Maternal and Child Health and Family Planning, UNFPA Country Support Team (CST) for the South Pacific, c/- UNDP, Private Mail Bag, Suva, Fiji

characterised by their small size (ranging from 4 million people in Papua New Guinea to around 2,300 in Niue and even less in Tokelau) and remoteness.

A closer look at the structure, distribution and growth patterns of Pacific island population puts into focus other significant demographic features. With few exceptions, fertility is high, with only modest decline in Melanesia and Micronesia and steeper, though still slow, decline in Polynesia. mortality in contrast has declined far more rapidly in many countries reaching levels usually associated with the more developed regions of the world.

As a consequence, rates of natural increase are high, averaging 2.3 per cent for all Pacific countries. The proportion under 15 is also high, exceeding 40 per cent overall and reaching more than 50 per cent for the Marshall Islands. By global standards, neither infant mortality nor child mortality

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is high, but Papua New Guinea, Kiribati and Marshall Islands provide disturbing exceptions.

Migration has played and continues to play a significant part in its influence on the distribution and structure of Pacific island populations, and, as we shall see, exerts strong pressures on infant and child mortality. While internal migration is in no way restricted to the Pacific, the rapid growth of areas such as Ebeye and Majuro in the Marshall Islands, South Tarawa in Kiribati, Port Moresby and Lae in Papua New Guinea, Nuku'alofa in Tonga and Rarotonga in the Cook Islands provide examples of the rising importance of towns and urban centres to Pacific life. Add to this phenomenon of internal migration, the high propensity of young Polynesians to migrate overseas, especially to New Zealand, and Micronesians to Guam, the Mariana Islands and the United States, and the more complex demographic behaviour of Pacific islanders can begin to be understood.

Child health in the Pacific

The current health status of children throughout the island nations in the Pacific has improved markedly during the last three decades. In the early 1960s, the infant mortality rates

ranged from over 40 per 1000 total live births to over 100/1000. By 1990/1991, ten countries out of twenty island nations in the Pacific (excluding New Zealand, Hawaii and Australia) have already attained an infant mortality rate (IMR) of below 30/1000; in eight countries the IMR is between 31 and 50/1000 and only two countries have an IMR over 50/1000. Similarly, the risks faced by a Pacific child of being dead before the fifth birthday were also about 2 times or more in the early 1960s than today. The decision by the Pacific health leaders in the past decades to prioritise "the reduction of infant mortality rate" as one of the leading Maternal Child Health and Family Planning (MCH/FP) objectives is now bearing fruit.

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It has been noted that the leading causes of infant and child mortality among those countries with IMR of over 50/1000 were diseases such as diarrhoea, respiratory infection, malnutrition, as well as accidents. The leading causes of death among the infant and children in countries with less than 30/1000 are listed as prematurity, respiratory distress syndrome (hypoxia), low birth weight and birth injuries. On the other hands, in countries with IMR between 31 and 49/1000, the leading causes of death are shared almost equally between the two sets of causes discussed above.

The number of child deaths that were directly related to any of the six major immunisable diseases is greatly reduced. The few deaths that were related to immunisable diseases were mainly due to complications of measles and whooping cough with a very few due to tetanus. These good results illustrate that a lot of work has been carried out both by health professionals and non-health personnel in the areas of MCH/FP. The community involvement in the promotion of the welfare of the children throughout the Pacific in recent years is also quite commendable.

Undoubtedly, the successful implementation of programmes such immunization, nutrition, treatment and prevention of diarrheal diseases and acute respiratory infection, proper pre-natal, intra-natal and post-natal care, health education, and family planning has also contributed a lot towards this success story. The contribution made by the family planning programme is worth noting because its full impact on the health status of the Pacific children is not yet fully realised. Hence, family programmes should be strengthened for there is strong evidence that appropriate and effective practice of family planning by the following groups of women will further reduce the infant deaths in the Pacific island nations by up to 30% or more, viz:

- women aged 19 years or less (too young)
- women aged 35 years or more (too old)

- women who have four children or more (too many)
- bearing children at less than two years apart (too close)

The risk of death for young children is increased by about 30% if the space between births is less than two years. Indeed MCH/FP programmes and other related programmes are currently implemented in every Pacific island without exception. However, some countries are slightly more advanced than others.

It is also worth noting, that the leading causes of death among the Pacific infants and children are also the major causes of morbidity. Other problems and diseases, though not as widespread, nevertheless deserve special attention as they could both be fatal or cause handicapping conditions among children, including: anaemia, Vitamin A deficiency, parasites, meningitis and again accidents both at home and away from home. Other issues that affect the children’s health that have been observed to be on the increase are child abuse and neglect.

In spite of the success we have achieved so far, there is still a lot more to be done. The fight against parasites and nutritional related diseases must continue. The immunization and child growth monitoring programmes must be intensified and strengthened. Special attention must be given to the control, prevention and treatment of diarrhoeal diseases and respiratory infection as they are still quite prevalent. The shortage of safe drinking water, overcrowding, lack of proper disposal of household refuse and human waste, poor housing, etc. that are mentioned elsewhere in this paper in relation to urban drift will become the major contributing factors to the above diseases if they are not controlled. The triangular relationship between diarrhoea, infections and malnutrition must therefore be broken and prevented if health of children/infants is to be further improved.

Impact of demographic factors on child health

As a broad generalisation, the Pacific populations are characterised not only by their small size, but also by their youthfulness and by the heavy drift to urban areas that are prevalent throughout the region. The youthfulness of the population is a direct consequence of the relatively high fertility in the past, although there is some recent evidence of decline in parts of the Pacific.

It is these two phenomena that we will observe more closely in their effects on child health. A study of the relationship between demographic and child health variables is unfortunately hampered by the absence of reliable and comprehensive data throughout the region, and we are thus forced to turn attention to a large extent to other sources. Undoubtedly the best systematic and global demographic study was the World Fertility Survey (WFS)

conducted in the mid 1970s, a programme with the primary objective of gaining a better understanding of the fertility behaviour in the 42 participating developing countries. Only Fiji, where many of the survey instruments were tested, participated from the Pacific region.

Among the more important findings of the WFS¹ were that infant and child deaths were dependent on the child's or mother's demographic characteristics. Several demographic factors were found to be particularly important predictors of child survival including:

- sex of the child;
- the age of the mother at the time of birth;
- birth order; and
- the length of the previous birth interval

Death rates during the first year of life tended to be higher for males, although the sex ratio of mortality was more balanced after infancy. The relatively high sex ratios at birth recorded in a number of Pacific censuses can thus be expected to raise neonatal and infant deaths. More important, given the recent trend throughout the Pacific towards increased teenage pregnancies, is the relation between child mortality and age of mother at birth. While in some countries with low child mortality, the first born appeared to be most likely to survive, in many the distribution took on a J- or U-shape, with extreme ages, young or old being associated with the highest child mortality. As a rule, it was found that the range 20-29 was the age of minimal risk.

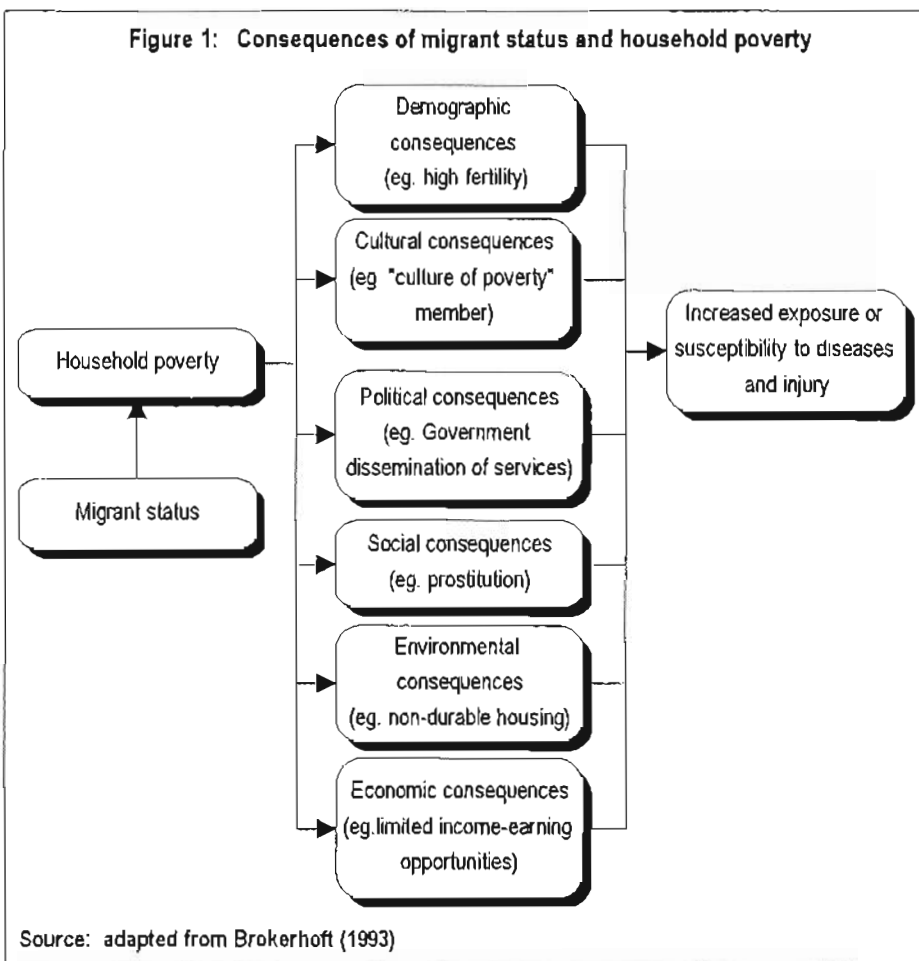
Birth order, the variable most clearly representing the risks of the high fertility found in many of the Pacific island countries, was shown to be closely associated with childhood mortality. In virtually every country, "toddler" mortality increased with birth order. An even simpler relation emerged between ages 2 and 5, as risk of dying increased with the order of birth. The likelihood of a child's survival was also shown to be related to the interval leading up to its birth. Infants born within two years of an older sibling were found subject to higher death rates than those born two to three years after the previous birth.

The effects of place of residence is more complex. The WFS found that death rates between ages 1

and 5 tended to be lower in urban than rural areas, and lowest of all in metropolitan areas. A number of hypotheses have been presented to explain these differences, including the availability of and access to public health facilities, parental education, and household characteristics such as availability of sanitation and electricity.

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However, since the WFS there has been growing debate about these rural-urban differentials reflecting a concern that the WFS results could be misleading or inappropriate as a guide for national health strategies. As we can observe in such places as Port Moresby and Tarawa, the urban areas in the Pacific contain a large number of people living in



varying degrees of affluence or poverty. Different suburbs reflect, at one extreme, the lifestyles of the privileged and, at the other extreme, those living in squalor, the so-called urban poor, experiencing both the health problems associated with poverty (e.g. deaths due to infectious diseases and malnutrition), and those found in more developed societies (e.g. deaths due to accidents, pollution, smoking and poor diet). Other negative consequences for child health attributed to urban poverty include the increased incidence of diarrheal disease and exposure to measles infection.

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A recent study² set out to show how the consequences of urban living could increase a child's exposure or susceptibility to disease or injury, and hence to mortality. The study reports a number of findings in recent research that establish the negative environmental consequences of living in poorer settlements in peri-urban areas. Evidence links poor housing conditions in urban areas to childhood diseases and injury. The absence of potable drinking water, exposed lavatory facilities, and improper disposal of household waste have all been demonstrated to increase the risk of diarrhoea and other gastro-intestinal diseases, or to increase the likelihood of child mortality.

More pertinent to the Pacific region, using data from the recent round of Demographic and Health Surveys, Brockerhoff argues that child survival chances in large cities depend not only on the economic status of the household, but also on whether that household is composed of migrants from rural areas.² Partly attributable to the fact that migrant households are more likely than other urban dwellers to be poor, but also due to other influences such as the characteristics that migrants bring with them (schooling, notions of child care, etc.) migrants have increased exposure or susceptibility to disease or injury (see Figure 1).

Thus while the earlier WFS found that in general mortality in rural areas is higher than in urban areas, the numbers of urban poor may be growing and experiencing mortality levels as high as or even higher than rural dwellers. Compared to children of urban natives, children of migrants from the countryside have particularly inferior survival chances in the cities and towns.

Implications and prospects for achieving World Summit Goals

The implications of the findings in these various studies are very important. If improved child health depends on lowering fertility and on improving living conditions of urban migrants, governments need to beware of attributing too strong an influence on mortality to public health measures alone.³ Further reductions in morbidity will require better nutrition and better sanitation and hygiene.

Effective population policies will also be needed to reduce fertility level. This would include efforts to discourage urban migration from rural areas. Improved health services are essential, especially if the goals set for the year 2000 are to be achieved. But there is a need for better coordination in the development process, to ensure that all sectoral programmes reflect the broader approach that will be required to make a significant impact on child health. We argue that calls by governments for increased health expenditure, or by agencies to improve support for community health services, are important to the regional strategy but are, in themselves, insufficient to achieve the health goals of the World Summit for Children.

Fortunately, the goals themselves implicitly recognise the relation between demographic factors and child mortality. It is not feasible, for example, to reduce infant and child mortality by one third, without tackling the problems of lack of access to family planning information and services, nor without providing access to safe drinking water and more sanitary means of excreta disposal, especially for the poorest or more vulnerable population groups. The situation in the Pacific calls for more in-depth study on the status of rural-urban migrants focusing on the child health problems and access to services. There is also a compelling need to understand more of the effects of overseas and return migration on health patterns and attitudes to physical well-being. In the longer run, it is essential that the causes of disparities in income and opportunities for men and women in education and employment be removed.

Monitoring changes in population and health

An understanding of the theoretical relation between demographic issues and child health is invaluable in developing strategies for tackling Pacific child health issues. An essential component of a successful policy will be the ability to monitor demographic and health changes, to assess the extent to which the processes of change are working toward the attainment of 'Summit Goals! The current situation in most Pacific countries is not very reassuring.⁴ Apart from the population census, little is known about the distribution of migrants and the poor, or indeed, the extent of their disadvantage. Basic health and population indicators such as crude birth rates, crude death rates, infant

Table 1: Summary of demographic and health indicators for selected Pacific countries					
Country	Year	Crude death rate	Crude birth rate	Infant mortality rate	Maternal maternity rate
		deaths /1000 total population	live births /1000 total population	deaths before 1 year /1000 live births	deaths due to pregnancy complications, child birth and after birth /100,000 live births
Cook Islands	1991	7.5	26.8	31.3	41.1
Fiji	1991	5.1	24.3	17.2	20.8
French Polynesia	1991	4.7	26.5	16.4	-
Marshall Islands	1990/91	4.3	49.2	63	200
Federated States of Micronesia	1990	8	37.9	16.1	120
Kiribati	1990	9.2	32.2	65	100
New Caledonia	1990	5.9	23.7	11.2	-
Guam	1986/87	4.3	26.5	9.7	-
Niue	1990	-	-	7.8	70
Palau	1990	7.5	21.8	21.4	-
Papua New Guinea	1990	12.1	34.7	72	200-800
Samoa, American	1990	4.3	29.7	10.3	-
Samoa, Western	1990/91	7.1	29.7	29.7	43
Solomon Islands	1991	10	37.3	42.9	300
Tokelau	1990	8.2	31	65	-
Tonga	1990	4	23.7	9.8	30
Tuvalu	1990/91	9.5	26.8	44.8	434
Vanuatu	1991	9	37	55	90
Northern Marianas	1990	5.9	23.2	17.9	84

Source: Western Pacific Region Databank on Socio Economic and Health Indicators. WHO/Regional Office for Western Pacific Region 1992

mortality rates, maternal mortality rates, are not available, since many of the civil registration systems suffer from poor coverage. (see Table 1).

An integral part of national development planning, of which health planning is an important part, must call for more effective management which will include the collection and processing of data for monitoring. Improved health information systems would involve the strengthening of civil registration, upgrading of service statistics, the establishment of regular health surveillance reporting and conduct of periodic health and population surveys. The provision of relevant, accurate and timely information will place programme managers in a better position to monitor progress, evaluate the impact of specific interventions on child health

and, where necessary to adapt policies and strategies for achieving Summit Goals to the changing situation.

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