

SCALING UP MIDWIFERY IN PNG: HOW MANY WOMEN'S LIVES CAN BE SAVED?

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Scaling up midwifery in PNG: how many women's lives can be saved?



Midwives and other health workers with midwifery skills are effective in promoting the health and wellbeing of women and babies, and provide expert care in partnership with women throughout the spectrum of pregnancy, birth and the postnatal period. As well as promoting normal birth, midwives can have extended skills that include giving specialized emergency care, facilitating assisted delivery, manual removal of placentae, administration of medications, and resuscitation, amongst others. Midwives also enable transfer of women to emergency care if necessary.

It is well known that women, babies and their families benefit from effective midwifery continuity of care including women at high risk of obstetric complications. The midwifery workforce, therefore, needs examining globally to track the prevalence of midwifery practice and impact in countries with poor maternal and neonatal outcomes. The impact of increasing the midwifery workforce in 78 developing countries (classified by the Human Development Index)¹ has been studied using the Lives Saved Tool (LiST) by Homer et al (2014)².

¹ The HDI is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living.

² Homer, CSE. et al. (2014) The projected effects of scaling up midwifery, *The Lancet*, Vol.384, No. 9948, p1146–1157.

Interventions in the LiST were selected that were within the scope of midwifery practice, and used to show that the scaling up of the care given by midwives was linked to lowering maternal and neonatal death rates, including stillbirths in all countries. This policy brief uses the LiST in PNG to show the effect of scaling up midwifery and its impact on maternal mortality rates.

Why Papua New Guinea?

A mostly rural and mountainous country, Papua New Guinea (PNG) has a complex cultural population with an estimated 800 languages. It also has high levels of poverty, violence, low life expectancy, and high maternal and infant mortality. Reports of maternal mortality in PNG are among the highest in the world at 733 per 100,000 live births in 2006, 230 per 100,000 live births in 2010, and 545 per 100,000 live births in 2015 although discrepancies in data exist. Most of these deaths are preventable.





PNG has not met the Millennium Development Goal 5 'improve maternal health'. This is due to a multitude of factors, some of which are high rates of non-communicable diseases, and lack of access to antenatal care, emergency care, family planning services, emergency medicines and trained health care professionals. Currently in PNG there is one midwife to every 1000 pregnant women; which is well below the recommended level of 6:1000, a lack recognized as a global problem. In recent years, the five midwifery schools in PNG have had increased resources, and have more students enrolled due to scholarships provided by the Australian Government.

Education has also been enhanced by the Maternal Child Health Initiative, an Australian Government funded program assisting with overall competency development through intensive mentoring and service delivery. However, there remains a large unmet need for midwifery in PNG.

The Lives Saved Tool

The LiST estimates the number of lives saved when certain interventions are introduced that influence maternal, fetal and neonatal mortality. LiST has the ability to estimate cause-specific changes in mortality in relation to distinct midwifery interventions. Beginning with a current health and mortality status and knowledge of

When scaling up midwifery to provide universal (95%) coverage, maternal deaths would be reduced by 81% to 370, stillbirths reduced from 4000 to 964 and neonatal deaths from 6000 to 582 a year





Table 1. Reductions of maternal, fetal and neonatal deaths by 2025 in four midwifery scale-up scenarios

		Scenario 1: Modest scale-up#		Scenario 2: Significant scale-up§		Scenario 3: Universal coverage**		Scenario 4: Attritionβ	
	Deaths (N)	Deaths (N)	Percent reduction	Deaths (N)	Percent reduction	Deaths (N)	Percent reduction	Deaths (N)	Percent reduction
Maternal deaths	2,000	1452	0.274	1006	0.497	370	0.815	2046	-0.023
Stillbirths	4,000	2948	0.263	2012	0.497	964	0.759	4096	-0.024
Neonatal deaths	6,000	4392	0.268	2844	0.526	582	0.903	6240	-0.04

10% increase in coverage of essential interventions in a 5-year period

§ 25% increase in 5-year period

** 95% coverage of each intervention

β 2% reduction in 5-year period

health interventions within a given population, LiST links the interventions with effectiveness estimates. The estimates calculate the number of lives saved, and is then able to estimate how many further lives would be saved if those interventions were upscaled. LiST enables the valuable guidance of strategic planning in developing countries.

Methods

Data from Homer et al (2014) were modelled. Using LiST, Homer et al. found a 27% reduction in maternal and neonatal deaths and a 26% reduction in stillbirths in low HDI countries when a modest increase in midwifery coverage was demonstrated. Higher percentage reductions were used for significant scale-up of midwifery and universal coverage. There were also deaths calculated for a modelled decrease in midwifery coverage which was based on a 2% decrease in coverage every 5 years.

We have not included family planning in the three scenarios. It could be likely that the combination of women having reduced fertility and fewer pregnancies, significant scale-up of midwifery care with family planning could avert even more maternal and neonatal deaths and stillbirths



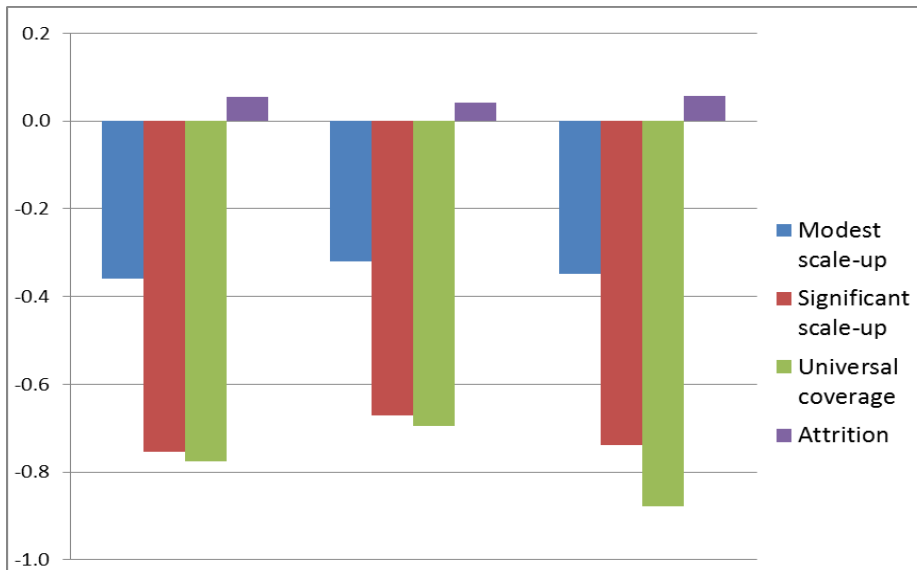


Figure 1. Percentage changes in maternal, neonatal and fetal mortality when scaling up the midwifery workforce, per 1 million population

Calculations for a significant scale-up of midwifery resulted in halving the numbers of maternal deaths, stillbirths and neonatal deaths

Calculations of the reduction in maternal deaths when modestly and substantially increasing midwifery coverage, when there was universal coverage of midwifery, and when there was a decrease in coverage were made. These were calculated for PNG, which is defined as a low HDI country.

Rounded estimates of maternal deaths, stillbirths and neonatal deaths in PNG per year were used. These were calculated from UNICEF, UN and WHO documents that state demographic and epidemiological information about PNG.

The Lives Saved Tool estimates the number of lives saved when certain interventions are introduced that influence maternal, fetal and neonatal mortality

Results

Using a 27% reduction in a modest scale-up of midwifery (an increase of 10% every 5 years), we found a reduction of maternal deaths from 2000 to 1452 per year, 1052 less stillbirths and 1608 less neonatal deaths. Calculations for a significant scale-up of midwifery resulted in halving the numbers of maternal deaths, stillbirths and neonatal deaths.

When scaling up midwifery to provide universal (95%) coverage, maternal deaths reduced 81% to 370 per year, stillbirths reduced from 4000 to 964 and neonatal deaths from 6000 to 582. Reductions in absolute numbers were all largest in the significant and universal scale-up scenarios. In contrast, when there was a 2% decrease in midwifery coverage every 5 years, maternal deaths increased to 2046, and neonatal deaths rose to 6240.



Further Information

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