



# Vanuatu: Tracking Progress in Maternal and Child Survival



A Case Study Report, 2013

# Tracking Progress in Maternal and Child Survival, Case Study Report for Vanuatu, July 2013

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## Abstract

This document reports on the status of reproductive, maternal, newborn, child and adolescent health achievements and challenges experienced in the Republic of Vanuatu to fully achieve the targets of the health-related Millennium Development Goals as outlined in the Vanuatu National Strategic Plan.

### Achievements

Vanuatu has made progress in several areas of health care:

- Certification of all six hospitals for Baby-friendly Hospital Initiative (BFHI), with an estimated 40% reduction in maternal and neonatal mortality
- Plans for scale up of Mother- and Baby-friendly Hospital Initiative (MBFHI) and to pursue Baby Friendly Communities Initiative (BFHI) models to engage communities
- Notable rate decline in infant and child (64%) mortality rates since 1990, although data are in question

### Challenges

Vanuatu faces the following challenges to improve the nation's health care:

- Lack of supply chain management leads to shortages and understock of multiple essential medicines and contraceptives
- Insufficient annual budget for medicines and equipment
- Shortage of trained health workers, especially female workers

### Recommendations

The report offers the following recommendations:

- Strengthen the role of the MNCH Task Force to oversee the BFHI and MBFHI implementation
- Give the MNCH Task Force an advocacy and monitoring role to ensure that essential MNCH pharmaceuticals and equipment are available at all birthing centres
- Develop an action plan for the Central Medical Store to address bottlenecks
- Negotiate and coordinate with donors to improve management of pharmaceutical donations
- Clarify diagnosing and coding terms and definitions in maternal deaths to improve accuracy of data

*Cover: An intimate moment in the Maternal Child Health ward at the Port Vila Central Hospital, where UNICEF provides vaccines, basic drugs and medical supplies.*

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# List of Abbreviations

BFCI	Baby-friendly Community Initiative
BFHI	Baby-friendly Hospital Initiative
CMS	Central Medical Store
GOV	Government of the Republic of Vanuatu
IMR	infant mortality rate
MBFHI	Mother- and Baby-friendly Hospital Initiative
MCH	maternal and child health
MDG	Millennium Development Goals
MDGR	Millennium Development Goals Report
MICS	Multiple Indicator Cluster Survey
MMR	Maternal mortality ratio
MNCH	Maternal, newborn and child health
MOH	Ministry of Health
NCHS	National Centre for Health Statistics
ORS	Oral rehydration salts
PIFS	Pacific Island Forum Secretariat
RMNCAH	Reproductive, maternal, newborn, child and adolescent health
U5MR	Under age 5 years mortality rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VCH	Vila Central Hospital
VHW	Village health worker
WHO	World Health Organisation
WHS	World Health Statistics

# Executive Summary

This document reports on the status of reproductive, maternal, newborn, child and adolescent health achievements and challenges experienced in the Republic of Vanuatu to fully achieve the targets of the health-related Millennium Development Goals as outlined in the Vanuatu National Strategic Plan. The document's main goal is to consolidate knowledge and evidence on trends and best practices in maternal and child survival to guide decision-making by high-level health stakeholders.

The island nation of Vanuatu, in the southwest Pacific Ocean, is spread over 12,274 sq km (4,739 sq mi). Its limited land base of roughly 4,700 sq km (1,800 sq mi) on 80 islands is steep, with unstable soils and little permanent freshwater. Most of the population (76%) lives by subsistence means along narrow coastal strips. Travel and communication are difficult and expensive, and some remote islands can be reached only by boat. The proportion of the population below the national poverty line improved to 16% (2006) from 40% (1998); the 2015 target is 2%. The rural majority experience "poverty of opportunity"; in other words, they lack access to services, such as education, health, regular water supply, transport, communications and energy. Rural-to-urban migration is causing overcrowding in urban areas, especially in the capital Port Vila, and housing is often of poor quality. Disease patterns are changing from communicable or treatable conditions resulting from poor access to health services to lifestyle or noncommunicable diseases.

Government health services comprise a four-tier system of referral hospitals, health centres, dispensaries and community-supported aid posts. Each province, made up of several islands, is divided into zones, and health facilities are distributed among the zones. Vanuatu hospitals are certified in and following the Baby-friendly Hospital Initiative (BFHI) model for quality of care through simple, achievable actions, and the Mother- and Baby-friendly Initiative (MBFI) programme has the potential to improve maternal delivery and infant outcomes



*Mum and her baby in Erakor Bridge, a suburb of Port Vila town, the capital.*

## ACHIEVEMENTS

- **Certification of all six hospitals for BFHI, with an estimated 40% reduction in maternal and neonatal mortality**
- **Plans for scale-up of Mother- and Baby-friendly Hospital Initiative and to pursue Baby-friendly Communities Initiative models to engage communities**
- **Notable rate decline in infant and child (64%) mortality rates since 1990, although data are in question**





*A young child receives a routine scheduled vaccination in the Maternal Child Health ward at the Port Vila Central Hospital, where UNICEF provides vaccines, basic drugs, and medical supplies.*

Vanuatu achieved a 64% reduction in infant mortality rates and under age 5 years mortality rates since 1990, putting the country on track to achieve Millennium Development Goal (MDG) 4. The validity of these data, however, is widely questioned, and Vanuatu recently updated its child mortality target for 2016 based on more realistic assessments. Country stakeholders identified problems with classification of mortality, data collection methods and reporting. Analysis of current maternal health trends indicates Vanuatu will not achieve its MDG 5 goal for reduction in maternal mortality ratio. Total fertility rate was static until 2005 at 2.7 births per woman of reproductive age; however, 2010 UNICEF data showed an increase to 3.9 births per woman. The birth rate among adolescent girls was 64/1,000 live births in 2009, with some rural provinces reporting higher rates.

## CHALLENGES

- **Lack of supply chain management leads to shortages and understock of multiple essential medicines and contraceptives**
- **Insufficient annual budget for medicines and equipment**
- **Shortage of trained health workers, especially female workers**

The supply chain is hampered by management challenges and an inadequate budget. Current funding shortfalls affect inventory of basic medicines, supplies and equipment, especially outside of populated centres. Unreliable interisland transportation and lack of a fully trained workforce contribute to the problems. Pharmaceutical donations are welcomed and relied on, but they come with consequences, such as a weakened Vanuatu distribution system and undermined long-term sustainability.

Shortages of trained health workers, especially female workers, affect access to reproduction, maternal, newborn, child and adolescent health services. The government health workforce is significantly below its approved capacity because candidates do not meet intake training criteria, trained staffs migrate and retirement age is mandatory. Recognized gaps also exist in community health education and engagement. The Ministry of Health (MOH) has a long-term human resources plan that requires adequate government funding, and the government is updating functions for each level of health facility to revitalize primary health care. With a revitalized primary care system, village health workers could expand awareness and promote healthy behaviours in families and communities through the Baby-friendly Community Initiative model. Village health workers are volunteers selected by their communities and based in communities at 212 functioning aid posts. Although 231 aid posts

were reported in 2009, 19 were not functioning. The volunteers receive basic training and supplies and are allowed only to assist with emergency deliveries. They are not certified to administer drugs, they but can provide oral rehydration salts and supplements, such as zinc or iron.

## RECOMMENDATIONS

- Strengthen the role of the MNCH Task Force to oversee the Baby-friendly Hospital Initiative and Mother- and Baby-friendly Health Initiative implementation
- Give the MNCH Task Force an advocacy and monitoring role to ensure that essential MNCH pharmaceuticals and equipment are available at all birthing centres
- Develop an action plan for the Central Medical Store to address bottlenecks

- Negotiate and coordinate with donors to improve management of pharmaceutical donations
- Clarify diagnosing and coding terms and definitions in maternal deaths to improve accuracy of data

The Maternal, Neonatal and Child Health (MNCH) Task Force can provide leadership for the Mother- and Baby-friendly initiatives so that training can be implemented and institutionalized in maternal and child health services. Extending BFHI certification to MBFHI certification and the CFBI models are crucial steps to achieve sustainable MNCH outcomes. The MNCH Task Force also can advocate and monitor the essential MNCH pharmaceuticals and equipment supply chain for all birthing centres, in collaboration and coordination with the Central Medical Store.



Mum and her daughter visiting the UNICEF tent during the Kanaky festival in the Tafea province Vanuatu.



# Context and Current Status of Reproductive, Maternal, Newborn, Child and Adolescent Health

## BACKGROUND

This document reports on the status of reproductive, maternal, newborn, child and adolescent health achievements and challenges experienced in the Republic of Vanuatu to fully achieve the targets of the health-related Millennium Development Goals as outlined in the Vanuatu National Strategic Plan. A recent consultative process with the Ministry of Health (MOH) and key stakeholders for maternal and child health in Vanuatu provided the information. While not comprehensive, this report identifies key factors that have contributed to success and ongoing challenges that need to be addressed. The document's main goal is to consolidate knowledge and evidence on trends and best practices in maternal and child survival to guide decision-making by high-level health stakeholders.

Vanuatu has incorporated maternal, newborn and child health (MNCH) interventions into the national development and health strategic frameworks and, with partners, prioritised funding and technical support in this area. The post-2015 period for MNCH will focus on interventions that have worked, based on analysis of evidence, and recommendations for scaling up. The report also includes recommendations for accelerated action. The Annex contains the 2011 Accelerating Child Survival and Development summary data profile for Vanuatu.

## CONTEXT

The island nation of Vanuatu, in the southwest Pacific Ocean, is spread over 12,274 sq km (4,739 sq mi), with an exclusive economic zone of 735,895 sq km (284 sq mi). Its limited land base of roughly 4,700 sq km (1,800 sq mi) on 80 islands is steep, with unstable soils and little permanent freshwater. Vanuatu's economy is primarily agricultural; 80% of the population is engaged in agricultural activities that range from subsistence farming to smallholder farming of coconuts and other cash crops along

narrow coastal strips. Travel and communication are difficult and expensive, and some remote islands can be reached only by boat. The proportion of the population below the national poverty line improved to 16% (2006) from 40% (1998); the 2015 target is 2%.

At the last census in 2009, the population was 234,023<sup>1</sup>. The rural majority experience "poverty of opportunity," in other words, a lack of access to services such as education, health, regular water supply, transport, communications and energy and income-earning opportunities that would enable them to improve their living standards<sup>2</sup>. With rural-to-urban migration, disease patterns are changing



*A young boy measures up at the Maternal Child Health ward at the Port Vila Central Hospital, where UNICEF provides vaccines, basic drugs and medical supplies.*

<sup>1</sup> [http://www.vnso.gov.vu/index.php?option=com\\_content&view=article&id=10&Itemid=17](http://www.vnso.gov.vu/index.php?option=com_content&view=article&id=10&Itemid=17)

<sup>2</sup> Ibid.



**TABLE 1. Distribution of Health Facilities by Provinces in Vanuatu, 2009<sup>5</sup>**

Province (Number of Islands)	Hospitals	Health Centres	Dispensaries	Aid Posts	Total Facilities	Population	Facilities per 1,000 Population
Torba (19)	1	3	5	20	29	9,359	3.10
Sanma (14)	1	11	12	56	80	45,860	1.74
Penama (3)	1	6	20	36	63	30,819	2.04
Malampa (18)	1	8	19	44	72	36,722	1.96
Shefa (24)	1	3	23	42	69	78,723	0.88
Tafea (6)	1	6	10	33	50	32,540	1.54
Total	6	37	89	231	363	234,023	1.55

from communicable or treatable conditions resulting from poor access to health services to lifestyle or noncommunicable diseases, and urban areas, especially in the capital Port Vila, are experiencing overcrowding. Housing is often of poor quality<sup>3</sup>.

### STRUCTURE OF VANUATU'S HEALTH SYSTEM

Government health services comprise a four-tier system of referral hospitals, health centres, dispensaries and community-supported aid posts. Each province, made up of several islands, is divided into zones, and health facilities are distributed among the zones (see Table 1). Vanuatu hospitals are certified in and following the Baby-friendly Hospital Initiative (BFHI) model for quality of care through simple, achievable actions, and the Mother- and Baby-friendly Initiative (MBFI) programme has the potential to improve maternal delivery and infant outcomes.

Each province has a provincial administration, including a rural health office that administers health facilities. The government is updating the functions for each level of health facility and ensuring alignment of resource packages to support primary health care revitalisation<sup>4</sup>.

### OVERVIEW OF REPRODUCTIVE, MATERNAL, NEWBORN, CHILD AND ADOLESCENT HEALTH IN VANUATU

Recently reported infant mortality rate (IMR) and under age 5 years mortality rate (U5MR) data for Vanuatu show a 64% decrease in both mortality rates since 1990, indicating substantial improvements in child health over this period (see Table 2, p. 12). According to some estimates, the maternal mortality ratio (MMR) also declined, but at a smaller percentage (10%).

These statistics are acknowledged by MOH,<sup>6</sup> World Health Organisation (WHO)<sup>7</sup>, and United Nations Children's Fund (UNICEF)<sup>8</sup> to be unreliable, as noted in Table 2 comments. With questions about the reliability of mortality data and adjusted national targets for 2016, it is difficult to determine whether Vanuatu will achieve its MDGs 4 and 5; however, current analysis by WHO<sup>9</sup> estimates that Vanuatu is on target for MDG 4 and has mixed potential for achieving MDG 5. The Vanuatu Accelerated Child Survival and Development Report 2011 summarises key reproductive, maternal, newborn, child and adolescent (RMNCAH) data and appears at the end of this report.

### MILLENNIUM DEVELOPMENT GOALS REPORT

Country stakeholders identified issues with classification of mortality, data collection methods and reporting. For example, the MDG target of a reduction in U5MR to 19/1,000 live births by 2015 appears to be on track based on a 2010 statistic of 14/1,000 live births; however, the statistic is widely disputed by health professionals. The government set a target for U5MR of 25/1,000 live births by 2016; this revision implies that this number has not been reached. Anecdotal reports from health professionals indicate that mortality rates generally are underreported, particularly in remote villages where vital events (births, maternal or neonatal deaths) occur but are not formally recorded. Data gaps also include lack of information on micronutrient deficiencies, unmet contraceptive needs and postnatal care visits.

Some indicators have improved in rural areas and worsened in urban areas. According to 2008 MOH

<sup>3</sup> World Health Organisation Western Pacific Region and Ministry of Health. (2012). Health service delivery profile, Vanuatu, 2012. Manila.

<sup>4</sup> Op. Cit., World Health Organisation Western Pacific Region and Ministry of Health. (2012).

<sup>5</sup> Ibid.

<sup>6</sup> Op. Cit., Prime Minister's Office. (2010).

<sup>7</sup> Op. Cit., World Health Organisation Western Pacific Region and Ministry of Health. (2012).

<sup>8</sup> Government of Vanuatu and United Nations Children's Fund. (2005). A situation analysis of children, women and youth, Vanuatu. Port Vila, Vanuatu, and New York, NY: Authors.

<sup>9</sup> Pacific Islands Forum Secretariat. (2011). Pacific regional MDGs tracking report. Suva, Fiji: Author.

**TABLE 2. Selected RMNCAH Indicators for Vanuatu, 1990–2010, and National and MDG Targets<sup>10</sup>**

Measure	Baseline	Most Recent	Target	Comment
<b>Neonatal death rate per 1,000 live births</b>	17 (1990) WHS	7 (2010) UNICEF	<10 by 2015 MDGR	2010 statistic disputed by MOH staff
<b>Infant mortality rate per 1,000 live births</b>	33 (1990) UNICEF	12 (2010) UNICEF	20 by 2016 GOV	2010 statistic disputed by MOH staff; MDG 2015 target of 15 is unlikely to be met
<b>Under age 5 years mortality rate per 1,000 live births</b>	39 (1990) UNICEF	14 (2010) UNICEF	25 by 2016 GOV	2010 statistic disputed by MOH staff; MDG 2015 target of 19 is unlikely to be met
<b>Maternal mortality ratio per 100,000 live births</b>	96 (1998) PIFS	86 (2007) MICS	50 by 2016 or no more than 3 per year GOV	MOH staff estimated 100 for 2012; MDG 2015 target of 24 is unlikely to be met
<b>Adolescent birth rate per 1,000 live births</b>	92 (1999) UNICEF	64 (2009) UNICEF	Universal access to contraception by 2015 MDGR	MOH staff believe the rate is higher in rural areas
<b>Contraceptive prevalence rate (%)</b>	15% (1991) PIFS	38% (2007) MICS	45% coverage by 2015 MDGR	Higher in urban areas
<b>Unmet need for contraception (%)</b>	24% (1996) PIFS	[No Data]	15% by 2015 MDGR	61% of pregnant women surveyed in the capital in 2008 had not planned their pregnancy MDGR

data, an estimated 80% of births were attended by skilled health personnel<sup>11</sup>. In 1997, the U5MR in urban areas was 17/1,000 live births and the rural U5MR was 37/1,000 live births. In 2007, those rates were 27/1,000 live births (urban) and 32/1,000 live births (rural). Where information on income quintiles is available, it tends to identify the middle-income quintile as making the least progress<sup>12</sup>.

Shortages of trained health workers, especially female workers, affect access to RMNCAH health services. The government health workforce is significantly below its approved capacity because candidates do not meet intake training criteria, trained staffs migrate and retirement age is mandatory. Concerns also exist about training standards. Recognised gaps exist in community health education and engagement. MOH has a long-term human resources plan that requires adequate government funding, and the government is updating functions for each level of health facility to revitalize primary health care. With a revitalized primary care system, village health workers (VHW) could expand awareness and promote healthy behaviours in families and communities through the Baby-friendly Community Initiative model. VHW are volunteers selected by their communities and based in communities at 212 functioning aid posts. Although 231 aid posts were reported in 2009, 19 were not functioning. The volunteers receive basic training and

supplies and are allowed only to assist with emergency deliveries. They are not certified to administer drugs, they but can provide oral rehydration salts and supplements, such as zinc or iron.

Vila Central Hospital (VCH), where more than one-half of the recorded births take place in Vanuatu, receives one-fifth of its required operational budget. The other five hospitals are in a similar situation<sup>13</sup>. Staffs report a lack of basic medicines, supplies and equipment, especially outside of the populated centres. Vila Central Hospital sometimes receives donated new or used medical equipment from neighbouring countries.

The birth rate among adolescent girls ages 15–19 years decreased by 30% from 1999 to 2009 to 64/1000 live births<sup>14</sup>. Vanuatu's goal is to reduce that birth rate per 1,000 women to 10% of total births. Teenage pregnancies at VCH currently account for 14% of all pregnancies. Anecdotal reports from remote Torba Province suggest a teenage pregnancy rate of 50%. Torba Province has the least number of medical facilities, which means women who experience complications during delivery, more likely in teenage pregnancy, have limited options<sup>15</sup>. High rates of teenage pregnancy signal a lack of education in sexual and reproductive health and an unmet need for contraception. In addition, pregnant teenagers are removed from school, which fuels an ongoing cycle of lower educational attainment for girls and establishes

<sup>10</sup> GOV: Government of the Republic of Vanuatu, Health Sector Strategy 2010–2016; MDGR: Millennium Development Goals Report, Prime Minister's Office, 2010; MDGR: Millennium Development Goals Report 2010 Report for Vanuatu; MICS: Multiple Indicator Cluster Survey, MOH, GOV and UNICEF, 2008, Monitoring the Situation of Children and Women, Vanuatu, MICS 2007; PIFS: Pacific Islands Forum Secretariat, 2011 Pacific Regional MDG Tracking Report; UNICEF: UNICEF Country Profile Vanuatu, Maternal, Newborn and Child Survival, March 2012, including data received from WHO Regional Office for Western Pacific; WHS: World Health Statistics 2011; ND: No data.

<sup>11</sup> Millennium Development Goals Report 2010 for Vanuatu (p. 47). Available at <http://www.aisaid.gov.au/countries/pacific/vanuatu/Documents/vanuatu-mdg-report-2010.pdf>

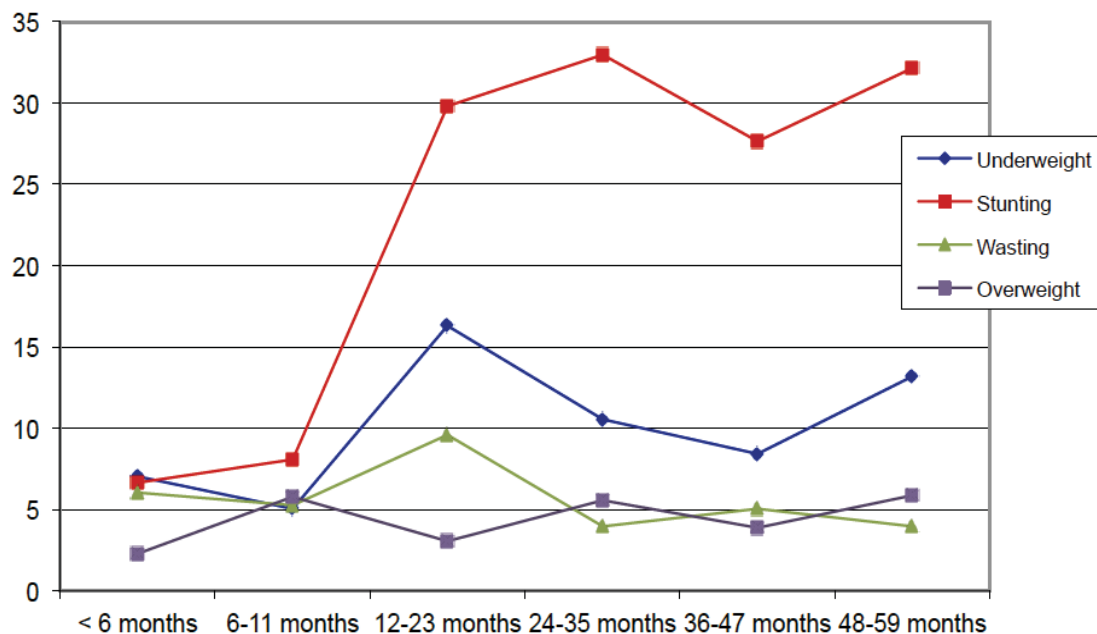
<sup>12</sup> Quintile information is summarised in UNICEF Country Profile Vanuatu, Maternal, Newborn and Child Survival, March 2012.

<sup>13</sup> Adult patients presenting for acute or emergency care are unofficially charged a fee of 200 Vatu (US\$2) for hospital treatment. These funds go towards the hospital's shortfall in government funding. This practice is likely to have a deterrent effect on seeking care in poorer households.

<sup>14</sup> Vanuatu National Statistics Office 1999, MOH, and MICS 2007.

<sup>15</sup> A teenage maternal death was recorded in Torba Province during the field visit for this study.

**FIGURE 1. Nutritional Status of Vanuatu Children by Age Group, 2007, Based on WHO 2005 Reference**



Source: Ministry of Health and United Nations Children's Fund. (2007). *Vanuatu Nutrition Survey 2007* (p. 22).

a negative long-term effect on mother and child health (MCH) outcomes<sup>16</sup>.

Vanuatu malnutrition statistics portray a serious problem. Prevalence of low height for age (stunting) has remained at 20% since 1996<sup>17</sup> using the National Centre for Health Statistics (NCHS) reference; however, the rate is even higher (26%) using the revised 2005 WHO standard reference of stunting for children under age 5 years. The rate of low weight for height (wasting) remained static at 6% from 1996<sup>18</sup> to 2007<sup>19</sup>. Using the NCHS reference, the prevalence of low weight for age (underweight) increased over the same period from 12% in 1996<sup>20</sup> to 16% in 2007<sup>21</sup>; however, this rate was 10% in 2007 using the WHO 2005 standard. Figure 1 shows trends in prevalence of different types of malnutrition by age groups in 2007 and demonstrates the rapid rise in malnutrition after age 6 months. In addition, the 2007 study found one-third of children under age 5 years to be anaemic. The rate of anaemia among pregnant and nonpregnant women is estimated at roughly the same, although no current data exist. Iron supplements are not widely available.

The rapid increase in stunting and other forms of malnutrition after 6 months of age suggests that the main causal factors relate to improper infant and young child feeding practices<sup>22</sup>. Contributing factors include a lack of adequate health worker training; decreasing rates of exclusive breast-feeding; strong traditional practices, such as discarding colostrum as

so-called "dirty milk"; and introducing solid food too early. The government has agreed to prescription-only sale of baby-feeding bottles for formula milk, but this is not enforced and bottles can be purchased readily. There are no constraints on purchasing formula.

Other traditional practices that affect maternal and newborn health include conducting home deliveries in an unsterile environment, using an unsterile implement to cut the umbilical cord, immersing babies in cold water at birth, inducing vomiting at birth and delaying initial breast-feeding.

A recognised gap also exists in community health education and engagement. VHW are volunteers selected by their communities and based in communities at 212<sup>23</sup> functioning aid posts. Although 231 aid posts were reported in 2009 (see Table 1, page 11), 19 were not functioning. The volunteers receive basic training and supplies and are only allowed to assist with emergency deliveries<sup>24</sup>. They are not certified to administer drugs but can provide oral rehydration salts (ORS) and supplements such as zinc or iron. A nongovernmental organisation that provides training on behalf of MOH manages the VHW programme. VHW support nursing staff during mobile clinics, promote antenatal care for pregnant women and educate on early recognition of childhood illness and care seeking. Distance, however, is often a constraint to families that need to access the recommended care.

<sup>16</sup> The effects of girls' education on health outcomes: Fact sheet. Retrieved June 2012 from the Population Reference Bureau Web site at <http://www.prb.org/Articles/2011/girls-education-fact-sheet.aspx>

<sup>17</sup> Department of Health and Australian Agency for International Development. (1996). Report of the second National Nutrition Survey, Vanuatu. Port Vila, Vanuatu, and Canberra, Australia: Authors.

<sup>18</sup> Ibid.

<sup>19</sup> Ministry of Health and United Nations Children's Fund. (2007). *Vanuatu Nutrition Survey 2007*. Available at [http://www.unicef.org/pacificislands/NUTRITION\\_FINAL\\_small.pdf](http://www.unicef.org/pacificislands/NUTRITION_FINAL_small.pdf)

<sup>20</sup> Op. Cit., Department of Health and Australian Agency for International Development (1996).

<sup>21</sup> Op. Cit., Ministry of Health and United Nations Children's Fund. (2007).

<sup>22</sup> Op. Cit., Ministry of Health and United Nations Children's Fund. (2007).

<sup>23</sup> Discussion with Caroline Hilton, VHW programme coordinator.

<sup>24</sup> A teenage maternal death was recorded in Torba Province during the field visit for this study.



# Achievements and Systems Barriers That Remain To Be Addressed Post 2015

MOH and key national stakeholders in consultation identified four case studies focused on major health indicators. Two case studies present examples of processes that contribute positively and two describe challenges or system bottlenecks. Analysis of the case studies resulted in recommended actions for continued RMNCAH improvement.

## CASE STUDY 1: BABY-FRIENDLY HOSPITAL INITIATIVE CERTIFICATION

BFHI certification is a global initiative to improve maternal and newborn outcomes. Since BFHI was launched by UNICEF and WHO in 1991–1992, more than 20,000 hospitals worldwide have achieved this designation<sup>25</sup>. MOH has achieved BFHI certification at all six hospitals in Vanuatu. Vila Central Hospital, the primary hospital in the capital of Port Vila, now also has Mother- and Baby-friendly Hospital Initiative certification and will be working with provincial hospitals to help them take this additional step. These initiatives are credited with having reduced maternal and neonatal mortality by 40% since their introduction and to having linked hospitals more closely with community health centres<sup>26</sup>. Maintaining certification is a continuous process of hospital self-assessment and external assessment every 3 years. MOH sees certification as being consistent with its aim of integrating sexual and reproductive health across programmes as part of a continuum of care throughout the life cycle.

To achieve certification, hospitals introduced a 10-step process on breast-feeding routines<sup>27</sup>. When ready, they were externally assessed for the requirements of certification. The hospitals also were required to comply with the International Code of Marketing of Breast-Milk Substitutes. Achieving certification takes more than a year of practising the 10 steps before the external assessment is undertaken.

Mother-friendly care initiatives target the mother at time of delivery and aim to reduce stress and improve mothers' birth experiences. Mothers are encouraged to walk about during labour and to assume a position of choice when delivering, among other options.

When mothers follow the BFHI regime after discharge from the medical facility, their infants usually experience improved nutrition and general health as a result of the natural antibodies in breast milk. Reductions in infant mortality should follow, along with reductions in underweight, stunting and wasting because babies will be properly weaned.

To achieve optimal feeding practices, the next step is to undertake a national effort to create baby-friendly communities. A model National Baby-friendly Community component can help Vanuatu achieve optimal practices by opening discussions with community, political and social leadership, male and female, that are committed to making a change and actively supporting early and exclusive breast-feeding for the first 6 months<sup>28</sup>.

Although the programme is progressing, MOH staff acknowledges inconsistencies in preservice training for nursing staff and in rolling out training for VHW, among other areas. An implementation plan was drawn up but more action is required to bring it into operation so that standards continue to improve and certification is maintained.

Tasking the MNCH Task Force to oversee implementation of these important initiatives, along with freeing up members to provide this leadership, should be prioritised to increase the pace of programme roll out and institutionalise relevant training in MCH services.

<sup>25</sup> World Health Organisation and United Nations Children's Fund. (2009). *Baby-Friendly Hospital Initiative: Revised, updated and expanded for integrated care—Section 1 background and implementation*. Geneva, Switzerland, and New York, NY: Authors.

<sup>26</sup> Discussion with MNCH Task Force.

<sup>27</sup> Op. Cit., World Health Organisation and United Nations Children's Fund. (2009). The steps include having a written breast-feeding policy that is routinely communicated to all health care staff, training all health care staff in skills necessary to implement the policy, informing all pregnant women about the benefits and management of breast-feeding, helping mothers initiate breast-feeding within a half-hour of birth, showing mothers how to breast-feed and how to maintain lactation even if they should be separated from their infants, giving newborn infants no food or drink other than breast milk unless medically indicated, allowing mothers and infants to remain together 24 hours a day, encouraging breast-feeding on demand, not giving artificial teats or pacifiers to breast-feeding infants and fostering the establishment of breast-feeding support groups for mothers upon discharge from the hospital or clinic.

<sup>28</sup> Op. Cit., World Health Organisation and United Nations Children's Fund. (2009).

## SUMMARY

**Baby-friendly Hospital Initiative:** The international BFHI certification process has provided Vanuatu hospitals with a model to follow that emphasises quality of care through simple, achievable actions. Extending the model to mother-friendly at all hospitals and then to community-friendly are the next crucial steps to achieve sustainable health outcomes in Vanuatu. An implementation plan has been designed, but more action is required to operationalise the plan so that standards continue to improve and certification can be maintained. MOH staff acknowledge inconsistencies in preservice training for nurses and in training for VHW, among other areas. The MBFHI programme has a potential to improve maternal delivery and infant outcomes; it also could help Vanuatu meet its MDGs 4 and 5 2015 targets.

**Recommended Action:** As a priority, the MNCH Task Force should oversee the BFHI implementation plan to ensure implementation of relevant training and institutionalisation in MCH services. Extend BFHI certification to MBFHI certification and follow BFHI models as crucial steps to achieve sustainable MNCH outcomes. The MNCH Task Force should oversee implementation of the related plans and members should be enabled to provide this leadership.

## CASE STUDY 2: INITIATIVES TO ADDRESS MATERNAL MORTALITY

Vila Central Hospital is the primary referral hospital in Vanuatu. It handles approximately 50% of all health facility deliveries. An MNCH Task Force of MCH professionals, established at VCH in 2012, receives monthly reports on all maternal and neonatal deaths at hospitals and health centres. The Task Force analyses the reports and uses the information to avoid similar deaths. Although VCH may not see a representative sample of deliveries and complications, the staff gains extensive experience through sharing with colleagues in provincial centres.

Since the MNCH Task Force was established, a range of new initiatives has been undertaken to improve MNCH services. The Task Force audits hospital systems after every death, collects accurate statistics and produces monthly consolidated reports on all provinces. The Task Force meets weekly to identify and rectify problems. Weekly Maternal Matters meetings and Perinatal Mortality meetings have the same goals. Action is taken immediately to support the hospital or health centre where a death occurred to avoid similar deaths. Staff members from all departments, not just those

directly associated with MNCH, attend continuous medical education meetings at VCH.

At an annual national reproductive health meeting in Port Vila, representatives from each province convene to discuss challenges and exchange learning. This collective exchange leads to consistency in standards throughout the country and technical improvements to systems and approaches.

The accuracy of maternal mortality data is affected by confusion over diagnosing and coding cause of death. The Task Force works with health professionals to clarify terms and definitions for maternal deaths. The annual reproductive health meeting has become a good vehicle for strengthening health professionals' understanding in this area and also for promoting a multidisciplinary approach. In the short term, this may result in a numerical surge in reported maternal deaths but, in fact, it will be progress towards accurate reporting.

In addition, VCH documents mothers' education levels for all deliveries. Research has demonstrated that both mother and child have an increased chance of survival for every additional year of the mother's education because she will tend to make better choices about spacing children and be more informed on reproductive health<sup>29</sup>.

Another intervention being explored is establishment of waiting homes for pregnant women, based on an example from Sanma Province. A waiting home close to a health facility, identified and supported by VHW and the local community, is available to women who live a long distance from a health facility as they



*A mother and her young daughter participate in the Kanaky festival in TAFEA Province.*

<sup>29</sup> Op. Cit., The effects of girls' education on health outcomes: Fact sheet.

near their delivery date. The purpose is to encourage women and their supporting family members to move near the health facility as the delivery date approaches, rather than walk long distances during labour or not reach the facility in time. After delivery, mother and infant can stay at the waiting home until they are able to travel home. The benefits to mother and baby are obvious, and the waiting home provides another opportunity to engage communities in MCH.

## SUMMARY

**Maternal and Perinatal Death Audits:** The MNCH Task Force initiative to audit all maternal and neonatal deaths is pivotal to improve the quality of maternal and newborn care. Data collection through the audits is strengthened and training needs are identified. Improved data quality requires a multidisciplinary coordinated approach. Annual meetings of MNCH practitioners provide a forum to develop strategy, introduce cross-learning and consolidate approaches to MNCH.

**Recommended Action:** The MNCH Task Force, supported by relevant MOH health directors, should adopt an advocacy and monitoring role to assure that essential MNCH pharmaceuticals and equipment are available at all birthing centres. Joint collaboration with the Central Medical Store (CMS) through regular monthly meetings is one possible mechanism.

## CASE STUDY 3: ESSENTIAL MEDICINES AND CONTRACEPTIVE SUPPLY CHAIN MANAGEMENT

The Vanuatu Health Service Delivery Profile 2012<sup>30</sup> stated that the management of procurement and distribution of essential drugs to health facilities is in urgent need of strengthening<sup>31</sup>. At the end of 2010, the CMS reported depletion of a number of essential medicines because of delays in receipt of donor supplies. Since then, a national-level committee was established to monitor transparency and quality for better management<sup>32</sup>; however, distribution and management problems still exist at the provincial level and below.

The CMS at MOH in Port Vila manages the purchase and distribution of all pharmaceuticals and medical equipment. Supplies are then distributed to provincial government pharmacies using a pull system<sup>33</sup> for further distribution to all levels of health facilities in rural and urban areas; however, supplies often do not reach their destination; lack of funds or redirection of funding for transportation from provincial pharmacies to service delivery points are frequent causes<sup>34</sup>. Nonreceipt of medicines and supplies affects all MNCH health areas, including essential delivery package medicines, oral rehydrating salts, zinc, vaccinations and other medicines required for RMNCAH.

Interisland shipping and transportation of shipments into the country are also a constraint. As information was being gathered for this report, CMS had been waiting 6 months for two separate shipments of essential pharmaceuticals donated by development partners<sup>35</sup>. When the interisland shipping network does not operate to schedule, islands can wait 6 months or more to receive expected quarterly shipments<sup>36</sup>. Air Vanuatu flights visit most islands at least weekly, but there is no arrangement to freight medical supplies by air.

Poor data collection and forecasting also impede good management of pharmaceuticals, according to the Health Service Delivery Profile<sup>37</sup>. CMS has designed user-friendly order forms in Bislama<sup>38</sup> language for orders from health facilities and provincial pharmacies, but even these prove to be challenging for health staff. Facilities are encouraged to keep a 4-month supply and replenish every 2 months; however, some of the more remote health centres and aid posts tend to order only every 3 months. Although CMS conducts training for new staff, such as graduate classes at the nursing school, the problem persists. Accurate forecasting is affected by inaccuracies recorded in the health information system. This unit struggles to collect and record accurate data, and improvements have been made to database software and forms, but, with only one permanent staff member at MOH and an advisor who departed in July, the unit generally is underresourced.

<sup>30</sup> Developed in collaboration between WHO Western Pacific Regional Office and MOH, Vanuatu. Retrieved May 2012 from [http://www.wpro.who.int/health\\_services/service\\_delivery\\_profile\\_vanuatu.pdf](http://www.wpro.who.int/health_services/service_delivery_profile_vanuatu.pdf)

<sup>31</sup> World Health Organisation Western Pacific Region and Ministry of Health. (2012). Health service delivery profile, Vanuatu, 2012 (p. 7). Manila, Philippines, and Port Vila, Vanuatu: Authors. Available at [http://www.wpro.who.int/health\\_services/service\\_delivery\\_profile\\_vanuatu.pdf](http://www.wpro.who.int/health_services/service_delivery_profile_vanuatu.pdf)

<sup>32</sup> Ibid.

<sup>33</sup> Push and pull are two types of distribution systems. In push systems, quantities of supplies and the schedule for their delivery to facilities are determined at a higher (usually central) level with little to no input from lower levels. In pull systems, facilities provide information on actual consumption and needs estimates to higher levels (see [www.healthsystems2020.org/files/580\\_file\\_10\\_Chapter\\_10.pdf](http://www.healthsystems2020.org/files/580_file_10_Chapter_10.pdf)).

<sup>34</sup> Op. Cit., World Health Organisation Western Pacific Region and Ministry of Health. (2012), p. 7.

<sup>35</sup> Discussion with the head pharmacist at CMS.

<sup>36</sup> Personal communication with the nurse on Futuna Island, November 2010.

<sup>37</sup> Op. Cit., World Health Organisation Western Pacific Region and Ministry of Health. (2012), p. 7.

<sup>38</sup> Commonly spoken Vanuatu pidgin and also an official language.



Another challenge is an insufficient annual budget for pharmaceuticals. The 2012 Health Service Delivery Profile identified a budget of 115 million Vatu (approximately US\$1 million), which has remained static for the past 10 years and is usually exhausted before year end<sup>39</sup>. During the past 4 years, donors provided additional funds of more than 100 million Vatu per year, usually in the form of prepurchased pharmaceuticals and equipment. Donors offer no guarantees of continuity. In 2013, the pharmaceuticals budget was increased by 50 million Vatu, but it still remains inadequate to meet national needs, which are estimated at 256 million Vatu per annum<sup>40</sup> (approximately US\$2.7 million) from the government budget alone.

The donation of prepurchased medicines by development partners also undermines national workforce infrastructure by removing the tasks of purchase negotiation, ordering and logistics from trained staff in MOH. Donors tend to prefer to purchase and ship medicines because of bulk purchase savings and to avoid delays created by slow release of funds through the finance ministry. Still, shipping to Vanuatu results in delays. Storage is another challenge. CMS pays 3.9 million Vatu per annum (approximately US\$40,000) for storage of pharmaceutical shipments because it has insufficient storage in MOH facilities.

CMS has no budget for medical equipment. If any funds remain in the essential medicines budget, CMS uses it to purchase small equipment; however, the system relies on donors and NGOs for these supplies. As a result, health facilities often lack adequate equipment, which can affect the quality of service delivery. An asset review of health facilities is underway to identify needs and compile a unified list of essentials for donors to consider.

The 2012 Health Service Delivery Profile<sup>41</sup> states that a committee is in place to monitor transparency and quality. This committee could play a useful role in the development of an action plan to address the many challenges CMS faces.

## CONTRACEPTIVE STOCKOUT

During 2012, a serious situation with contraceptive supplies arose. The repercussions in 2013—an unintended baby boom—will be considerable and likely will put additional pressure on maternal, neonatal and infant health services. CMS stocks four

main contraceptives: Depo Provera™ injections, Microgynon™ pills, a copper intrauterine device (IUD) and condoms for males and females. Condoms and IUDs are the least popular in Ni-Vanuatu communities, so that their use is limited. A multilateral agency donates contraceptives. During 2012, the agency's supplier had difficulty obtaining stock and eventually ran out. By August 2012, CMS also ran out of Depo Provera™ and Microgynon™ supplies were depleted by December 2012. Half of the Microgynon™ order did not arrive in the second half of 2012, and the balance of the 2012 order still had not arrived at the time of this study; however, booster supplies were in stock. When Depo Provera™ was depleted, some users switched to Microgynon™, and therefore, those stocks ran out as well. The donor agency arranged for stocks to be diverted from the North Pacific; however, when the shipment arrived, one-third was Microlut™, a less popular choice that CMS already had in stock. In addition, some of the more commonly used products were either out of date or too close to expiry to be distributed to rural areas and had to be destroyed.

CMS received criticism for not forecasting correctly and for ordering the same limited range of products. CMS acknowledged problems with forecasting, but it was unaware that a wider range of products was available until this incident. CMS plans to try other products in the local context. Apparently during the period that the donor agency was unable to source supplies, Depo Provera™ could be purchased by individuals at commercial pharmacies in the main centres. It was suggested that the price the agency was willing to pay was a factor in not accessing Depo Provera™ through other suppliers. A bilateral donor took up the issue with the agency's headquarters and the matter was resolved eventually. Supplies arrived early in 2013. Considerable analysis has gone into discovering what went wrong and how it can be avoided in future. While it is recognised that CMS and MOH experience some systemic problems, it is also true that donor agencies supplying pharmaceuticals can contribute to timely distribution problems.

## SUMMARY

**Essential Medicines and Contraceptive Supply Chain Management:** The supply chain management challenges are multiple and include an inadequate national budget. While a number of systemic management and distribution issues have been addressed, some of these challenges continue at

<sup>39</sup> Op. Cit., World Health Organisation Western Pacific Region and Ministry of Health. (2012), p. 7.

<sup>40</sup> Discussion with head pharmacist at CMS.

<sup>41</sup> Op. Cit., World Health Organisation Western Pacific Region and Ministry of Health. (2012).

peripheral levels of the health system. Unreliable interisland transportation and a lack of fully trained workforce also contribute to supply chain management problems. Donations of essential pharmaceuticals are welcomed and relied on because of national budget inadequacy, but donors should also recognise consequences to the distribution system and long-term sustainability.

**Recommended Actions:** The committee monitoring transparency and quality should develop an action plan to make progress in these areas, especially poor downstream management, workforce training and interisland transportation. The Director General of Health and the directors have a role to play in negotiating with donors to improve pharmaceutical donations delivery and improving donors' coordination and contribution to health, such as by allocating funds through the government budget system for CMS to manage.

#### **CASE STUDY 4: SHORTAGE OF TRAINED HEALTH WORKERS**

A 2011 analysis conducted by UNICEF Pacific<sup>42</sup> and others, which applied the marginal budgeting for bottlenecks approach, identified that addressing maternal and neonatal conditions was a best buy for the Vanuatu Government. Bottlenecks identified were shortage of VHW, nurses, midwives, nurse practitioners, doctors and specialists; inadequate knowledge and skills of VHW and nurses on a number of high-impact MNCH interventions; unavailability or interrupted supply of essential commodities because of poor logistics and supply management; insufficient maternal and newborn care; limited access to health care at aid posts, dispensaries and health centres; and inadequate knowledge and inappropriate behaviours of caregivers, household heads and youths on a number of high-impact interventions.

The Millennium Development Goals Report (MDGR) 2010<sup>43</sup> stated that the number of doctors and nurses being trained, recruited and deployed has increased, but there are ongoing constraints to providing access to reproductive and MCH services in understaffed and under-equipped rural and remote communities and outer islands. Although 37 health centres were reported in 2009, possibly as many as 10 were inactive<sup>44</sup> because they lacked trained staff. Other health centres operated without suitably trained nursing staff, which restricted the services available. The report concluded that achieving the MDG 4 target will require additional human resources (nurses,



*Supportive husband comforts his wife while she breastfeeds their baby on Tanna Island Vanuatu.*

doctors and administrators) to provide optimum care in all provinces. The shortage of adequately trained and qualified staff undermines any good intervention programme. The MOH has a long-term human resources plan but funding is currently lacking.

Currently, there are more male than female health workers, which can be a constraint to women accessing care because of traditional taboos about nudity that can prevent women from seeking health care from male nurses. This is especially the case in close-knit remote communities. The shortage of female health workers may have been exacerbated by the fact that the education threshold for nursing student intake requires a minimum of Form 8—which tends to eliminate a large number of potential female candidates who are often culled out of the education system at Form 6. Reducing the education level requirement for entry into nursing training would result in a larger trained maternal and child health workforce and allow for more women to enter the profession.

<sup>42</sup> UNICEF Pacific Office (draft May 2012).

<sup>43</sup> Op. Cit., Prime Minister's Office. (2010).

<sup>44</sup> A discussion with health information systems staff identified that four more have become inactive in the past year.



MDGR 2010 concluded that families need education on community involvement and participation in child health programmes and should adopt responsibility for their own health. Parents and caregivers should understand the importance of seeking health care early for children and infants<sup>45</sup>. A shortage of VHW and trainers to educate communities about the importance of maternal and reproductive health contributes to this problem. The BFCI Model approach could provide the basis for discussions with communities on how to achieve baby-friendly community status. Locally developed criteria could be determined with the participation of both male and female political and social leadership and lead to more community engagement in and responsibility for health.

While recruitment and training of additional health care workers continues and pharmaceutical distribution improves, more emphasis is required on building community knowledge and support for community engagement and early recognition and referral for maternal and child illness. Positive traditional health practices can be encouraged, but those that undermine maternal and neonatal health need to be discussed with communities and new solutions provided. The roles, responsibilities and training of VHW need to be reviewed so that VHW can better serve their

communities. They are well positioned to play an instrumental role in supporting and promoting healthy behaviour change in communities.

## SUMMARY

**Shortage of Trained Health Workers:** Shortages of trained health workers, especially female workers, affect access to MNCH services and are a stumbling block to improved outcomes for mothers and babies. MOH has a long-term human resources plan that requires adequate funding by government. VHW have a role to play in expanding awareness and promoting healthy behaviours in families and communities. A starting point for this could be promotion of BFCI.

**Recommended Actions:** Accurate information provided by MOH staff can be the basis for improved budget allocations and high-level decision making by the government. Positions for new recruits need to be funded so that graduating health professionals have jobs at health facilities, many of which are understaffed or closed because of the lack of trained staff. The human resources budget should prioritise ongoing professional development for existing staff members so they can deliver quality service. The roles, responsibilities and training of VHW should be reviewed and updated.



Young mother visits the Vanuatu Family Health Association, which provides information and clinical services, family planning and counselling.

<sup>45</sup> Op. Cit., Prime Minister's Office. (2010).



# Conclusions and Actions to Accelerate Progress

MDGR 2010 identified a demographic picture of a fairly fertile population for the next decade; the government will need to provide essential services for the increased burden, especially MCH and primary health services<sup>46</sup>. Vanuatu has successfully implemented several initiatives to address maternal and newborn morbidity and mortality, including MBFHI and BFHI; institution of the MNCH Task Force to conduct maternal and perinatal death audits and strengthen the quality of delivery care; and maternal waiting homes to improve access to skilled health personnel at delivery.

Ongoing challenges remain in several health system sectors that affect MNCH services. These include lack of adequate financing for health services; supply chain management problems, particularly below the national level; a lack of planning and funding for staff positions to assure sufficient health workers, particularly in remote areas; and a need to maintain an emphasis on the role and contribution of VHW to increase community and family awareness of health issues and demand for services.

Actions to accelerate progress toward achieving Vanuatu's maternal and child health goals should include priority for the BFHI implementation plan so that relevant training can be institutionalised in MCH services. Efforts also should include extending certification to Mother- and Baby-friendly Hospital Initiative certification and the Baby-friendly Community Initiative model as important steps for achieving sustainable MNCH outcomes. The MNCH

Task force should oversee implementation of the plans, and members should be enabled to provide this leadership.

The MNCH Task Force should consider an advocacy and monitoring role to ensure that essential MNCH pharmaceuticals and equipment are available at all birthing centres. Joint collaboration with CMS through regular monthly meetings could expedite this.

The CMS committee that monitors transparency and quality should develop an action plan to address problems in supply chain management, especially where they relate to poor downstream management, workforce training, and interisland transportation. The Director General of Health and directors have an important role to negotiate with donors to improve coordination and delivery of pharmaceutical donations.

Adequate staff positions budgeting to place new recruits is essential so that graduating health professionals have jobs at health facilities, many of which are understaffed or closed because of the lack of trained staff. The human resources budget should include professional development opportunities for existing staff. The roles, responsibilities and training of VHW need to be reviewed and updated to ensure improved community health promotion and outreach services.

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<sup>46</sup> Op. Cit., Prime Minister's Office. (2010).

# Bibliography

- Cousens, S., Blencowe, H., Stanton, C., Chou, D., Say, L., Lawn, J. E., et al. (2011). National, regional, and worldwide estimates of stillbirth rates in 2009 with trends since 1995: A systematic analysis. *Lancet*, 377(9774), 1319–1330.
- Department of Health and Australian Agency for International Development. (1996). *Report of the second National Nutrition Survey, Vanuatu*. Port Vila, Vanuatu, and Canberra, Australia: Authors.
- Government of the Republic of Vanuatu. (2010). *Annual development report*. Port Vila, Vanuatu: Author.
- Government of the Republic of Vanuatu. (2010). *Health sector strategy 2010–2016*. Port Vila, Vanuatu: Author.
- Government of Vanuatu, Partnership of Excellence for Pacific Children and United Nations Children's Fund Pacific Office. (2007). *Vanuatu Nutrition Survey, 2007*. Suva, Fiji: UNICEF Pacific Office.
- Government of Vanuatu and United Nations Children's Fund. (2005). *A situation analysis of children, women and youth, Vanuatu*. Port Vila, Vanuatu, and New York, NY: Authors.
- Ministry of Health and United Nations Children's Fund. (2008). *Monitoring the situation of children and women, Vanuatu: Multiple Indicator Cluster Survey 2007*. Port Vila, Vanuatu, and New York, NY: Authors.
- Mullick, S., Watson-Jones, D., Beksinska, M., & Mabey, D. (2005). Sexually transmitted infections in pregnancy: Prevalence, impact on pregnancy outcomes and approach to treatment in developing countries. *Sexually Transmitted Infections*, 81(4), 292–302. PMID: 16061534.
- Pacific Islands Forum Secretariat. (2011). *Pacific regional MDGs tracking report*. Suva, Fiji: Author.
- Prime Minister's Office. (2010). *Millennium Development Goals report for 2010, Vanuatu*. Port Vila, Vanuatu: Government of the Republic of Vanuatu.
- The Partnership for Maternal, Newborn & Child Health. 2011. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (Rmnch)*. Geneva, Switzerland: PMNCH.
- United Nations Children's Fund. (2012, March). UNICEF Country Profile Vanuatu, MN&C survival. New York, NY: Author. (Includes data received from World Health Organisation Regional Office for Western Pacific.)
- United Nations Children's Fund Pacific Office. (2012, May). *Analysis and costing of health-related MDGs in Vanuatu: Evidence-based strategic planning, costing and budgeting for accelerated achievement of health-related Millennium Development Goals, Targets and Indicators*. Suva, Fiji: Author. (Undertaken by UNICEF Pacific Office and UNICEF East Asia Pacific Office and Ministry of Health in collaboration with Ministry of Finance and Economic Management Department of Strategic Policy, Planning and Aid Coordination, Office of Prime, Port Vila, Vanuatu, 6 June–4 August 2011.)
- West, K. P. Jr., Rice, A., & Sugimoto, J. D. (2005). *Tables on the global burden of vitamin A deficiency and xerophthalmia among preschool-aged children and low vitamin A status, vitamin A deficiency and night blindness among pregnant women by WHO region*. Baltimore, MD: Centre for Human Nutrition, Department of International Health, Bloomberg School of Public Health, Johns Hopkins University.
- World Health Organisation. (2008). *World prevalence of anaemia 1993–2005: WHO global database on anaemia*. Geneva, Switzerland: Author.
- World Health Organisation and United Nations Children's Fund. (2009). *Baby-Friendly Hospital Initiative: Revised, updated and expanded for integrated care—Section 1 background and implementation*. Geneva, Switzerland, and New York, NY: Authors.
- World Health Organisation Western Pacific Region and Ministry of Health. (2012). *Health service delivery profile, Vanuatu, 2012*. Manila, Philippines, and Port Vila, Vanuatu: Authors. Available at [http://www.wpro.who.int/health\\_services/service\\_delivery\\_profile\\_vanuatu.pdf](http://www.wpro.who.int/health_services/service_delivery_profile_vanuatu.pdf)

## WEB RESOURCES

- Encyclopedia of the Nations*: <http://www.nationsencyclopedia.com/WorldStats/HNP-prevalence-anemia-pregnant-women.html>
- Global AIDS Response Progress Report 2012, Republic of Vanuatu*: [http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce\\_VU\\_Narrative\\_Report.pdf](http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_VU_Narrative_Report.pdf)
- Maouris, P. *Reducing perinatal mortality in Vila Central Hospital, Vanuatu*: <http://www.womens-health-clinic.com/reducing-perinatal-mortality-in-vila-central-hospital--vanuatu-NzY2ODA1Ng==.html>
- United Nations Children's Fund statistics: [http://www.unicef.org/infobycountry/vanuatu\\_statistics.html](http://www.unicef.org/infobycountry/vanuatu_statistics.html)
- World Health Organisation Vanuatu Health Profile: <http://www.who.int/countries/vut/en/>
- World Health Statistics 2011: <http://www.who.int/whosis/whostat/2011/en/>
- World Health Organisation: Immunisation, surveillance, assessment and monitoring: [http://www.who.int/immunization\\_monitoring/routine/en](http://www.who.int/immunization_monitoring/routine/en)
- The World Bank: Immunisation, measles (% of children aged 12–23 months): <http://data.worldbank.org/indicator/SH.IMM.MEAS?page=4>





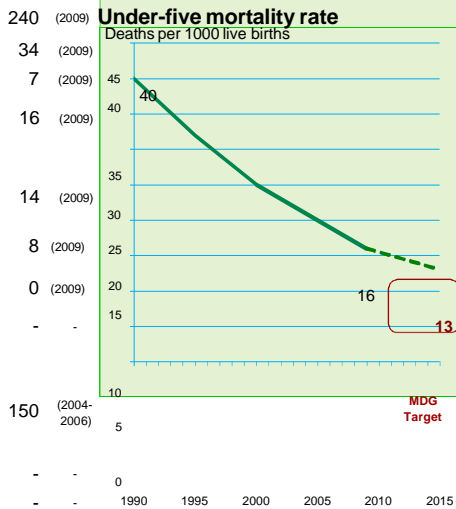
# Vanuatu

## Maternal, Newborn & Child Survival

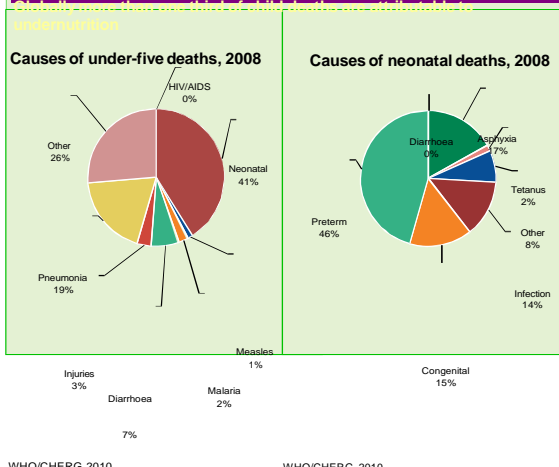
January 2011

## DEMOGRAPHICS

Total population (000)	240 (2009)
Total under-five population (000)	34 (2009)
Births (000)	7 (2009)
Under-five mortality rate (per 1000 live births)	16 (2009)
Infant mortality rate (per 1000 live births)	14 (2009)
Neonatal mortality rate (per 1000 live births)	8 (2009)
Total under-five deaths (000)	0 (2009)
Maternal mortality ratio, adjusted (per 100,000 live births)	-
Maternal mortality ratio, reported (per 100,000 live births)	150 (2004-2006)
Lifetime risk of maternal death (1 in N)	-
Total maternal deaths (number)	-



## Causes of under-five deaths



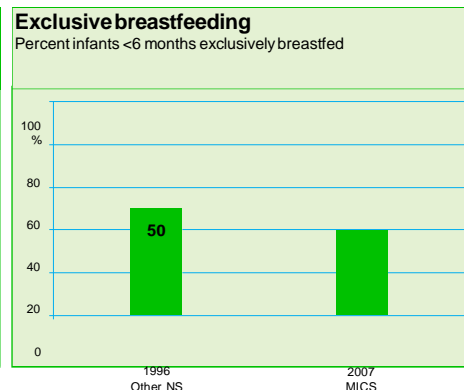
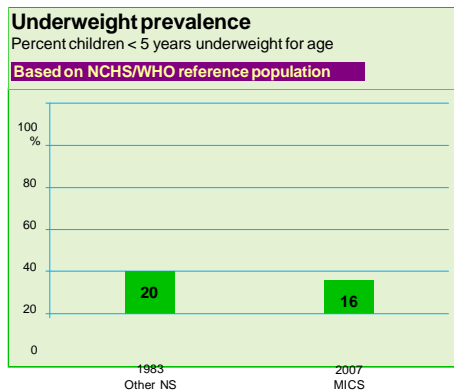
Source: IGME 2010

Note: Figures may not add to 100% due to rounding.

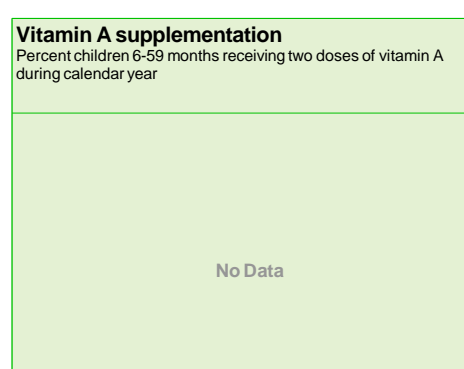
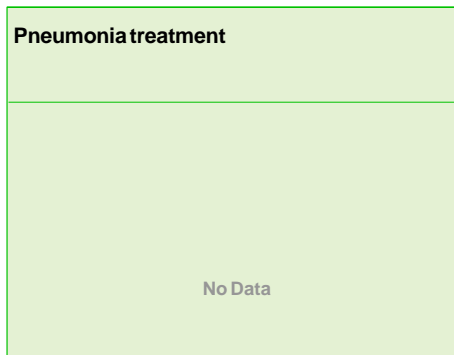
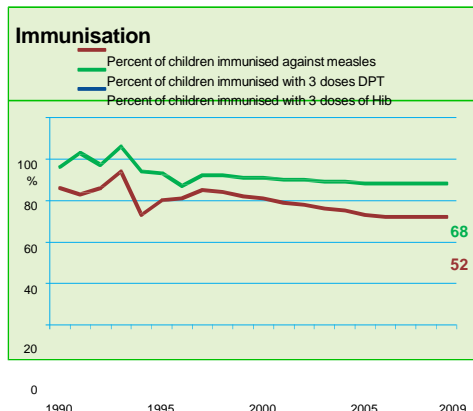
## INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS AND CHILDREN

### NUTRITION

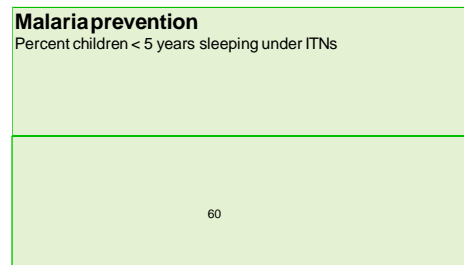
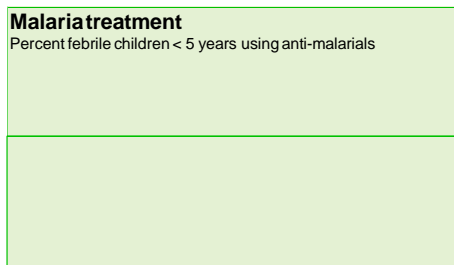
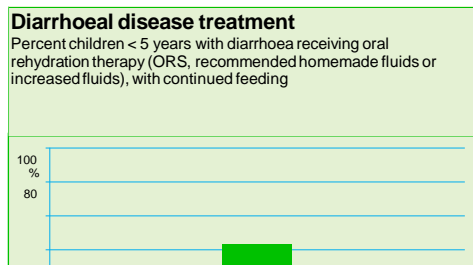
Stunting prevalence (based on 2006 WHO reference population, moderate and severe, %)	-	Wasting prevalence (based on 2006 WHO reference population, moderate and severe, %)	-	Complementary feeding rate (6-9 months, %)	62 (2007)
				Low birthweight incidence (%)	10 (2007)



## CHILD HEALTH



Source: WHO/UNICEF



40

43

No Data

No Data

20

0

2007  
MICS

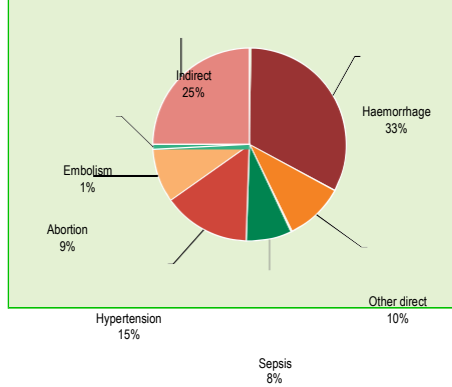


## MATERNAL AND NEWBORN HEALTH

Proportion of women with low BMI (< 18.5 Kg/m <sup>2</sup> , %)	-	-
Unmet need for family planning (%)	-	-
Total fertility rate	3.9	(2009)
Adolescent birth rate (births per 1000 woman aged 15-19 yr)	-	-
Antenatal visit for woman (4 or more visits, %)	-	-
Early initiation of breastfeeding (within 1 hour of birth, %)	72	(2007)
Institutional deliveries (%)	80	(2007)
Postnatal visit for baby (within 2 days for home births, %)	-	-
Postnatal visit for mother (within 2 days, %)	-	-

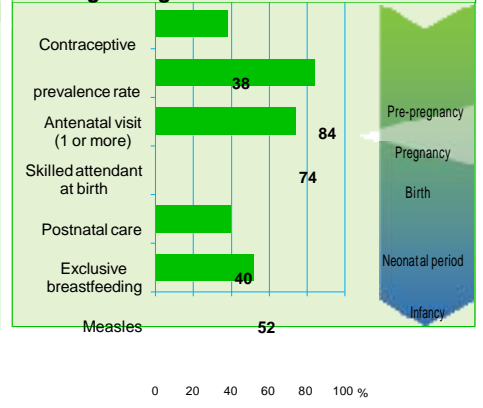
### Causes of maternal deaths

Regional estimates for Oceania, 1997-2007



Source: WHO 2010 Note: Figures may not add to 100% due to rounding.

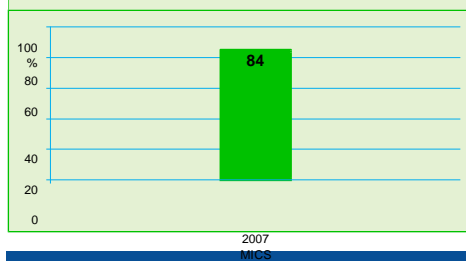
### Coverage along the continuum of care



Source: DHS, MICS, Other NS

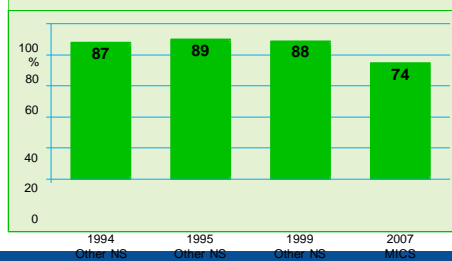
### Antenatal care

Percent women aged 15-49 years attended at least once by a skilled health provider during pregnancy



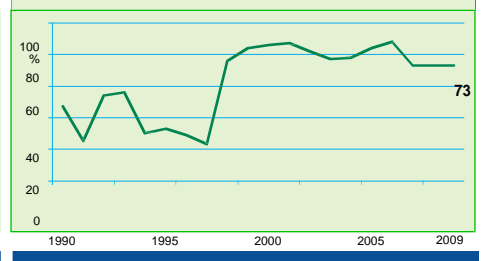
### Skilled attendant at delivery

Percent live births attended by skilled health personnel



### Neonatal tetanus protection

Percent of newborns protected against tetanus

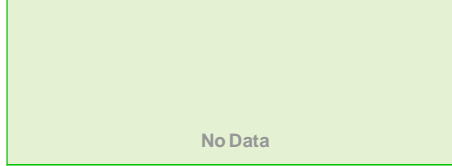


Source: WHO/UNICEF

HIV prevalence among young women (15-24 yrs.%)	-	-
HIV prevalence among young men (15-24 yrs.%)	-	-
HIV+ children receiving ART (%)	-	-
Orphan school attendance ratio	-	-

### Prevention of mother-to-child transmission of HIV

Percent HIV+ pregnant women receiving ARVs for PMTCT

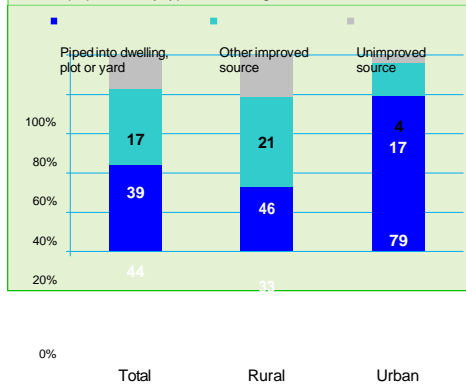


Survival rate to last grade of primary school (% administrative data)	73	(2006)
Survival rate to last grade of primary school (% survey data)	89	(2007)
Primary school net enrolment or attendance ratio (% total)	81	(2007)
Primary school net enrolment or attendance ratio (% male)	80	(2007)
Primary school net enrolment or attendance ratio (% female)	82	(2007)

## WATER AND SANITATION

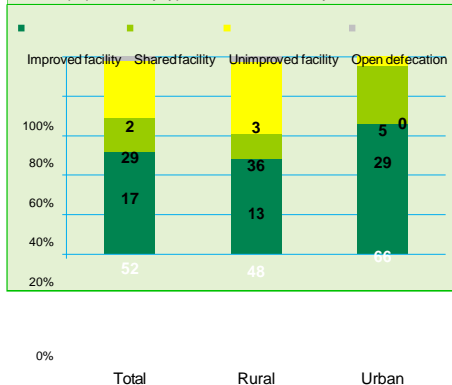
### Drinking water coverage

Percent population by type of drinking water source, 2008



### Sanitation coverage

Percent population by type of sanitation facility, 2008



Source: WHO/UNICEF JMP, 2010

Source: WHO/UNICEF JMP, 2010

## CHILD PROTECTION

Women aged 20-24 years who were married or in union by age 18 (%)	27	(2007)
Birth registration (%)	26	(2007)
Female genital mutilation/cutting (%)	-	-

## POLICIES *(being updated)*

International Code of Marketing of Breastmilk Substitutes	-	-
New ORS formula and zinc for management of diarrhoea	-	-

## SYSTEMS *Financial Flows and Human Resources (being updated)*

Community treatment of pneumonia with antibiotics	-	-
IMCI adapted to cover newborns 0-1 week of age	-	-
Costed implementation plan(s) for maternal, newborn and child	-	-

health available	-	-	Per capita total expenditure on health (US\$)	-	-
Midwives to be authorised to administer a core set of life saving interventions	-	-	General government expenditure on health as % of total government expenditure (%)	-	-
Maternity protection in accordance with ILO Convention 183	-	-	Out-of-pocket expenditure as % of total expenditure on health (%)	-	-
Specific notification of maternal deaths	-	-	Density of health workers (per 10,000 population)	-	-
			Official Development Assistance to child health per child (US\$)	-	-
			Official Development Assistance to maternal and neonatal health per live birth (US\$)	-	-
			National availability of Emergency Obstetric Care services (%)	-	-

DISPARITIES IN INTERVENTION COVERAGE <sup>2</sup>

Indicator	Total	Gender			Residence			Wealth Quintile					Source	
		Male	Female	Ratio of Male to Female	Urban	Rural	Ratio of Urban to Rural	Poorest	Second	Middle	Fourth	Richest		Ratio of Richest to Poorest
<b>NUTRITION <sup>1</sup></b>														
Low birthweight incidence (%)	10	-	-	-	9	10	0.9	9	10	13	9	9	1.0	MICS 2007
Underweight prevalence (based on 2006 WHO reference population, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Underweight prevalence (based on NCHS/WHO reference population, %)	16	18	13	1.4	15	16	0.9	18	21	14	12	13	0.7	MICS 2007
Stunting prevalence (based on 2006 WHO reference population, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wasting prevalence (based on 2006 WHO reference population, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exclusive breastfeeding (0-5 months, %)	40	37	43	0.9	-	40	-	-	-	-	-	-	-	MICS 2007
Complementary feeding (6-9 months, %)	62	59	64	0.9	-	65	-	-	-	-	-	-	-	MICS 2007
<b>CHILD HEALTH <sup>4</sup></b>														
Careseeking for pneumonia (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antibiotic use for pneumonia (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diarrhoeal treatment - children receiving ORT and continued feeding (%)	43	50	35	1.4	45	43	1.0	38	51	31	41	53	1.4	MICS 2007
Malaria prevention - children sleeping under ITNs (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaria treatment - febrile children receiving antimalarial medicines (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>MATERNAL AND NEWBORN HEALTH</b>														
Proportion of women with low BMI (< 18.5 Kg/m <sup>2</sup> , %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antenatal care coverage at least one visit (%)	84	-	-	-	87	84	1.0	78	88	81	90	89	1.1	MICS 2007
Antenatal care coverage (4 or more visits, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Skilled attendant at delivery (%)	74	-	-	-	87	72	1.2	55	78	73	87	90	1.6	MICS 2007
Early initiation of breastfeeding (%)	72	-	-	-	82	70	1.2	68	69	72	75	83	1.2	MICS 2007
<b>WATER AND SANITATION <sup>3</sup></b>														
Use of improved drinking water sources (%)	83	-	-	-	96	79	1.2	-	-	-	-	-	-	2008 (WHO/UNICEF JMP 2010)
Use of improved sanitation facilities (%)	52	-	-	-	66	48	1.4	-	-	-	-	-	-	2008 (WHO/UNICEF JMP 2010)
<b>EDUCATION</b>														
Survival rate to last grade of primary school (administrative data, %)	73	74	73	1.0	-	-	-	-	-	-	-	-	-	UIS 2010
Survival rate to last grade of primary school (survey data, %)	89	86	91	0.9	95	87	1.1	70	98	85	94	97	1.4	MICS 2007
Primary school net enrolment or attendance ratio	81	80	82	1.0	-	-	-	-	-	-	-	-	-	MICS 2007
<b>CHILD PROTECTION</b>														
Women aged 20-24 years who were married or in union by age 18 (%)	27	-	-	-	-	-	-	-	-	-	-	-	-	MICS 2007
Birth registration (%)	26	-	-	-	-	-	-	13	21	27	33	41	3.1	MICS 2007
Female genital mutilation/cutting (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Note:** The format for this Country Profile has been adapted from the Countdown to 2015 report. Coverage data have been largely derived from national household surveys such as the Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS). For the majority of coverage indicators, UNICEF global databases were used. Other organizations such as the World Health Organization, UNAIDS, United Nations Population Fund, London School of Hygiene and Tropical Medicine and Saving Newborn Lives also provided data. Details on indicators, data sources, and definitions of indicators, can be found at [www.childinfo.org](http://www.childinfo.org).

1. Anthropometric indicators - Reference Standards for Underweight, Stunting and Wasting. New international Child Growth Standards for infants and young children were released by WHO in 2006, replacing the older NCHS/WHO reference population. During this transition period, the Country Profile provides underweight, stunting and wasting data based on both the 2006 WHO reference population and the older NCHS/WHO reference population, where available. In using the 2006 WHO reference population, estimates generally change in the following manner: stunting is greater throughout childhood; underweight rates are higher during the first half of infancy and lower thereafter; and, wasting rates are higher during infancy.

2. Disparities. Disparity information is only available for data directly derived from household surveys such as MICS and DHS. Therefore, disparity data are not available for the following indicators: mortality, vitamin A supplementation, immunization, and for HIV/AIDS. In addition, neither UNICEF Global Databases nor databases from partner organizations maintain disparity data for the following indicators: total fertility rate, unmet need, institutional deliveries, contraceptive prevalence, adolescent birth rate.

3. Water and sanitation wealth quintile data are derived from MICS or DHS surveys. Urban, rural and total coverage estimates provided are for 2008 and are those published by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation.

4. Child Health - All indicators in this section refer to children under 5 years of age.



