Kiribati:
Tracking Progress in Maternal and Child Survival

A Case Study Report, 2013

The Partnership for Maternal, Newborn & Child Health

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

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United Nations Children's Fund
3rd & 5th Floors, FDB Building
360 Victoria Parade,
Suva, Fiji

Email: suva@unicef.org
www.unicef.org/pacificislands

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Abstract

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

Achievements

Kiribati has made progress in several areas of health care:

- Accessible health care, active community outreach program that connects with a large portion of the urban population
- High initial immunisation coverage (DPT3 99%, measles 90%), although schedule completion drops significantly
- Improved maternal care: 66% of women delivered in a health facility, 80% delivered with a skilled attendant; universal coverage of antenatal care
- Efforts are underway to integrate child health services in a single service point; biannual national child health weeks; postnatal care program with in-home visits for new mothers
- Model commitment to end open defecation to be presented nationally; community gardens underway to produce nutrient-rich foods

Challenges

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

- Millennium Development Goals 4 and 5 targets will not be reached at current rates of progress
- Rapid urbanisation is overburdening the infrastructure
- Minimal progress on family planning over past 20 years
- Malnutrition and diarrhoea remain major problems
- Large proportion (50%) of births to high-risk mothers
- Inconsistent application of protocols; insufficient monitoring and evaluation

Recommendations

The report offers the following recommendations:

- Increase coverage, improve quality of interventions; target pregnancy, childbirth and perinatal care for mothers and newborns
- Provide greater access to contraceptive information and services; reduce number of high-risk pregnancies through child spacing
- Target disadvantaged, high-burden populations with strengthened community health networks, improved outreach services
- Collect and analyse data, monitor performance, improve program management
- Evaluate small-scale initiatives, roll out successful ones

Cover: Itabera 26 breastfeeding her last born at home (Tekea 4 months, boy). She's is a nurse and she knows the importance of exclusive breastfeeding for the first 6 months.

Table of Contents

List of Abbreviations

ANC	antenatal care
ARI	acute respiratory infections
CMR	child mortality rate
DHS	Demographic and Health Survey
HIV	human immunodeficiency virus
IMR	infant mortality rate
MDG	Millennium Development Goal
MNCH	maternal, newborn and child health
ORS	oral rehydration salts
RMNCAH	reproductive, maternal, newborn, child and adolescent health
STI	sexually transmitted infections
U5MR	under-5 mortality rate
UN	United Nations
UNICEF	United Nations Children's Fund
WHO	World Health Organisation

Executive Summary

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

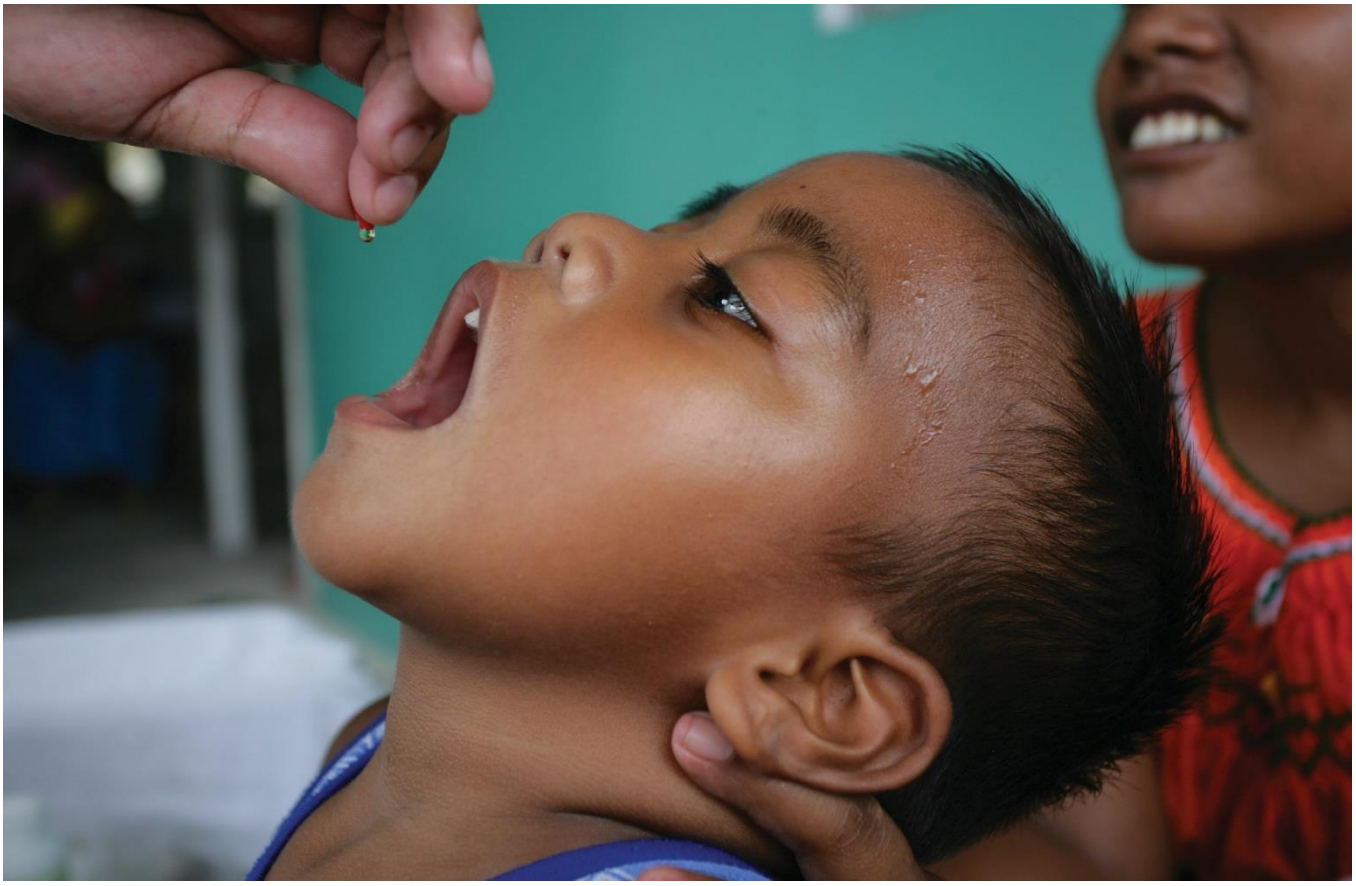
Kiribati, classified as a least-developed country, faces major development challenges common to many Pacific Island countries: limited opportunities for economic growth; a small government revenue base; too few employment opportunities, especially for youth; an underdeveloped private sector; and human resource constraints. Urban population settlement density is increasing; potable water and arable land are scarce; and natural disasters, increasing rises in sea-level, and climate change are challenging the environment. As one of most physically remote island countries, Kiribati is handicapped by difficult and expensive transportation and communication.

Even so, life expectancy is 63 years, and high fertility rates over the past 20 years are nearly unchanged, placing pressure on the land and other natural resources. Kiribati has a reasonable health infrastructure relative to population size; however, maternal and child facilities struggle to meet the needs of the expanding population. The government provides all services for free and out-of-pocket expenditure is minimal. Health spending accounts for 16.5% of government recurrent spending. There is no private care.

Tereba, 2 months old, gets help weighing in at the Bairki Health Centre in Tawara, the capital.

ACHIEVEMENTS

- **Accessible health care, active community outreach program that connects with a large portion of the urban population.**
- **High initial immunisation coverage (DPT3 99%, measles 90%), although schedule completion drops significantly.**
- **Improved maternal care: In [year], 66% of women deliver in a health facility, 80% delivered with a skilled attendant; universal coverage of antenatal care.**
- **Efforts are underway to integrate child health services in a single service point; biannual national child health weeks; postnatal care program with in-home visits for new mothers.**
- **Model commitment to end open defecation to be presented nationally; community gardens underway to produce nutrient-rich foods.**



Mweiti, 3, opens wide for a dose of vitamin A at the Bairiki Health Centre in Tawara, the capital.

The Republic of Kiribati has made substantial progress in improving the health and wellbeing of women and children. Although child mortality rates are higher in Kiribati than in most other Pacific island nations, the rates dropped from 1990 to 2011. The mortality rate for children under age 5 fell by 47% to 47 out of 1,000, and the infant mortality rate fell by 41% to 37 out of 1,000 live births. Maternal deaths remain rare.

Most deaths of mothers and children can be prevented through use of the package of interventions currently being delivered in Kiribati. Further reduction of child mortality (much of which is in the first month and year of life) will require increased coverage and improved quality of key interventions that target the health of the mother and child during pregnancy, childbirth and the postnatal period. These efforts will include reducing the number of high-risk pregnancies through child spacing and wider access to contraceptive information and services and ensuring that services are provided at the optimal time.

CHALLENGES

- **Millennium Development Goals 4 and 5 targets will not be reached at current rates of progress**
- **Rapid urbanisation is overburdening the infrastructure**
- **Minimal progress on family planning over past 20 years**
- **Malnutrition and diarrhoea remain major problems**
- **Large proportion (50%) of births to high-risk mothers**
- **Inconsistent application of protocols; insufficient monitoring and evaluation**

The country faces a high communicable disease burden (diarrhoea, pneumonia, sexually transmitted infections, tuberculosis) and very high burden of non-communicable diseases (diabetes [28%], hypertension [17%] and cardiovascular disease). A 2009 survey showed alarming levels of risk factors, such as smoking (61%), physical inactivity (50%), alcohol abuse (72% for men, 49% for women) and obesity (81.5%).

With limited resources, need is greatest to strengthen community health networks linked to health facilities and improve outreach services targeted on disadvantaged, high-burden populations. Opportunities abound to make more effective use of data to monitor and evaluate performance, improve program management of programs and target resources. Encouraging small scale or pilot initiatives need to be evaluated and rolled out if successful. Many of the determinants of ill health and mortality relate to poverty, overcrowding, inadequate and

unsafe drinking water, poor sanitation and hygiene and poor diet and lifestyle choices, and will require coordinated action across sectors, with a strong community-led component.

While some areas of maternal health care are improving (breastfeeding is widespread at 79% in the first month, but falls off to a quarter of children exclusively breastfed by age 6 months), other areas do not keep pace. For example, 50% of births in Kiribati are in at least one of the recognised avoidable high-risk categories: The mother is too old or too young, the birth interval is less than 2 years, or the pregnancy is the fourth child or more. Maternal deaths have remained low since 1991, with two recorded maternal deaths each year in 2010 and 2011. High levels of births occur in health facilities (66%) or with skilled birth attendance (80%) and high rates of antenatal care; however, considerable opportunity exists for improvement, such as in increased presentation in the first trimester and antenatal care quality, especially in rural areas. Contraception use is low, and the rate of teenage pregnancy is high (10% of women ages 15–19 years reported they were pregnant or already had a child at the time of the 2009 survey).

Inadequate sexual information and services and low rates of condom use compound the high and rising prevalence of sexually transmitted infections and misconceptions about the spread of HIV.

RECOMMENDATIONS

- **Increase coverage, improve quality of interventions; target pregnancy, childbirth and perinatal care for mothers and newborns**
- **Provide greater access to contraceptive information and services; reduce number of high-risk pregnancies through child spacing**
- **Target disadvantaged, high-burden populations with strengthened community health networks, improved outreach services**
- **Collect and analyse data, monitor performance, improve program management**
- **Evaluate small-scale initiatives, roll out successful ones**

Female condom demonstration during the Adolescent Health Development programe

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 Kiribati to fully achieve the targets of the health-related Millennium Development Goals as outlined in the Kiribati National Strategic Plan.

It is the output of a recent consultative process with the Ministry of Health and key stakeholders for maternal and child health in Kiribati. It summarises available data on progress to date in Kiribati, identifies key factors that contributed to success, as well as ongoing challenges, and illustrates a number of innovative practices. It also includes recommendations for accelerated action. The Annex contains the 2011 Accelerating Child Survival and Development summary data profile for Kiribati.

CONTEXT

The Republic of Kiribati is spread out in the Pacific Ocean on 33 low-lying coral atolls across 3.5 million sq km (1,351,000 sq mi). The population of 103,466 has increased by 43% since 1990, with an intercensus urban growth rate of 5.2%. With in-migration to South Tarawa, the capital atoll, almost half the population now lives in urban areas, placing great stress on the natural resources, infrastructure and services of an already overcrowded island. Life expectancy is 63 years (men, 59.7 years; women, 67.5 years); 36% of the population is age 15 or younger. For women of reproductive age, the total fertility rate is 3.9 per woman, which is lower than some neighbouring countries, but still twice the population replacement level. The number of births in 2010 was 3,203.

Taabwai 20 at her antenatal consultation

Kiribati, classified as a least-developed country, faces major development challenges common to many Pacific Island countries: limited opportunities for economic growth; a small government revenue base; too few employment opportunities, especially for youth; an underdeveloped private sector; and human resource constraints. Urban population settlement density is increasing; potable water and arable land are scarce; and natural disasters, increasing rises in sea-level, and climate change are challenging the environment. As one of most physically remote island countries, Kiribati is handicapped by difficult and expensive transportation and communication[1, 2].

Kiribati has a reasonable health infrastructure relative to population size; however, maternal and child facilities struggle to meet the needs of the expanding population. The government provides all services for free and out-of-pocket expenditure is minimal. Health spending accounts for 16.5% of recurrent government spending. There is no private care.

Maternal, newborn and child health care facilities are needed in the main centres to meet the demands of the expanding population. Kiribati has not trained or retained an adequate number of doctors and relies on expatriates to fill posts. The uncosted Health Strategic Plan (2012–2015) was reported to be in draft

[1] Pacific Regional ICPD Review. (2003, April). Review of the implementation of the International Conference on Population and Development Programme of Action Beyond 2014, United Nations Population Fund.

[2] Kiribati Development Plan, 2012–2015.

TABLE 1. Kiribati Estimated Mortality Rates for Under Age 5, Infant and Child, 1990–2011

	1990	2000		2011			Decrease 1990–2011	2015 Target
U5MR	**88**	**65**	*69*	**47**	*59*	(75)	**47%**	29
IMR (<1 year)	**64**	**NA**	*52*	**38**	*45*	(43)	**41%**	21
CMR (1–5 years)	**24**	**NA**	*17.5*	**9**	*14*	(32)	**63%**	
IMR as Proportion of U5MR	**72%**	NA		**81%**			NA	NA

Sources: 2011 United Nations (UN) Interagency Mortality Estimates (bold text); 2010 Census Report (italics); 2009 Demographic and Health Survey (DHS) estimates (in parentheses). Note that the DHS mortality estimates have very wide confidence intervals and should be interpreted with caution.

and is yet to be launched. The health information system struggles to provide sufficient accurate timely information for planning, policy development and service management[3].

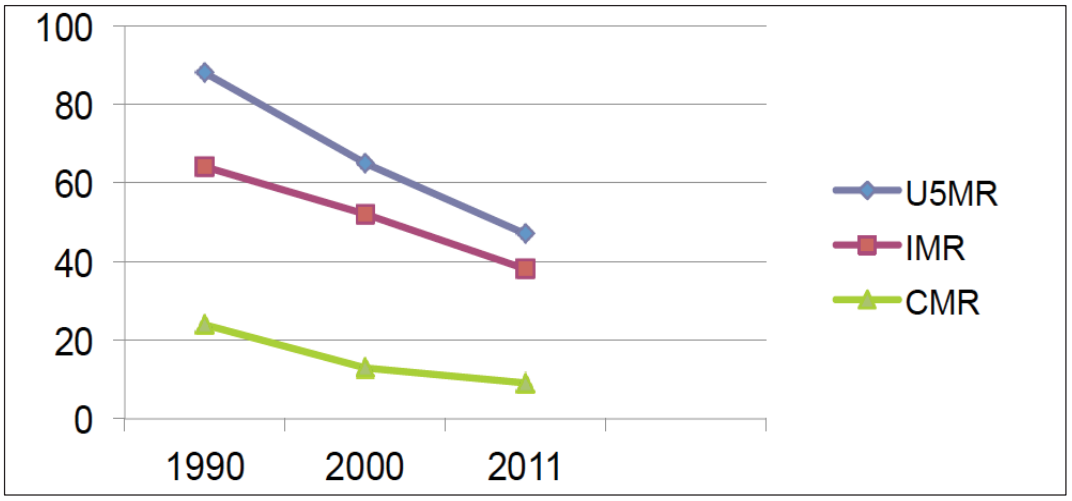
The country faces a high communicable disease burden (diarrhoea, pneumonia, sexually transmitted infections, tuberculosis) and very high burden of non-communicable diseases (diabetes [28%], hypertension [17%] and cardiovascular disease). A 2009 survey showed alarming levels of risk factors, such as smoking (61%), physical inactivity (50%), alcohol abuse (72% for men, 49% for women) and obesity (81.5%)[4].

PROGRESS TOWARDS MDG 4 AND 5—WHERE ARE WE NOW?

CHILD HEALTH

Child mortality rates for Kiribati are higher than for all other Pacific Island nations, with the exception of Papua New Guinea. Table 1 shows varying estimates of mortality rates: under age 5 years (U5MR), infant to age 1 year (IMR) and age 1–5 years child mortality rate (CMR). The chart in Figure 1 shows trends in child mortality rates. U5MR ranges from 47/1,000 live births to 75/1,000 live births, depending on the data source.

FIGURE 1. Trends in Infant, Child and Under-5 Mortality Rates per 1,000 Live Births



Sources: UN Interagency Mortality Estimates (1990 and 2011); National census data 2000. Available at: http://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2012.pdf

[3] Kiribati 2011 health report.

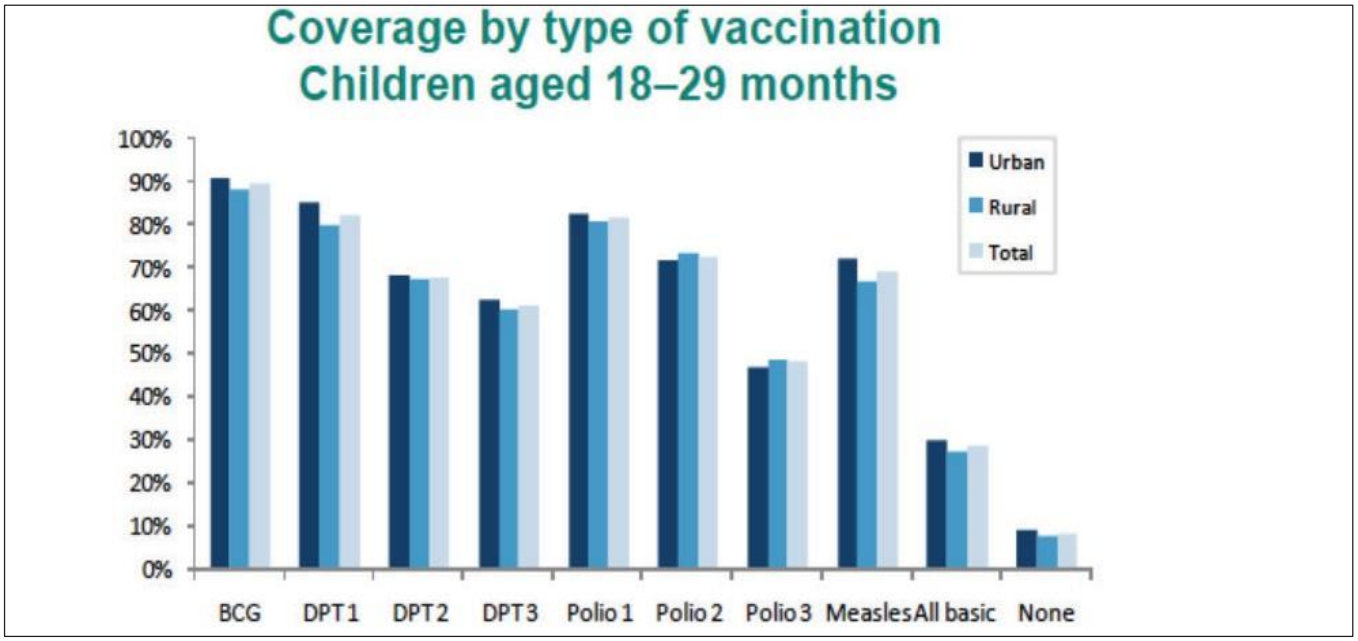
[4] Kiribati noncommunicable disease risk factors, STEPS survey report 2009. MHMS and WHO.

Without substantial acceleration in progress, the country will not meet live birth targets (U5MR, 29/1,000; IMR, 21/1,000) for Millennium Development Goal (MDG) 4. Between 1990 and 2011, U5MR decreased 47%, but the proportion of infant deaths increased [from what to what?], with most occurring in the first month of life. IMR for boys (50/1,000 live births) are higher than for girls (39/1000 live births). Mortality levels were highest in the outer islands and lowest in the highest wealth quintiles and among mothers with higher levels of education. Children born to mothers with a secondary Level 2 education are almost twice as likely to live to age 5 as those born to women with less education. Infant and neonatal mortality rates are lower in South Tarawa, while post neonatal rates are lower in rural areas. The difference in urban and rural neonatal mortality rates is most likely linked to ready accessibility of medical services and the higher prevalence of households in the higher wealth quintiles in urban areas[5].

Fifty percent of births in Kiribati are in at least one of the recognised avoidable high-risk categories: the mother is older than 34 years, the birth interval is less than 2 years or the pregnancy is the fourth or more. An additional 24% of births were first births to mothers ages 18–34, which is considered an unavoidable risk category. Only 27% of births in Kiribati were not in a high-risk category. Data from the 2009 Demographic and Health Survey (DHS) suggest that a birth in an avoidable high-risk category is twice as likely to result in death as a birth not in an avoidable high-risk category. Urban or rural residence, socioeconomic status and wellbeing also

A 6-day-old girl and her mother wait for their antenatal check up at the health centre in Tawara, the capital.

FIGURE 2. Immunisation Coverage in Kiribati for Children Ages 18–29 months



Source: Demographic and Health Survey. (2009).

[5] Demographic and Health Survey (2009).

play major roles. Children born to mothers older than 40 are four times more likely to die than children born to younger mothers.

The most common causes of death in the under age 5 category are perinatal factors: malnutrition (10.4% and increasing, 2009–2011), lower respiratory infections (9.0%) and diarrhoea (8.2%). The primary causes of newborn deaths are asphyxia, infection, congenital abnormalities and being born too early (preterm)[6].

BIRTH WEIGHT

Nearly 80% of children are weighed at birth. Of children born in the 5 years before the DHS, 9% weighed less than 2.5 kg (5 lbs 8 oz) at birth (rural, 12%; urban, 5%). Occurrence of low birth weight has decreased steadily.

IMMUNISATION

Initial immunisation coverage is high at 90%, but with high drop-out rates for subsequent doses of vaccines[7]. The 2009 DHS found that less than one-third of children ages 12–23 months was fully vaccinated in the first year of life (boys, 35%; girls, 22%). Variation is minimal in vaccination rates between children in urban and rural areas, but the mother's education level has a significant effect on immunisation coverage: Children of mothers with a secondary Level 1 education (about 40%) are more likely to be fully immunized than children of mothers with less education (about 24%). Figure 2 shows rates of immunisation coverage by type of vaccination. Pneumococcal vaccine is being introduced in 2013.

ACUTE RESPIRATORY INFECTIONS AND FEVER

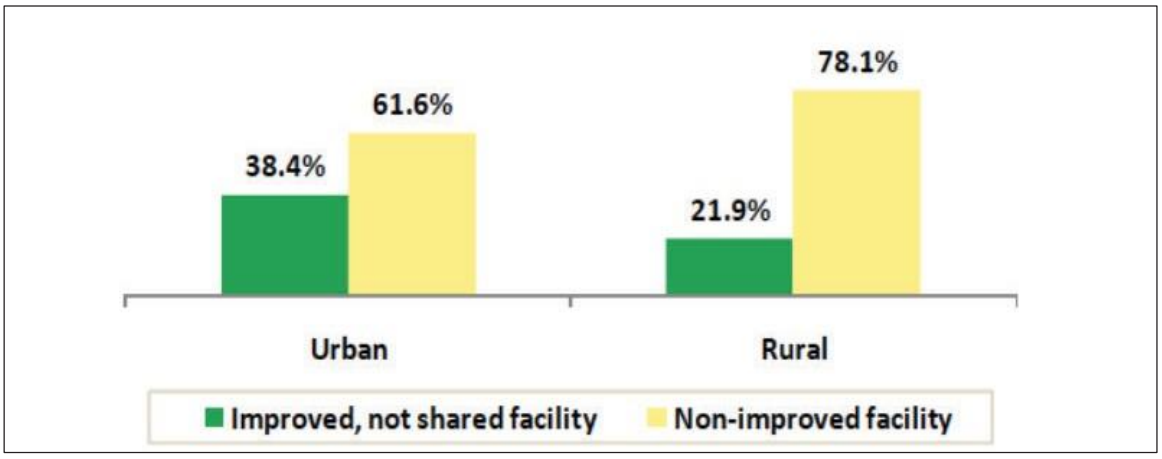
According to the 2009 DHS, the incidence of acute respiratory infection (ARI) in Kiribati is low, with 7% of children younger than age 5 years showing symptoms of ARI in the 2 weeks preceding the survey. A higher rate of ARI was observed among children of mothers with limited education, those who live in rural areas, and those in households from the lowest wealth quintile. Fewer than one in four children age 5 or younger was reported to have had a fever in the 2 weeks before the survey, and of those, 27% received care at a health facility or health provider and about 17% of children were treated with antibiotics[8].

DIARRHOEA

In the 2 weeks before the 2009 DHS, about 10% of children younger than age 5 years were reported to have had diarrhoea. The prevalence was highest among ages 12 to 23 months. 76% Overall 76% received treatment with oral rehydration salts (ORS), including at home. About twothirds of children with symptoms received ORS treatment from a health care provider. More than half of all children were offered more or the same amount of fluids; 44% received less fluid than usual. The population in Kiribati has comprehensive knowledge of ORS packets, and 97% of women who gave birth in the 5 years preceding the 2009 DHS survey knew about them.

Sanitation is a major factor in the cause of disease in Kiribati. About one-third of children's stools are disposed of safely in Kiribati. Stools commonly are thrown directly into the garbage or the sea, and about a third of children's stools are disposed of safely. Wealth and a mother's education directly affect the method of stool disposal (see Figure 3).

FIGURE 3. Disposal of Faeces in Kiribati Rural and Urban Areas



Source: Demographic and Health Survey. (2009).

[6] UNICEF country profile, 2012.

[7] Health information unit, Ministry of Health and Medical Services (2012).

[8] Op. Cit., Demographic and Health Survey. (2009).

NUTRITION

The 2009 DHS found 23% of children to be underweight or severely underweight, with little difference reported between urban and rural areas. This percentage places Kiribati well above the World Health Organisation (WHO) threshold (10%), making the prevalence of underweight children a significant public health issue. Although more children are underweight in poorer households than in wealthier ones, 14% of children in the highest wealth quintile were reported to be underweight. No accessible data exists on rates of stunting or wasting.

Breast-feeding is widespread; 83% of children born in the 5 years preceding the 2009 DHS were breast-fed at some time. The mean duration of breast-feeding was 23.8 months, but only one in four children was exclusively breast-fed at the age of 6 months (compared with 79% in the first month of life). Two-thirds of children did not consume an adequate diet for good health, and half the children ages 6–23 months were not fed frequently enough, according to international standards[9]. Poor nutrition is associated with maternal malnutrition, low birth weight, inadequate breast-feeding and weaning and infectious disease.

MICRONUTRIENT INTAKE

Most children were fed vitamin-A rich foods, and 66% were reported to have received vitaminA supplements. Thirteen percent of children received iron supplements in the 7 days before the 2009 DHS survey. No national survey of micronutrient levels has been conducted.

MATERNAL HEALTH

MATERNAL MORTALITY

The number of maternal deaths has remained low since 1991, with two recorded maternal deaths each year in 2010 and 2011. For every maternal death, it is commonly estimated that 20 women suffer serious ill health or disability. It is difficult to translate the number of deaths into a maternal mortality ratio with such small numbers; however, positive proxy indicators include high levels of births attended by skilled health personnel in health facilities and high rates of antenatal care (ANC). No 1990 baseline data exist. Both of the most recent maternal deaths reported resulted from haemorrhage.

Mothers and children queuing for their dose of Measles vaccine

ANTENATAL CARE

Almost all women in Kiribati received care from a skilled provider during their last pregnancy. More than 70% of women were seen by a skilled health attendant, usually a nurse or midwife, at least four times during their pregnancy; however, only 36% of women had their first visit before the fourth month of pregnancy. Only 64% of women had blood and urine samples taken, compared with almost all women in urban South Tarawa. Women living in rural areas tended to have their first ANC visit later than urban women. Less than half of all pregnant women reported being informed of the signs of pregnancy complications. Forty-four percent of women had two or more tetanus toxoid injections during their last pregnancy, and 48% reported that their last pregnancy was protected because of previous vaccinations. There is considerable room for improvement to increase early ANC in the first trimester and to improve the quality of ANC in rural areas.

MATERNAL NUTRITION

Most women with children younger than 3 years reported having eaten foods rich in protein and grains, such as fish and rice, during the 24 hours preceding the 2009 DHS survey. More than half the women surveyed indicated they had eaten foods such as pumpkin, sweet potato or mango, which are rich in vitamin A[10]. Almost all mothers (94%) consumed vitamin-A rich foods, and most (87%) consumed iron-rich foods. Iron supplements are reasonably common during pregnancy, with 61% of women reporting having taken iron during their last pregnancy. Around 15% of women reported they suffered from night blindness, which may be linked to the fact that only 40% of women received a vitamin-A postpartum supplementation. Women's diets varied according to where they lived. Women in South Tarawa were far more likely to consume dairy products than rural women and less likely to eat root vegetables, such

[9] Ibid.

[10] Local informants questioned the validity of these findings; Kiribati has no mangoes except expensive imported varieties. Kiribati also has no sweet potatoes; however, pumpkin, papayas and pandanus could be listed as vitamin-A rich.

as taro. Although about a third of women ate foods high in fat in the 24 hours before the survey, this type of food was consumed more by women in wealthier households (44%) than by women in lower wealth quintile households (24%).

BIRTH CARE

Most women (66%) delivered their babies in a public health facility. Home births, which accounted for the remainder, were most prevalent in rural areas (42%) compared with urban areas (18%). Women who delivered at home were more likely to be older, have had multiple pregnancies and belong to lower wealth quintile households. Almost 80% of pregnant women were assisted by a skilled birth attendant—nurse or midwife—during delivery. The percentages were slightly higher in urban areas (84%) than rural areas (77%), where traditional birth attendants and relatives played a more prominent role (see Figure 4). In rural areas, 21% of women were assisted by a traditional birth attendant or relative, compared with 13% of women in urban areas.

The obstetric ward occupancy rate at the main hospital is at capacity most days, with about 100 deliveries each month, which leads to early discharge of mothers and affects the quality of care.

POSTPARTUM CARE

Urban (52%) and rural (45%) mothers and babies receive postpartum care within 2 days of delivery, but some must wait more than 2 days (urban, 30%; rural, 16%). Some mothers and babies had to wait between 3 and 41 days for their first postnatal check-up (urban, 9%; rural, 13%), and some women (urban, 38%; rural, 41%) experienced no postnatal check-up. A higher proportion of rural than urban women had postpartum check-ups within 4 hours of giving birth, with little difference between both groups having first postnatal check-ups within 24 hours. Women, particularly those in rural areas, listed numerous problems with accessing health care, such as lack of drugs (urban, 85%; rural, 47%) and unavailability of health care providers (urban, 77%; rural, 39%). Annex 1, *Kiribati Accelerated Child Survival and Development Report 2011* summarises maternal and child health data.

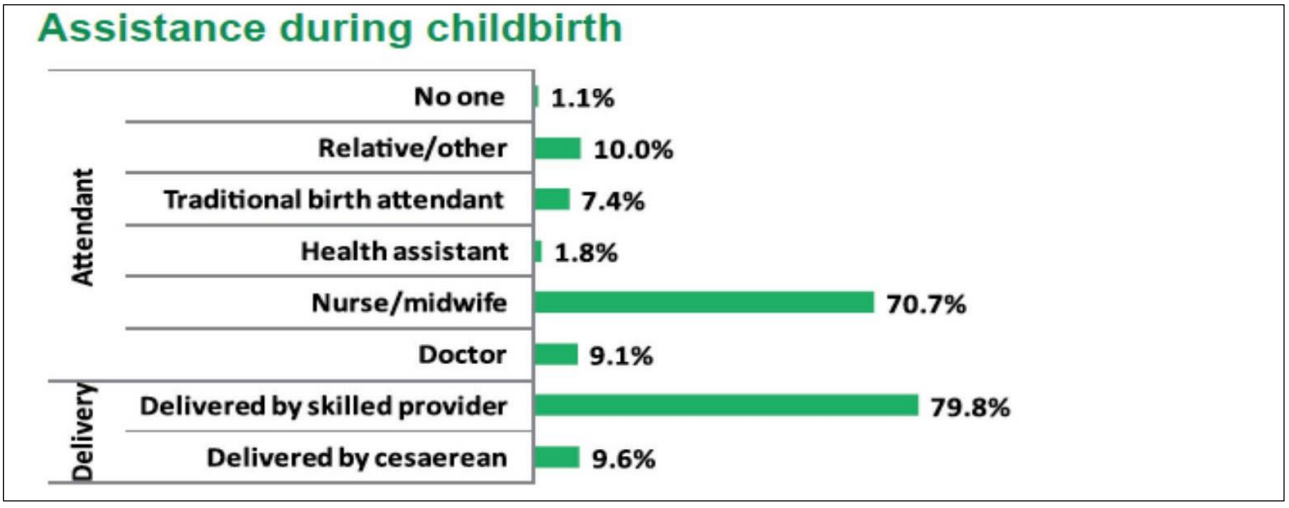
REPRODUCTIVE HEALTH

CHILD SPACING AND FAMILY PLANNING

Kiribati women have experienced few changes in fertility over the past 20 years, despite growing pressure on land and other natural resources, particularly in South Tarawa, according to the 2009 DHS. The supply of contraceptives is Kiribati is not reliable, and repeated stockouts are reported. Contraceptive prevalence is low, despite the number of married women who expressed an unmet need (1 in 4). Two in three women aged 15–49 reported never having used a contraceptive method.

Of the women who expressed a desire to use contraception in the future, the most popular methods were injectables (34.4%) and implants (18.4%). Outreach messages on contraception are an area for increased attention. The 2009 DHS found that 75% of men and 58% of women had heard a family planning message on the radio. On the other hand, 88% of women had not discussed family planning with a fieldworker or health professional in the past 12 months. Women in rural areas were more likely than women in urban areas to have discussed family planning with a health worker. Supply of contraceptives was not reliable and repeated stockouts were reported.

FIGURE 4. Kiribati Women Who Received Assistance During Childbirth



Source: Demographic and Health Survey. (2009).

The median age for an I-Kiribati woman to have her first child is estimated at 22.1 years, and 50% of I-Kiribati women will have their first child by this age. Education directly affects the age women begin childbearing. Women with a secondary education have their first child more than 3 years later than women with the lowest educational level.

The 2009 Kiribati DHS indicated that women are having children later. Women ages 45–49 tended to have their first child at age 20.9 years; women ages 25–29 tended to have their first child at about 23 years. Women who live in urban areas tended to have their first child slightly later (22.6 years) than women who live in rural areas (21.8 years). Children born too soon after a previous birth (less than 24 months) have an increased risk for health problems and infant mortality. The median birth interval in Kiribati was 35 months, and a fourth of births occurred less than 24 months after the previous birth. Birth intervals were shorter for women in the lowest wealth quintile (33.5 months) than for women in the highest wealth quintile (40.8 months).

ADOLESCENT REPRODUCTIVE HEALTH

At the time of the 2009 DHS, 10% of females ages 15–19 years reported that they were either pregnant or had a child, and 28% of 19-year-old women had begun childbearing. Socioeconomic factors influenced early childbearing: 19% of teenage girls in the lowest wealth quintile reported having begun childbearing; 5% of teenage girls in the highest wealth quintile reported having begun childbearing. In the 15–19 year old age group, 97% reported never having used contraceptives; in the 20–24 age group, 78% reported never having used contraceptives. Low rates of condom use were associated with a high and rising prevalence of sexually transmitted infections (STI), and misconceptions about the spread of HIV were common. Gonorrhoea and chlamydia (18%) were the most common STI in Kiribati, with young people most at risk.

HEALTH SYSTEM

Numerous bottlenecks place constraints on the Kiribati health system. Policy and planning processes are weak, and policy documents remain in draft form for long periods. For example, the National Health Plan 2012–2015 and a population policy were reported to still be in draft form. Links between policies, strategy, costed operational plans, and implementation to monitoring and evaluation (M&E) information are not evident. Informants pointed to reports of inadequate health care staffing, but other informants reported low staff productivity and an absence of a performance management system to provide incentives. Kiribati has 4.3 staff (doctors, nurses, midwives) per 1,000 population, compared with a WHO-recommended minimum of 2.3 staff per 1,000 population[11]. Frequent staff transfers disrupt services. Introduction of a compulsory retirement at age 50 has led to gaps in services. No structured approach is applied to continuing professional development, and the amount and content of in-service training is defined by funded programmes. Consistency is lacking; for example, in Betio a reasonable network of health facilities is available and additional maternity capacity is planned, but there also is a need to extend and replace deteriorating facilities. All services are provided by Government at no charge, including referral from the outer islands to the Central Hospital and, if needed, for overseas treatment. Health consumes 16% of the recurrent Government budget (or about AUD100 per capita annually), which meets staff costs and referrals but leaves little funding available for operational matters. Periodic shortages of essential drugs are reported to result from failures in planning, rather than a lack of resources.

Tetwake, 7, with her mother, Rute, 29, wait to see the doctor in Bairiki health centre in Tawara, the capital.

[11] World Health Organization country health information profiles, 2011.

Achievements and Systems Barriers That Remain To Be Addressed Post 2015

Consultation with key national stakeholders, including the Ministry of Health, identified successes in addressing systems barriers, ongoing challenges and bottlenecks, and innovative solutions. The findings were analysed for recommended actions to continue improvement in reproductive, maternal, newborn, child and adolescent health.

ACHIEVEMENTS IN ADDRESSING SYSTEMS BARRIERS

HIGH LEVELS OF ACCESS AND USE OF HEALTH SERVICES

Despite the challenges of a scattered population, the network of health facilities and mobile services provides a high level of access. Almost all women attend ANC at least once, and 70% attend four or more times. Two-thirds of all births occur in a health facility and are supported by a skilled birth attendant. The concentration of one-half of the total population in South Tarawa makes health care accessible, and Kiribati has an in-place community outreach programme. Immunisation coverage is high (DPT3, 99%; measles, 90%), although scheduled completion of vaccinations in the first year of life is less successful. Higher levels of education of mothers increase health information and services uptake. Substantial efforts have been made to improve maternal health services. Traditional birth attendants still play an important role in the outer islands, and some have been retrained; clinics have been reequipped with essential obstetric and newborn materials; and quality improvement plans have increased outreach and education on the need for an early first ANC visit; involvement of male partners in clinics and delivery has been encouraged. Challenges remain in ensuring that protocols are put into practice consistently. Government allocates a large proportion (16%) of its recurrent budget to health.

INTEGRATION OF CHILD HEALTH SERVICES

Efforts are under way to integrate child health services into a single service point, the integrated child health clinic. This positive development aims to remove problems resulting from fragmentation of programmes (immunisation, nutrition, safe motherhood) and addresses problems through a single assessment.

SYSTEMS BARRIERS THAT REMAIN TO BE ADDRESSED

WEAK USE OF INFORMATION TO IMPROVE POLICY AND PRACTICE

Monitoring and evaluation through data collection and the use of data to improve supervision and management is lacking. The first national health report, which covered 10 years, appeared in 2011and produced a wealth of information on maternal, child and reproductive health. Previously health service data was collected but not analysed or used by practitioners to improve performance[12]. Information is collected to produce an annual report, but programme managers receive no timely feedback to use to monitor and address identified problems. While Kiribati now registers 90% of newborns, the data do not link to other services, such as health, and are not used to monitor children and their health status and use of services.

UNCHECKED HIGH FERTILITY

Despite attempts in recent years to highlight in national development plans the problem of the fast-growing population, little to no progress has been made towards a solution. The 2004 population policy in the National Development Plan was never implemented. A draft strategy subsequently was

[12] Minister of Health and Permanent Secretary in preface to Kiribati 2011 health report.

developed with Asian Development Bank support, but without visible leadership or active policy framework. Coverage of reproductive health interventions is inadequate: "There was no significant progress in the 2008–2011 period in limiting population growth"[13]. Contraceptive use is low, despite high levels of unmet need (28%). Rates of teenage pregnancy, unprotected sex and STI are reported to be high. The annual population growth rate of 2.8% provides clear signals that Kiribati will continue to face increasing challenges in health services delivery for many years. The World Bank identified Kiribati's population growth rate as the "most important factor under domestic control that will influence future levels of income and welfare per head"[14]. Opportunity abounds to make rapid progress in access to contraceptives and their use. The Kiribati Family Health Association strives to raise public awareness and provides contraception through a clinic on Tarawa and a mobile clinic programme that visits outer islands. The association employs youth educators and works with church leaders. Unreliable supplies of contraceptives from the Ministry of Health and Medical Services is a significant problem. Demand for contraceptives has increased, but cultural barriers to their use remains in some churches. An important factor, too, is confidentiality, particularly for the young, and confidentiality is not offered from hospitals and clinics.

EXAMPLE OF INNOVATIVE PRACTICE

KATOKAN TO BEKA N AKI AKAKA (OPEN DEFECATION FREE) INITIATIVE

Diarrhoea is significant health concern and cause of child death in Kiribati. Underlying factors include poor-quality groundwater for drinking and poor hygiene and sanitation. Of particular alarm is open defecation, practiced by 70% of the population in many communities, a very high rate for the Pacific region. The KIRIWATSAN Project is working with communities on 13 of Kiribati's 21 populated islands to bring about a major community-led total sanitation approach. North Tarawa island has been declared open defecation free, the first such island in the Pacific. A survey of the 13 villages on North Tarawa found that two-thirds of the population practiced open defecation. Through a process of education and mobilization, the community confronted the problem and conveyed the message that "we are eating our own butae (faeces)". The participatory approach included mapping defecation areas and highlighting them with colored sawdust; making the link between faeces, flies and food prominent; and removing

Children take part in KIRIWATSAN-1 Project launch during Global Handwashing Day celebration.

cultural sensitivities over language and practice through open debate and humour. This led to public pledges to construct a simple, shallow composting pit latrine. The practice spread widely to become the norm. House-to-house follow-up visits were made to reinforce messages and assist those who were having difficulty with carrying out the plan. One community instigated a penalty for open defecation, with one-half of the fine given to the person reporting and one-half to a community fund. While the population of North Tarawa is only about 5,000, this has been a major leap towards Kiribati becoming a completely open defecation free nation. A second community declared itself open defecation free in April 2013, and more are expected to follow. The programme will need long-term follow-up to reinforce behaviour and monitor changes in diarrhoea incidence. The process has revitalised the village health network and led to close cooperation across Government ministries. The president of Kiribati has highlighted this success and has urged ministries to work together so that the entire country obtains open defecation free status by the end of December 2015.

EARLY POSTNATAL HOME VISITS

Following a delivery, nurses or nurse aides usually make three home visits; on the day of discharge from the hospital or clinic, on the third day and on

[13] Kiribati National Development Plan 2012–2015.

[14] ADB, 2002, cited in The World Bank, 2005. Opportunities to improve social services: Human development in the Pacific Islands. Human Development Sector Unit, East Asia and Pacific Region.

the seventh day. When problems arise, additional visits are made to monitor the health of the newborn and the mother. The health worker ensures proper care of the baby's umbilical cord and that mother can adequately breast-feed. The health worker also provides guidance on the value of exclusive breast-feeding and the need for postnatal check-ups. Home visits are undertaken only in South Tarawa and a few outer Islands (Kiritimati and Abemama) at this point, with scope to expand if the programme is demonstrated to be effective.

CHILD HEALTH WEEK

Child Health Week, held across the entire nation twice each year, is an established feature of the ministry calendar. Its purpose is to reach out to every community and engage with families on issues about their health and well-being. Health workers visit all communities and provide an integrated service that monitors the growth of children, provides deworming drugs, distributes vitamin-A capsules and provides needed vaccinations. Heath workers discuss issues relating to health and care of children.

COMMUNITY GARDENS

During Child Health Week some communities on South Tarawa became aware of high rates of malnutrition among young children. In response, community support groups linked to two clinics established home gardens with gardening tools provided by UNICEF. To date, three community gardens and 23 households are growing green leafy vegetables and vitamin-A-rich fruits to add to their diet. One group now leases out shovels and wheelbarrows for 20 cents and 50 cents an hour. The gardens have produced fruits that are sold at low cost in the communities; funds are used to buy seeds and seedlings that are distributed to more families.

Health workers in the two clinics map households with malnourished children and carry out individual counseling, encouraging families to develop home gardens or use produce from the existing community gardens in their diet.

TRADITIONAL BIRTH ATTENDANTS

Most women attend ANC during pregnancy and give birth attended by a nurse or midwife in a health facility. Traditional birth attendants and relatives still play an important role, particularly in the outer islands, and cater for the needs of 10%–30% of women. The ministry reported that often these home deliveries are septic, and when complications arise, the women are referred to the nearest health centre or hospital. In 2011, MHMS, through its safe motherhood programme, conducted a three-session training for 25 traditional birth attendants. The training focused on safe and hygienic practice during delivery, including cord cutting; understanding danger signs during labour that should prompt urgent referral; the importance of early initiation of breast-feeding, the importance of colostrum and exclusive breast-feeding; their role in encouraging families to ensure that neonates receive hepatitis and BCG tuberculosis vaccines within 24 hours of birth; and the importance of bringing women to health facilities for delivery. In some outer islands (Abemama and Makina) a small incentive (US$10 for refreshment and transportation) is provided to a traditional birth attendant to accompany a pregnant woman to the clinic or to a trained health worker. The island council also imposes a penalty of US$5 if a woman does not deliver with a skilled health worker. New traditional birth attendants continue to enter practice and the Ministry of Health and Medical Services has indicated it will continue to work with them to ensure that all undertake the training. The ministry will encourage delivery of all babies by health workers through widespread community education and upgrading of the services.

Women of Bairiki celebrate international handwashing day

Conclusions and Actions to Accelerate Progress

Evidence indicates that progress on improved health services is too slow and it is probably that Kiribati will not meet the national targets set for MDG 4 and 5 without substantially greater efforts to 2015. International consensus is that most deaths of mothers and children can be prevented through the use of the package of interventions currently being delivered in Kiribati.

FURTHER INCREASE COVERAGE AND QUALITY OF INTERVENTIONS

Despite the challenges of providing services to a widely scattered population in the outer islands, opportunities abound to further increase coverage and ensure timely delivery of health services. Example include assuring that vaccination schedule are completed in a child's first year of life, encouraging women to make their first ANC visit in the first trimester, and ensuring early postnatal visits. Kiribati has many opportunities to improve the quality and consistency of service delivery to women and children at all levels, to see that protocols are followed and integrated service is available all along the continuum of care. Raising quality will require more effective management and supervision systems and regular collection and review of data to monitor performance and adapt practice.

TARGET RESOURCES TO THOSE IN GREATEST NEED

As under age 5 years mortality rate decreases, a greater proportion of deaths occur in the first year of life, particularly in the first month. To abate this trend, greater attention is required to improve the health of mothers during pregnancy, childbirth and in the postnatal period and focus attention on early care for newborns. With its limited resources, Kiribati needs to target improvements for disadvantaged, high-health-burden populations, many of which can be found in unplanned settlements on South Tarawa. This population likely accounts for a significant proportion of preventable child deaths. Efforts also will be required for stronger community health networks linked to the health centre and increased effectiveness of outreach services.

Although the number of maternal deaths is low, MDG 5 in Kiribati refocuses the need on reproductive health, specifically family planning services. With 50% of pregnancies falling in high-risk categories, urgent attention is needed to making contraceptive information and services more widely available. An early step is to address the substantial unmet need for contraception, as identified in the 2009 DHS.

EFFECTIVE USE OF TIMELY INFORMATION FOR MANAGEMENT

Awareness of intervention strategies is high and protocols are in place in Kiribati to deliver the crucial package of reproductive, maternal, newborn, child and adolescent health services; however, poor accountability and limited use of data to monitor performance to improve service delivery impedes progress[15]. Publication of the annual health report in 2011 was a positive development, but a cultural shift is needed to redirect the information use from only for reports to improved and informed management. Encouraging health initiatives that have demonstrated successes need to be evaluated for potential roll out to wider areas. Examples are work with traditional birth attendants, open-defecation-free islands, community gardens, active postnatal care).

ACTION ON WIDER DETERMINANTS OF HEALTH

Coordinated action across all sectors, with a strong community-led component, is required in Kiribati to address many of the poor health and mortality determinants: poverty, overcrowding, inadequate and unsafe drinking water, poor sanitation and hygiene, poor diet and lifestyle choices. An impressive example is the effort under way to improve sanitary practices. This example is one of the first steps to overcome the major challenges of diarrhoea and malnutrition.

[15] Pacific Island Forum Secretariat MDG report.

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Country Profile

Kiribati

Maternal, Newborn & Child Survival

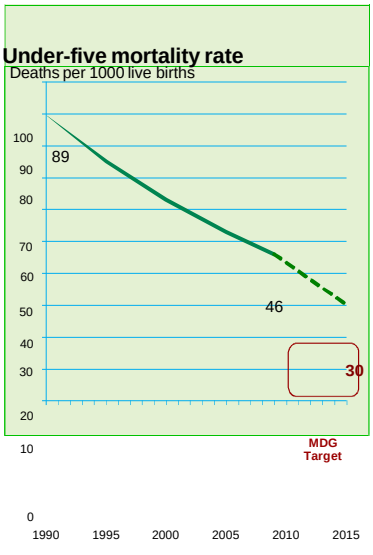
January 2011

r1

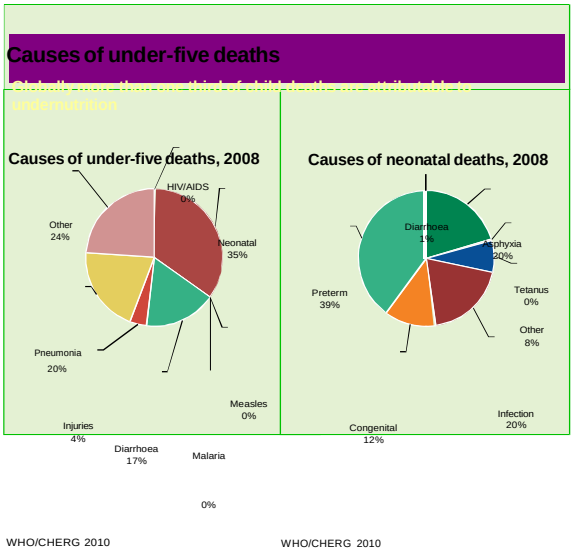
Kiribati

DEMOGRAPHICS

Total population (000)	98	(2009)
Total under-five population (000)	10	(2009)
Births (000)	2	(2009)
Under-five mortality rate (per 1000 live births)	46	(2009)
Infant mortality rate (per 1000 live births)	37	(2009)
Neonatal mortality rate (per 1000 live births)	19	(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)	56	(1995-2000)
Lifetime risk of maternal death (1 in N)	-	-
Total maternal deaths (number)	-	-



Source: IGME 2010



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

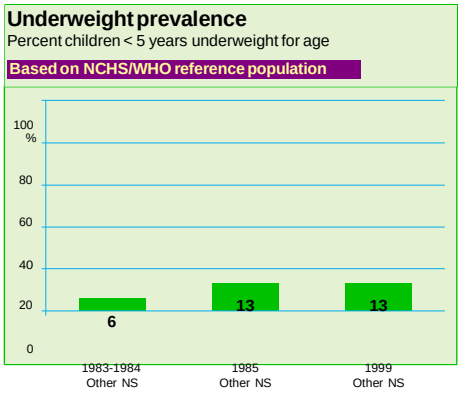
INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS AND CHILDREN

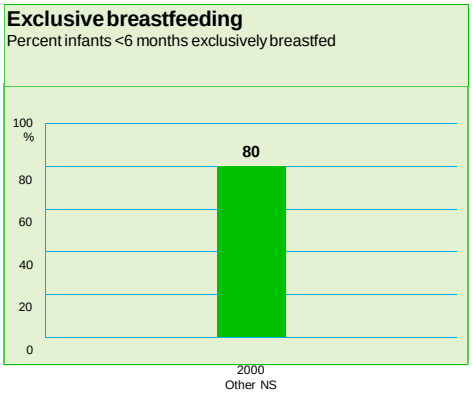
NUTRITION [1]

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, %)	-	-
Low birthweight incidence (%)	5	(1998)

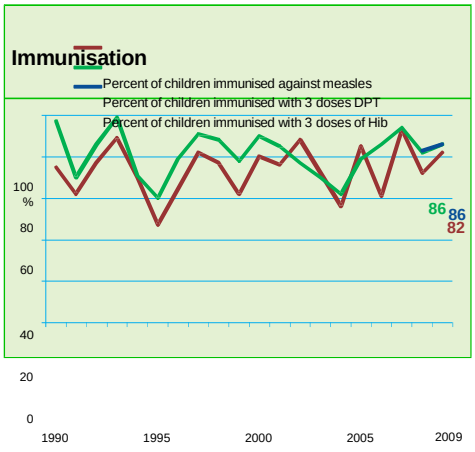
Underweight prevalence
Percent children < 5 years underweight for age
Based on 2006 WHO reference population

No Data





CHILD HEALTH

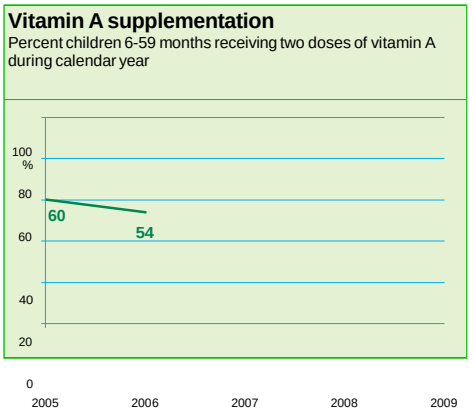


Source: WHO/UNICEF

Pneumonia treatment

No Data

No Data



Source: UNICEF

Diarrhoeal disease treatment
Percent children < 5 years with diarrhoea receiving oral rehydration therapy (ORS, recommended homemade fluids or increased fluids), with continued feeding

No Data

Malaria treatment
Percent febrile children < 5 years using anti-malarials

No Data

Malaria prevention
Percent children < 5 years sleeping under ITNs

No Data

Kiribati

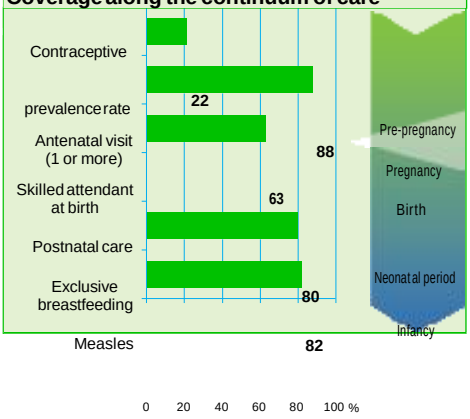
MATERNAL AND NEWBORN HEALTH

Proportion of women with low BMI (< 18.5 Kg/m^2, %)	-	-
Unmet need for family planning (%)	-	-
Total fertility rate	-	-
Adolescent birth rate (births per 1000 woman aged 15-19 yr)	39	(2005)
Antenatal visit for woman (4 or more visits, %)	-	-
Early initiation of breastfeeding (within 1 hour of birth, %)	-	-
Institutional deliveries (%)	-	-
Postnatal visit for baby (within 2 days for home births, %)	-	-
Postnatal visit for mother (within 2 days, %)	-	-

Causes of maternal deaths

No Data

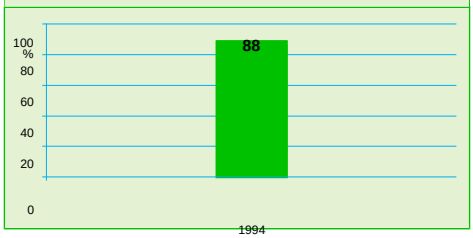
Coverage along the continuum of care



Source: DHS, MICS, Other NS

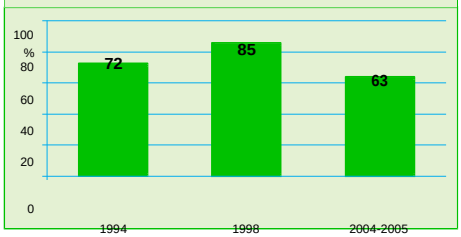
Antenatal care

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

No Data

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

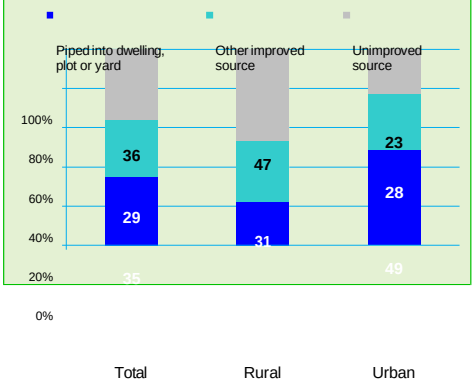
No Data

Survival rate to last grade of primary school (% administrative data)	81	(2003)
Survival rate to last grade of primary school (% survey data)	-	-
Primary school net enrolment or attendance ratio (% total)	97	(2002)
Primary school net enrolment or attendance ratio (% male)	-	-
Primary school net enrolment or attendance ratio (% female)	-	-

WATER AND SANITATION

Drinking water coverage

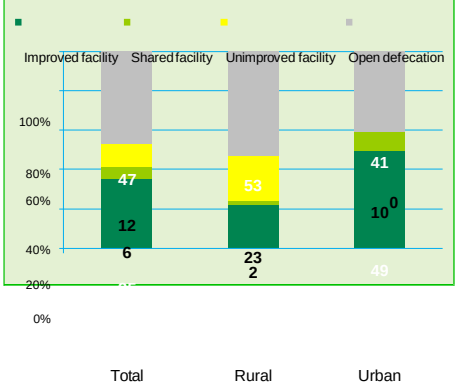
Percent population by type of drinking water source, 2008



Source: WHO/UNICEF JMP, 2010

Sanitation coverage

Percent population by type of sanitation facility, 2008



Source: WHO/UNICEF JMP, 2010

CHILD PROTECTION

Women aged 20-24 years who were married or in union by age 18 (%)	-	-
Birth registration (%)	92	(2008)
Female genital mutilation/cutting (%)	-	-

POLICIES *(being updated)*

International Code of Marketing of Breastmilk Substitutes	-	-
New ORS formula and zinc for management of diarrhoea	-	-
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	-	-
Midwives to be authorised to administer a core set of life saving interventions	-	-
Maternity protection in accordance with ILO Convention 183	-	-
Specific notification of maternal deaths	-	-

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

Per capita total expenditure on health (US$)	-	-
General government expenditure on health as % of total government expenditure (%)	-	-
Out-of-pocket expenditure as % of total expenditure on health (%)	-	-
Density of health workers (per 10,000 population)	-	-
Official Development Assistance to child health per child (US$)	-	-
Official Development Assistance to maternal and neonatal health per live birth (US$)	-	-
National availability of Emergency Obstetric Care services (%)	-	-

Kiribati

DISPARITIES IN INTERVENTION COVERAGE [2]

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	
NUTRITION [1]														
Low birthweight incidence (%)	5	-	-	-	-	-	-	-	-	-	-	-	-	MoH 1998
Underweight prevalence (based on 2006 WHO reference population, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Underweight prevalence (based on NCHS/WHO reference population, %)	13	-	-	-	-	-	-	-	-	-	-	-	-	Other NS 1999
Stunting prevalence (based on 2006 WHO reference population, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wasting prevalence (based on 2006 WHO reference population, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exclusive breastfeeding (0-5 months, %)	80	-	-	-	-	-	-	-	-	-	-	-	-	Other NS 2000
Complementary feeding (6-9 months, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHILD HEALTH [4]														
Careseeking for pneumonia (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antibiotic use for pneumonia (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diarrhoeal treatment - children receiving ORT and continued feeding (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaria prevention - children sleeping under ITNs (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaria treatment - febrile children receiving antimalarial medicines (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATERNAL AND NEWBORN HEALTH														
Proportion of women with low BMI (< 18.5 Kg/m^2, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antenatal care coverage at least one visit (%)	88	-	-	-	-	-	-	-	-	-	-	-	-	Other NS 1994
Antenatal care coverage (4 or more visits, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Skilled attendant at delivery (%)	63	-	-	-	-	-	-	-	-	-	-	-	-	Other NS 2004-2005
Early initiation of breastfeeding (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER AND SANITATION [3]														
Use of improved drinking water sources (%)	48	-	-	-	-	-	-	-	-	-	-	-	-	2008 (WHO/UNICEF JMP 2010)
Use of improved sanitation facilities (%)	26	-	-	-	-	-	-	-	-	-	-	-	-	2008 (WHO/UNICEF JMP 2010)
EDUCATION														
Survival rate to last grade of primary school (administrative data, %)	81	75	89	**0.8**	-	-	-	-	-	-	-	-	-	UIS 2010
Survival rate to last grade of primary school (survey data, %)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Primary school net enrolment or attendance ratio	97	-	-	-	-	-	-	-	-	-	-	-	-	UIS 2010
CHILD PROTECTION														
Women aged 20-24 years who were married or in union by age 18 (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Birth registration (%)	92	-	-	-	-	-	-	-	-	-	-	-	-	PLC 2008
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.

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.