**Briefing note**

Commission 8 of the Senate on Health, Social Affairs, Veteran Rehabilitation, Vocational Training and Women Affairs

# The Challenges of Public Health in Pailin and Siem Reap Provinces

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November 2016

**Parliamentary Institute of Cambodia**

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# 1. Introduction

The Government of Cambodia has made remarkable progress since the 1990's in improving the public health system. A number of examples of this progress includes: creating a national health policy and program priorities, re-establishing a district-based health system to provide primary health services, enhancing national programs on communicable and preventable diseases, and reducing maternal and infant mortality rates[1]. Cambodia recently reported that it has achieved its millennium development goals concerning health related goals.

Cambodia implemented its Second Health Sector Strategic Plan 2008 – 2015 and is now developing its Third Health Sector Strategic Plan defining the linkages to the Sustainable Development Goals (SGDs).[2] Despite achievements under successive Health Sector Strategic Plans, the Government faces challenges such as limited quality of services and poor people's access to services, etc.[3] Maternal and infant mortality rates remains high compared to other countries in the region. Non-communicable diseases are emerging as a significant concern, and women face a lack of detection and treatment for cervical, ovarian and breast cancers.[4] Around 41 percent of children under 5 years were stunted and 29 percent were underweight. In rural areas about 35 percent of people did not have access to improved drinking water and 52 percent did not have access to improved sanitation in 2014.[5]

This briefing note provides a brief discussion of public health policies in Cambodia including key achievements and challenges for public health services that have been introduced to strengthen access to health services over the past decade. It then discusses public health issues in Siem Reap Province with a focus on the population living in floating villages and in Pailin province with a focus on mine victims.

# 2. Pailin and Siem Reap Provinces

## 2.1. General Situation

This section briefly describes the general situation and health infrastructure of Pailin and Siem Reap provinces. General information about the health sector as a whole, and its achievements and challenges are provided at the end of the paper in Annex 1.

Public health services at the provincial level are mainly delivered through two main health facilities: referral hospitals and health centers.[6] A health center is supposed to serve between 8,000 and 12,000 people and a referral hospital between 60,000 and 200000 people.[7] Based on these criteria, both Pailin and Siem have a reasonable number of health centers and referral hospitals (see the table below). However, the number of beds in Pailin (10 beds in total) is much lower than in Siem Reap and Phnom Penh, which may be a cause for concern.

The number of HC staff, RH staff, and NGOs staff are comparable among Pailin, Siem Reap and Phnom Penh. One component that is missing in Pailin is private health clinics. This, coupled with a low bed rate, presents a cause for concern.

**Table 1:** Health Infrastructure in Pailin and Siem Reap provinces

| No | Health Facility | Pailin | Siem Reap | Phnom Penh |
|---|---|---|---|---|
| 1 | # people | 66,976 | 1,036,111 | 1,447,340 |
| 2 | # families | 15,566 | 212,001 | 284,721 |
| I | Health centers | 6 | 88 | 34 |
| 1 | No. of beds | 10 | 484 | 177 |
| 2 | No. of beds / 100,000 people | 14.9 | 46.7 | 12.2 |
| 3 | Staff at HC | 28 | 461 | 363 |
| 4 | HC Staff / 100,000 people | 41.8 | 44.5 | 25.1 |
| II | Referral hospital | 1 | 5 | 9 |
| 1 | No. of beds (RH) | 65 | 631 | 366 |
| 2 | RH beds (RH)/ 100,000 people | 97 | 60.9 | 25.3 |
| 3 | No. of RH staff | 83 | 312 | 453 |
| 4 | RH staff / 100,000 people | 123.9 | 30.1 | 31.3 |
| III | Private Health Clinics | 0 | 23 | 68 |
| 1 | No. of beds (PHC) | 0 | 100 | 1096 |
| 2 | Beds / 100,000 people | 0 | 9.7 | 75.7 |
| 3 | No. of pharmacies | 50 | 259 | 1751 |
| 4 | No. of pharmacies/100,000 people | 162.7 | 59.6 | 349.2 |
| IV | Health NGOs staff | 17 | 209 | 150 |
| 1 | NGOs staff / 100,000 people | 25.4 | 20.2 | 10.4 |

Sources: Data on the Socio Economic Status of Pailin 2016,[8] Data on the Socio Economic Status of Siem Reap province 2016,[9] and Commune Database of NCDD.

According to the Demographic and Health Survey 2014, nationally, accidental injuries or deaths are very low, occurring at the rate of about 2 percent in the past twelve months before the survey. In Pailin and Siem Reap, the rates are 2.1 percent and 1.6 percent respectively. Most of the accidental injuries (about 80 percent) are caused by traffic accidents and 13percent of households surveyed, had sick or injured residents during the last 30 days before the survey. In Pailin and Siem Reap, they numbered 13.3 percent and 9.1percent respectively and about 1percent were severely sick.

About 90 percent of those sick sought at least one treatment, about 22 percent go for a second treatment, and about 7 percent go three times. For the first treatment, the majorities (82 percent) of people go to the private sector, non-medical sector, and treatments outside the country and about 22percent seek public health services. For the second and third treatments, the percentage who go to public health services became even smaller (4.7 percent and 1.4 percent).

In Siem Reap, people have a choice to go to private clinics, while those in Pailin do not have private clinics to go to. Because of this, people may turn to Kru Khmer or pharmacies for treatments, the quality of which is questionable.

## 2.2. Public Health Issues

This section looks at some public health issues in Pailin province, such as maternal health, child health, hygiene, water and sanitation.

**Table 2:** Birth Deliveries in Pailin province, 2013-2015.

| No | Item | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| 1 | Number of birth deliveries by traditional birth assistants (TBA) | 52 | 34 | 5 |
| 2 | Number of babies survived during delivery (TBA) | 52 | 34 | 5 |
| 3 | Number of babies died between 0 - 1 month (TBA) | 0 | 3 | 0 |
| 4 | Number of mothers died (TBA) | 1 | 0 | 0 |
| 5 | Number of birth deliveries by mid-wife | 1024 | 907 | 985 |
| 6 | Number of Babies survived during delivery (Mid-wife) | 1026 | 907 | 992 |
| 7 | Number of babies died between 0 - 1 month (Mid-wife) | 11 | 7 | 6 |
| 8 | Number of mother died (Mid-wife) | 7 | 10 | 3 |
| 9 | No. of midwife | 44 | 43 | 35 |

Source: Commune Database of NCDD, 2013,2014,and 2015.

More and more women now use trained mid-wires for giving birth. The number of trained mid-wives (35) is enough for about 1000 deliveries a year. The number of birth deliveries by traditional birth assistants has been reduced to 5 in 2015, which is in line with the government policy. Birth deliveries by mid-wives are effective and safe. 100percent of babies delivered by trained mid-wives survived for at least three years (2013, 2014, and 2015).

According to the Demographic and Health Survey 2014, birth weight is one of the major determinants of a child's health and mortality. Low birth weight babies, which is less than 2.5 kilograms, are considered to have a higher than average risk of early childhood death. Pailin and Siem Reap have low birth weight rates of 5.2percent and 12.2percent respectively.

**Table 3:**Immunization in Pailin province, 2013-2015.

| No | Item | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| 1 | #of children aged from 9 to 12 months | 816 | 555 | 497 |
| 2 | #of children aged from 9 to 12 months who get full immunization | 689 | 482 | 474 |
| 3 | Percentage | 84% | 87% | 95% |

Source: Data on the Socio Economic Status of Pailin Province, 2016.[10]

The Government has done a good job in terms of immunization. The percentage of children aged from 9 to 12 months in Pailin who received full immunization reached 95percent in 2015. This is better than the national rate of 65 percent[11] and 93.36 percent in Siem Reap Province. However, more effort is still needed to ensure immunization for all.

**Table 4:** Use of latrines in Pailin, 2013-2015

| No | Item | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| 1 | # of total families | 15,497 | 14,851 | 15,566 |
| 2 | # of families with improved latrine | 7073 | 8027 | 9462 |
| 3 | # of families without improved latrine | 1450 | 1197 | 816 |
| 4 | Percentage of those with improved latrine | 46% | 54% | 61% |

Source: Data on the Socio Economic Status of Pailin Province, 2016.[12]

Nationally, the percentage of those with improved latrines has increased considerably since 2010.[13] In Pailin, the percentage went up from 46 percent in 2013 to 61percent in 2015 (46 percent in Siem Reap). In other words, 39 percent still do not have improved sanitation facilities. The table below shows that about 37 percent in Pailin (38 percent in Siem Reap) do not have access to clean water. In addition, in Pailin only 61percent, compared to 80percent in the whole country and 95percent in Siem Reap, of people wash their hands with water and soap after using toilets.[14] These combined facts present a cause for concern for public health in Pailin.

**Table 5:** Access to clean water in Pailin province, 2013-2015.

| No | Item | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| 1 | # of families with access to clean water | 9,463 | 9,093 | 9,785 |
| 2 | Percentage of families with access to clean water | 61.10 % | 61.20 % | 62.90 % |

Source: Data on the Socio Economic Status of Pailin Province, 2016.[15]

## 2.3. Landmine Victims

The two tables below show inconsistencies in terms of numbers of victims of landmines. However, one thing is clear: the number of landmine victims has steadily gone down, and the overall number of people with disabilities has slowly gone up.

**Table 6:** People with disability in Pailin province

| No | Item | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| 1 | People with disability aged 18 up and with incomes | 903 | 779 | 1038 |
| 2 | People with disability aged 18 up and without incomes | 65 | 218 | 143 |
| 3 | People with disability aged below 18 | 53 | 44 | 47 |
| 4 | Total people with disability | 1,021 | 1,041 | 1,228 |
| 5 | Percentage of people with disability with total population | 1.50 % | 1.59% | 1.83% |
| 6 | People with disability by landmines | 195 | 74 | 5 |

Source: Data on the Socio Economic Status of Pailin, 2016.[16]

**Table 7:** Number of causalities in Pailin since 2005 to 2014

| Item | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|
| Amputation | 30 | 12 | 13 | 6 | 7 | 7 | 3 | 3 | 3 | 2 |
| Injured | 56 | 28 | 9 | 17 | 9 | 19 | 9 | 1 | 1 | 19 |
| Killed | 17 | 2 | 1 | 1 | 2 | 5 | 3 | 0 | 1 | 1 |

Source: UNDP Clearing for Results Phase II, Annual Report 2014.[17]

Landmine victims may suffer any or all of the following: multiple fragmentation wounds, amputation of one or more extremities, and loss of senses (vision, hearing and touch). If they survive the initial injuries, then they may face any or all of the following: loss of function, body disfiguration, and chronic pain caused by the injury or amputation, as well as post-traumatic stress disorder (recurrent memories of the injury and pain).[18] After the treatment of injuries, landmine victims require prosthetic rehabilitation.[19]

Healthcare costs include costs of immediate treatment, physical rehabilitation, prosthetic limbs, crutches, and prosthetic limb replacements.[20] There was no specific information on landmine victims and their access to health services in Pailin. However,general information outlined below on people with disabilities may be useful.

In general, people with a disability are almost three times more prone to illness than people without a disability, and use public healthcare more often. The average out-of-pocket (OOP) expenditures on health for people with a disability are more than five times higher than for people without a disability.[21] Landmine victims are usually poor people and their burden in terms of access, to health care are heavier than the poor without a disability.

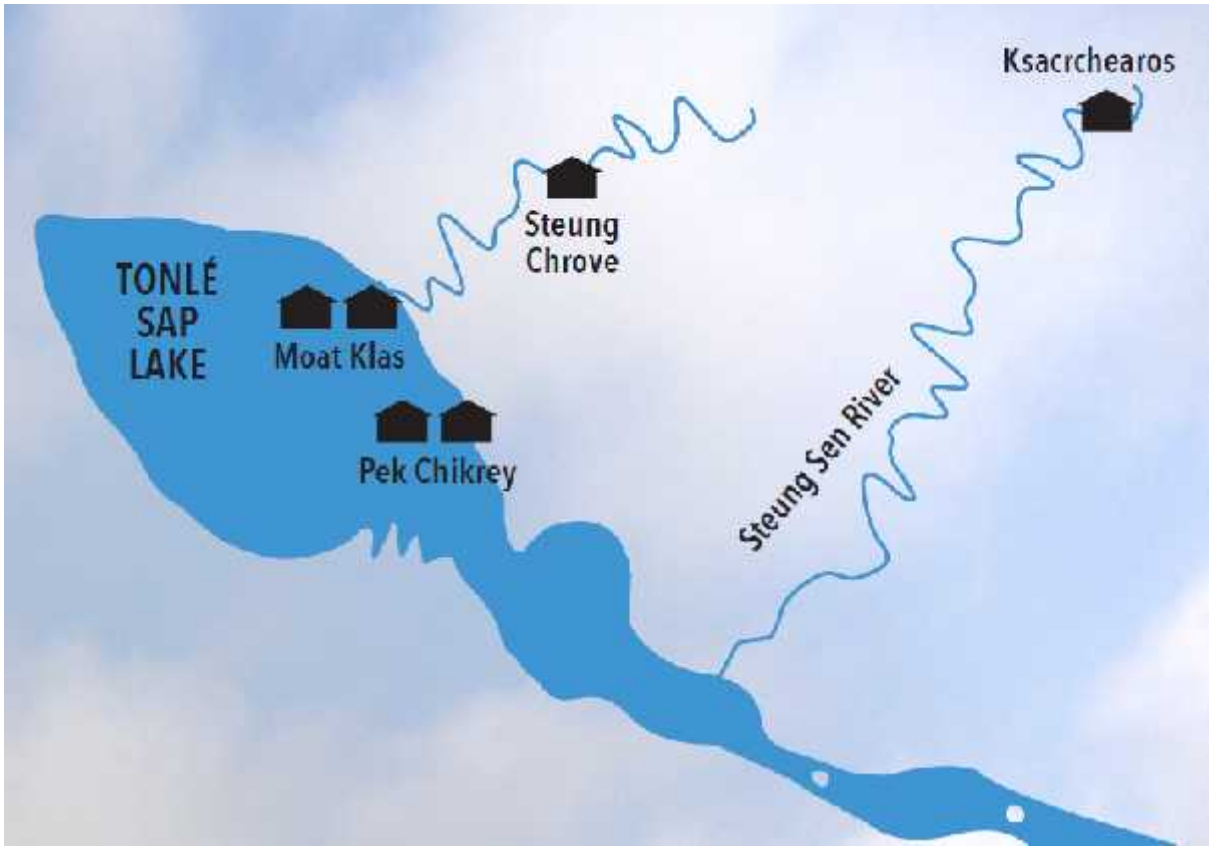
People with a disability seek healthcare more than people without disability. The majority of them go to private health providers (65.3percent,) 21.7percent to public health providers, and 13.1percent to the non-medical sector. Families of persons with a disability spend more on healthcare costs for members with disability.[22] In addition, families of persons with a disability lose productive labor, go into debt and/ or sell assets to cover healthcare costs.[23] While this is the situation for people with a disability in general, landmine victims with a disability may face similar challenges.

There are programs and funds available to increase access for the poor and people with disabilities, to health services, such as the Health Equity Fund, Community Based Health Insurance, Voucher Scheme for Reproductive Health, and Social Security Funds (see annex 1 below). However, no specific information is available concerning landmine victims' access to health services in Pailin and whether or not the programs noted above cover Pailin.

### 2.4. Floating Communities

The people who live in the floating communities are mostly poor people and rely on fishing as their main source of income and food while others who live further away have varied economic livelihoods.[24] Moreover, they are totally isolated from the rest of the country and have poor health conditions and with very limited access to any type of health care facilities. Large waves make fishing difficult and dangerous, resulting in limited food, and a short life expectancy of only 54 years.[25]

**Figure1:** Map of Floating Villages in Siem Reap




Source: The Lake Clinic, the First Quarter of 2016, Report[26]

**Public Health Issues of Floating Villagers in Moat Khla village, AnlongSamnor Commune, ChiKreng District**

Moat Khla is a floating village in Siem Reap Province, where there are 194 households in dry season and around 300 households in the wet season.[27] Due to the fact that water levels differ significantly in the dry and rainy seasons; floating families who make their living on the lake need to move their homes with the changing water levels. During the dry season, these villagers mostly live close to the shore.[28] The main occupation of these villagers is fishing with 600 boats, of which 200 are motorized.[29]

Most of the people in the floating villages lack access to clean water and proper toilets [30][31] which can make them exposed to disease outbreaks, as these people are in direct contact with lake water.[32] For instance, there are zero toilets among 281 households in the Moat Khla floating village[33] (See table 8). They continue to live with poor sanitation and become vulnerable to chronic health problems.

**Table 8:** Number of Toilets in Moat Khla Village, AnlongSamnor Commune, Chikreng District in 2015

| Village | Number of households | Number of toilets | Number of households with no toilets |
|---|---|---|---|
| Moat Khla village | 281 (male: 445,female: 461) | 0 | 281 |

Source: Commune Data Base of NCDD, 2015.[34]

There were only 61 out of 281 households who regularly boil water for drinking in 2015 in the Moat Khla village.[35] The other 220 households do not use boiled water regularly for drinking. The majority of them rely heavily on lake water as their source of water for domestic use and also as dumping site for their household wastes which is deemed unsafe.[36] Table 9 indicates that the majority of households do not have access to clean water for drinking or do not boil water. The use of lake water potentially results in diarrhea and other diseases with bacteria and viruses passing from feces to lake water and food.[37]

**Table 9:** Number of Households Access to Safe Drinking Water

| Village | Number of households | Number of households who usually use solar light treatment for drinking water | Number of households regularly boil water for drinking |
|---|---|---|---|
| Moat Khla village | 281(male:445,female:461) | 0 | 61 |

Source: Commune Data Base of NCCD, 2015.

**Maternal and Children Health of Floating Villagers**

In the floating village in 2015, 73 women gave birth with professional midwives, while only 3 women used the services of traditional birth assistants. All mothers and babies survived.[38] Despite the low mortality rate, they face challenges because there is no health center or other health facilities in the village.[39]It takes them around half a day to travel by boat to a health center 31 km away in a nearby village.[40] The cost of transportation is high, which is equivalent to several months of their income.[41] They must rely on their own earnings which is less than 500 USD a year.[42] It was reported there was a floating clinic in the village which was establish by the lake clinic-Cambodia (TLC) organization in 2008 and visited each of this villages weekly.[43] This TLC provided primary health care, dental care, pre-natal care, and immunizations, and had bathrooms and private examining rooms. However, this clinic did not provide birth delivery service.[44]

Life is very difficult for women and children who are living in floating villages. 13 percent per 1000 (1 per 77) of the children die before the age of five, because of the tough living conditions, the lack of medical care, malnourishment, and the risk of drowning.[45] In addition, their low education and economic status make their lives more vulnerable and challenging.[46]

## 3. Conclusion

Public health infrastructure including health centers and referral hospitals in Pailin and Siem Ream are found to be adequate as defined in the health strategic plan phase II. People have started to use public health services more and more, but the percentage of those who seek private service, non-medical sector alternatives and overseas services is still high. More and more women give birth with trained mid-wives, and the mortality rates of mothers and babies have gone down. However, the problem of low birth weight and child mortality after deliveries still persists in the two provinces. Immunization rates are high in both provinces. Concerns about public health remain, as a high percentage of households do not have proper latrines, and the practice of hand washing with water and soap is still limited.

The number of landmine victims has steadily gone down in Pailin. Landmine victims spend much more on health care than people with other disabilities including for treatments for initial injuries, pre-prosthetic rehabilitation, prosthetic rehabilitation, and artificial limbs. In addition, landmine victims' families lose productive labor, may go into debt or sell assets to cover the cost of health care for members with disabilities.

Public health of floating villagers is very low compared to other areas in the country. Mortality rates of mothers and children are low but children can still die after delivery due to the lack of medical care, malnourishment, and the risk of drowning. If they need medical services of a health center, they need to travel by boat to a health center 31 km away, which costs them a great deal of money. It was reported that there was one floating clinic run by a non-government organization but it is not clear if the clinic is still operating.

As illustrated in Annex 1, the government has made remarkable achievements in terms of health infrastructure, health services, programs to assist the poor and achievements regarding CMDGs. However, the government still faces challenges such as the limited quality of health services, lack of funds to expend programs to help the poor, the trust issue, and unlicensed services.

## Annex1: Public Health System, Progresses and Challenges in health sector in Cambodia

### Public Health System

The current public health system is a three-tier structure which includes Ministry of Health (central level), Provincial Health Departments (provincial level), and Operational Districts.[47]

The Ministry of Health (MoH) is responsible for developing policies, legislation and strategic plans, for resource mobilization and allocation, monitoring and evaluation, for research and a national health information system.[48]The MoH also provides training and support to provincial departments and operational districts and coordinates with other ministries and external aid. Provincial Health Departments (PHDs) link the Central Ministry with health Operational Districts, implement health policies of the health strategic plan through Annual Operation Plans, ensure equitable distribution and effective use of resources, and support the development of OD offices.[49](In-service training coordination).

Operational District offices (OD) are responsible for effective, efficient and comprehensive health service delivery. OD offices interpret, disseminate and implement national policies and provincial health strategies. In addition, OD offices support Health Centers in training and supervision.

### National Health Programs

The mission of the MoH is to provide stewardship for the entire health sector and to ensure a supportive environment for increased demand and equitable access to quality health services in order that all people are able to achieve the highest level of health and wellbeing. Currently the MoH is implementing its second Health Strategic Plan 2013 – 2015. The Health Strategic Plan 2013 – 2015 aligns its health priority areas with the National Strategic Development Plan (NSDP) and Cambodian Millennium Development Goals (CMDGs). Those health priorities are 'reproductive, maternal, newborn and child health', 'communicable Diseases', and 'non Communicable diseases and other health problems'.[50]

The above strategic plan and relevant health programs are implemented via the network of health centers, and referral hospitals, provincial referral hospitals and national hospitals. All health program areas are reflected in MPA and CPA services provided by the above public health service providers.[51]At the same time, all five operational strategic areas are implemented to make sure national health programs are operated smoothly and effectively.

### Increasing Access to Health Services for the Poor

The MoH is committed to improving the quality of health services and moving toward universal health coverage.[52]The national budget for health, which is financed by the government , development partners' assistance, and private household expenditure, has increased significantly, with development partners financing about a third of the total

government spending through grants and loans.[53] With the aim of reducing service costs (e.g., mainly under-the-table charges), increasing the utilization of public health services, improving service quality by raising staff motivation, the 1996 National Health Financing Charter authorized the collection of user fees at public health facilities for all users, except the poor.[54]

To increase access of the poor to public health services, a number of schemes were established aiming at benefiting the poor. The schemes are as follows:[55]

- The Health Equity Fund is funded jointly by the government and development partners and was started in 2000. At the district level, the health equity fund is operated by an NGO or CBO called the HEF operator. The HEF operators reimburse public health service providers (health centers and referral hospitals) for the cost of treating the poor who are eligible for fee exemption. By 2013, HEFs covered about 16percent of the population living under poverty line.
- Community-Based Health Insurance is run by a small number of NGOs for the non-poor population and urban workers in the informal employment sector. It was started in 1998 and now covers 2 national hospitals, 17 referral hospitals, and 231 health centers (covering 663 people, less than 1percent of the total population)
- The Voucher Scheme for Reproductive Health is used to pay for antenatal care, delivery, and postnatal care at public health care facilities. The public health care facilities are reimbursed for the care they provide to pregnant women. Women are given information and encouraged to use maternal health in the health facilities covered by the scheme.[56] By 2012, the Voucher scheme was operated in 9 OD, 5 referral hospitals, and 118 covering a population of about 108,000.
- National Social Security Funds began in 2008 and provides, among other services, occupational risk insurance in Phnom Penh and 17 provinces. It covers private enterprises and their workers who must register with the National Social Security Funds.

**Achievements**

Since the reforms in the 1990's, health infrastructure has been extended. The number of health centers, referral hospitals and Operational District offices has increased over the years. There are a number of national health programs being implemented in an effort to achieve CMDGs.

**Expansion of health infrastructure**

| Operation District & Health service providers | 1995 | 2007 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|
| Operational Districts | 70 | 77 | 77 | 79 | 81 |
| Referral Hospitals | 64 | 74 | 82 | 83 | 94 |
| Health Centers | 901 | 956 | 1004 | 1024 | 1088 |

In terms of progress in public health, there are many health indicators to be examined and reported. Therefore, this briefing note just highlights the success of the Cambodian health sector in terms of Cambodia Millennium Development Goals.

- Goal 4: reduce child mortality. Cambodia has achieved all its CMDG targets in regard to child mortality : infant mortality rate, under 5 year child mortality, vaccination and breast-feeding.[57]
- Goal 5: maternal health. Cambodia has achieved the CMDG targets on maternal mortality rates and total fertility rates . Cambodia is working towards achieving its targets on skilled birth attendant assisting delivery, and pregnant women making visits to health centers.[58]
- Goal 6: combatting HIV/AIDs, malaria and other diseases. Cambodia has achieved the target on malaria and is working towards achieving its targets on tuberculosis and HIV/AIDS.[59]

**Challenges**

- Although the Cambodian health sector has made major achievements in infrastructure extension, more national health programs successfully implemented, and more health coverage for the population, public service delivery is still of limited quality.[60]
- The Health Equity Fund has been successful in providing the poor with access to public health services. However, there is a need for more funds to expand the coverage.[61]
- Phnom Penh post quoted the Minister of Health on September 2015 as saying that there is approximately 4000 unlicensed providers in the Kingdom.[62] This is corroborated by the report on 'The Kingdom of Cambodia: Health System Review'. The Phnom Penh Post article also noted the need to tackle the issue of unlicensed service providers and fake medicines.
- There is still a trust issue concerning public health services. About 57percent of all patients seeking care went to private providers first; only 29 percent went to public providers.[63] The problem is compounded by the fact that there are still many unlicensed private providers and counterfeit medicines on the market.[64]

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