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Assessment of Official Private Providers and Delivery of Health Care Services to Children under Five

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Executive Summary

In 2000 Cambodia was ranked, by the World Health Organization, as 174th in health system performance among member states. The average life expectancy is 54 years and the child morality rate for children under five is 124 for every 1000 live births. In 1977 the rate topped 242 deaths for every thousand live births and was at its lowest in 1986 when the rate was 115 deaths per 1000 live births. Cambodia's under five year old children are dying from treatable illness. ARI and diarrhea are common forms of childhood illness and major contributors to childhood deaths. Education and availability of services affect health-seeking attitudes of mothers. Household living conditions, access to clean water and nutrition are other factors influencing the health of Cambodia's children. Malnutrition in Cambodia is common and despite almost all children being breast fed only 18 percent of those under two months are exclusively breast fed.

The recent rise in child mortality and the high utilization of private health providers necessitates the involvement of the private sector in the delivery of effective integrated management of childhood illnesses (IMCI) in Cambodia. The goals and objectives of the study reflect this need. This background and feasibility study aimed to discover some information about private health providers in Phnom Penh, Kampong Chhnang, Siem Reap and Svay Rieng Provinces of Cambodia. In addition, the aim was to document previous interventions with the private sector in Cambodia and examine experiences from other countries. The final objective was to propose an intervention with private health providers that would improve services for children under five as part of the national IMCI strategy.

The study involved literature reviews, interviews with organizations, and officials from the Ministry of Health, the Pharmacy Association of Cambodia and the Cambodian Medical Association. The major source of data was interviews with 108 private health providers and 80 mothers of children under five in four areas of Cambodia.

The review of previous experience in work with private health providers found important lessons both from experience in Cambodia and overseas. An intervention model that combines providers training, motivation to change practices, promoting links, community education and media promotion would combine the most promising strategies from previous interventions both in Cambodia and other countries.

Mothers of sick children seek assistance from both the public and private sectors. In the last ten years there have been significant achievements in the public health system, with hospitals and health centres established and renovated after the devastation under the Khmer Rouge regime. However, public health utilization rates are low and 68 percent of first treatment for general illness is sought from non-government providers. The Cambodian private health sector is large and poorly regulated. It consists of a minority of legal registered businesses and large numbers of unregistered illegal providers.

The private providers surveyed reported that on average 33 percent of their clients were children under five. From this figure we can estimate that the 108 providers interviewed, see about 220,000 children under five years old each year. Considering the small sample

size and the large provider groupings not studied such village drug sellers, the number of those seeking assistance is clearly significant.

Trained human resources in the private health sector are insufficient to meet demand and graduation rates are not high. Only 619 pharmacists have graduated in Cambodia in the past twenty years to 2001. Four hundred of these are currently employed by the Ministry of Health, leaving only 219 available to the private sector. Currently around 20 new pharmacists graduate each year in Cambodia. In light of the lack of human resource capacity it is not surprising that the study found that 79 percent of clinic providers were also full time government employees.

The study also investigated links and cooperation between health providers. Ninety nine percent of the private providers surveyed reported cooperating with other health providers. Generally providers reported strong links to other public and private sector health providers. Referrals were quite common, particularly for Phnom Penh pharmacies. It was clear that the providers surveyed did not work in isolation but were part of active cooperation networks. This finding is particularly encouraging for future interventions designed to strengthen link between government and private health facilities.

Health messages given by providers in cases of childhood diarrhea and ARI were also examined. Sixty two percent of the private clinics reported advising rehydration therapy for children. A variety of contrary advice was given by some providers including advising mothers to stop breastfeeding when their child was ill. On the other hand, 66 percent of providers reported using ORS when treating childhood diarrhea. The gap between reported and actual practice for the purposes of this study was unknown.

Other findings came to light during the assessment. The research team found the widespread sale and use of tetracycline hydrochloride for the treatment of diarrhoea in young children. In children under the age of eight this drug has very restricted indications such as life-threatening diseases, for example during cholera outbreaks. During data collection this drug was found at all levels of the private health system from village drug sellers to large urban clinics. It was less likely to be prescribed in larger urban practices but was more commonly used by rural providers. According to the pharmacy providers it sells in large numbers and according to the mothers it is the first medication chosen for diarrhoea.

The intervention proposed in the final section of the paper is designed to build upon PATH's previous experience in the pharmacy sector in Cambodia and the results of the current assessment. It is proposed to develop, and then pilot, a model for combined IMCI pharmacy training, community outreach education and strengthening links between official private providers, the public health system and the community as a whole.

Contents

Appendix I **Official Drug List from the Drug Department**

Acronyms

ACH	Angkor Children's Hospital
ADB	Asian Development Bank
AIDS	Acquired Immune Deficiency Syndrome
ARI	Acute Respiratory Infection
CDD	Childhood Diarrhoeal Disease
CDHS	Cambodian Demographic and Health Survey
CMA	Cambodian Medical Association
DHF	Dengue Haemorrhagic Fever
HIV	Human Immuno-deficiency Virus
IEC	Information Education and Communication
IMCI	Integrated Management of Childhood Illness
MOH	Ministry of Health
MPA	Minimum Package of Activities
NCHP	National for Centre for Health Promotion
NGO	Non-Government Organization
NMCH	National Maternal and Child Health
ORS	Oral Rehydration Salts
PAC	Pharmacy Association of Cambodia
PATH	Program for Appropriate Technology in Health
PHD	Provincial Health Department
PSF	Pharmaceriens Sans Frontieres
PSI	Population Services International
RACHA	Reproductive and Child Health Alliance
STD	Sexually Transmitted Disease
TB	Tuberculosis
TSMC	Technical School for Medical Care
UMS	University of Medical Science
UNICEF	United Nations Children's Fund
WHO	World Health Organization

PART ONE - Introduction

The Kingdom of Cambodia covers 181,035 square kilometers. It faces the Gulf of Thailand and is surrounded by the countries of Thailand, Lao Peoples Democratic Republic and Vietnam. The climate is tropical, with the cool, north-eastern monsoon bringing light rain from November to February and the south-western monsoon bringing high humidity and heavy rain between May and October. In 1998, the population of Cambodia was approximately 11.5 million, 85 percent of which was rural. The capital, Phnom Penh, has a population of just over one million.

The 1970's were a period of civil war and the rule of the Khmer Rouge. During this time, the mortality rate was high and the birth rate low. A baby boom took place after the conflict, which means that now over 55 percent of the population are under the age of 20. The Khmer Rouge period also had adverse affects on the provision of health care. The period of the Khmer Rouge regime had a devastating effect on the educated and professional sector of the society, leaving significantly fewer doctors or pharmacists in the country.

Health in Cambodia

Cambodian health is one of the worst in the WHO Western Pacific Region. In 2000 it was ranked by the World Health Organization (WHO) as 174th in overall health system performance among other member states[1]. The average life expectancy is 54 years and the mortality rate for children under the age of five is 124 deaths for every 1000 live births, with almost one in ten babies living for less than a year.

Education and the status of women in a society are important factors influencing women's health and in their attitude to health seeking. This has implications for the health care of young children. The Cambodian Demographic and Health Survey (CDHS) 2000 showed that 32 percent of women were illiterate and another 24 percent only partially literate. More than twice as many rural as urban women were illiterate. The figure for rural women was 36 percent. The status of women in society is important for their access to education. Women in Cambodia are less likely to go to school than men, and many women believe that it is better to educate a son than a daughter.

The CDHS survey showed that almost three quarters of women work outside their home. Forty seven percent of urban women work all the year round and 54 percent of rural women work seasonally. The survey also showed that an increase in the education of women leads to a decrease in their earnings used for family expenditure. Women with education have more say as to how their earnings are spent.

Household living conditions, access to clean water and nutrition are other factors influencing health. During the dry season, drinking water comes from open water sources for over a quarter of the population of Cambodia. Although 61 percent of urban households have electricity, the national average is only 17 percent. World wide, malnutrition is a

[1] World Health Organisation (2000), *Health Systems: Improving Performance.*

factor in over 50 percent of childhood deaths.[2] Malnutrition in children is common in Cambodia and 45 percent of all the children under five are underweight. Although almost all babies are breastfed only 18 percent of those under two months are exclusively breastfed. Most other food given to young children consists of water or water-based liquids. This is also the case for complementary food that should be introduced at the age of six months. At the age of 6 to 7 months, 65% receive solid or semi-solid food, but much less receive energy and micronutrient rich food such as meat, fish, poultry and eggs (34%) and fruits and vegetable (34%).

Children's Illness and IMCI

Acute Respiratory Infection (ARI) and diarrhea are two of the most common forms of childhood illness and the leading causes of childhood deaths. Together with malaria, measles and malnutrition, these are the five major killers of children. Mothers of children suffering from these illnesses seek advice and treatment from both public and private health providers. The IMCI strategy aims to give guidelines to health workers in both the private and public health care sector on how to recognize and treat these illnesses that are a major cause of sickness and death in young children.

Child Mortality in Cambodia

Cambodia has some of the lowest ranking child mortality statistics in the world. The period during and immediately after the Khmer Rouge regime was challenging for children's health. At that time under five mortality was 242 per 1,000, that is almost one in four Cambodian children died before their fifth birthday[3]. Since then mortality has declined, reaching a low point in 1987 of 115 deaths per 1,000. This encouraging trend has since reversed somewhat and under five mortality figures have slowly climbed since the late eighties. The most recent mortality figures show that 124 out of every thousand Cambodian children die before the age of five[4]. It appears that under-5-mortality is mainly due to an increase in post-neonatal mortality, since the mid 1980s. It is the post-neonatal period when the incidence of diarrhoea and ARI rises sharply.

Public Health

The combined effects of the war and rule of the Khmer Rouge seriously weakened the government health sector in Cambodia in the seventies. The Khmer Rouge policy of eradicating the educated classes meant that many trained health professionals did not survive the regime. Infrastructure like hospitals and health posts deteriorated or in some cases was destroyed. By 1980, infrastructure and human resources in the health sector were marginally functional and in some cases almost non-existent. The Vietnamese supported government of the 1980's was faced with the task of rebuilding a health system largely from scratch. Accelerated training programs for health professionals were put in place to replace lost human resources and the University of Medical Science (UMS), which reopened in January 1980.

[2] World Health Organisation (1998), *Improving Family and Community Practices*
[3] Cambodian Demographic and Health Survey (2000), *Preliminary Report, November 2000.*
[4] Cambodian Demographic and Health Survey (2000), *June 2001*.

Since then, changes of government and continued civil conflict have further challenged the reestablishment of the health sector. In the 1990's, the government began a new phase of health reform. This phase concentrated on expanding the coverage of primary health services and implementing the Minimum Package of Activities (MPA), a series of basic health services for the Cambodian population. In the last ten years, there have been significant achievements in the public health system. Hundreds of health centres and referral hospitals have been established or renovated. Staffing has increased, health facilities have been re-equipped and staff have been trained.

Many donors and international agencies currently provide assistance to the government health sector. In April 2000, the Asian Development Bank (ADB) estimated that 30 percent of planned public investment went to the health sector[5]. Despite these investments, utilization of public sector health facilities is low. Figures from the recent CDHS 2000 show that around 21 percent of patients first seek health care from the public sector. The remaining 68 percent seek services from the private health sector. Over fifty-nine percent (59.4%) of children with fever and/or ARI seek treatment from the private sector.

The Private Health Sector

1. Pharmacies

Pharmacies in Cambodia are legal outlets licensed under the name of a pharmacist usually trained at UMS. They are permitted to sell all legal drugs. Most legal pharmacies are located in Phnom Penh. These establishments often receive their pharmaceutical supplies directly from company representatives who distribute to most provincial capitals and district towns along the major highways.

2. Pharmacy Depot 'A' and 'B' (An official drug list obtained from the Drug Department is attached as Appendix A)

Depots in Cambodia are legal outlets licensed under the name of a pharmacist, pharmacy assistant, preparatory pharmacist or medical assistant. Depot 'A's are permitted to sell 60 kinds of essential drugs and Depot 'B's may sell twenty kinds of essential drugs. These are mostly located in urban areas like provincial or district towns. They often receive their pharmaceutical supplies directly from company representatives who distribute directly to most provincial capitols and district towns along the major highways.

3. Illegal Pharmacies

This category includes all drug vendors who display the green pharmacy cross without having a license. This category includes drug stalls in rural markets and shops whose main business is selling medicine. The majority of larger drug vendors in Cambodia fall into this category. Many of these establishments also receive their pharmaceutical supplies from company representatives who distribute directly to most provincial capitals and district towns along the major highways. Some smaller illegal pharmacies buy their supplies from the legal pharmacies in the previous two categories.

4. Legal Cabinets and Clinics

[5] ADB (2000), *Country Operational Strategy, 2000.*

This category includes all official legal private medical practices, which display the blue medical cross. A legal clinic means that a medical doctor who does not have another job and has a licence to operate as a clinic or a polyclinic from the MOH, operates a clinic or a polyclinic. Each department of the legal clinic/polyclinic must have a specialized licensed medical doctor and the ratio of medical staff such as nurses, to patients must be appropriate and proportional. A legal cabinet has a licence to operate from the MOH and is operated by a medical doctor or a medical assistant. A cabinet usually opens few hours per day and is primarily for consultation.

The majority of private clinics and cabinets in Cambodia also sell medication. These facilities range from private practitioners who keep supplies of medicine to sell to their patients, to facilities with a dedicated drug counter facing the road. Most legal facilities are located in urban areas like provincial or district towns. A few of the larger clinics receive some drug supplies directly from the distributors but many buy their drugs from the legal and illegal pharmacies in the first three categories.

5. *Illegal Cabinets and Clinics*
This category includes all unofficial private medical practices that display the blue medical cross. The majority of private medical practices in Cambodia fall into this category. Illegal clinics are generally located in Phnom Penh or in other urban areas. These providers obtain small supplies of medications through the same channels as legal clinics and cabinets.

6. *Drug Sellers (nek luok thnam)*
In Khmer, this is literally a 'person who sells medicine'. These are often referred to as village drug sellers. They run small shops or stalls selling a variety of general merchandise. Shampoo, hair clips, snacks and sweets are sold to those living nearby. A variety of modern medicines are also sold ranging from paracetamol and birth control pills to large doses of tetracycline and penicillin. Buyers generally request products by name. Some senior sellers with practical experience in illness make treatment recommendations on request. These establishments make up the majority of the vendors of modern medicine in Cambodia. Sellers buy their medicines in small quantities from the closest pharmacy in one of the first three categories. This is often a pharmacy located in the district market.

The private health sector in Cambodia is not a homogenous group. As our results will show there is considerable overlap between the public and private sector. Treatment of illness generally is a vast and complicated business in Cambodia. There are few easy distinctions to be made. The lines between public and private sector, self medication and professional treatment, legal and illegal providers, clinics and pharmacies are all blurred. Outside of Phnom Penh, the green pharmacy cross and the blue doctors cross are often displayed together indicating that both medication and treatment are available.

Study Objectives

Given the high levels of child mortality and the high utilization rates of private health providers, involving the private sector in improving children's health is a priority for IMCI in Cambodia. This study represents an initial step towards achieving that goal. Accordingly, the study had the following specific objectives:

1) Document what is known about the number and types of private providers in Cambodia delivering health services to children under five.
2) Document previous interventions targeting private providers, especially drug sellers and pharmacists, in the delivery of child health services.
3) Analyze the links (formal and informal referral systems) between private providers, communities and the formal health care system for initial consultation, treatments and follow up.
4) Outline the key factors, both positive and negative, that impact on the effectiveness of messages given by private providers on appropriate and rational treatments, compliance to treatments, care seeking, exclusive breastfeeding and home care management of child illnesses.
5) Propose one or more interventions targeting private health providers, which will focus on defining and strengthening their role in IMCI.

Objective one was investigated through a review of existing literature, organizational interviews and interviews with private providers. The second objective was investigated through interviews with health organizations working in Cambodia and by reviewing existing literature. The third and fourth objectives were investigated through interviews with private health providers and mothers of children under five years. Objective five forms the conclusion of the report. This synthesises the results from the previous four objectives and proposes interventions to improve private health services for children under five years of age. In addition to these broad objectives, four main areas were identified in the objectives of the study. These areas cover some of the main objectives of the IMCI strategy as follows:

1) Children with general danger signs, diarrhoea with signs of dehydration or symptoms of acute lower respiratory illness, as well as, in malarious areas, children with fever are taken to a health facility.
2) Mothers in Cambodia exclusively breastfeed their children for six months.
3) Ill children are given appropriate and rational treatments, increased fluids (ORS and/or recommended home fluids), and are fed continuously throughout the illness.
4) Mothers and family care providers have increased awareness and knowledge of correct compliance issues.

In accordance with these points, interviews with private providers and mothers were designed to investigate ARI, childhood diarrhoea, exclusive breastfeeding, increased fluids, continuous feeding during illness and compliance issues. The next section gives the details of the research design and method.

Research Design and Methodology

To complete this assessment of official private health providers, different methods were used to gather information. A review of available literature was carried out and a small body of literature on work with the Cambodian private sector was identified, mostly through resources at PATH and RACHA. Since this information was limited, additional information was collected on work with the private sector in other countries and on health seeking behavior and children's health in Cambodia.

Interviews were conducted with representatives from organizations working in the health sector in Cambodia. Additional reports on health seeking behavior and children's health in Cambodia were gathered during the organizational interviews. Interviews were also held with officials from the Ministry of Health at provincial and central level and with officials from the Pharmacy Association of Cambodia (PAC) and the Cambodian Medical Association (CMA. The Deans of the Faculties of Pharmacy and Medicine and the presidents of the Pharmacy and Medical Students Association were also interviewed at the University of Medical Science (UMS). Final year students from both UMS faculties were interviewed and two representatives from medical companies in Cambodia contributed information. The Internet pharmacy discussion group also contributed ideas and experiences from other countries. Finally, and most importantly, semi-structured interviews were conducted with private health providers and with mothers of children under five. Interviews were conducted in four provinces or municipalities of Cambodia – Phnom Penh, Kampong Chhnang, Siem Reap and Svay Rieng.

Design of Data Collection Tools and Pre-testing

The interview guidelines for providers and mothers were developed by the research team and pre-tested in Phnom Penh. After the pre-test some questions were rephrased to make them easier to understand and one question was added to elicit more information. Five additional demographic questions were also added to the end of the interview form. As significant changes had been made, the guidelines were pre-tested again on different groups before the questionnaire was printed and copied.

The final questions in the providers interview guidelines fell into three broad categories. The first covered demographic information about providers like income, training and volume of business. The second category aimed to investigate links between health providers. The third category covered questions about treatment and advice for diarrhoea and ARI, and nutrition advice for mothers of new-born children.

The interview guidelines for the mothers' interviews were shorter and fell into three broad categories. The first part asked mothers about a recent illness episode for one of their children. This illness was followed with a series of questions about the provider chosen for treatment, the reasons for selecting the provider, the treatment and advice given and the fee charged. If the illness was not cured, the questions were repeated for the next treatment sought and so on, to a maximum of four treatment episodes. The second section asked about mother's home treatment for diarrhoea and ARI. The final section asked mothers about breastfeeding practices for their children.

Data Collection

Data collection commenced in Phnom Penh in October and finished in Svay Rieng in November 2001. Officials from PAC at the Provincial Health Department (PHD) in each province and in Phnom Penh assisted the team to locate providers. PAC officials did not conduct interviews and were generally not present for the interviews to avoid any potential confounding of the data by an official presence. Providers were interviewed in their place of business (as were some provincial health officials) and interviews took from one to two hours. The majority of mothers were interviewed at their homes. Interviews were conducted in Khmer by the research team and then transcribed directly on to the survey forms. Structured group discussions were also held with mothers in each of the provinces. These were recorded (with the mothers' permission) and later transcribed in Khmer. Mother's interviews and group discussions took from 30 minutes to one hour.

Respondents were not paid for their participation. IEC materials (posters and child height charts with diarrhoea and ARI information) prepared by PATH for previous private provider interventions were offered to each respondent at the conclusion of the interview. Respondents were not told they would be offered these materials beforehand. After the first group discussion with mothers in Kampong Chhnang, the research team purchased some sweets to offer the children who invariably accompanied their mothers to the interviews. Despite the lack of inducement, respondents were happy to cooperate with the research team and offered much information.

There were a few exceptions. Three providers in Phnom Penh seemed to be unsure of the motives of the research and declined to be interviewed. This necessitated visiting additional providers (3 additional pharmacies) to collect an adequate sample. Two providers in Siem Reap also declined to be interviewed. Data was generally collected in the early mornings, evenings and on weekends or holidays. For the pharmacy providers this was often when they had time to be interviewed, as they were busy during the day. For the clinic providers these were the times they were present in their private clinics – they were generally busy with other jobs during the day.

Sample

The research design called for a sample of 100 private health providers comprised of 50 pharmacies, depots, 50 private clinics and cabinets. Forty of these providers were to be from Phnom Penh and 20 from each of the three provinces. This design was supported by the Ministry of Health and therefore called for the interviewing of legal private providers. A random sampling methodology was used to select private health providers. Since most legal providers are located in Phnom Penh, this presented some difficulties in obtaining the desired sample. To obtain the desired sample, four unregistered pharmacy providers were interviewed in Svay Rieng. These providers were randomly selected from a list of those who were in the process of registering their pharmacies with MOH. Most private providers interviewed were located in provincial towns although some had businesses at the district level. Providers were selected at random by the research team from PHD lists of providers operating in each province. Officials from PHD then assisted the research team to locate the

selected providers. A total of 108 private providers were interviewed, 55 from private pharmacies and depots and 53 from clinics and cabinets.

To provide information about the providers from the point of view of the consumer, mothers of children under five were interviewed in each of the provinces and in Phnom Penh. A convenience sample methodology was used to interview mothers. Half the mothers were selected in the provincial towns and half from the village level. Structured group discussions were held with mothers from provincial towns and individual interviews were conducted in villages in a neighbouring district. Twenty mothers were interviewed in each province and in Phnom Penh. Eighty mothers participated overall.

Data Analysis and Tabulation

The completed questionnaires were translated into English and the research team checked the translations for accuracy. Coding sheets were developed for the data with the help of the research team and the translator. A random 20 per cent of the data was coded to ensure the coding categories were robust. Some categories were adjusted or combined. All questionnaires were then coded and the research team decided on any unclear answers. The coding was then checked again for accuracy. The translated data was coded manually and entered into coding sheets on computer. As no complex calculations were required, the data was analysed by hand using a calculator or in Microsoft Excel.

Upon examination of the data, there were no major differences between clinics and cabinets or between pharmacies and depots. This distinction was therefore not used in the discussion of the results. The broader categories of pharmacy provider and clinic provider have been used in the report. There were no large differences between the data collected from mothers in the provincial towns or at the village level. This distinction was also not used in the discussion of the results. One group discussion with mothers was held in a district health centre with health centre staff present. The research team believed that the setting might have influenced this data – particularly when asking about fees and preferred providers – so this data was excluded from the analysis.

Limitations

The major limitation of the study was the focus on legal private providers. These providers make up only a fraction of the private health sector in Cambodia. As an example, the 2000 Demographic Health Survey collected data on 11 categories of non-government health providers[6]. Private health services range from traditional and modern medicine, legal, illegal and unregistered establishments and trained, untrained and informally trained practitioners. The following table shows the categories of private providers in Cambodia and the sample investigated in the study.

Provider Category	Estimated Number in Cambodia	Sample	Sample fraction

[6] Cambodian Demographic Health Survey, 2000. Page 34.

Legal Pharmacy/Depot	896	55	6.1%
Legal Clinic/Cabinet	500[7]	53	10.6%
Illegal Pharmacy/Depot	2591	Not included	
Illegal Clinic/Cabinet	1700[8]	Not included	
Mobile *bpet*[9]	?	Not included	
Village Drug Sellers	13,000[10]	Not included	
Traditional Medicine	?	Not included	

Private Providers in Cambodia

The study focussed on the first two categories of private health provider. These are a small part of the total private health sector. In addition, the sample size of the providers interviewed was relatively small. The most common private health provider in Cambodia is probably the *nhek luok thnam* – literally 'a person who sells medicine.' - these are commonly referred to as village drug sellers. Mobile *bpet* and practitioners of traditional medicine are also very common throughout Cambodia although there are no reliable figures on the numbers of these private providers.

[7] This estimate was obtained by extrapolating from MOH figures available for 11 provinces.
[8] This estimate was obtained by extrapolating from MOH figures available for 11 provinces.
[9] *Bpet* – is the Khmer word for doctor but is also commonly used to refer to any provider of modern medicine.
[10] This estimate is based on roughly one drug seller for each village in Cambodia.

PART TWO – Previous Interventions

Objective: Document previous interventions targeting private providers, especially drug sellers and pharmacists, in the delivery of child health services.

One objective of the study was to review the experiences of work with private health care providers both in Cambodia and other countries. Information for this was collected through interviews with representatives of health sector NGOs with private sector experience and a review of reports of previous programs.

Cambodia

In Cambodia, there has been little sustained work with the private health sector. Most health NGOs have concentrated on support for the government health system. Generally, the private health sector has not been the focus of health interventions. The following section gives a summary of interventions by five organizations in the Cambodian private health sector. The summary of IMCI interventions conducted and completed in Cambodia is very limited. Literature research identified a number of baseline assessments primarily conducted to inform program development and to initiate pilot phases. An example of such programs are the CARE IMCI pilot in Pursat, and the Health Net and World relief baseline studies.

Program for Appropriate Technology in Health (PATH)
PATH is an international, nonprofit, nongovernmental organization dedicated to improving health, especially the health of women and children. To achieve these goals, PATH works with pharmacies and drug sellers in a number of countries. The PATH Mekong regional office has been working in the private health sector in Thailand since 1985. In 1995 the PATH Mekong program expanded into Cambodia. The first project initiated in Cambodia was an intervention focussing on Acute Respiratory Infection (ARI) and Childhood Diarrhoeal Disease (CDD) in children. This project was implemented in collaboration with the Ministry of Health, the Pharmacists Association of Cambodia (PAC) and UNICEF. The project began with a baseline survey in 1996. It included training pharmacists and assistants, providing IEC materials and building networks for pharmacies in Phnom Penh and Kandal. This was combined with a media campaign, outreach education and IEC materials for pharmacy clients. Communities were linked to the trained pharmacies using a free advice coupon which mothers could take to trained pharmacies to receive free advice and IEC materials. Unfortunately, the project was interrupted by a military coup in Phnom Penh in 1997 when program activities were suspended from July to November. Once the political atmosphere had settled the project resumed and the training was completed and evaluated in 1998.

Around 500 drug sellers had been trained by the end of the project in 1998. Outreach educators visited 2,643 families with simple messages about CDD and ARI. Simulated clients and self-report were used to evaluate the pharmacy training component. Trained simulated clients visited pharmacies reporting either a mild or severe case of CDD or ARI. The evaluation identified a gap between pharmacists' reported and actual practices. The

simulated client surveys found all pharmacists asked about possible causes, symptoms and duration of illness. There was an improvement in taking client histories, providing home care advice and information on prevention. Changes in dispensing practices were less encouraging. All cases of simulated diarrhoea were sold ORS, which was an improvement over the baseline. However, no distinction was made between mild and severe cases. Apart from ORS, only small improvements were found in the medications sold compared with those dispensed in the baseline. In addition, no referrals to public health providers were made for serious cases. Several areas for improvement were identified to be incorporated in future interventions. Overall, the project provided valuable information for refining and adapting PATH's pharmacy intervention model to Cambodia.

In 1999, PATH began another pharmacy training and community outreach project. This project focuses on the management of Sexually Transmitted Diseases (STDs). PATH works with the National Centre for Health Promotion (NCHP), the Pharmacists Association of Cambodia (PAC) and the Ministry of Health with support from UNICEF. The project uses training for pharmacy staff in STD knowledge and awareness, and develops referral mechanisms to the formal health care sector. This is combined with community outreach education and initiatives to link communities to the trained drug vendors. The project aims to lower STD rates among city residents by improving the knowledge and referral skills of drug sellers and pharmacists, raising community awareness of STDs and HIV/AIDS and linking communities to appropriate health care services.

Since 1995, PATH has been refining and improving a model for successful interventions with official private sector pharmacies. Pharmacy training in Phnom Penh has involved provider-client communications skills building, appropriate treatment, history taking, advice and referral for a variety of illnesses including diarrhea and ARI in children. Monitoring, evaluation and feedback to the pharmacies supplement the training. Concurrently PATH works to promote and encourage links between pharmacies and government health providers. Outreach education compliments provider training to educate target communities about home treatment, appropriate advice, early treatment and to promote community links to appropriate public and private health providers. This intervention model is dynamic and refinements and innovative strategies are still being developed and are expected to continue in the future.

Population Services International (PSI)

Population Services International is an international NGO aiming to expand access to health products to disadvantaged groups through effective communication strategies. In 1993 PSI began a nation-wide AIDS prevention program focusing on increasing condom use. This program combined aggressive social marketing with an Information-Education-Communication (IEC) campaign. This campaign aimed to educate Cambodians about HIV and AIDS while promoting condom use. In 1997, PSI began a second campaign to promote the "OK" oral contraceptive pills. This program used similar marketing and IEC techniques to widely promote birth spacing services. An important part of these programs is training in appropriate dispensing for pharmacists and drug vendors. PSI distributes birth spacing pills directly to drug sellers who then resell them to consumers. To date over 1,365 pharmacists

and drug sellers have been trained around Cambodia[11]. The success of the program is best demonstrated by sales of the OK pill and the Number One Condom. Over 50 million condoms and 836,346 cycles of the OK Birth Spacing pill have been sold since 1993. Late in 2001 PSI commissioned an evaluation of the training to drug sellers and pharmacists, however the results of this are not yet available.

PSI has strong links to other health NGOs who also distribute PSI products through their own reproductive health programs. Their training is based on the National Maternal and Child Health (NMCH) birth spacing curriculum and works closely with regional NMCH authorities. PSI also conducts refresher training for vendors. In 2000, PSI began training nursing, midwifery and medical students at regional training schools and in the capital. This is to introduce birth spacing education to health professionals early in their careers.

The social marketing campaigns for both Number One condoms and OK Birth Spacing pills have demonstrably improved sales and use of these reproductive health products. The success of the training for drug vendors and pharmacists has yet to be determined. Changing practices in the private health sector has been one of the most challenging obstacles for organizations working with the private health sector. Social marketing may be difficult to include in the IMCI strategy for Cambodia due to the lack of a single product or treatment appropriate for different children's illnesses like ARI or diarrhoea. However, PSI is one of the few health NGOs that has worked consistently with the private health sector and their experience in conducting training with drug vendors is valuable.

The National Malaria Control Programme – MOH/WHO

The Cambodian malaria control program is a Ministry of Health (MOH) project supported by the World Health Organization (WHO) and the World Bank. This is a national program that aims to control malaria through distribution and use of malaria prevention materials like impregnated mosquito nets, insecticide and curative antimalarial therapies. Part of this project involves development and distribution of a pre-packaged combination antimalarial therapy. Distribution of these drugs to the public health sector has been initiated. At the same time, a package has been designed to release the same combination therapy to compete in the private sector. The program plans to use existing drug distribution channels in the private sector and to accompany this with a media campaign to promote the therapy[12]. Currently the development of paediatric sachets for the new combination therapy is under way.

At this stage it is too early to evaluate the success of the private sector initiative which is expected to begin in 2002. However, the social marketing of mosquito nets has been very successful in preventing malaria with rates reducing by an average of 82 percent over the past five years[13].

[11] PSI (2000), *Annual Report for OK Birth Spacing Program.*
[12] National Malaria Control Programme (2001), *Country Update on Malaria Control.*
[13] Ibid.

Pharmaciens Sans Frontieres (PSF)

Pharmaciens Sans Frontieres (PSF) is a French NGO working to improve world health conditions according to the principles of WHO. From 1995 to 1997, PSF worked on a rational drug use project in Kandal, Rattanikiri and Prey Veng. PSF worked in partnership with Veterinaires Sans Frontieres, Group de Recherches et d'Echanges Technologiques, Soutien a I'Initiative Privee pour I'Aide a la Resconstruction des Pays du sud-est asiatique and Enfance Espoir on education and awareness raising for rational drug use. The aim of the program was to promote simple messages about drug use to ten villages in each of the target provinces. The project did not supply drugs but hoped to change community practices through education and promotion of appropriate drug use. The project produced various IEC materials including videos and theatre shows, which were used for community education.

Unfortunately, the project evaluation found that practices had largely failed to change after the project. Several widespread beliefs about drug use proved particularly resistant to change. PSF found a widespread belief that intravenous drugs were more effective than oral medications. Drug cocktails made up of mixtures of several drugs were the norm for treatment and drugs were generally only purchased for two to three days[14]. In addition, the project found drug vendors reluctant to change practices unless there was a clear commercial motive to do so. The lessons learned from the project evaluation are valuable for identifying obstacles to changing drug use practices in Cambodia.

Reproductive and Child Health Alliance (RACHA)

In early 2000 the Reproductive and Child Health Alliance (RACHA) began a pilot education program on Childhood Diarrhoeal Disease (CDD) at the village level in Pursat province. Village women in two health centre catchment areas were targeted and trained in CDD danger signs and correct use of ORS. To support this initiative RACHA began working with village shopkeepers to ensure a reliable supply of ORS to compliment this program. One or two shops in each village were identified and asked to keep supplies of ORS on hand. Shopkeepers were given the same training on CDD as village women. RACHA also ensured that two major pharmacies in Pursat town had adequate supplies of ORS to re-supply the shopkeepers. Shopkeepers were given ORS instruction posters and flyers to give to customers. By June 2001, nearly 16 thousand woman had been trained in CDD and 194 shops were selling ORS. Three thousand packets of ORS had been sold and the program continues to expand.

RACHA and the Ministry of Health plan to expand the shopkeepers program to include condoms and birth spacing pills from PSI. Trained shopkeepers also reported that other customers ask about the ORS posters and the shopkeepers explain CDD/ORS messages to them. Thus, shopkeepers are serving as informal health educators. The program is still growing and evaluation has largely been limited to evaluating changes in knowledge – which are positive. The increased sales of ORS are encouraging and are expected to increase further as community education expands. This program has benefited from RACHA's other work in these catchment areas on CDD and ORS. The RACHA program is significant as it represents one of the few sustained attempts to work with village drug

[14] Goes F(1997), *Final Mission Report. Pharmaciens Sans Frontieres.*

sellers in Cambodia. As mentioned earlier, these drug sellers are probably the most numerous suppliers of modern medicine in Cambodia.

CARE is implementing an IMCI pilot program in Pursat Province but this is still in the pilot phase and actual interventions have not yet begun. Health Net has conducted an IMCI baseline assessment to inform their program development activities. The World Relief program in Kampong Cham Province (WHO supported) conducted a baseline study to identify KAP for mothers on breastfeeding. FHI's work is primarily in the area of HIV/AIDS. Similar to other organizations FHI has conducted baseline assessments specifically focusing on pharmacist case management of tuberculosis.

Other Countries

Due to the limited amount of information on previous work with the private health sector in Cambodia, information was gathered from other countries. The range of experiences from organizations working with the private health sector elsewhere provides some useful comparison and ideas for further work in Cambodia. As expected, in many cases conditions are dissimilar to Cambodia and the lessons learned are of limited use for Cambodian program design. Other private health care projects, like those in Nepal, Kenya and Indonesia, provide valuable ideas and experience. Following is a summary of some of these more relevant program experiences. There is then a synthesis of experience from Cambodia and other countries and their relevance to planning interventions with private health care providers in Cambodia.

Kenyan Ministry of Health[15]

From 1995 to 1996 the Kenyan Medical Research Institute (KEMRI) and the Kenyan Ministry of Health ran a pilot intervention to improve the use of antimalarial drugs in childhood fevers. The intervention focused on training drug sellers in appropriate treatment with antimalarial drugs and community sensitisation. Shopkeepers were trained over three days on knowledge of malaria, when to refer, treatment of fever and communication skills. Community sensitisation was carried out through community leaders and prominently placed posters. An IEC leaflet was produced for shopkeepers to give to customers demonstrating how to take the antimalarials. After the training, shopkeepers' practices were monitored through community interviews, exit interviews with shop clients and focussed group discussions. Subjective evaluations of impact were positive particularly from the shopkeepers. The intervention and the improved role of trained shopkeepers were particularly well received by the community. Evaluation of the change in practices were generally positive, that is shopkeepers were more likely to take histories, make distinctions between fever and malaria, sell a full course of treatment and give advice on how to take the medication. However, the lack of a community education component meant that treatment advice given by drug sellers was often not followed or understood. This limited the potential benefits of the advice.

[15] Marsh et. al. (1997).

The results of this intervention highlight the need for concurrent community education when conducting providers training. As others have found, educated consumers are more likely to receive appropriate service from trained providers. The IEC leaflet designed for the project seemed to encounter a number of setbacks in the project. On evaluation, few people had seen one of the leaflets and some of those who had did not understand them. This highlights the need for well-designed IEC materials and a variety of distribution methods. Presenting information to illiterate community members is one notable challenge. Extensive community involvement in the project at all stages produced positive results. Public ceremonies to present training certificates, the involvement of village leaders and group discussions with communities members all contributed to widespread acceptance and awareness of the provider training.

Pharmacy Training – Indonesia and Kenya[16]

A 1996 study in Kenya and Indonesia evaluated the impact of face to face educational outreach on diarrhoea treatment at pharmacies. The aim was to improve communication and sales of diarrhoea medication for children. Education involved short interactive sessions with drug sellers covering aetiology, effects and management of diarrhoea in children. Pre and post training evaluations showed sales of ORS increased by an average of 30 percent in Kenya and 21 percent in Indonesia compared to the control group. Antidiarrhoeal drug sales declined by an average of 15 percent in Kenya and 21 percent in Indonesia compared to the controls. Simulated clients and providers self reports were used to evaluate pharmacists' knowledge and practices. As expected there were major discrepancies between reported and actual behavior. No community education was conducted and the authors concluded that:

> *"…communication between counter attendants and customers remained poor in both countries."*

The success in changing pharmacy dispensing practices through training alone has not proved feasible in Cambodia. It seems likely that different cultural and socio-economic factors are at work in both countries. In Cambodia, motivating drug vendors to change practices is seen as the major hurdle to successful interventions.

Drug Retailer Training Nepal[17]

In Nepal, as in Cambodia, utilization rates for government health services are low. Rugged terrain and limited human resources led the Nepalese health authorities to introduce a system of formal training for informal drug sellers. In 1981, they introduced a 45-hour training course for these drug sellers on pharmacology, ethics, and storage of drugs and legal issues. Exams were held after training and passing led to registration as 'pharmacy professionalists.' By 1989, over four thousand retailers had been trained and most had been registered with the Ministry of Health. At the time of writing no formal evaluation of drug vendors' practices had been carried out. Limited informal evaluations suggested that practices needed to be improved and plans were underway to revise the course materials and provide refresher training on dispensing and referral practices. Despite the lack of

[16] Ross-Degnan et. al. (1996).
[17] Kafle, et. al.. (1992).

evaluation, this program represents a refreshingly realistic approach to a number of problems:

- A critical lack of formally trained health providers
- A large and unregulated private sector
- A mostly rural population
- Low public health utilization rates
- Difficult infrastructure conditions

Significantly, these features are all common to the current situation in Cambodia. The training in Nepal did not focus on dispensing and referral practices, was not supported by IEC materials and had no concurrent community education. It was not designed to change referral and dispensing practices but to expand the legitimate resources available in the health sector and improve drug storage and ethical practice among these drug vendors.

Summary

Two recent papers have evaluated and summarised interventions with private health providers in a number of countries. *Possible Roles for Non Government Providers in IMCI*[18] is a 1998 WHO study from the Division of Child Health and Development. The purpose of the paper was to review published information about non-government health providers, review interventions targeting private providers and suggest how they could participate in IMCI. The author concluded that:

> *"…most [projects] have been poorly documented and evaluated, making it hard to say with any certainty what types of interventions seem to work best in what contexts."*

The review emphasized the importance of designing interventions that are sensitive to local conditions with participation from government and private providers and local communities.

A 2001 report details conduct of a survey of published interventions in the private sector[19]. Titled *Utilising the Potential of Formal and Informal Private Practitioners in Child Survival* it aims to provide some guidelines for designing effective strategies for child survival interventions in the private health sector. The authors conducted a literature review, an online search of published materials and interviews with professionals working with private health providers on quality of care. They concluded that previous interventions were not well evaluated and that working with private health providers was a challenging process. The review also concluded that interventions that only targeted knowledge were not likely to improve case management of childhood disease. However, the authors suggested that interventions aimed at improving a few important practices, which consider

[18] WHO (1998).
[19] Youssef Tawfic, MD, Robert Northrup, MD Suzanne Prsor-Jones, Ed.D (2001) - *Utilising the Potential of Formal and Informal Private Practitioners in Child Survival*

the factors influencing providers' practices, are conducted by credible entities and treat private providers as partners, are more likely to succeed.

A review of experience working with the private health sector in Cambodia and experience from other countries suggest the following potential guidelines when designing successful interventions with private providers in Cambodia:

- Training with private health providers alone produces limited results.
- Training in a limited number of key practices is more likely to be successful.
- Short training has only a limited short-term impact.
- Provider training that is linked to community education increases positive changes in knowledge, attitudes and practices.
- Educated consumers can demand and receive better services.
- Effective, appropriate and well designed IEC materials are an important part of successful private provider interventions and add to the positive impact.
- Motivation for providers to change practices is particularly important in Cambodia.
- Official support is needed for program credibility and for successful expansion.
- Promoting referral links to public health services is important but frequently omitted.

PART THREE – Private Health Providers

Objective: Document what is known about the number and types of private providers in Cambodia delivering health services to children under five.

Private Health Providers in Cambodia

1. Pharmacies

MOH and the Pharmacy Association report that there are currently 349 legal pharmacies in Cambodia and that two thirds of these are in Phnom Penh.

2. Depot de Pharmacy 'A' and 'B'

MOH and PAC report that there are 547 legal depots in Cambodia and most of these are in provincial and district towns.

3. Illegal Pharmacies

MOH and PAC report that there are 2,591 illegal pharmacies in Cambodia, mostly in provincial and district towns.

4. Cabinets and Clinics

This category includes all private medical practices, which display the blue medical cross. The majority of private clinics and cabinets in Cambodia also sell medication. These facilities range from private practitioners who keep supplies of medicine to sell to their patients to facilities with a dedicated drug counter facing the road. The MOH has collected figures for Phnom Penh and ten provinces totalling 1,397 establishments, mostly in provincial and district towns. Twenty two percent of these establishments are legal. Extrapolating from these figures suggests that there may be around 2,200 facilities displaying the blue cross in Cambodia.

5. Drug Sellers (nek luok thnam)

In Khmer, this is literally a 'person who sells medicine'. These are often referred to as village drug sellers. They run small shops or stalls selling a variety of general merchandise. Shampoo, hair clips, snacks and sweets are sold to those living nearby. A variety of modern medicines are also sold ranging from paracetamol and birth control pills to large doses of tetracycline and penicillin. Buyers generally request products by name. Some older sellers with practical experience in illness make treatment recommendations on request. There are no official figures for the number of these establishments. However, the research team estimates that there are over 13,000 of these across Cambodia. This is based on roughly one village drug seller for every village in Cambodia (13,406 villages).[20] This is felt to be a reasonable estimate for the following reasons. Some smaller isolated villages are reported not to have village drug sellers and are served by mobile drug vendors who travel from village to village[21]. However to balance this, many larger villages have several village drug sellers to serve their larger populations. These establishments make up the majority of the vendors of modern

[20] NIS (1998), *Population Census of Cambodia.*
[21] De Jong (2001)

medicines in Cambodia. These sellers buy their medicines in small quantities from the closest pharmacy in one of the first three categories. This is often a pharmacy located in the district market.

Human Resources in the Private Health Sector

The small number of qualified pharmacists and the absence of pharmacy assistants in those interviewed are surprising when the result is viewed in isolation. However, in light of the information on the total number of trained pharmacy professionals in Cambodia, it becomes more understandable.

The University of Medical Science educates the majority of Cambodian health professionals and was first opened in 1946 under the French Protectorate. Between 1975 and 1979 the University closed. The university opened again in 1980 and began training health professionals. The following table shows the numbers of health professionals trained by the University in the last twenty years and the current number of employees at the Ministry of Health.

Field	UMS Graduates (until 2001)	MOH Employees (at 2001)	Potential full time private providers
Medical Specialists	91	75	16
Doctors	2989	1935	1054
Pharmacists	619	400	219
Medical Assistants	2507	1404	1103
Pharmacy Assistants	217	203	14
Dentists	334	198	136
Total	**6757**	**4215**	**2542**

Cambodian Health Professionals

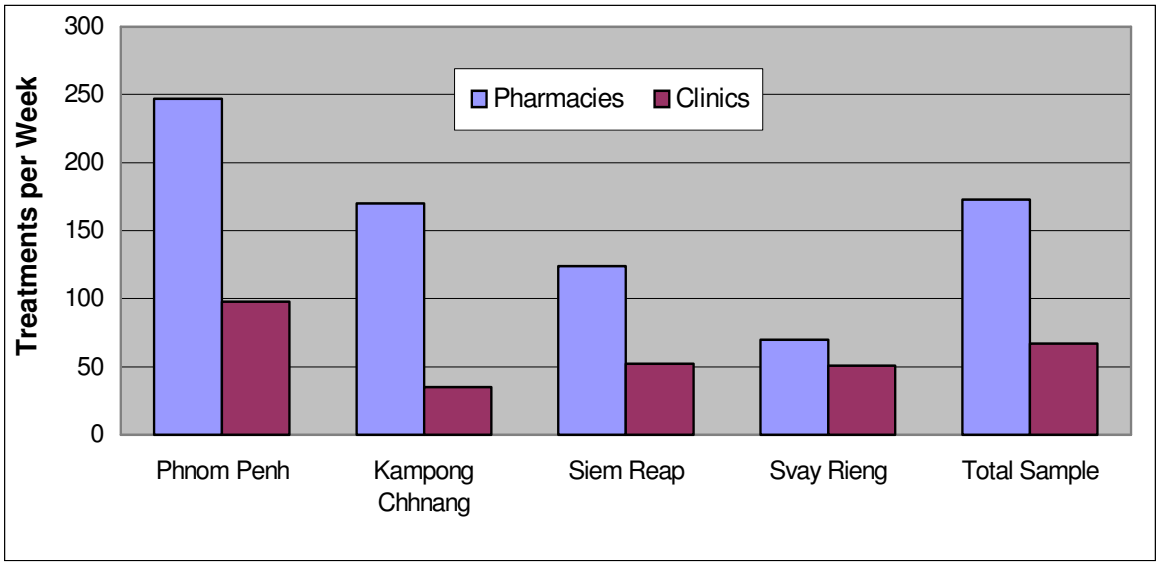
NGOs and medical companies also employ significant numbers of Cambodian health professionals. Pharmaceutical and medical companies in particular have increased their recruitment in recent years as the number of companies has increased rapidly. Some health professionals have left Cambodia to pursue careers elsewhere and this is probably balanced by a small number of foreign health professionals who are practicing in the private sector in Cambodia.

Cambodia's qualified human resources in the health sector are limited. The number of qualified personnel available to work full time in the private sector is even more limited. There are less than two hundred qualified pharmaceutical professionals available in Cambodia to dispense medicine to a population of over 11 million.

Providers Business Volume

One of the aims of this research was to discover how many patients private providers saw. We were also interested to discover what percentage of their business was treating sick children. Various studies on health seeking behavior, most recently the DHS, report that private providers are treating most of the illnesses in Cambodia[22]. However, these studies did not focus specifically on treatment for children under five. To investigate this, providers were asked to estimate the number of customers they saw each week in their private clinic or pharmacy. Providers were also asked how many of these customers came to seek treatment for sick children under five years.

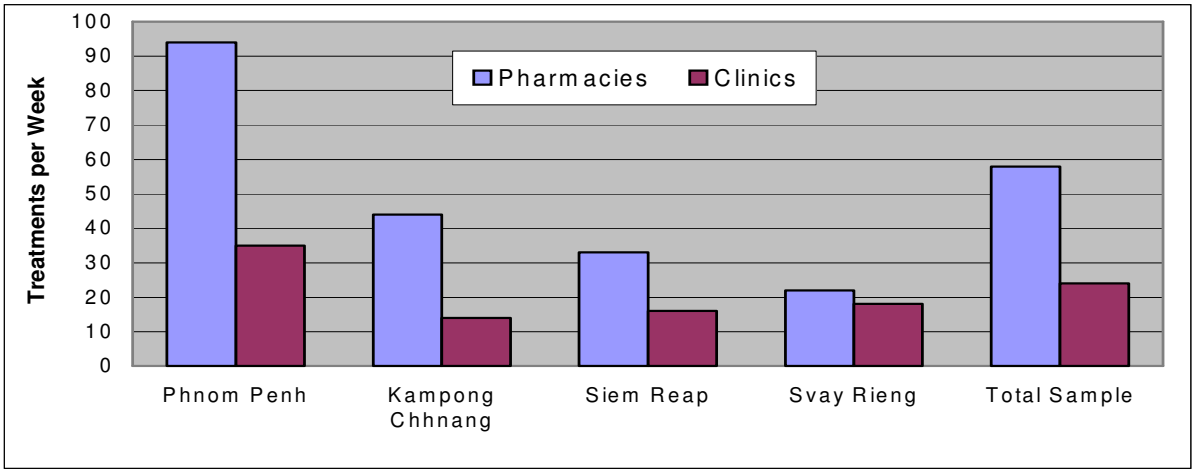
These figures are only estimates, as providers generally do not keep client records. Researchers were able to observe the providers business for the duration of the interview. The research team generally visited each provider twice. The first time to introduce themselves and the purpose of the research and, if possible, to make a time to return to conduct the interview. During these visits, the research team had the impression that these estimates were quite accurate. Providers who reported small numbers of clients per week had only one or two customers during the interviews while those who reported large numbers of customers were very busy indeed – often necessitating another visit to complete the interview as the provider was often interrupted to see clients. Therefore, although these are estimates, they are probably consistent. They give an indication of the volume of business done by the providers surveyed, and the differences between providers. Only one provider did not give an estimate of their weekly business. The following figure shows the average number of customers per week by each area surveyed.



Average Weekly Treatments for All Providers

[22] NIS (2001).

As expected, pharmacies and clinics in Phnom Penh consistently saw more clients than their provincial counterparts. Pharmacies overall saw more clients than clinics in all areas and in Kampong Chhnang this difference was particularly marked. On average, a pharmacy in the sample saw 173 clients per week while clinics saw 67 patients per week. An average private provider of either type saw 125 patients per week. Providers were also asked to estimate the number of treatments given to children under five each week. The following figure shows this for each provider type by province.



Average Weekly Treatments for Children Under Five Years

The numbers of treatments given to children under the age of five follow the same pattern as the number of customers overall and this was to be expected. Pharmacies across the sample treated more children than private clinics. The average pharmacists saw 58 children under five per week, while the average clinic saw 24 children under five weekly.

Combining the two totals give us treatments for children as a percentage of the total business for each provider. The following table shows the average number of weekly treatments and the percentages of total clients for the providers surveyed.

Provider Group	Average Weekly Treatments for Children Under Five	Children as a Percentage of Total Clients
Phnom Penh	65	37.5%
Kampong Chhnang	29	22.6%
Siem Reap	26	28.4%
Svay Rieng	20	34.9%
Pharmacies	58	31.8%
Clinics	24	35.6%
All Providers	41	32.8%

Average Weekly Treatment for Children under Five

These percentages are consistent between the different groups. On average, treatments for children under five made up around one third of the total business for all the providers interviewed. This demographic is clearly a large part of the total business for the providers.

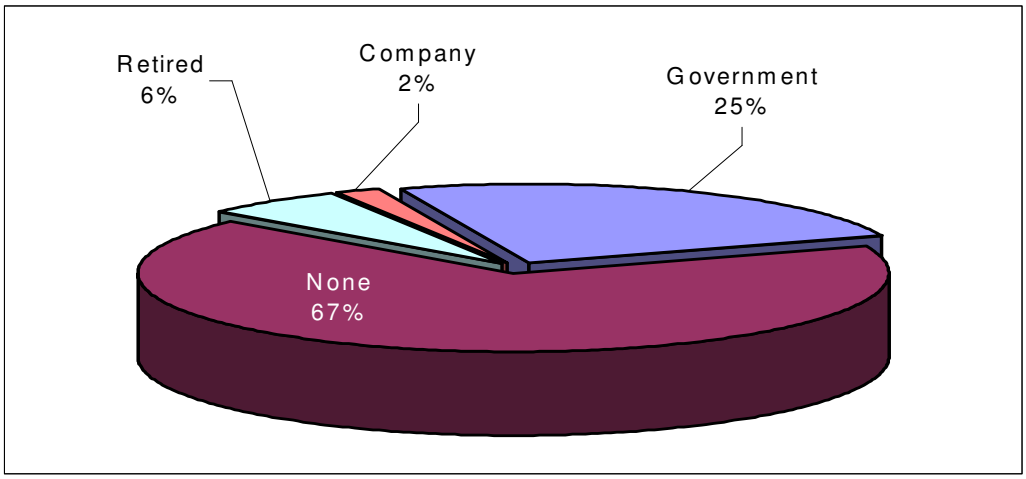
The total number of patients for the providers seen is high, especially in Phnom Penh. As mentioned before these figures are estimates based on self-report from the providers. However, there seemed no obvious reason for providers to exaggerate these numbers. Using these numbers as a very rough guide, the 107 private providers who provided information on the number of patients they saw treat approximately 670,000 patients each year. Around 220,000 of these are children under five years of age.

As mentioned earlier the providers interviewed were from provincial and district towns and not from the commune or village level. They do not represent the majority of private health providers in Cambodia – these are probably the *nhek luok thnam* or village drug sellers. An intervention for the private sector aimed at improving child health needs to include both official and unofficial private heath care providers.

Other Employment

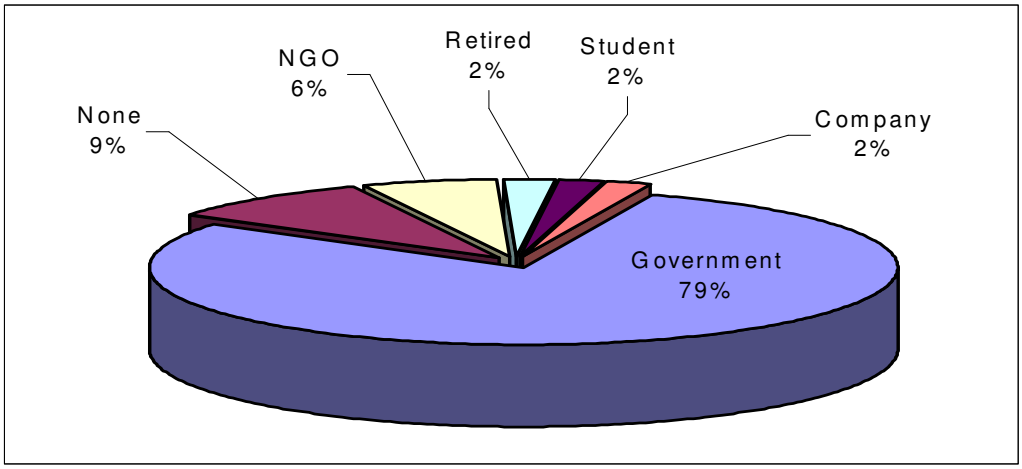
There has been considerable debate about the overlap between private health care providers and public health providers in Cambodia. Professionals working in the health sector have hypothesised that many private health providers are government health providers who also run private facilities. It has also been suggested that the majority of private providers who are not in government employ are older, retired government employees. Therefore, one of the aims of this research was to discover more details about the private health providers in Cambodia. To investigate this question, providers were asked about other health employment.

There were large differences between the pharmacy providers and the private clinics. The next figure shows the results for the pharmacy providers.



Other Employment for Private Pharmacies

Seventy three percent of the private pharmacies were full time private health providers. Only 25 percent were full time government employees, while two percent also worked for medical or pharmaceutical companies. The following table shows the other health employment for the private clinics.



Other Employment for Private Clinics

The vast majority of clinic providers were full time government employees who operated their private clinics part time. Only 11 percent were full time private health providers. Six percent were full time NGO employees. Two percent were retired government health employees.

No providers interviewed reported any non-health related employment. No providers reported working for more than one private health business. Some particularly qualified providers in Phnom Penh are known to work for salary at more than one private clinic.[23] However, this practice seems rare and may be limited to Phnom Penh.

Providers' Professional Training

The level of professional training of private providers has also been the subject of debate among those working in the health sector in Cambodia. Overall, the number of qualified professionals in Cambodia is low largely due to Cambodia's unsettled recent past. Some have suggested that qualified private providers are relatively rare and that many private providers are practicing outside of their professional field.

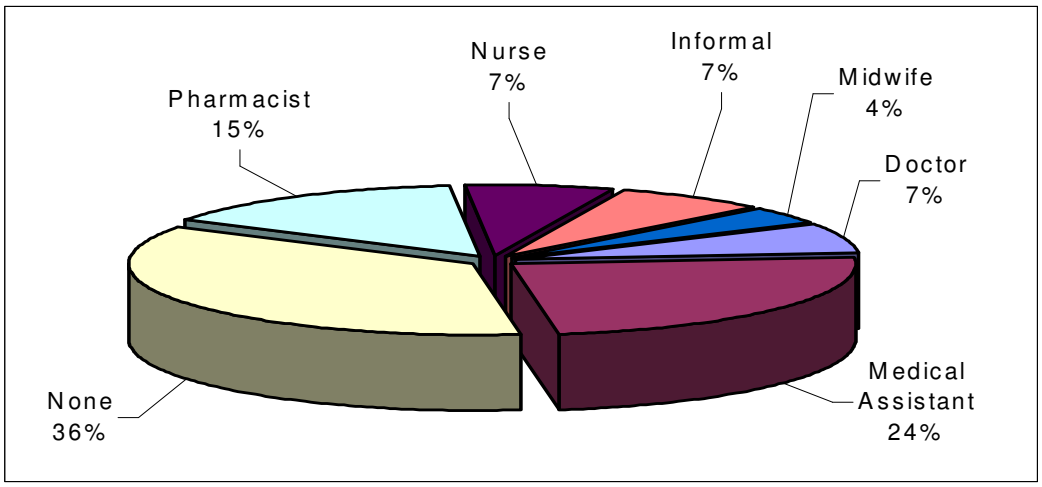
Professional Discipline

Providers were asked about their level of professional training and what field they had trained in. It has been suggested that many people operating private health practices are not formally trained or have minimal formal training. Only one provider failed to answer the

[23] Dr Chan Someth, personal communication, Phnom Penh 2001.

question. The majority answered the question in some detail, giving information about the number of years of formal study, the institution they studied at and the year they graduated. This was useful when checking for possible errors in the self-report and allowed the research team to verify the consistency of some answers. For example, a provider who reported that they were qualified as a doctor (minimum 7 years training) with five years training at UMS could be politely asked if they were perhaps qualified as a medical assistant (minimum 5 years training). This method of checking changed a few providers' initial answers. The vast majority of providers gave consistent answers to this question.

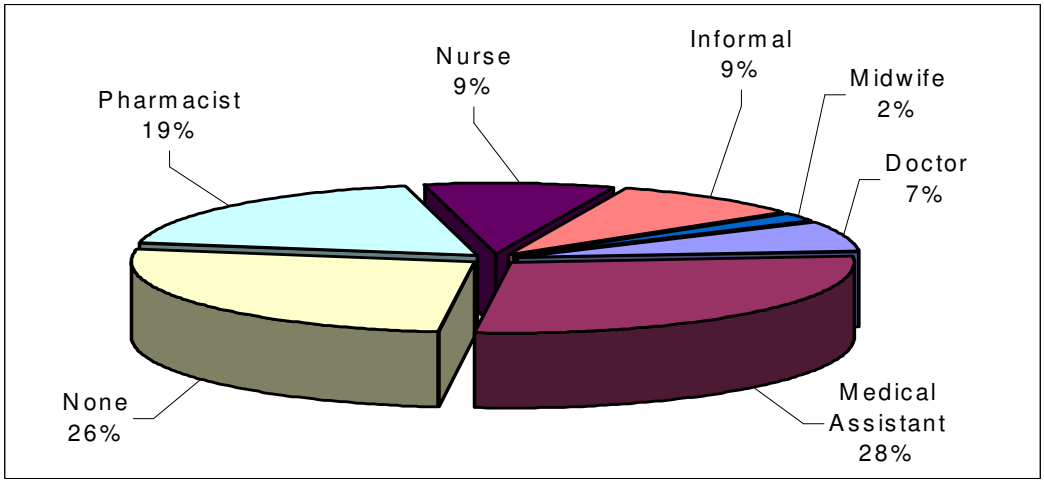
There were large differences in the level of professional training reported by the private pharmacies and the private clinics. The next two figures show the breakdown of professional training for the private pharmacies and the private clinics.



Professional Training for Private Pharmacies

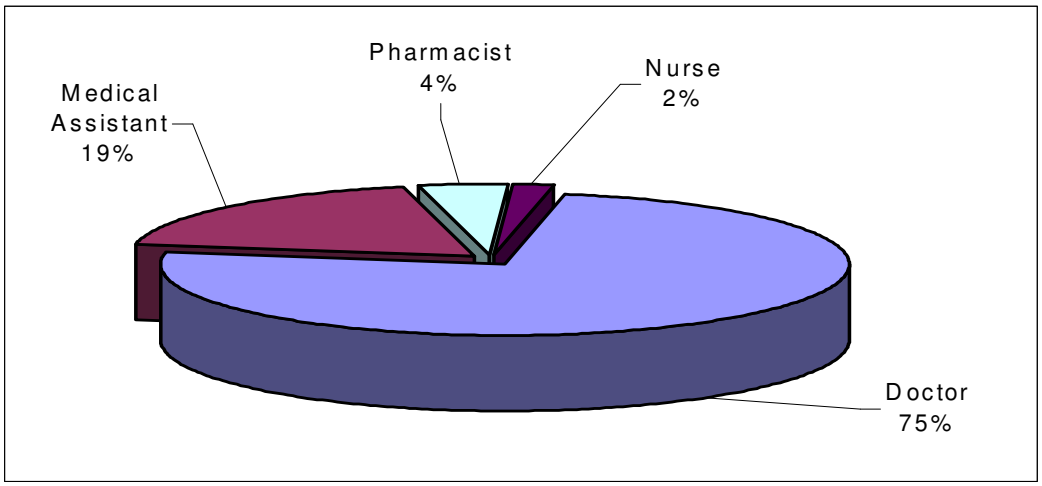
The people interviewed in private pharmacies came from a variety of professional backgrounds. The largest group was untrained or had received some informal training (43%). The most common professional group was medical assistants at 24 percent. Only 15 percent were pharmacists. Doctors, nurses (both primary and secondary) and midwives together made up 18 percent of the sample. Pharmacy Assistants (which were not identified in the survey) are health staff that have graduated from the three year program at the Cambodia Medical University like Medical Assistants.

The level of training for providers operating pharmacies in Siem Reap was different from the other provinces. Interviews were conducted in twelve pharmacies and depots in Siem Reap. This was the only area where the research team encountered no pharmacists. Only three of the pharmacy providers interviewed had any formal qualification and they were variously a doctor, a medical assistant and a midwife. The following figure shows the level of formal training for pharmacy providers without the Siem Reap data.



Professional Training for Private Pharmacies Excluding Siem Reap

When the Siem Reap figures are excluded the proportion of pharmacists and medical assistants increase and the percentage of untrained providers decreases by ten percent. The pattern of the data from Siem Reap was inconsistent with the data from the other areas. It is likely that there are other factors at work in the private health sector in Siem Reap, which will be examined later. The next figure shows the professional training for the providers interviewed in the private clinics for all areas.



Professional Training for Private Clinics

The figures for the clinics are quite different. Here the majority of providers interviewed had trained as doctors (75%). Medical assistants were also common at 19 percent. A small number of providers interviewed at private clinics reported that they had trained as pharmacists or nurses.

Training Institutions

Most providers readily told interviewers where they had trained and for how long. Only one doctor in a Siem Reap clinic did not answer this question. The majority of providers were trained at the University of Medical Science (UMS) in Phnom Penh. This university trains doctors, medical assistants and pharmacists in Cambodia. The nurses and midwives reported that they trained at the Technical School for Medical Care (TSMC) in Phnom Penh or at regional medical training schools in about equal numbers. Only two providers completed their major training outside of Cambodia. Both were doctors in private clinics and both had trained in Vietnam.

Length of Training and Years since Graduation

Those providers who reported formal training were asked about the length of their training and what year they graduated. The results are only for those providers who reported some formal training. The following table shows these results.

Provider type	Average years of formal training	Average years since graduation
Pharmacies	4.6 years	9.8 years
Clinics	6.5 years	7.7 years

Private Providers Formal Training

The average length of formal training for each type of private provider was close to the length of education required to qualify through UMS. Formal training for doctors takes a minimum of seven years and pharmacy training lasts for five years. Overall, providers in private clinics had more formal training than providers in pharmacies. Contrarily, pharmacy providers had been in business longer than clinic providers. Most providers graduated in the 1990's and one doctor graduated from UMS in 2000. Around 20 percent graduated in the 1980's and only one provider graduated before 1983. This was a Svay Rieng Pharmacist who graduated from UMS in 1961.

Informal Training

Twenty three percent of the providers interviewed had only informal training or no training at all. All of these were operating private pharmacies or depots. These providers reported that their relevant experience qualified them to run their private facilities. Only one provider reported no relevant experience. Five providers (four of them in Siem Reap) reported that they had hired a pharmacist as a representative. Four providers had spent three months training in 'selling medicine' at a government hospital. Five providers reported that they had been selling medicine for a long time and were therefore experienced in dispensing medication. The majority of providers with no formal training reported that they gained their experience through a family member who had formal qualifications.

Additional Training

Providers were also asked about additional training they had received since graduation. Providers reported the topic of the training, the organization or government body who provided the training and the length of the training. The following table shows the results for each type of provider.

Provider Type	**Percent who Attended Training**	**Average training days** (for those who attended training)
Pharmacies	67%	18 days
Clinics	89%	48 days

Additional Training of Private Providers

All providers answered this question and remembered the training they had attended. The majority of providers in private clinics had received additional training since graduation, and only eleven percent had received no training. Pharmacy providers on the other hand were less likely to have attended additional training, with 33 percent having no additional training since graduation. Clinic providers received two and half times more training on average than pharmacy providers.

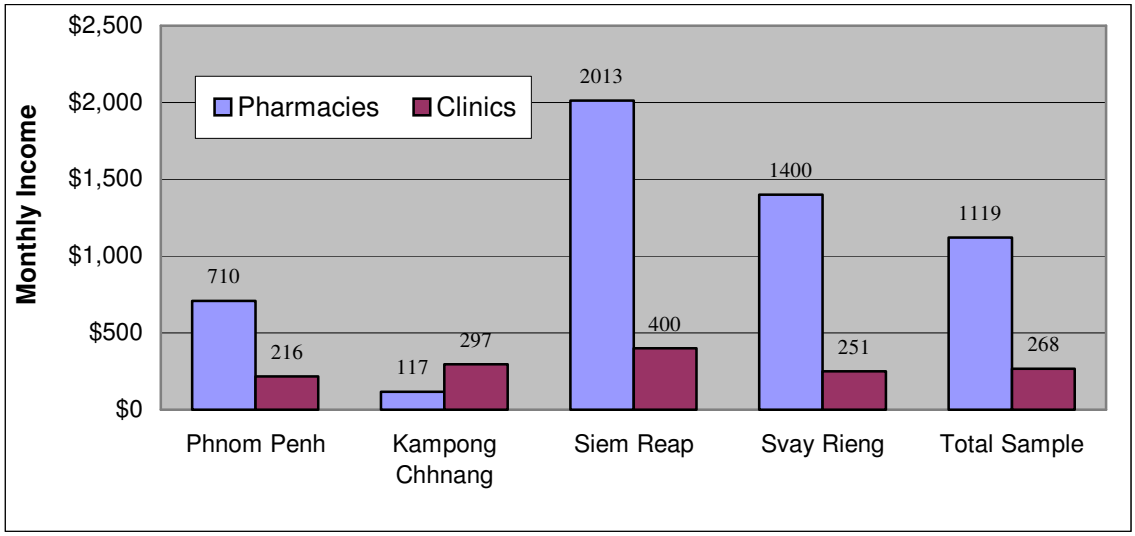
The training topics varied widely from acupuncture to mongolism. The most common topics were HIV/AIDS, STDs, birth spacing, diarrhoea, ARI, dengue, nutrition and medicine. There were no major differences in the training topics between clinics and pharmacies.

Providers reported that most of the additional training was provided by the Ministry of Health, either at central or provincial level. Some providers reported receiving training from NGOs. This was mostly in Phnom Penh and conducted by PATH or World Vision. A large number of providers of both types received training from pharmaceutical companies or companies that manufactured powdered milk (primarily infant formula). Respondents were unable to recall the names of the companies or organisations that sponsored these trainings. Pharmaceutical companies conducted combined training and promotion of their products to both clinics and pharmacies. This was particularly common in Siem Reap where the same pharmaceutical company had trained almost half the providers surveyed. Similarly, private companies promoting milk substitutes had trained many of the doctors in Phnom Penh clinics in infant nutrition and diarrhoea. This training in particular has implications for the IMCI goal of promoting exclusive breastfeeding in Cambodia.

Private Providers Income

All providers interviewed were asked to estimate their monthly income from their private practice. The income reported was gross or total income from private practice and did not include costs. Many were reluctant to answer this question, reporting that they ‘didn’t

know' or 'couldn't say'. Despite this, 56% of the providers answered this question. Clinic providers were more likely to reveal their income than pharmacy providers were. Although the figures are incomplete, they do reveal some interesting trends. The following chart shows the average monthly income, by area, for both pharmacies and clinics.



Average Monthly Income from Private Practice

Despite the smaller sample, these figures were quite consistent. Providers tended to report similar incomes within each province. This makes it more likely that the figures are indicative of income levels for providers in that area. Overall, pharmacies reported higher average profits than clinics. The average income for a private clinic was $268 per month. The average income for pharmacies was considerably higher at $834 per month. These were self-reported income levels without indication of net income or not.

This is to be expected for a combination of reasons. The majority of private pharmacies operate full time, as their staff has no other employment, while most of the private clinics have other full time jobs. This allows the pharmacies to see more clients each day. In addition, pharmacy consultations are usually very short, often no more than asking for a specific medicine and paying for it. Consultations at private clinics are typically longer and the clinics are typically open for shorter hours. Thus, despite the fact that clinics charge higher prices, pharmacies generally do more business.

The most important reason for these higher pharmacy incomes has to do with the function of the pharmacies surveyed. The larger pharmacies in Phnom Penh and in provincial and district towns are drug wholesalers as well as retailers. They sell products in bulk to the smaller drug vendors at district and commune level. These pharmacies also supply drugs to many clinics and cabinets.

Siem Reap and Svay Rieng have higher incomes. This can be explained by the location of these pharmacies. With the rehabilitation of the road between Poipet and Siem Reap, Pharmacies in Siem Reap are able to deal directly with drug importers from Thailand.

They buy medicines directly from the importers and then sell these in bulk to other providers. This removes the intermediaries, the drug wholesalers and distributors in Phnom Penh, and increases pharmacy profits considerably. Pharmacies in Svay Rieng located on the main road to Vietnam are able to operate in a similar fashion dealing directly with importers bringing pharmaceuticals from Vietnam. Pharmacies in Kampong Chhnang have no such geographical advantage and purchase their stock from distributors and wholesalers based in Phnom Penh.

PART FOUR – Providers' Links

Objective: Analyze the links (formal and informal referral systems) between private providers, communities and the formal health care system for initial consultation, treatments and follow up.

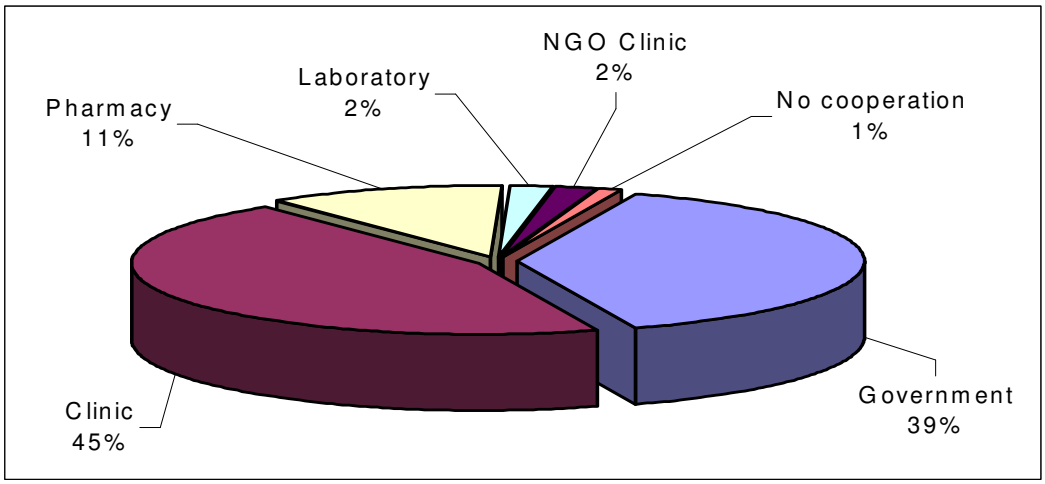
Links to Other Providers

One of the important aims of the providers' interviews was to discover their links to other health providers and to discover how providers worked with the public health system and with other private providers. We were particularly interested in referrals received or made to other providers but also in other forms of collaboration like sharing of ideas or equipment. Reporting this result presents a small difficulty in terminology. The phrase used in the provider's interviews was *sahaat ka* - which can be translated as cooperation, collaboration or coordination. It is a broad term in Khmer language covering a range of activities and was therefore ideal for eliciting information without limiting the potential responses. In this discussion of the results, we have used the term *cooperation* to describe general links to other providers and *referral* for referrals to or from other health providers. To avoid confusion we will discuss cooperation and referrals separately.

Cooperation

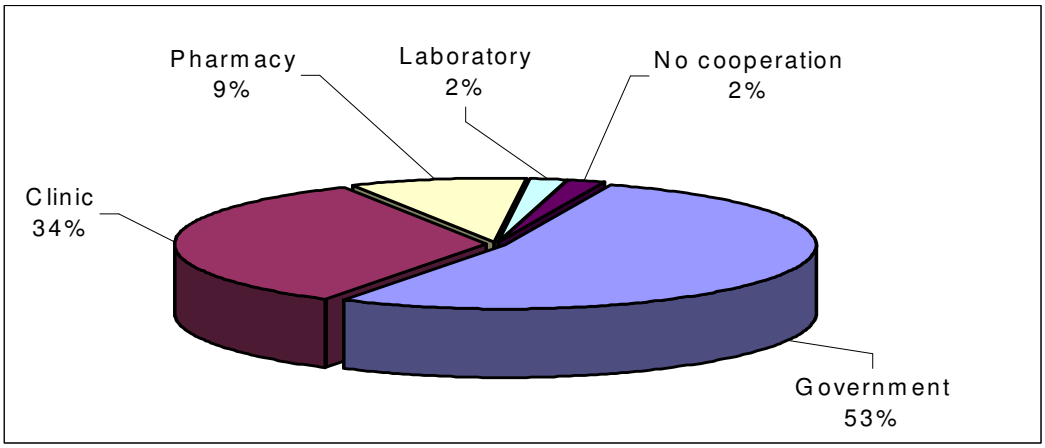
To elicit this information providers were first asked to list other providers that they cooperated with and then asked about the frequency of referrals to or from these providers.

There were some differences between pharmacies and clinics in the types of providers cooperated with. The following figure shows the types of providers cooperated with for the pharmacies interviewed.



Other Providers Cooperated With for Pharmacies

Pharmacy providers tended to cooperate with more clinics and fewer government providers. They cooperated with 60 percent private providers and 39 percent government providers. The next figure shows the types of providers cooperated with for the private clinics.



Other Providers Cooperated With for Clinics

Clinic providers cooperated with fewer other private clinics and cooperated with more government health providers. They cooperated with fewer private providers overall (45%) and were slightly more likely to report no cooperation at all. Private clinics reported cooperation with 14 percent more government health providers than the pharmacies. This is not surprising considering the majority of the staff in private clinics also work in the public sector. Most cooperation between providers took the form of referrals, however there were exceptions. Providers also borrowed supplies of medicine from each other and discussed difficult cases. Clinic providers mentioned buying drug supplies from pharmacies as the most common reason for cooperating with pharmacy providers.

Providers described the general reasons they cooperated with other providers. The following table shows the reasons reported for all providers.

Reason for Cooperation	Percentage
Patient has a severe disease	78%
Provider lacks facilities	46%
Provider cannot treat	38%
Provider lacks medicine	12%
Patient too poor for further treatment	11%
Patient needs a doctor	9%
Patient does not improve after treatment	5%

Reasons for Cooperation for All Providers

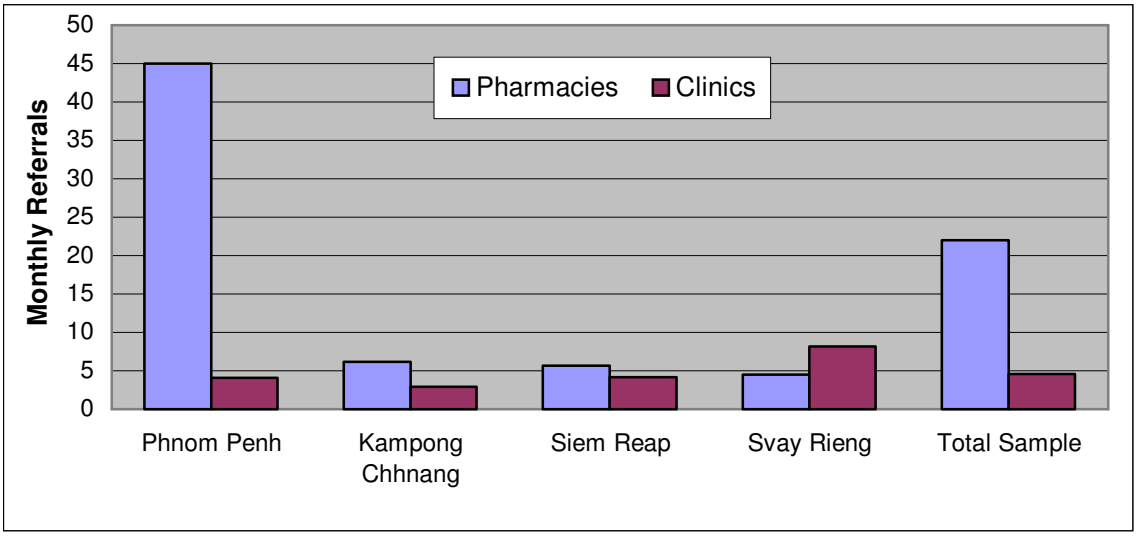
All providers answered the question and only four providers reported no cooperation with other health providers. Providers were able to give more than one reason for cooperation. Having a patient with a severe disease was the most common reason reported for

cooperation – nearly 80 percent of providers reported this reason. Pharmacy providers and clinic providers reported this equally. Many providers also reported a lack of facilities and this was more common for the clinic providers. Both types of providers reported not being able to treat an illness as a common reason for cooperation. Twelve percent of providers reported cooperating with other providers because they lacked supplies of medicines. These were mostly clinic providers who bought drugs from pharmacies.

Eleven percent of providers reported that they cooperated with government health providers because the patient was too poor to pay for further private treatment. This type of cooperation reported by the providers referred to the practice of referring patients to government hospitals when the patients had no more money for treatment. (Kunta Bopha hospitals both in Phnom Penh and Siem Riep were counted as government hospitals). This result was equally common for pharmacy and clinic providers. A small percentage of providers reported cooperating with other providers because the patient needed to see a doctor. This was mostly reported by pharmacies. Five percent of providers reported they cooperated when patients did not improve after treatment. This was equally common for pharmacy and clinic providers.

General Referrals

The following figure shows the frequency of referrals for each type of provider by area. The majority of referrals were outgoing, that is referring patients to another provider. However, this figure includes referrals made or receiving a referral from another health provider.



Frequency of Referrals for All Private Providers

Generally, Phnom Penh providers worked with other providers more than provincial providers did and pharmacies cooperated more frequently than clinics. Outside of Phnom Penh, the differences between pharmacies and clinics were slight. The result that stands out markedly from the rest is the frequency of referrals for the Phnom Penh pharmacies. The average Phnom Penh pharmacy made or received 45 referrals per month, compared to an average of 4.3 referrals per month for all other providers. This result is clearly due to some

large difference in the practices of Phnom Penh pharmacies compared with other private health providers.

There are possibly a number of different factors contributing to the higher levels of referrals in Phnom Penh. One of these factors might be the interventions that PATH has been conducting on an ongoing basis since 1995. These interventions have involved appropriate treatment, history taking, advice and referral for a variety of illnesses including diarrhoea and ARI in children. The training has been supplemented by monitoring evaluation and feedback to the pharmacies. Concurrently PATH worked to promote and encourage links between the pharmacies and government health providers. Outreach education complimented the provider training to educate target communities about home treatment, appropriate advice, and early treatment and to promote links to appropriate health providers.

Providers were asked about the situations that would lead them to refer. These fell into two broad categories – cases that required specialised tests or treatment or specific illnesses that the provider could not treat. Providers cited a variety of ailments and symptoms that would lead them to refer. Serious wounds, broken bones, accidents and unconscious patients were common cases to refer, as were illnesses that presented with many different symptoms. High temperature, severe diarrhoea or pneumonia were often reported to be referred particularly in younger children. Dengue, HIV, Hepatitis and TB were also reported to need facilities or expertise not available at most private facilities. Heart attacks, cancer and gynaecological problems were referred to providers who specialised in these problems, as were some eye, ear, and nose and throat illnesses. For many of these cases, providers first attempted a treatment or combination of treatments. When these failed, or the provider became concerned that the illness did not abate, the patient was referred to another provider. Although all providers did not report this, a substantial numbers of pharmacies and clinics mentioned this practice at some point during the interviews. This was just as common for pharmacy providers as for the clinic providers. Provincial providers mentioned this practice slightly more often than Phnom Penh providers did. The following quote from a Siem Reap provider illustrates this practice:

> *"I refer in the case of severe and chronic disease that after using medicine for one or two days, they do not get better so I have to send them to the hospital."*

Health staff at Angkor Children's Hospital (ACH) confirmed this practice during interviews with researchers. They reported that the hospital regularly received seriously ill children who had received treatments from a variety of providers before being referred to ACH. Some of these children died soon after being admitted.[24]

Providers also referred patients to other providers for specialist tests or treatments. This was more common among clinic providers than pharmacies, although the difference was small. Referrals for patients who required operations or extended hospitalisation were the most frequent. Understandably, larger clinics with the facilities for hospitalisation did not refer patients for this reason. A number of patients were referred for blood or urine testing, either

[24] Interview with David Shoemaker at Angkor Children's Hospital, Siem Reap.

at private laboratories and clinics, or to government hospitals. Many patients were referred for radiography or echography to government health facilities or to private clinics with these facilities. A few pharmacies reported referring patients to private clinics for injections or intravenous medication.

It was clear from the interviews that nearly all providers were part of active cooperative networks. Providers generally had strong links to other public and private health providers. They did not work in isolation and this was particularly true for the Phnom Penh pharmacies. Providers worked with a variety of public and private providers and referred patients for serious illnesses or specialist treatments.

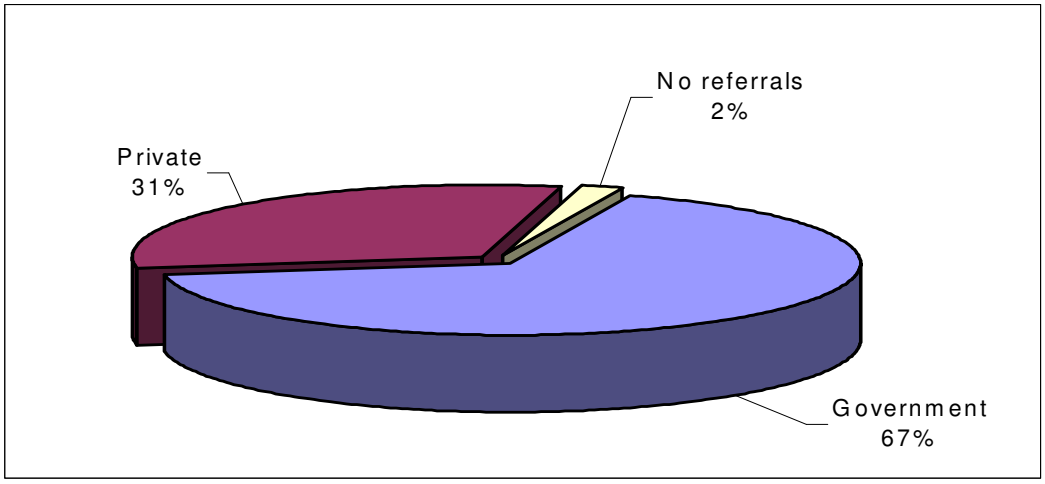
Referral Links

During the provider's interviews, providers were asked where they referred children with ARI or diarrhoea and the reasons for referring. Providers were not asked how often they referred these cases nor were they asked to match providers to specific reasons. These results would have been subjective due to the self-report nature of the interview and unlikely to result in any reliable data. To assess the actual frequency of referrals for ARI would have involved tracking specific cases, which was outside of the scope of the present study. Some indication of the frequency of referrals and cooperation has been presented in the previous section. The results in this section expand on the previous discussion, which outlined general cooperation and referrals between providers by asking about specific referrals for two common childhood diseases, ARI and CDD.

The results presented below provide some insight into the existing referral links for these two diseases for the pharmacies and clinics interviewed. This information is important to discover how private health providers work within the rest of the health system, both public and private. These existing referral links also have obvious implications for programs designed to strengthen links between providers, as it is often easier to promote or expand an existing link than it is to create new ones.

Referral links for ARI

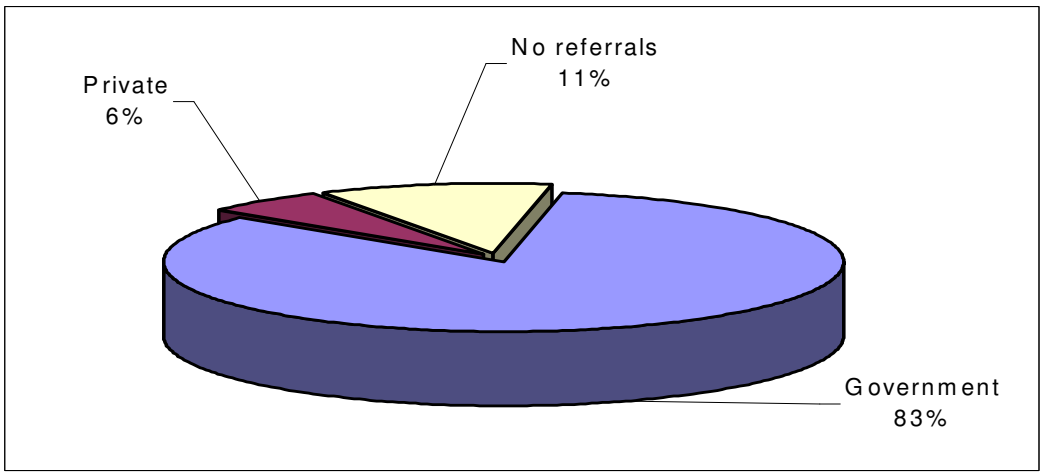
To find out more about referral links to other providers in cases of ARI particularly, the research team asked the providers to whom they referred cases. All providers answered the question and most providers listed multiple providers. Large proportions (94 percent) of both pharmacies and clinics have existing links to other health providers for ARI in children. Only six percent of the providers said they did not refer any cases of ARI.
The following figure shows the referral links for the pharmacies.



ARI Referral Links for Private Pharmacies

Ninety eight percent of pharmacies have established referral links to other providers. Links to government providers predominate at 67 percent while private providers make up 31 percent of the established links. Very few of the pharmacy providers surveyed had never referred a case of ARI. Most pharmacy providers mentioned multiple providers. All the ARI referrals to the private sector were to clinics or cabinets. No pharmacy providers reported referring children with ARI to another pharmacy.

The referral links for clinic providers showed some differences from the pharmacies. The following figure shows the referral links for private clinics.



ARI Referral Links for Private Clinics

Eleven percent of the clinic providers surveyed had never referred a case of ARI. This was a noticeable increase from the pharmacy providers. Proportionally only six percent of referral links were to another private provider. No clinic providers reported referring cases of ARI to pharmacy providers. The higher proportion of referral links to government

providers was expected. Private medical practitioners are already at the top of the private health hierarchy – they have seven years formal training, over the five years for pharmacists and medical assistants. In difficult cases, clinic providers would be unlikely to refer to a less qualified health provider. The higher proportion of referral links to government health providers was also expected. As reported elsewhere, many clinic providers also work in the public health system and therefore already have links to other government health providers. As many clinic doctors also work at a hospital, they may advise mothers to take children to see them in their government capacity at the public hospital where more facilities are available.

Reasons for Referral

Providers were also asked why they referred children with ARI to another health provider. All providers answered the question and some gave more than one reason. The table below shows the reasons for referring ARI for the pharmacy providers.

Reason for Referral	Percentage of Providers
Provider cannot treat the illness	62%
The illness is too severe	25%
The provider referred to has skill with this disease	25%
Providers lacks the materials or drugs needed to treat the illness	18%
The patient cannot afford private treatment	15%
Provider is concerned for the child	6%
Child fails to improve after treatment	6%
Provider never refers ARI	2%

Reason for Referring ARI for Private Pharmacy Providers

The majority of pharmacy providers surveyed referred children with ARI because they felt that they could not treat the illness. Twenty five percent of pharmacy providers cited severe illness as a reason for referring ARI. The same percentage referred ARI because the provider referred was skilled at treating ARI. Eighteen percent of pharmacy providers reported a lack of drugs or materials as a reason for referral. A small percentage of pharmacy providers reported that they referred ARI out of concern for the patient or because the child failed to respond to treatment.

When asked why they referred children with ARI the clinic providers appeared to have different priorities. The table below shows the reasons cited by the clinic providers for referring children with ARI.

Reason for Referral	Percentage of Providers
Providers lacks the materials or drugs needed to treat the illness	53%
The illness is too severe	28%
The patient cannot afford private treatment	21%
Provider cannot treat the illness	13%
The provider referred to has skill with this disease	13%
Provider never refers ARI	11%
Provider is concerned for the child	6%
Children's illnesses require a specialist	6%
Child fails to improve after treatment	2%

Reasons for Referring ARI for Private Clinic Providers

The main reason given by clinic providers for referring ARI is that they lacked the necessary drugs or materials to treat the illness. This was far more frequent than the pharmacy providers. Twenty one percent of clinic providers reported referring children with ARI when they considered the mother was too poor to pay for treatment. These referrals were all to government health facilities. Only 13 percent of the doctors referred cases because they considered they could not treat the case compared to 62 percent of pharmacy providers. Thirteen percent of clinic providers referred because another provider had the right skills. Six percent of clinic providers reported that they referred children with ARI because they were concerned for the patient or because children's illness requires a specialist. Only two percent of clinic providers reported that they referred children with ARI when the child failed to improve after treatment. This was lower than the pharmacy providers where six percent reported referring because the child failed to respond to treatment.

Referral Method for ARI

Private providers were also asked about how they made referrals for children with ARI. All providers who made referrals answered the question. Providers were able to give more than one answer. The table below shows the methods of referrals for all providers surveyed.

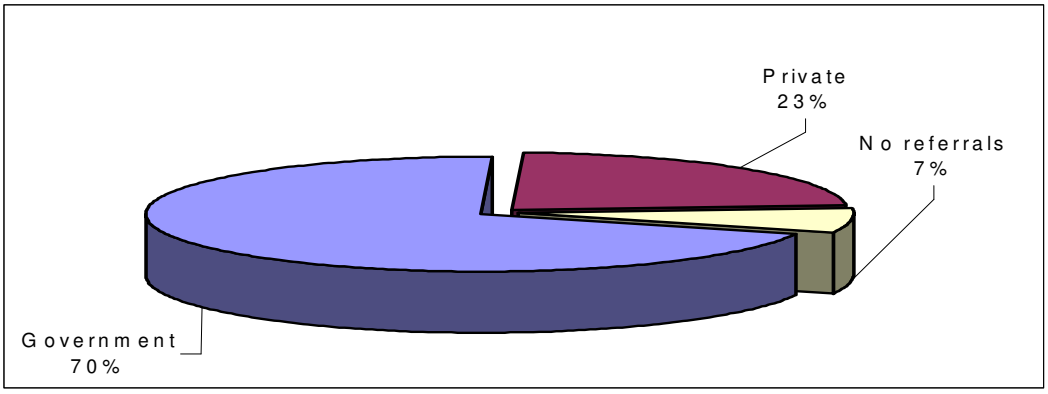
Referral Method	Percentage of Pharmacy Providers	Percentage of Clinic Providers
Give the name of the provider and tell the patient to go	63%	66%
Provide directions to patient or taxi driver	35%	15%
Give the patient a written referral	9%	19%
Take the mother to the provider	4%	21%
Call the other provider about the patient	2%	6%

Methods of Referral for ARI by All Private Providers

The majority of providers reported that they gave the patient the name of the provider and told them to go there. Pharmacy providers were more likely to provide directions to the patient when making a referral for ARI. Clinic providers were more likely to provide a written referral, take the patient to the other provider or call the other provider when referring children with ARI. Overall, it is encouraging to note that a third of the providers reported using some referral mechanism beyond simply telling the patient to go to another provider. This reinforces the findings in the previous section on collaboration. It further demonstrates that the private providers surveyed have active links with other providers, that they work as part of a network of other health providers and that they use established referral mechanisms.

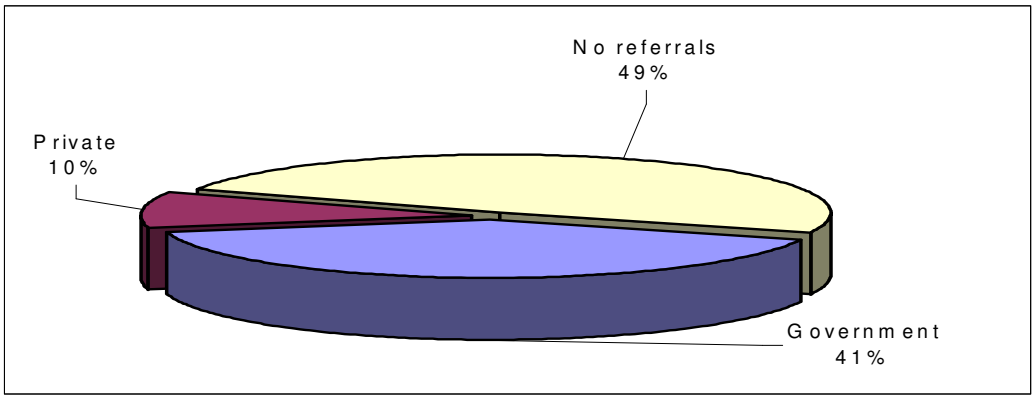
Referral Links for Diarrhoea

Providers were also asked about their referral links for children with diarrhoea. As with ARI providers reported the names of the providers they referred cases to, their reasons for referral and what referral mechanism they used. All providers answered these questions. The referral links used were somewhat different to those reported for ARI. The figure below shows the referral links reported by pharmacy providers.



Diarrhoea Referral links for Pharmacies

For pharmacy providers only seven percent had never referred a child with diarrhoea. Seventy percent of existing referral links reported by pharmacy providers were to government providers while 23 percent of referral links were to another private provider. These proportions are similar to those reported for ARI. The results for the clinic providers are presented in the figure below.



Diarrhoea Referral links for Clinics

In contrast to the pharmacy providers, almost half the clinic providers interviewed had never referred a case of diarrhoea. Generally, this was because they did not consider the illness severe or they felt they could treat the child themselves. The majority of referral links for children with diarrhoea were to government health providers. Only ten percent of referral links were to other private clinics. Clinics are unlikely to refer to another clinic but would send patients to the hospital, the next level of health care.

Reasons for Referral

As with ARI, providers were also asked why they referred children with diarrhoea. All providers answered the question and providers sometimes cited more than one reason. The following table shows the reasons reported by pharmacy providers for referring children with diarrhoea.

Reason for Referral	Percentage of Providers
Provider cannot treat the illness	46%
Providers lacks the materials or drugs needed to treat the illness	31%
The illness is too severe	28%
The provider referred to has skill with this illness	22%
Provider is concerned for the child	11%
Children's illnesses require a specialist	7%
Provider has never referred a child with diarrhoea	7%
The patient cannot afford private treatment	7%

Reasons for Referring Diarrhoea for Pharmacy Providers

Forty six percent of pharmacy providers interviewed reported that they had referred children with diarrhoea because they could not treat the illness. As a pharmacist in Kampong Chhnang said:

"Because we are not doctors, and we are just only the drug sellers."

A lack of materials and severe diarrhoea were also common reasons for referring. Another reason given was that the provider that was referred to had a skill with the illness. The following table gives the reasons for referral by the clinic providers.

Reason for referral	Percent
Provider has never referred a child with diarrhoea	49%
The illness is too severe	21%
Providers lacks the materials or drugs needed to treat the illness	19%
Provider cannot treat the illness	17%
The provider referred to has skill with this illness	15%
The patient cannot afford private treatment	8%
Children's illnesses require a specialist	2%
Provider is concerned for the child	-

Reasons for Referring Diarrhoea for Clinic Providers

Almost half the clinic providers (49%) said they had never referred a child with diarrhoea. Severe illness (21%) or a lack of materials (19%) was the most common reasons reported by clinic providers for referring a child with diarrhoea. Seventeen percent of clinic providers reported that they had referred cases of diarrhoea because they were unable to treat them. Fifteen percent had referred because the provider referred to was skilled at treating diarrhoea. A small proportion of clinic providers and pharmacy providers reported referring children with diarrhoea when the mother could not afford private treatment. All of these referrals were to government health facilities. Only two percent of clinic providers reported that they referred children with diarrhoea because children's illnesses required a specialist.

When comparing the reasons for referral by pharmacy providers and clinics there is a big difference between the number of each that do make referrals; 93 percent for the pharmacists and 51 percent for the clinic providers. Thirty one percent of the pharmacies said that they referred because they lacked the materials or drugs to treat the illness, but only 19 percent of the clinics gave this as a reason. More pharmacy providers than clinic providers referred when the illness was too severe for them to treat (28% and 17% respectively). Twenty-two pharmacists said that they referred when another provider had the right skill to treat the illness but this reason was only given by 15 percent of the clinic providers. More pharmacists than clinics said children's illnesses require special treatment (7% and 2% respectively). Those who referred a mother to the free government hospital when the mother could not afford to pay for the treatment were about the same, seven-percent for pharmacy providers and eight percent for the clinics.

Referral Method for Diarrhoea

Providers were also asked about how they made referrals for children with diarrhoea. All providers who made referrals answered the question. Providers were able to give more than one answer. The table below shows the methods of referrals for all providers surveyed.

Referral Method	Percentage of Pharmacy Providers	Percentage of Clinic Providers
Give the name of the provider and tell the patient to go	94%	78%
Provide directions to patient or taxi driver	6%	11%
Give the patient a written referral	4%	15%
Take the mother to the provider	4%	11%
Call the other provider about the patient	-	4%

Methods of Referral for Diarrhoea for All Providers

The majority of providers reported that they told the patient the name of the provider and told them to go there. Clinic providers were more likely to provide a written referral, take the patient to the other provider or call the other provider when referring children with diarrhoea. Overall, referrals were less formalized and less common for diarrhoea than for ARI. This probably reflects the providers' perception that ARI is a more serious illness.

How Providers Are Known

Providers were asked how patients knew about their business. This was to examine providers' perceptions of what was important to attracting clients and therefore running a profitable private health business. A sign on the premises was generally the extent of the advertising although there were a few exceptions. One clinic provider in Phnom Penh had distributed business cards widely to attract customers and one had advertised in a newspaper. One Siem Reap clinic ran a series of successful television advertisements and a Phnom Penh clinic has been reported to do the same. Some pharmacies in Phnom Penh reported that the combined green cross and rabbit logo indicating pharmacy training by PATH and the Ministry of Health attracted clients to their business. No pharmacy providers reported using any advertising other than the sign on their shop. Providers generally reported a limited number of factors that attracted customers to their businesses. The following table lists these factors and the percentage of providers who mentioned them.

Factor	Percentage of Providers
Word of mouth	61%
Signage	39%
Long established	34%
Effective treatment	30%
Work in government facility	14%
Good location	7%
Prescriptions	4%
Cheap drugs	4%
Quality medicine	4%

Important Factors in Attracting Clients, All Providers

Only one provider did not answer this question and many gave two or more answers. Most providers surveyed believed that word of mouth was the most important way of attracting customers as in the quote below.

"They know I am here from one mouth to another mouth."

This meant that customers came to the provider simply because they were aware of the provider. They knew that there was a clinic or pharmacy nearby and went to that provider. This was different from having a reputation for effective treatment or having been in business for a long time. Signage was the next most common factor mentioned by 39 percent of providers. A prominent sign or a drug display counter facing the road was believed to be important in attracting customers. The quote below gives an example of this answer.

"I have the chest to keep the medicine in front of my house so that many people see it."

Having a long established business was the next most common factor reported by 34 percent of the providers surveyed. The quote below illustrates this.

"I have had this business since 1979, so everybody knows me."

A reputation for effective treatment was only the fourth most common reason given for attracting customers. Thirty percent of providers interviewed believed this was an important factor in attracting customers as in this quote.

"Patients always get better when they receive the health service here."

Working at a government health facility was an important factor in attracting customers for 14 percent of providers. The following quote is an example.

"First they see me at the hospital and later they come see me at home."

Doctors in private clinics mostly gave this answer, only two pharmacies believed this was an important factor in attracting customers to their business. A good location was also considered a significant factor in attracting clients for seven percent of providers. The following quote illustrates this.

"My pharmacy is near the market, so when they go to market they come in and buy medicine."

Some providers said that patients were given a prescription to buy medicine at their pharmacy. Some reported that they had a reputation for not selling fake medicines or that they only sold good quality medicine. Only a few pharmacy providers reported any of these three factors.

There were some interesting differences in the most common factors reported by pharmacies compared with private clinics. The following table shows the four factors most frequently reported by each type of provider.

Clinics		Pharmacies	
Factor	**Percentage of Providers**	**Factor**	**Percentage of Providers**
Word of mouth	79%	Signage	57%
Work at government facility	25%	Long established	44%
Long established	23%	Word of mouth	43%
Signage	21%	Effective treatment	41%

Important Factors in Attracting Clients by Provider

Word of mouth was easily the most frequent factor mentioned by clinic providers – 79 percent believed this was important in attracting clients to their business. This was frequently the only factor mentioned by providers in private clinics. Working at a government health facility was the next most frequently reported factor for the clinics. By contrast, the pharmacy providers reported signage as the most common factor attracting clients to their business. Word of mouth, having a long established business and a reputation for effective treatment were each mentioned by around 40% of pharmacy providers.

It seems likely that the private providers surveyed have a good understanding of the factors that attract customers to their businesses. They have successful businesses that have generally been running for some time. Given this, the factors that the providers reported attracted customers are probably correct.

To check this assumption, mothers of children under five in the surveyed areas were asked the same question. They were asked why they chose particular health providers when their children were sick. Only three mothers did not answer this question. There were only minor differences between the reasons given for visiting pharmacies, clinics or government health facilities. Mothers were just as likely to prefer a pharmacy because it was convenient as they were a clinic or a government health centre. Therefore, the reasons reported below are the reasons given for visiting any health facility, either public or private. Mothers sometimes reported more than one reason for choosing a health provider. The following table shows the most frequent reasons given by mothers for visiting any health facility.

Factor	Percentage of Mothers
Convenience	34%
Good reputation	26%
Cheap price	21%
Effective treatment	13%
Don’t know other	6%

Mothers Reasons for Visiting a Particular Health Facility

Convenience was the reason most frequently given by mothers for choosing a particular health provider. The following quote from a mother in a Siem Reap village illustrates this.

"I took her to buy medicine at a pharmacy because I don't know any other health providers and it's near my house."

Although mothers gave this reason more often than any other, it does not reflect a lack of parental concern. Rather it is a function of poverty and how often young children are sick in Cambodia. Most mothers cannot afford to take extended time away from their businesses to seek treatment for sick children. On average, the mothers interviewed reported that their children were sick twice in the past month and many mothers reported that their children had been sick continuously for several months. With this frequency of illness and the need to spend as much time as possible earning an income, it is not surprising that mothers frequently reported convenience as an important factor when choosing a health provider.

A good reputation in the community was also an important reason for choosing a health provider, as was a reasonable price. Thirteen percent of mothers reported that they chose a particular provider because they believed they offered effective treatment. Six percent of mothers reported that they went to a particular health provider because they did not know any other providers. Effective treatment ranked as the fourth most cited reason for both the mothers and the providers. Both groups mentioned word of mouth and convenience of location. It seems from this comparison that the factors cited by providers as attracting clients to their business are quite similar to the reasons given by mothers for choosing a particular provider.

PART FIVE – Health Messages

Objective: Outline the key factors, both positive and negative, that impact on the effectiveness of messages given by private providers on appropriate and rational treatments, compliance to treatments, care seeking, exclusive breastfeeding and home care management of child illnesses.

Treatment Advice

After asking about the treatment given for ARI and diarrhoea in children under five, providers were asked about the home care advice they gave to mothers of sick children. There are limits to the usefulness of this information again because it relies on providers self report. The actual practices of the providers could not be assessed using this method. The most reliable method of assessing providers' practices is by using 'secret shoppers.' These are simulated clients who visit health providers to assess their practices by reporting symptoms of a particular illness. This method has been used by PATH in Cambodia and elsewhere to evaluate changes in pharmacy providers' practices after training[25]. This method is useful for assessing providers' practices when the treatment given is limited to selling medications. In past evaluations PATH has found a gap between providers self report and their actual practices. Not surprisingly, providers tend to present themselves in a better light than is the reality. The same gap may be assumed to exist in this self-report.

Acute Respiratory Infection

Providers were asked about the home care advice they gave to mothers of children suffering from ARI. All providers answered this question and providers typically gave more than one piece of advice. Three pharmacy providers reported that they gave no advice at all. These providers indicated that they would refer children under five with ARI. The following table shows the home care advice for ARI given by all providers.

Advice	Clinics	Pharmacies	All Providers
Don't have a bath or drink cold water	47%	67%	57%
Take medication regularly	43%	40%	42%
See a doctor if the child becomes worse	45%	24%	34%
Ensure hygiene for the child	38%	27%	32%
Reduce the temperature	25%	33%	29%
Eat regularly	42%	15%	28%
Keep the child warm	15%	22%	19%
Drink plenty of fluids	9%	9%	9%
Don't eat sweets	6%	13%	9%
Don't eat fat	2%	13%	9%
Clean the child's nose/Remove phlegm	9%	-	5%
Avoid contact with other children	6%	2%	4%

Providers Home Care Advice for ARI

[25] Program for Appropriate Technology in Health (2000): *Drugstore Capacity Building Programs, Experiences and Observations.*

On average providers reported three separate pieces of advice. The advice given by pharmacy providers and clinic providers were quite similar. More clinic providers advised their clients to eat regularly and to see a doctor if the illness became worse. Pharmacy providers were more likely to advise mothers to avoid bathing their children or giving them cold water to drink.

Diarrhoea

Providers were also asked about the home care advice they gave to mothers of children suffering from diarrhoea. All providers answered this question. Two pharmacy providers reported that they gave no advice to mothers of children under five with diarrhoea. Both of these providers indicated they would refer children with diarrhoea who sought treatment. The following table shows the home care advice providers gave to mothers of children under five with diarrhoea:

Advice	Clinics	Pharmacies	All Providers
Ensure hygiene for the child	79%	67%	73%
Take Oral Rehydration Salts	25%	56%	41%
Increase fluid intake	36%	29%	33%
Eat regularly	45%	22%	33%
Feed rice porridge (rice+water)	25%	25%	25%
Take medication regularly	21%	24%	22%
See a doctor if the child becomes worse	23%	16%	19%
Mothers should clean themselves	11%	11%	11%
Take vitamins	11%	9%	10%
Stop breastfeeding	9%	4%	6%
Don't eat fat	-	11%	6%
Don't eat sweets	4%	5%	5%
Avoid Vitamin C	2%	2%	2%

Providers Home Care Advice for Diarrhoea

Each provider gave three pieces of separate advice on average and hygiene was most frequently mentioned. Over 70 percent of the providers surveyed reported that they advised mothers to ensure hygiene for children with diarrhoea. This generally referred to hygienic food preparation or avoiding unhygienic foods. Pharmacy providers were twice as likely to advise the use of ORS than clinic providers were. Clinic providers on the other hand were twice as likely to advise eating regularly than pharmacy providers. It is concerning that six percent of providers reported that they advised mothers to stop breastfeeding when their children had diarrhoea. This is possibly related to a widespread belief that breast milk causes diarrhoea.

The generally low percentages for ORS, increased fluids and rice porridge are also a concern. However as providers could give multiple answers it is not immediately clear what percentage of providers recommended any rehydration therapy. Recoding to combine these three answers gives the percentage of providers who recommended any increased fluids for

children with diarrhoea. Mothers of children under five were also asked how they treated a child at home when they had diarrhoea. The following table shows the comparison.

Category	Percentage of those surveyed
Pharmacy providers who advised rehydration	79%
Clinic providers who advised rehydration	62%
Mothers who use a rehydration therapy	68%

Use of Rehydration Therapy for Diarrhoea

Thirty eight percent of clinic providers did not recommend any rehydration therapy compared to 21 percent of pharmacy providers. Mothers were more likely to report using a rehydration therapy than clinic providers were to advise rehydration. This highlights the need for education on appropriate home care messages for mothers by private health providers, particularly in private clinics for treatment of diarrhoea. To underline the value of training for private health providers we examined the results for the Phnom Penh pharmacies alone. As mentioned earlier, PATH has conducted training with all Phnom Penh pharmacies on diarrhoea and ARI. In addition, community outreach education was conducted to educate mothers in Phnom Penh about appropriate home care for diarrhoea and ARI. However, private clinics in Phnom Penh have not been systematically trained in childhood diarrhoea and ARI. An impressive 91 percent of the Phnom Penh pharmacy providers interviewed advised mothers to give increased fluids to young children suffering from diarrhoea. Eighty four percent of mothers of children under five from Phnom Penh reported giving increased fluids to their children when they had diarrhoea. However, only 67 percent of Phnom Penh clinic providers recommended increased fluids for children with diarrhoea.

Barriers to Advice

One of the aims of the study was to discover the factors that influence whether mothers follow health advice given by providers. To assess this providers were asked about the barriers to mothers following health advice. In addition mothers of children under five were asked whether they followed advice from private health providers and why or why not.

Private Providers Interviews

Providers were interviewed about the barriers to health advice for ARI and for diarrhoea. Not surprisingly, the answers were similar for both questions. The reasons for not following health advice for ARI and diarrhoea were combined and are reported together. In addition, both pharmacy providers and clinic providers identified similar factors that affected whether mothers followed health advice for their ill children under five. Therefore, answers from pharmacy providers and clinic providers are also combined. Providers sometimes gave more than one reason. The table below shows the main reasons that providers believed mothers did not follow their advice:

Reason advice not followed	Pharmacy Providers	Clinic Providers	All Providers
General non compliance	25%	31%	28%
Mothers are too poor	18%	29%	24%
Mothers are busy with work	29%	28%	29%
No barriers - Mothers follow all advice	21%	12%	17%
Poor hygiene	13%	14%	14%
Mothers don't understand advice	8%	16%	12%
Mothers do not care for their children	11%	6%	8%
Mothers are not strict with sick children	8%	6%	7%
Mothers give traditional medicine	2%	10%	6%
Do not know	8%	4%	6%
Self medication at home	3%	6%	4%

Barriers to Health Advice – All Providers

When the providers were asked whether the mothers followed their advice for the treatment of diarrhoea or ARI only 16 percent said that they did. Non compliance was scored when providers gave only general comments without mentioning any specific reason for not following health advice. This was the most common response. Poverty was the most common specific barrier providers identified. Twenty three percent of providers suggested that mothers were too poor to give the proper treatment. More clinic providers (29%) than pharmacies (18%) gave this as a reason. Another reason given was that the mothers were too busy at work to give the treatment to the children. As most Cambodian women have to work to bring income into their household, many children are left with caregivers. Twelve percent of the providers believed that the mothers were not intelligent enough to understand and follow their advice and a further eight percent said that the mothers did not care properly for their children.

Poor hygiene was also an important factor given by providers but this was more so for diarrhoea (18.6%) than for ARI (8.4%). Using traditional medicine to treat diarrhoea was seen as more of a problem than for treating ARI. (8.4% and 3.7%). This could be because ARI is seen as a more serious problem than diarrhoea in young children and mothers are more likely to seek medial advice than to use traditional medicine.

Mothers Interviews

Out of the 66 mothers given advice by the providers on treatment for their sick child, 70 percent followed some of the advice although only 38 percent followed it completely.

Advice followed	Percentage
Yes	38%
Partially	32%
No	30%

Percentage of Mothers Following Providers Advice

The main reason for following the advice was that the mother was concerned about the child. Some mothers said they followed the advice because they were worried about the additional costs if the child did not get better.

The reasons given by the mothers for only partially following the advice or not following it at all are interesting. The main reason given was that they were too busy or that the child was looked after by a caregiver. As the survey was carried out on urban mothers this meant the mothers would be involved in business. Another reason given was that the child escaped supervision (ate the wrong thing or played in the rain) or would not take the medicine. Two mothers said that their child would not take the ORS because of its taste. One mother gave the child boiled water instead.

Breastfeeding Practices

Breastfeeding practices and the way in which supplementary feeding is introduced are important factors in child nutrition. Breastfeeding is a full and natural food for babies, which provides all the food requirements for the first month of life, half for the second six months and a third in the second year. It also gives natural protection against diseases and breastfed babies are less likely to get infections caused by contaminated food and water. Colostrum, which is produced by the mother in the three days after childbirth is particularly important in preventing infection in babies.

To obtain some information on breastfeeding practices by mothers we asked specific questions about this. The mothers were asked when they first put the child to the breast after birth. They also provided reasons for giving the baby other food rather than breast milk at birth and the nature of any interim food given. They were asked how long the baby was fed exclusively on breast milk, and the type of supplementary food given. All the mothers answered the questions and the majority was able to give detailed information.

The research wanted to find out what advice on breastfeeding and the care of new born children was being given to the mothers by the private providers. The WHO recommendation for breastfeeding is that all babies should be exclusively breastfed until the age of six months. We did not want to ask the providers directly how long they advised mothers to feed their babies exclusively on breast milk as we felt this would not prompt accurate replies. The question asked was a general one on the advice that the providers gave to the caregivers of new born children. Because the question was general, full information was not received from all the providers, but the information obtained was sufficient to indicate the trends in the advice given to mothers on breastfeeding and also other advice given to mothers on the care of young babies.

Mothers Interviews

The majority of babies in Cambodia are breastfed but practices as to when breastfeeding starts and for how long it provides the only source of food are not universal. There is a tradition of squeezing the colostrum away because it is considered bad for the baby or causes diarrhoea. However, some mothers were advised by the *Bpet* (provider of modern medicine) to give this first milk to the baby. There is also the tradition of ‘roasting’ or post-

partum warming when the mother is placed on a bed over a charcoal stove for a period of up to three days, or in some cases longer. During this time the baby is not breastfed but may be given interim food. When asked when she first started breastfeeding her babies one mother in Siem Reap replied:

> *"After three days because I roasted on the fire. I fed them with boiled water when they cried at night. I was told to squeeze the first breast milk as it can make the children have diarrhoea."*

Details of breastfeeding practices were provided by 70 mothers, although not all gave full information. This is taken into account when analysing the information. The following table shows when babies were first put to the breast after birth. Sixty-nine mothers answered this question.

When breastfeeding commenced	Number of babies
Immediately after birth	10
Within 12 hours	4
After 1 day	19
After 2 days	13
After 3 days	18
Over 3 days	5

Breastfeeding Practices by Mothers after Birth of Baby

Only ten babies were put to the breast immediately after birth, another four within five hours and another four within twelve hours. A further 19 started feeding after one day. Five babies where not given breast milk for over three days (by which time the colostrum is not being produced). Four of these mothers said they had no milk and one gave no reason. Twenty-one mothers out of 44 who gave a reason for when they delayed breastfeeding said that they had no milk. Of those babies who received interim food, ten were given boiled water and sugar and three canned milk. Of the 20 Phnom Penh mothers interviewed five put the baby to the breast immediately (two mothers volunteered the information that this was on advice of the *Bpet)*, two within twelve hours and a further seven after one day. The mothers who were interviewed in Phnom Penh were more educated and economically better off than the rural mothers and would therefore be more influenced by modern medical practices, and less likely to practice roasting.

The WHO recommendation is that babies should be entirely breastfed for the first six months. The table below shows the number of mothers who said they fed their babies only on breast milk for over and under six months. Two mothers gave no answer and one said she did not know.

Area of sample	Under 6 months	6 months and over
Phnom Penh	11	9
Siem Reap	18	1
Kampong Chhnang	7	2
Svay Rieng	14	5
Total	**50 (75%)**	**17 (25%)**

Mothers Information on Time Babies Exclusively Breastfed

The average age to which the babies in our sample are exclusively breastfed is five months. One mother did not breastfeed her baby at all and one breastfed it exclusively for ten months.

The mothers were asked what food they gave their babies once they started supplementing breast milk. Seven mothers did not know or did not answer. Of those that did answer, eighty seven percent said they supplemented milk with porridge, seventeen percent gave canned milk, and the same percentage gave vegetables or meat. Eleven percent gave their babies bananas.

Advice Given by Providers

When the providers were asked what advice they gave to the caregivers of new-born (less than 28 days old) children, 84 percent recommended breastfeeding, 2 percent gave no breastfeeding advice and a further 14 percent said they did not see mothers with new-born babies.

Forty-seven of the providers volunteered information on the length of time that babies should be exclusively breastfed. Although this is a small sample it seems important to compare it with the information given by the mothers. The table below shows the number of providers, in the different areas, who said they recommended breastfeeding exclusively for babies under and over six months.

Area of sample	Under 6 months	6 months and over
Phnom Penh	9	8
Siem Reap	3	6
Kampong Chhnang	4	4
Svay Rieng	6	7
Total	**22 (47%)**	**25 (53%)**

Providers Recommendations on Time for Exclusive Breast Feeding

The average time recommended for exclusive breastfeeding by the sample was five months, which corresponds to the figure given by the mothers but is lower than the WHO recommendation of six months.

Some providers gave information on when the mothers should stop breastfeeding. Although this varied from six to 36 months, the average for the seventeen providers who gave information was ten months. This is well below the WHO recommendation of 24 months.

Seventy providers gave information on the general health advice that they give to the carers of new born children. What was of interest is how similar the advice was. The table below summarises the advice given.

Advice given	**Percent**
Keep the baby clean and in hygienic conditions	61%
The mother must keep her body clean	40%
Vaccinate the child	33%
Give the child vitamins	23%
Do not use traditional medicine	7%
Protect the child from mosquitoes	6%

Health Advice Given by All Providers to Mothers of New Born Babies

Hygiene, for both the baby and the mother, were considered as the most important advice to give by both the pharmacies and the clinics. When the figures for childhood immunizations are looked at there is a difference in the number of clinics and pharmacies that recommend it. Thirty-three of the clinics do but only 21 percent of the pharmacies. This indicates that the doctors are more aware of the importance of childhood immunizations. The figures for suggesting that the children should be given vitamins are 27 percent of the doctors and sixteen percent of the pharmacies. Although few providers mentioned that traditional medicine should not be used, more clinics than pharmacies did mention it. The importance of keeping the children protected from mosquitoes was mentioned by only a few providers.

PART SIX – Other Findings

This section presents those results discovered during the research that were not covered in the five initial objectives. In some cases, the research team felt that it was important to discover other information about the private health sector as in the section on treatment presented below. In other cases, information became known during the assessment that was worth reporting as in the diarrhoea treatment example at the end of this section. To avoid confusing these additional findings with the main study aims they are presented separately in this section.

Treatment

Discovering what treatments were given to children under five was a logical precursor to the questions about health advice and messages. Providers were first asked how they treated children under five years with Acute Respiratory Infections (ARI) and then asked the same questions for young children with diarrhoea. Providers were also asked about the advice they gave in each case and the difficulties they faced in treating these two illnesses in young children. Providers were asked generally about their treatment of these illnesses and were not given detailed case histories. Firstly, this could have limited the range of answers given by providers to treatment for a particular case. Secondly, this information would have been no more reliable than asking about general treatment as the information depended entirely on providers self report.

Acute Respiratory Infection

Answers were first broadly grouped into those providers who made a distinction between mild and severe ARI and those providers who reported giving the same treatment for all children with ARI. Additionally the researchers made a subjective assessment of the provider's willingness to detail treatment. This was based largely on how detailed their treatment information was or their reluctance to discuss the question. This was quite simple to gauge. Providers who were reluctant to detail treatment answered with broad categories like 'antibiotics' or 'injection' while other providers gave specific drug names or information about dosage. All providers answered the treatment questions.

The majority of providers in both categories (62%) reported no distinction in their treatments for ARI. Thirty eight percent distinguished between the treatment of severe ARI and mild ARI. There were no major differences between pharmacy providers and clinic providers in either case. Forty one percent of all providers were reluctant to discuss their treatment and gave grudging or very general answers. This was more common for the clinic providers (45%) than the pharmacy providers (36%).

Some providers reported that they would refer children with severe ARI or ARI that did not respond to treatment. Children who were pale with difficult or rapid breathing were common reasons for referral. There were large differences between the pharmacy providers and the clinics. Forty two percent of pharmacy providers reported that they would refer children under five with severe ARI to another provider, while only 17 percent of clinic

providers said they would refer these cases. For both types of provider, this referral was typically to a government hospital. In study areas where dedicated children's hospitals existed (Phnom Penh and Siem Reap), providers reported they would refer severe ARI cases to these hospitals.

As many providers were reluctant to give details of their treatment, it was not possible to code treatment by drug name. Many providers simply reported the type of treatment they gave as in the example below.

"When the mothers bring the children to see me, I'll give a treatment based on the situation of the disease. After three days of my treatment, if the patients do not get better I will send them to the hospital. The medicines that I give are antibiotic and antipyretic."

Therefore, treatments reported for ARI were divided into broad pharmaceutical categories. All providers commonly gave several medications together. The average was approximately three different medicines per provider. The following table shows the treatment categories for the all the providers surveyed and the percentage of providers who dispensed them.

Category	All Providers	Clinics	Pharmacies
Antibiotics	80%	79%	80%
Antipyretics	45%	34%	56%
Antititussives	27%	21%	33%
Vitamins	12%	9%	15%
Antihistamines	3%	2%	4%
Vasodilators	3%	4%	2%
Anti-inflammatories	1%	2%	-
Referral Only	6%	2%	9%
Unspecified treatment	11%	15%	7%

Treatment for ARI in Children under Five

Most providers relied heavily on antibiotic treatment. Penicillins like ampicillin and amoxicillin were commonly used, as was cotrimoxazole. These were often given in combination with two or more antibiotics together. Antipyretics were given by nearly half of the providers. This was more common for pharmacies than clinics. The most common antipyretic used was paracetamol. Twenty seven percent of providers treated ARI with antitussives or cough medicines. The brand names used varied considerably between different areas although promethazine (generic name) was commonly used. Pharmacy providers were more likely to use cough medicines. Both types of providers used vitamins as part of their treatment for ARI. This was more common for pharmacies than clinics. Vitamin C was most frequently sold, although some providers gave multivitamins. A small number of providers reported using antihistamines, vasodilators or anti-inflammatories to treat children with ARI.

Six percent of providers reported that they would not attempt to treat a child with ARI and would refer them immediately. This was more common for pharmacies than for clinics. Eleven percent of providers reported unspecified treatments like 'injection' or 'serum' and this was more common for clinics than for pharmacies.

Diarrhoea

Providers were also asked about their treatment for a child under five years with diarrhoea. As with ARI, providers were grouped into those who made a distinction between mild and severe diarrhoea and those who reported the same treatment for all diarrhoea. Researchers again made a subjective assessment of the provider's willingness to detail their treatment for this illness. All providers gave some answer for this treatment question.

Around half of the providers (53%) reported no distinction in their treatment of diarrhoea. Forty seven percent distinguished between the treatment of severe diarrhoea and mild diarrhoea. There were no major differences between pharmacy providers and clinic providers in either case. One third of providers were reluctant to discuss their treatment and gave grudging or very general answers. This was far more common for the clinic providers (49%) than the pharmacy providers (18%).

Eighteen percent of providers reported that they would refer children with severe diarrhoea or diarrhoea that did not respond to treatment. The occurrence of blood in the stool or very watery diarrhoea was often cited as a reason for referral. There were major differences between the pharmacy providers and the clinics. Twenty six percent of pharmacy providers reported that would refer children under five with severe diarrhoea to another provider, while only six percent of clinic providers said they would refer these cases. As with ARI, this referral was typically to a government hospital. In study areas where dedicated children's hospitals exist (Phnom Penh and Siem Reap), providers reported they would refer severe diarrhoea cases to these hospitals.

Again many providers were reluctant to give details of their treatment and it was not possible to code treatment by drug name. Again, the treatments were divided into broad pharmaceutical categories. All providers commonly gave several medications together. The average was approximately four different medicines per provider. The following table shows the treatment categories for the all the providers surveyed and the percentage of providers who dispensed them.

Category	All Providers	Clinics	Pharmacies
Antibiotics	55%	45%	64%
Antidiarrheals	41%	23%	58%
Oral rehydration salts	66%	87%	56%
Antacids	4%	0%	7%
Antipyretics	7%	7%	7%
Referral Only	4%	0%	7%
Unspecified treatment	9%	15%	4%

Treatment for Diarrhoea in Children under Five

Fifty five percent of all providers used antibiotic treatment for children with diarrhoea usually in combination with other therapies. This was more common in pharmacies (64%) than in clinics (45%). Metronidazole and cotrimoxazole were particularly common antibiotics used. Forty one percent of providers used antidiarrheals in the treatment of young children with diarrhoea and this was far more common for pharmacy providers than for clinics. The antidiarrheals reported by the providers were generally relatively benign stomach coating drugs on silicate base like Smecta®. Most providers reported using oral rehydration salts (ORS) as part of their treatment for children's diarrhoea; clinic providers (87%) more commonly reported this than pharmacy providers (56%). Antacids and antipyretics were also reported by some providers to treat children's diarrhoea.

Four percent of providers reported that they would not attempt to treat a child under five with diarrhoea and would refer them immediately. These were all pharmacy providers. Nine percent of providers interviewed gave only vague unspecified treatments and these were mostly clinic providers.

Treatment Obstacles

Providers were asked about obstacles to their treatment of children under five. We were particularly interested to discover providers' perceptions about the barriers to successful treatment as this information could help to design interventions to improve treatments in the private sector. This question was asked for the treatment of both ARI and diarrhoea. Providers could give more than one answer to these questions.

Acute Respiratory Infection

Private providers were first asked about the obstacles they encountered in their treatment of ARI in children under five. Four providers did not answer the question. The most frequent reasons given by pharmacy and clinic providers were very similar. The following table shows the obstacles cited by providers for ARI treatment:

Clinics		Pharmacies	
Obstacle	**Percentage of Providers**	**Obstacle**	**Percentage of Providers**
Non Compliant	38%	Non Compliant	45%
Too Poor	25%	Too Poor	25%
Disease is Difficult to Treat	21%	Disease is Difficult to Treat	20%
Drug Resistant Illness	15%	Drug Resistant Illness	12%
No Obstacle	11%	Don't Know	10%
Wrong Treatment	9%	Patients Don't Understand	6%
Treatment Delayed	9%	Treatment Delayed	6%
Poor Living Conditions	9%	Wrong Treatment	4%
Lack of Medical Materials	6%	Children Buy Drugs	4%

Obstacles to Treatment of Acute Respiratory Illness

Overall, the main reasons given were similar for each type of provider. Non-compliance was reported as the most common obstacle to successful treatment for all providers although pharmacy providers reported non-compliance more often than clinic providers did. This is probably related to the higher status accorded to doctors in Cambodia. They are regarded as being more skilled than drug sellers or pharmacists[26]. This is likely to influence patients to follow their instructions. Non compliance generally referred to patients not taking a full course of medication as in this quote from a Siem Reap provider:

"Sometimes they take the medicine for only one day, while they need to take them for three days because they think they get better and recover."

Occasionally providers mentioned that patients failed to return for treatment or left the clinic before they were well as examples of non-compliance. These were all clinic providers who provided inpatient care as in the following example:

"Some patients need to get treatment for 5 days, but they get treatment for only two days and they ask to go back home because they have low knowledge."

Poverty was the second most common obstacle reported by both pharmacy and clinic providers. Again, this often referred to patients not completing treatment. In this case, however patients failed to complete treatment because they could not afford it. This quote from a Kampong Chhnang provider illustrates this:

[26] Collins 2000.

"The patients are poor and they have no money to buy enough medicine."

Around 20 percent of both pharmacy and clinic providers reported that ARI was difficult to treat. The mentioned multiple illnesses and confusion about symptoms in this context. Providers reported this as an obstacle to treatment as in this quote:

"Because we do not know clearly about the symptoms of this disease, the patients may have other disease beside ARI."

Drug resistant illnesses were a common theme throughout the interviews. When asked about treatment obstacles for ARI, 13 percent of providers reported drug resistant illnesses to be a problem. The following quotes illustrate the difficulties of treating drug resistant illness:

"The mothers used some medicines before, so when we give antibiotics they do not work."

"Sometimes I forget to ask patients about the medicine they've used or brought from the drug store, then I give the same kind of medicine so that the treatment takes a long time."

The four most common obstacles mentioned by providers were similar for pharmacy and clinic providers. However, the two types of provider did give some different answers. Eleven percent of clinic providers believed that there was no obstacle to their treatment of children with ARI. This is probably at least partly related to the difference in status between doctors and pharmacists mentioned before. Nine percent of clinic providers reported that they sometimes gave the wrong treatment as in this example:

"Sometimes we judge the wrong disease of the patients because we do not get the blood tested, so that we give the wrong medicine."

Only four percent of pharmacy providers reported giving the wrong treatment as an obstacle to the successful treatment of childhood ARI. Nine percent of clinic providers also reported that patients brought sick children for treatment late which made treatment more difficult. This was also reported by six percent of pharmacy providers interviewed. Nine percent reported that living conditions, like hygiene, food and water quality made treatment more difficult. Finally, six percent of clinic providers reported that they lacked medical materials to perform successful treatments. This was also a common reason given by clinic providers for referring patients to another provider.

Ten percent of pharmacy providers stated that they did not know what obstacles there were to their treatment. This was different from reporting no treatment obstacle. Six percent of pharmacy providers reported that patients did not always understand the advice and instructions that they were given at the pharmacy. They reported that this was mostly because some customers had little or no education. Finally, four percent of pharmacy providers reported that children were sometimes sent to buy medicine for other sick children. These providers reported that it was difficult or impossible to gain even a rudimentary history in these cases.

Diarrhoea

Providers were asked about obstacles to the treatment of diarrhoea in children under five. The two most common obstacles were the same for both clinic and pharmacy providers. The following table shows the obstacles report by each type of provider interviewed:

Clinics		Pharmacies	
Obstacle	**Percentage of Providers**	**Obstacle**	**Percentage of Providers**
Non Compliant	49%	Non Compliant	31%
Disease is Difficult to Treat	23%	Disease is Difficult to Treat	29%
Poor Living Conditions	17%	Too Poor	16%
Too Poor	13%	Make Mistake	15%
No Obstacle	13%	Not Understand	13%
Not Understand	11%	Don't Know	9%
Make Mistake	6%	Poor Living Condition	7%
Late Treatment	4%	No Obstacle	5%

Obstacles to Treatment of Diarrhoea

Non compliance was the most common obstacle reported by both types of provider. Clinic providers reported this more frequently. Large numbers of both providers reported that diarrhoea was difficult to treat and this was reported more frequently for diarrhoea than for ARI. Seventeen percent of clinic providers and seven percent of pharmacy providers reported that poor living conditions were an obstacle to the successful treatment of childhood diarrhoea. Poor living conditions referred to a lack of clean water and unhygienic food preparation or living areas generally. This difference between the providers may indicate that clinic providers are more aware of the role that poor hygiene has in childhood diarrhoea.

Both types of providers reported that poverty was an obstacle to successful treatment of diarrhoea. As with ARI this often referred to patients who were unable to afford a full course of treatment for their children. Sixteen percent of clinic providers and five percent of pharmacies reported that there was no obstacle to their treatment of diarrhoea. The percentage of providers who reported no obstacle to their treatment of diarrhoea was much higher for diarrhoea than for ARI. This probably reflects the providers belief that diarrhoea was generally easier to treat than ARI. Large numbers of both providers reported that mothers did not understand the instructions or advice for treatment. Six percent of clinic providers and 15 percent of pharmacy providers reported that they sometimes made mistakes in their treatment of diarrhoea and that this was an obstacle to successful

treatment. A small number of clinic providers believed that late treatment was an obstacle to the successful treatment of diarrhoea.

Four of the most common obstacles reported by providers are clearly linked. Providers reported that patients were non-compliant, failing to buy or take the full course of treatment. From the mothers interviews it is clear that young children in Cambodia are often ill. Large families with small incomes have a limited amount of money to spend on medical care. If the child appears to be getting well then treatment is often stopped. Given that many families are forced to go into debt to pay for medical treatment, this is not surprising. Poverty also leads to poor living conditions, which may cause childhood illness and make successful treatment and recovery more difficult. In addition, many families do not have access to clean water supplies. This excerpt from an interview with a mother in Svay Rieng illustrates this cycle:

"My child had a cough with mucus, she was hot and had difficulty breathing. I went to the pharmacy to buy some medicine for her because she was severely sick. If I went to the hospital, I have to wait for a long time. They told me to give the medicine regularly and wipe the child's body with a wet cloth to reduce the temperature. However I was busy with my business and my child ate food without hygiene and played in the water. I didn't have money to buy much medicine, when she finished the medicine she started to be sick again. She got better for a few days then I went back to the pharmacy. They gave me the same medicine as before…"

Mothers often buy or are sold sub therapeutic doses of medicine, usually antibiotics. Sick children eat unhygienic food or drink unsafe water. After taking the medicine, children improve slightly and treatment is stopped. After a short time, the child becomes sick again and the cycle is repeated. This in turn leads to the development of drug resistant infections, which then make treatment more difficult. This vicious cycle was reported by mothers in each of the four provinces and has been previously reported in other studies.

Number and Symptoms of Illness in Young Children

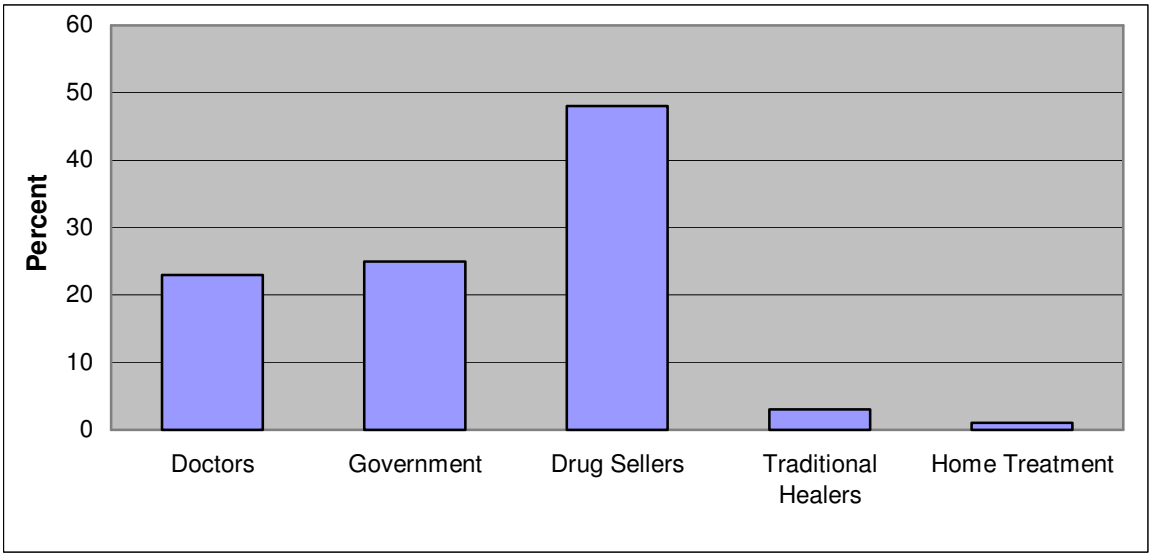
The mothers were asked how often their child had been ill in the past month and to describe the illness. The figure for the average number of times the child had been sick was very similar in both Phnom Penh and the provinces. For Phnom Penh, the average was 1.90 times, for Siem Reap 1.85, for Kampong Chhnang 2.10, for Svay Rieng 1.95. This gives an overall average of 1.95 times in the past month.

When mothers were asked to describe the symptoms of the children's illness, the main one was that the child had a temperature. Flu and cold symptoms, coughing, mucus and breathing difficulties followed this. All these symptoms are associated with ARI. The symptoms for diarrhea were less, but still substantial. The table below shows the different symptoms as percentages.

Symptoms of Illness	**Number of Times (%)**
Temperature	69%
Flu / cold	61%
Cough /sore throat	60%
Diarrhea	41%
Mucus	34%
Quick or difficult breathing	18%
Vomiting	10%
Pneumonia	8%

Symptoms of Illness in Children under Five

Other causes of illness mentioned by the mothers were wounds, scabies, itching, shock, lethargy and blisters.



Providers Visited for Treatment of Children's

The mothers were asked where they went to obtain treatment for these illnesses. Forty seven percent bought drugs from a pharmacy, drugstore or a market stall (all represented in the drug sellers column above), 24 percent attended government or provincial hospitals and 23 percent consulted doctors at a clinic or *Bpet*. A further 3 percent went to traditional healers and one mother gave her child a home treatment of an infusion of kwava leaves as a treatment for diarrhea. These figures show that almost all mothers seek professional advice when their children are ill and the majority goes to the drug sellers for treatment.

When looking at the cost of treatment the private doctors are by far the most expensive, and both private drug sellers and traditional healers are more expensive than the government hospitals Mothers were asked how much they paid for treatments at different providers. Under the table payment was not addressed. The table below shows the average cost per treatment by different health providers.

Treatment Provider	Cost in Riel
Private doctors	37818
Pharmacies and market stalls	2056
Traditional healers	1500
Government hospital	368

Average Cost per Treatment

In spite of treatment by government providers being cheaper, only 25 percent of mothers take their children to a government health centre while 74 percent pay more for private treatment. This figure is similar to that given by the CDHS for the overall national average for people attending government health providers.[27]

William Collins gives reasons for this. His research shows that private providers are accessible and will come to the house at any time. They give the type of treatment favoured by the patient (modern drugs and injections) and will accept payment in instalments. They are also seen as trusted members of the community. On the other hand the doctors in the government hospitals are poorly paid and are therefore often away looking for an alternative income. The government providers do not have many medicines and they demand immediate full payment. Government officials can also be regarded as arrogant and intimidating.[28]

Treatment Outcome

Of the 62 percent of children whose mothers did not follow the advice at all, or only partially followed it, five were cured (12%), 15 (37%) improved or were better for a time (which was one of the reasons given for not following the advice) and 22 (54%) were not cured.

The following table shows the figures for the outcome of the children's illness for the whole sample surveyed.

Outcome of Illness	Patients	Percent
Not Cured	30	44%
Improved or better for a time	24	35%
Cured	14	21%
Total	68	100%

Outcome of Children's Illness

[27] CDHS (2000) *page 35.*
[28] Collins W (2000) *Medical Practitioners and Traditional Healers, page 4.*

PART SEVEN – Recommendations

The following are summaries of the overall key issues discovered during this assessment, and general recommendations for use in the design of targeted IMCI interventions. Some of these recommendations go far beyond IMCI and even child health in general. They concern issues such as the necessity to increase the human resources for a well functioning pharmaceutical sector in Cambodia and the regulation of the private health sector. They should be considered by the Royal Government of Cambodia and the donor community. In the long term, it will be necessary to address all these issues in order to improve child health through a complementary partnership of the public and the private sectors.

The mothers of children under five interviewed for this study overwhelmingly asked for information about caring for their children appropriately when they are sick. If this sample is at all representative, the mothers of Cambodia are worried and confused about treatment for their children. They visit a variety of health providers and try various pharmacological treatments to make their children well. Generally, this is expensive, time consuming and ineffective. The private health providers interviewed echoed these sentiments adding that mothers should be educated about appropriate and inappropriate medicines and treatments. As PATH has found in Phnom Penh, and other organizations have learned elsewhere, the end user or consumer of health care services is the most motivated to change inappropriate or dangerous practices. This makes mothers a primary target for interventions aimed at changing medication practices.

Conduct community outreach education on harmful drug treatments, drug resistant illness and appropriate treatment for diarrhoea and ARI targeting mothers of children under five.

The problem of inappropriate or dangerous drug use is not limited to mothers of children under five. Community education is expensive and slow. The media are able to reach large numbers of people relatively cheaply. The effectiveness of this is proved by the widespread use of tetracycline for diarrhoea. Population Services International (PSI) has also proved the effectiveness of these commercial marketing techniques through their birth spacing program. The sales of Number One condoms and OK pills continue to grow each month.[29] These channels could also be used to inform people about the dangers of inappropriate pharmaceutical use.

Disseminate information on ineffective pharmaceutical treatments and promote effective treatment through radio, television and popular music.

Training official private providers increases their knowledge and capacity to provide appropriate services to patients. Promoting links between providers increases the number of appropriate and timely referrals to other providers. Linking the training to evaluation and feedback improves pharmacy practices. Educating consumers increases the demand for appropriate services and increases the change in practices. Linking consumers to trained providers increases their business, ensuring that providers do not lose income through changing practices. These steps help to motivate providers and improve the likelihood that

[29] PSI (2001).

consumers will visit appropriate providers. These five components provide a balanced integrated approach to improving the health care offered by the private sector.

Official private health providers should be targeted through training, promoting links to other providers, evaluation and feedback, community education and linking communities to the trained providers.

The numbers of unofficial providers (both drug sellers and pharmacies) is substantial and far outnumber official providers. Unofficial providers were not examined as part of this study. Considering that much of rural Cambodia may have access only to unofficial providers, this is a critical group to study and analyse in the context of IMCI and provision of services, particularly in rural areas.

In collaboration with the Ministry of Health, conduct an assessment of unofficial providers with an emphasis on rural areas, and develop recommendations for interventions targeting rural unofficial private sector providers.

To achieve any long-term sustainable improvement in the private health sector, Cambodia needs more well trained health professionals. This is particularly true in the pharmacy sector. At the current rate of 20 graduates per year, the pharmacy faculty will barely be able to keep up with population growth let alone replace untrained drug sellers with trained pharmacists. This graduation rate needs to be closer to the medical faculty, which graduates around 100 doctors per year. Even with 100 new pharmacists available each year it will take many years to meet the demand in the private sector. Most students currently enrolled at the university intend to work in Phnom Penh if possible after graduation[30]. The Dean of the pharmacy faculty indicated that there were sufficient applicants for the course to easily increase enrolments to the desired level.[31] However, the faculty lacks the space and the teaching resources to do so. In addition, the curriculum for both medical and pharmaceutical training needs to be reviewed.

Pharmacist and Medical Assistant training is now on hold and it is not clear whether this training will re-open. Up to the point of closure of these programs both Pharmacist and Medical Assistants could have been upgraded by attending additional training at CMU. Pharmacist and Medical Assistants already operating pharmacies and drugstores can develop more skills by attending various trainings provided by the MOH and /or NGOs but currently such trainings are primarily to develop knowledge and strengthen skills rather than certify and professionally upgrade the participants.

The University of Medical Sciences and the Technical School for Medical Care need technical assistance and financial support for curriculum development and to increase the number of and quality of pharmacy graduates.

[30] Interviews with final year students and the Presidents of the Pharmacy and Medical Students Associations.
[31] Interview with Tea Sok Eng, Dean of Pharmacy Faculty, UMS.

Because the Pharmacy Association of Cambodia and the Cambodian Medical Association are collaborating with the Government, these agencies are likely the most appropriate and sustainable organizations to promote professional standards among private providers and also represent the providers' professional bodies.

PAC and CMA should be offered financial support and technical assistance to increase links between private providers and to promote professional standards and cooperation.

The Ministry of Health is charged with regulating and monitoring the private health sector in Cambodia. Currently this process is proceeding slowly, particularly for private doctors and pharmacists.

The Ministry needs technical assistance to form realistic short and long term plans for the private health sector in Cambodia, to develop the regulations needed to enforce them and to determine the number, type and location of private providers in Cambodia.

PART EIGHT – Proposed Intervention

Objective: Propose one or more interventions targeting private health providers, which will focus on defining and strengthening their role in IMCI.

The proposed intervention is designed to build upon PATH's previous experience in the official pharmacy sector in Cambodia and the results of the current assessment. At the same time, PATH recognizes that the majority of its previous experience in Cambodia has been in urban areas. Although PATH has considerable experience in rural areas in other countries, it is important not to assume that this will be immediately transferable to the unique characteristics of rural Cambodia. Similarly PATH's experience in working with the private health sector in urban Cambodia should not be assumed replicable at the village or commune level.

To maximise the impact of a rural official private provider intervention it is important to first design a specific model for intervention in rural areas. This approach will help to ensure that the proposed intervention has the greatest possible impact on improving child health.

Goal

To develop and then pilot a model for combined IMCI pharmacy training, community outreach education and strengthening links between private providers, the public health system and the community.

Location

The proposed intervention would be piloted in two provinces of Cambodia. PATH proposes Kampong Chhnang and Svay Rieng Provinces for the following reasons:

- These are both pilot areas for IMCI in the public health system, which provides the opportunity to link government health staff trained in IMCI to private providers trained in IMCI.
- The provinces are very different from each other while being similar to other provinces in Cambodia. This will help to determine if the model works in different areas and has implication for possible expansion in the future.
- The Provincial Health Departments in both provinces have near complete records of the number and location of private health providers in the province.
- The Provincial Health Departments in both provinces indicated to the research team that they would welcome any attempt to improve services in the official private sector.

The Model

The proposed model would have the following important components:

- Perform a detailed situation analysis in rural areas, e.g. the IMCI pilot ODs, including the following:
  - precisely identify the sources of care consulted outside household;
  - an inventory of legal and informal private providers/drug sellers
  - identify the current practices, quality of care and the specific factors leading to the "KAP Gap", by mystery shoppers and other qualitative research methodologies;
  - Identify appropriate change agents for a sustained intervention
- Develop a pilot intervention based on existing tools, e.g. CDD pharmacists' guide, PRACTION, INFECOM.
- Initial and refresher training in IMCI for private health providers
- Contracting with trained providers
- Regular evaluation and feedback
- Community outreach education
- Promoting formal referral mechanisms to the public health sector
- Strengthening links between trained private providers, target communities and the formal health system
- Media campaigns and effective IEC materials
- Government and professional association support

Proposed Activities:

Collaboration and Partnerships:

Work with the PHD in each pilot site to identify areas for implementation. The areas selected should have good representation of both, public and private official health sector services such as health centers, pharmacies, drug stores, and private clinics. In addition the areas should have a sufficient number of families with children under five years old. A mapping exercise will be conducted to record numbers of health providers and exact location. Support will be sought from community leaders for identifying families and to encourage them to participate. Collaboration and partnerships will also be sought at higher levels. The Pharmacists Association of Cambodia (PAC) and the Medical Association of Cambodia (MAC) will be approached and asked to use their influence to support the project activities by encouraging the involvement and participation of official health providers. Additional partnerships will be sought with other organizations working in the pilot sites conducting IMCI interventions. Building on to existing activities is cost effective and excellent leverage for the project.

Project Orientation:

A one-day “Project Orientation” will be conducted in each of the pilot sites. Representatives from the PHD, commune leaders, health center chiefs, community private health providers, and care - givers of children under five, will be invited to participate. The objective of this meeting is to highlight the “Healthy Child” concept, introduce the project activities, and gain support, participation and commitment of all partners present.

Memorandum of Understanding (MOU):

A memorandum of understanding will be developed. This will highlight the agreement terms between the project, the PHD, and the health providers and will clearly outline each party's responsibilities to reach the ultimate goal of the "Healthy Child" concept. Only participants that are interested and make a commitment to be involved and adhere to practices that would improve and sustain children's health in their communities will be invited to sign the MOU during this orientation meeting. Each participant will receive a laminated copy of the signed MOU. Moreover the MOU will act as a "living tool" and will be used during feedback meetings with the health providers and for evaluation purposes.

Training:

Participants who have signed the MOU will be invited to the training. The training curriculum will focus on two components: (1) the technical aspect of the 12 community and family practices promoted by WHO and UNICEF, and (2) health promotion and communication. Two training workshops will be conducted: (1) initial training for those health providers that have not participated in any IMCI training. It is envisioned that the majority of the official private sector health providers (i.e. pharmacists and drug sellers, private cabinet staff) would fall under this category and (2) a refresher training for those who have had previous training (health center staff would likely fall under this category). The number of the training workshops and the duration of each will depend on the number of health providers that will sign the MOU and on the numbers who have had previous IMCI training. Two short refresher training workshop with all health providers will be conducted during the course of the project.

Community Outreach:

With the support of the community leaders "Community - IMCI Health Educator Teams" will be selected. In some areas these teams will be comprised of members of the feedback committees who are closely associated with the health centers, and village volunteers. In other cases team members can be teachers, community leaders or other identified community member that meet the criteria selection. The number of teams and team members will depend on the size of the communities and may vary from commune to commune or in each pilot site. Training of these teams will focus on basic facts of the family practices that need to be promoted, communication skills, recording and reporting and making referrals. During the community outreach activities the teams will meet 2 times per month to report progress, identify needs, solve problems and develop strategies for the activities of the following month. In addition a short refresher course to ensure understanding and comprehension will be conducted during these monthly meetings. The design of the outreach activities will depend on the needs of the communities and after having identified "how best the community learns". Once more this may vary but it is envisioned that community education activities will be based on face to face interaction with caregivers, small fairs with competitions on nutrition and breast-feeding, home care for diarrhea and ARI and keeping children clean and healthy. Each outreach education team will be responsible for (#TBD) in their communities and will make (#TBD) visits per

month. Monthly topics addressing the 12 family practices will be developed and monthly logbooks will be used by the outreach educators to record their activities. The logs will be submitted for review to the project team during the monthly meetings and new logbooks will be issued.

Linkages to and from Communities:

An attractive "Healthy Child" referral token will be developed. This will be used to encourage caregivers to use appropriate health services when their child is ill. The Community - IMCI Health Educator Team, will distribute the referral token during their field activities and will provide clients with clear instructions on how to use, when to use and where to use. An incentive (TBD) will be provided by the health providers at each service point to caregivers presenting the "Healthy Child" token. Project staff will conduct bi-monthly pick–ups and evaluation of the linkage strategy will be ongoing. Ongoing revisions to the strategy will be implemented as needed.

Strengthening Linkages and Networks:

Networks will be developed between the PHD, community private health providers, and health center staff. A TAG group will be formulated with representatives from each of the sector partners. The TAG will meet quarterly to discuss project activities, address constraints and advocate for better provision of Community IMCI services. To strengthen partnerships, exposure visits will be conducted with the slogan "Together for Healthier Children".

Media Campaigns and IEC:

Sets of simple pictorial educational tools will be developed addressing the 12 family practices that will be promoted. For consistency of message, all project health providers will use this tool, including the community IMCI health educator team when interacting or consulting with caregivers. In addition two videos will be developed: (1) featuring harmful practices of self-medication practices and consequences, and the (2) featuring various episodes of the 12 family practices. The videos will be shown at the communities during the health fairs. A question and answer competition will follow each showing with small incentives/certificates given to the winners. Posters promoting good community and family practices will also be developed. These will be distributed to care givers and will also be displayed in public places such as pagodas, schools and community places for public education. Certificates for attending the training and a logo will be developed. These will be displayed at the project health spots (i.e. health centers, pharmacies, drugstores and private clinics) and will be a means of recognizing the project health services. A quarterly newsletter will be developed targeting the health providers. It will feature updates on children's health issues. Issues addressed would focus on the 12 family practices (i.e. nutrition, breastfeeding, hygiene, immunization and others). It would also include updates on the project activities and serve as a feedback mechanism for the health providers. Good health provider practices and "Good Health Providers" will be promoted through the newsletter. Bad health providers and harmful practices will also be highlighted and face to

face feedback with these providers will be conducted. If harmful practices continue re-evaluation of participation to the project will be conducted and evaluated.

Monitoring and Supervision:

Monitoring of the activities will be ongoing through the monthly meetings, the referral token pick-ups and the newsletter. In addition, in depth interviews with the health providers and secret shoppers will be conducted to compare self-reporting and actual practices. In addition, ten official private provider representatives will be selected to undergo a focussed process evaluation. Interviews will be conducted with health providers and secret shopper clients will conduct field visits four times during the life of the project to compare and record behavior changes. The ongoing evaluation of these health providers would yield better information on the linkages, examine whether health providers' practices are improving and identify areas of additional training. At the end of the project health providers from the sentiment group that repeatedly showed improvement in practices will be certified as "Children Friendly Providers". They will be recognized by a certificate which they will be displayed in their facility and a recognition pin. Their names will also appear on the newsletter.

Dissemination:

A dissemination workshop will be conducted and lessons learned will be shared with partners, collaborators, donors, and relevant organizations. A final report will be written and distributed to interested parties.

Proposal for Community - IMCI expansion:

Based on the lessons learned a proposal will be developed for the scaling up of the Community – IMCI activities nationwide and funding will be sought.

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