# TIMOR-LESTE HEALTH SECTOR REVIEWv.

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**Appendix 1: Interventions to address Timor-Leste’s major health problems: the international consensus**

**Appendix 2: Review of health sector policies**

**Appendix 3: Health service delivery and utilization in Timor-Leste: a qualitative study**

**Appendix 4: Results from the survey of health care facilities owned and**

**operated by NGOs**

**Appendix 5: Description of sources of data and definitions**

**Appendix 6: Differentials in health service utilization: multivariate regression analysis results**

**Appendix 1**

**Interventions to address Timor-Leste’s major health problems:**

**the international consensus**

The previous sections show that major public health problems affecting the health of the population in Timor-Leste are:

* High infant and child morbidity and mortality: mainly due to poor nutrition, infectious diseases, and problems during pregnancy and childbirth.
* High maternal mortality: mainly due to poor nutrition, complications of deliveries, and large number of childbirths over a woman’s reproductive cycle, with short birth intervals in between births.
* High infectious disease burden for both children and adults: particularly tuberculosis and malaria; but also leprosy, filariasis, and intestinal parasites.

This section attempts to summarize the international consensus regarding the health sector interventions that are effective to address the above major health problems as well as appropriate to Timor-Leste’s level of development and per capita income. Of course, not all of the interventions that are called for to address the major health problems pertain to the health sector. The general alleviation of poverty, improvements in the general level of education (especially for women), and improvements in water supply and sanitation would be three powerful factors in lessening the country’s burden of morbidity and premature mortality. However, the present report focuses on what could be done through developments and reforms in the health sector.

*Interventions to Address Child Mortality*

The international consensus on the interventions needed to address child mortality has been well summarized in the report of the UN Millennium Project Task Force on Child Health and Maternal Health.[[1]](#footnote-1) The key interventions include: immunization, early treatment of diarrhea / respiratory infections, use of insecticide treated bed nets, safe delivery, and nutrition interventions (complementary feeding, breast feeding, Vitamin A distribution, and zinc supplementation).

It is important to note that many of these interventions of proven effectiveness can be implemented at the household and community levels (they depend largely on the behaviors of mothers and households), with health facilities and health care professionals playing a supportive role.[[2]](#footnote-2) The UN report notes that recent studies have demonstrated that even neonatal mortality can be effectively reduced by community based approaches. The key factor in these studies was the presence of community health workers who visited homes to ensure multiple contacts with the babies, mothers, and families, starting at or soon after birth

*Interventions to Address Maternal mortality*

In the same report, the Millennium Project Taskforce noted that addressing maternal mortality requires “different interventions: skilled attendants, emergency obstetric care, and an intact referral system…Interventions that take place in the home or are provided by community health workers (or traditional birth attendants) play little or no role in reducing maternal deaths.”[[3]](#footnote-3) The Taskforce report emphasizes that in order to reduce the maternal mortality ratio dramatically all women must have access to high quality delivery care. That care has three key elements: a skilled attendant at delivery, access to emergency obstetric care, and a functional referral system. Thus, in contrast to interventions to improve child health, reducing maternal mortality depends on a facility-based health system that functions. The referral system is a key part of this system.

Family planning plays a supportive but important role in addressing maternal mortality. “Increasing access to methods to control fertility can have a significant impact on the number of maternal deaths, by reducing the number of times that a woman runs the risk that a fatal obstetric complication will occur. It has been estimated that if unmet need for contraception were filled and women had only the number of pregnancies they wanted at the intervals they wanted, maternal mortality worldwide would drop by 20–35 percent”.[[4]](#footnote-4)

*Malaria*

For malaria, the UN Millennium Project Taskforce[[5]](#footnote-5) recommends an integrated approach, appropriate to local conditions. The report notes that there is no single anti-malarial “magic bullet” that can bring about a sustained reduction in the malaria burden. A combined set of locally adapted interventions should be used because the cycle of malaria transmission is composed of many components that vary greatly from place to place. This package of interventions includes use of insecticide-treated bed nets; application of indoor residual spraying; early diagnosis of clinical infections; treatment with effective anti-malarial drugs; intermittent preventive treatment of pregnant women; management of the environment; increased health education and awareness; epidemic forecasting; early detection and control; and improved monitoring and surveillance systems.

*Tuberculosis*

For TB control, the emphasis should be on the diagnosis and appropriate treatment of cases. The UN Millennium Project[[6]](#footnote-6)  report emphasizes that effective TB control depends on the rapid identification and cure of infectious cases. TB control depends on effective diagnosis, treatment, and follow-up, mainly at the primary care level. For a national program to be effective, all TB patients need to have access to the universal standard of care that is based on proper diagnosis, treatment, and reporting consistent with the DOTS strategy. This would require competent government health services, but since many patients are likely to seek help from private health care providers, a strong partnership with the private sector is also required for effective TB control.

*Other Infectious Diseases*

In the case of both *Filariasis* and *Intestinal Parasites*, there is increasingly a move to focus on effective regular mass treatment. For Filariasis, annual two-drug mass treatment continued for the life of the adult parasite (4-6 years) has the potential to eliminate the disease. According to WHO[[7]](#footnote-7) , to interrupt transmission of the infection, the essential strategy is to treat the entire at-risk population for a period long enough to ensure that levels of microfilariae in the blood remain below those necessary to sustain transmission. For the yearly, single-dose, 2-drug regimens being advocated (albendazole [400 mg] plus diethylcarbamazine [DEC; 6 mg/kg]; or albendazole [400 mg] plus ivermectin [200 mcg/kg]), this period has been estimated to be 4-6 years, corresponding to the reproductive lifespan of the parasite”.

For *intestinal parasites*, the Partners for Parasite Control[[8]](#footnote-8), recommend a combination of mass treatment of school children and improvements in water, sanitation and hygiene. In the short-term, morbidity will be reduced by: (i) access to drugs (PZQ + broad-spectrum antihelminthics) and good case management in all health services; (ii) regular treatment of at least 75 percent of school-age children; and (iii) targeting other high risk groups (young children, women of childbearing age, occupational groups) through existing public health programs and channels. For long-term sustainability, addressing environmental health aspects will be required, including: (i) improving access to safe water and sanitation; and (ii) improved hygiene behavior through health education.

*Addressing Inequalities*

A common theme across all the interventions discussed above is the need to reach the poor. The UN Millennium Project report highlights the variation in health status and access to health services among different population groups, and in different geographic locations.[[9]](#footnote-9) In particular, poorer people tend to have poorer health and poorer access to health services.

There are essentially two approaches to reducing these health inequalities. One is to target the poor, identifying poor households and providing them directly with cash, goods, or services; or re-distributing health services to geographic areas within which a high proportion of poor households are found. The second approach is to improve the health status of the poor by seeking universal coverage of health services. Within the second approach, however, it is critical that specific measures to reach the poor be included.

**APPeNDIx 2**

**Review of health sector policies**

**Basic Sector Policies**

The Government of Timor-Leste through the MOH has formulated a substantial set of policies for the health sector. In this chapter, the main policies formulated so far are summarized, distinguishing between “Basic Policies” –broad policies that cut across the sector—and “Micro-Policies” that pertain to specific programs. The chapter then gives an assessment of the process of policy development itself. The chapter closes with a section on the mechanisms that are being utilized for implementing the policies.

Three “Basic Policies” have been formulated so far: (a) the Health Policy Framework (June 2002); (b) the Basic Package of Health Services Policy” (March 2004); and (c) the Private Sector Policy (December 2003). These three Basic Policies are discussed below.

*The Health Policy Framework (June 2002)*

The Health Policy Framework defined the mission of MOH as “providing quality health care to the population of Timor-Leste by establishing and developing a cost-effective and needs-based health system which will specially address the health issues and problems of women, children and other vulnerable groups, particularly the poor, in a participatory way.” Beyond this general statement of mission, the Health Policy Framework set several important principles to guide the development of government health services.

* *Priority setting*. A “Basic Package of Services” would be selected and given priority over other, less essential services. The services in the Basic Package would be chosen taking into account the incidence or prevalence of the disease or condition, the probability of a patient suffering severe disability or death from it, and the availability of cost-effective interventions. Prevention and promotion interventions would generally have a higher priority than curative care.
* *Decentralization of Services*. The planning and management of government health services were to be gradually decentralized to the district level.
* *Service Delivery System*. Primary health services would be located within a distance of 4-8 km from the household. The nearest services to the community would be delivered through a network of Health Posts staffed with a team of one nurse and one midwife, able to deliver a minimum package of curative and preventive/promotive care. To complete coverage, a number of mobile clinics would deliver services on a twice-per-week basis in remote areas. These facilities would be coordinated through a sub-district Community Health Center with no impatient services. At district level, one Community Health Center, normally located in the district capital, would offer medical care either ambulatory or by admission (inpatients). Depending on vicinity of larger hospital facilities, inpatients would be admitted to an observation unit with two to four beds for pre-referral stabilization of severe cases (observation and application of treatment for less than 24 hours), or to a ward of 10-20 beds with a set of diagnosis support equipment including laboratory with capacity for essential tests. A more detailed description of the MOH’s service delivery system is given in Chapter IV.
* *Human Resources*. The development of human resources for the health sector would be based on three guiding principles: underserved areas and primary health services would be given priority in training and staffing; health services would be delivered by multi-skilled personnel through an integrated approach; and training programs should be delivered in the most cost-effective way.
* *Health Financing*. There would be no charges for services at the government’s primary health level facilities, but charges would be phased in for secondary and tertiary health facilities.
* *Drug Policy*. All drugs would be registered, either as part of the National Essential Drug List or as part of a Non-Scheduled Drug List allowed to be imported with special justification. There would also be licensing of private pharmaceutical services. An Autonomous Medical Supply System would be established to regulate importation of drugs, and to store and distribute drugs.

*The Basic Package of Health Services Policy (March 2004)*

The Basic Package of Services (BPS) is meant to define the scope for government funding of services. It would be the minimum range of services the public could expect from government health facilities. The BPS Policy comprises five components: key service areas; component of each service; levels of service; foundation of District Health Plan; and policy development.

The key service areas listed in the BPS are maternal health, child health, communicable diseases, non-communicable diseases, health promotion, and environmental health.

The minimum component of each service that public primary health care facility will provide to the community will embody monitoring of public health, prevention and promotion interventions, diagnosis, treatment, referral, rehabilitation, and environmental health.

There would be three levels of service, namely, community entry level, first referral facilities (Community Health Centers), and second referral facilities (Regional Referral Hospitals). The community entry level into the public health services would be the health posts. These posts would ideally be within two hours walk for their catchment community. Where there is no health post available, a mobile clinic would provide basic services on a regular basis. Health posts services are referred to as Level 1 services. First referral facilities (Community Health Centers) would provide a higher level of services than the health posts , have a wider range of staff and provide mobile clinic services and technical and managerial support to health posts. CHCs would have the responsibility of coordinating all sub-district health services to ensure the BPS is available to all citizens. CHCs would be graded according to the size of the catchment population and distance from higher referral facilities. There would be three levels of CHC within the public health system, referred to as service levels 2, 3 and 4. Second referral facilities (Regional Referral Hospitals) would be the second level of referral. This level would offer a more comprehensive level of services, a level not defined in the BPS policy.

*Foundation of District Health Plan*. District Health Management Teams would develop an evidence-based annual plan for delivery of the BPS by each health facility, identifying what would be done to increase coverage, improve quality of interventions, and allocation of appropriate resources for each intervention. Sub-district health plans would be developed to support the facilities in delivering the BPS. District health plans would include the activities of NGOs and other non-government providers. District Health Plans would comprise facility level, sub-district level and district level plans.

*Policy Development*. The delivery of the BPS would be supported by appropriate policies, protocols and guidelines. Policies would be developed by Central Service Directorate units in conjunction with district management teams and health workers. Protocols and guidelines would be developed to identify relevant standards suitable for the conditions and environment of the health services.

*Comments on the Basic Package of Services Policy*

Policy formulation follows a rational model for defining health priorities and basic interventions needed to impact the population’s health. The key areas selected are consistent with health needs and availability of affordable and effective interventions. The hierarchical structural organization of the health sector provides a logical range of coverage of basic services. The health plan component of the strategy, however, seems to be more ambitious than the capacity building of most of the health workers is, at the moment, ready to undertake.

*The Private Sector Policy (December 2003)*

The Private Sector Policy sets the principle that Timor-Leste’s health system would be pluralistic, based on a mixture of public and private provision and financing of health services. The MOH would continue to be the dominant provider and financier of public health services while the private sector would complement and supplement the provision and financing, particularly in underserved areas.

The Government would develop an enabling environment for private sector and NGOs participation in the health sector through creating forums and avenues for dialogue between the public and private sectors, exploring incentives to encourage provision of health services, and issuing relevant legislation to facilitate registration and licensing of private and NGO health providers. Minimum quality standards for private health facilities would be developed and issued in the form of regulation.

The MOH would define a set of core health services that would be financed and delivered by the government. Health care services outside these core services would be privately provided and financed. Contract of private provider service in areas where the MOH is not able to provide services would be considered.

**The Micro-Policies**

The Basic Policies are in the process of being complemented by a series of “micro-policy” formulation, each of them dealing with a particular program. So far, nine such micro-policies have been formulated by MOH: Reproductive and Health Strategy (September 2004); Integrated Management of Childhood Illnesses (IMCI, June 2004); National Nutrition Strategy (July 2004); National Immunization Strategy (July 2004); National Strategy for the Elimination of Lymphatic Filariasis and Control of Intestinal Parasitic Infections and Yaws (June 2004); National Mosquito-Borne Disease Control Strategy (in draft, September 2005); National Tuberculosis Strategy (July 2004); National Mental Health Strategy (November 2004); and National Oral Health Strategy (June 2004).

A brief assessment of each policy is given below, in tabular form.

|  |  |
| --- | --- |
| **Micro-Policy** | **Assessment** |
| Reproductive Health Strategy (September 2004) | The policy is consistent with international practice: emphasis on rights, reproductive health choice, integrated services, life cycle approach, integration with HIV/AIDS, role of men, importance of young people. The policy is also sensitive to the cultural and religious situation of Timor-Leste, particularly in the area of family planning, where targets focus on the ability of providers to convey information and services rather than on contraceptive use rates. The policy is comprehensive, and provides little indication of priorities. In terms of service delivery, the policy indicates that basic obstetric emergency care and technical contraceptive services such as insertion of IUDs can only take place at CHCs Level 3 and above, which would limit the access to these services significantly, and needs to be considered in relation to the BPS. |
| Integrated Management of Childhood Illnesses (June 2004) | The policy is consistent with current international best practice, including the incorporation of a community component. It deals explicitly with the health system support requirements in implementation, which is an essential ingredient for success of the IMCI strategy. However, the policy does not relate the strategy to the BPS in terms of levels of implementation of responsibilities. In particular, it does not clarify the levels for referral and treatment of children who require inpatient treatment. Also, the community approach appears as a “stand alone” approach around IMCI, but ideally it should be integrated with a more comprehensive approach to health and wellbeing.  |
| National Nutrition Strategy (July 2004) | The policy provides broad directions for nutrition programs in the country which are largely consistent with international best practice. The document focus is on the objectives and interventions to be deployed, and provides little guidance on the proposed process for delivering the interventions and the capacity needed. Annex 1 of the document, which deals with the key interventions, recommends monthly growth monitoring only to 12 months of age, and then “periodic growth monitoring and counseling two times per year” for children 12 to 59 months. Given the fairly high rates of malnutrition, including in the second year of life, it might be wiser to continue with more frequent monitoring in the second year. |
| National Immunization Strategy (July 2004) | The policy is consistent with international guidelines and best practice, and appears appropriate to the conditions of Timor-Leste. |
| National Mosquito-Borne Disease Control Strategy (draft, September 2005) | The policy is consistent with international best practice guidelines. |
| National Strategy for the Elimination of Lymphatic Filariasis and Control of Intestinal Parasitic Infections and Yaws (June 2004) | The policy is in agreement with international best practice which recommends the use of a single-dose co-administration of two drugs (ivermectin + diethylcarbamazine or albendazole). Field studies confirm that such approach can interrupt transmission. The policy is also consistent with the epidemiological situation in Timor-Leste. |
| National Tuberculosis Strategy (July 2004) | The policy complies with best practice for tuberculosis control. The program is under the guidance of WHO for the screening and treatment of identified cases. |
| National Mental Health Strategy (November 2004) | The policy is consistent with international mental best practice, which emphasizes the need for community-based mental health services. The community-based approach is consistent with MOH’s emphasis on primary health care and health promotion and prevention. It is also appropriate in terms of the limited resources available to the health care system in the country. The model has been developed and tested under the ETMNHP, and can be seen to be feasible in a project context. However, transfer of project-based interventions to a national program is always difficult, and will need adequate monitoring and review. While the policy refers to an implementation review, no date is given, and no monitoring or review indicators are provided. The key resource for the policy is the establishment and ongoing support for Specialist Mental Health Workers at district level. These are generalist nurses who have received training under the ETMNHP. They will clearly need ongoing supervision and support, which will require sufficient resources from the central level; one psychiatrist may not be sufficient.  |
| National Oral Health Strategy (June 2004) | The approach in the policy uses a good mix of international practices and appropriate technology, while being consistent with MOH’s broad policy: it has an appropriate focus on promotive and preventive activities, while providing a basic level of referral service for individual symptomatic treatment. The policy also provides for a public/private mix in the provision of services which appears appropriate in this context. The resource requirements appear reasonable, although further work is needed on identifying the numbers and skills of the oral health workforce required. However, there may be significant resource requirements for the training and supervision of this workforce, as well as areas such as the research component, which will require technical skills not currently available in Timor-Leste. The policy refers to an Oral Health Human Resources Plan which may address these issues. |

It should be noted that so far there are no micro-policies dealing with non-communicable diseases. This is a gap that needs to be filled.

**Assessment of the Process of Policy Development**

The MOH has issued guidelines for the development of health policies. The guidelines state that health policy development must: (i) involve the MOH’s Department of Policy and Planning, the line manager/department within MOH responsible for the particular area to which the policy pertains, and the sponsoring international agency if any; (ii) include consultations with the relevant stakeholders; (iii) be evidence-based; (iv) be complementary of other existing policies; (v) be either endorsed as internal documents by the Minister of Health, or forwarded to the Council of Ministers. Moreover, the guidelines establish that service units will ensure that the technical aspects of the proposed policy are appropriate in view of the MOH’s service system, and that proposed strategies for implementation fall within the appropriate mandates of the various MOH departments. The Policy and Planning Department is to provide general oversight, assist with prioritizing, and review and comment on drafts.

In practice, health policy development has involved significant input and advice from technical advisers and donor agencies, which has assisted in ensuring a high degree of awareness and consistency with international best practice. However, it seems that donor and UN agency support have also had a major say in determining which policies are developed (as well as funding the technical assistance for the development process). In some areas, such as MCH and CDC, there are already several “micro-policies”, while in other areas, such as Environmental health, there are no policies at all.

There appears to be a reasonable sense of ownership and commitment to the policies from the MOH, and in some cases quite extensive stakeholder consultation has taken place both within and outside the MOH.

In general the policy documents are of a high quality, though fairly lengthy, some with extensive annexes. There is a risk that as the number of policy documents grows, they will together amount to a forbidding body of written material –both from the point of view of their absorption by those who are charged with implementing the policies, and for those who have to monitor implementation. Short executive summaries would clearly be useful.

There is also a need for a clear process to determine which of the existing policies require further development, or changes (since it would be desirable that the policies are seen as living documents), and which additional policies are desirable. It may be appropriate to distinguish levels of policy, restricting the term “policy” to key core documents, and using a term such as “guidelines” for program level “strategy” documents, enabling more ready review and clarity in terms of consistency with core policy documents

Although some of the policies are referred to or titled as “strategies”, there is considerable variation in the extent to which the documents address *issues of implementation*. Most of the documents are limited to a description of the policy goals and components, and tend to neglect implementation issues, in particular the assessment of the capacity of the system to deliver the proposed interventions, and the resources or capacity development that might be needed.

With the progressive development of an ever growing number of program policies, issues of consistency with basic policy documents, such as the BPS, and consistency and integration among the various program policies (“micro-policies”) would become more of an issue. There is a risk of progressive additions to the sector’s resource and capacity requirements on account of each additional program strategy straining the BPS framework. The process also produces a certain tendency for the development of a series of “vertical” programs, each with their own objectives and requirements, which are not well integrated or coordinated. There is the risk of competition occurring among the programs, particularly where programs are supported by different donors, and have some independence in their resources, and donor pressure to expend assistance.

**APPeNDIx 3**

Health Service Delivery and Utilization in Timor-Leste:

A Qualitative Study[[10]](#footnote-10)

May 8, 2005

**Table of Contents**

I. Introduction

II. Findings

Part 1: Health seeking behaviour and barriers to the utilization of health services

Part 2: Problems in service delivery and human resource issues

III. Discussion and policy implications

References

Annex I: Methodology

Annex II: Matan dook treatments

I. Introduction

Since independence, the health sector in Timor-Leste has achieved considerable progress in re-establishing provision of basic services and rebuilding facilities destroyed in the post-referendum violence. Timor-Leste, however, continues to struggle with a high burden of disease. Poor health is related to some factors present in many developing countries: environmental sanitation, poverty, food security, a shortage of doctors, and the difficulty of reaching some rural communities. Some problems are more specific to Timor-Leste: violence during the Indonesian occupation, the destruction of the health care sector, and a situation of “medical pluralism” in which long established practices of home care and treatment by traditional healers co-exist with recently introduced biomedical services. Furthermore it is worth keeping in mind that a comprehensive system of primary care was only established relatively recently, in the late 1970s, by an occupying power. Another challenge the health sector faces is client low utilization of health services. The 2003 Demographic and Health Survey (DHS) reports that about a fifth of poor households have never used the health care facility closest to their house. While it is clear that many households are unwilling or unable to access health care, the reasons for these barriers are poorly understood. One aim of this report is to help fill this gap in knowledge by providing contextual information on health seeking behaviour.

A second aim is to shed light on human resource challenges in the health sector. In recent years, there has been broad agreement that human resources have been a neglected aspect of health system development in the developing world (Mills et al 2002). In many countries, larger private sectors have contributed to out migration, an erosion of public service mentality, and practices such as informal charging . There has also been a growing acknowledgment of the power of the health worker to affect health outcomes (Chen et al 2004). Policy makers have recognized that health workers are active agents, responding to changes in labour markets and health crises (Lindelow et al 2004). This report is intended to contribute to an understanding of health worker concerns and performance problems in Timor-Leste based on group discussions with nurses and midwives.

Research addressed the following two themes, in both the public and private sectors:

* Health care seeking behaviour and especially the determinants of low levels of utilization of health care.
* Human resource issues, including factors affecting health workers’ job motivation, satisfaction, and performance.

Each of these themes was explored in both rural and urban regions. Research participants and research sites were selected in order to obtain comparative information on government and NGO providers in both urban and rural areas. NGO providers included the two largest in the country: the Cooperativo Café Timor and the network of Catholic clinics. Methodology consisted of focus groups and semi-structured interviews designed to elicit detailed, contextual information that cannot be collected as part of large, representative studies (see appendix for more information).

As part of the first phase of the Health Sector Review undertaken by the MoH and the World Bank, the research addresses several areas of policy relevance: causes of service delivery problems, community perceptions of health care providers, human resource challenges, access to health care in urban and rural areas, and the capacity of the private sector to support health objectives.

II. Findings

This section has two parts. In the first part, the report discusses barriers to the utilization of health services. It also analyses client health seeking behaviour and factors that influence choice of provider. The second part discusses problems in service delivery and human resource issues, drawing primarily on the perspectives of health care workers.

**Part 1: Health seeking behaviour and barriers to the utilization of health services**

To understand barriers to health care, it is necessary to look first at how illness is diagnosed and perceived by clients. Health workers and clients do not of course classify serious illness or health risks in the same way. As many studies in medical anthropology have shown, systems of ethnomedicine are highly variable and deeply embedded in cultural notions of cosmology, ecology, death, personhood, sexuality, etc. (Chapman 2003, Scheper-Hugues 1992, Kleinman et al 1978). Furthermore, folk diagnosis and treatments of illness persist long after contact with biomedicine (Jefferds 2002). In the case of Timor-Leste, it should be emphasized that a comprehensive health care system was introduced only in the last 30 years, and under inauspicious historical circumstances. While it is beyond the scope of this study to provide a detailed description of traditional concepts of illness and healing in Timor-Leste, a few points affecting health care utilization are worth mentioning.

Research suggested that clients make health care decisions within a context of medical pluralism. As is the case with many syncretistic religions, faith in the dominant explanatory model and practice does not preclude continued adherence to tradition. Client attitudes suggested openness to applying different diagnostic criteria and treatments, even when their underlying principles seem to be contradictory. Rather than a simple opposition between biomedicine and ethnomedicine then folk perceptions of biomedical disease aetiology co-exist and combine with various forms of traditional knowledge. These “syncretic models” often deviate significantly from the biomedical models that clinicians and health promoters intend to transmit, and can affect health outcomes (Muela et al 2002).

**Ethnomedicine and perceptions of disease aetiologies**

Many clients distinguish physical and “non-physical” causes of disease. Physical vectors -- knowledge of which is garnered from contact with health workers and health promotion materials -- include mosquitos, garbage, dirt, and the rainy season. But clients also mention other causes of illness: violations against the sacred house; neglect of ritual duties towards the dead; black magic motivated by jealousy; and malevolent spirits.[[11]](#footnote-11) The cause of a particular illness is sometimes decided retroactively, according to the effectiveness of treatment. For example, an illness that does not respond to “foreign medicine” (aimoruk malai) may indicate an underlying magical aetiology. A traditional healer (matan dook) explained how he divined the cause of fever:

*I can tell when a person gets sick by chewing betel-nut and using candle light … If a doctor can not cure a fever it means that it was caused by either black magic or not following the rules of the sacred house. (Matan dook)*

*We can not just sit at home ‘marinating’ [i.e. as victims of black magic]. If the doctor can’t help, it doesn’t mean he’s not good, but we’ll have to find people who know Timorese medicine to help. (Matan dook client)*

Another distinction sometimes made is between “outside” and “inside” (moras husi laran) disease, with the latter requiring “foreign medicine.”

*Diseases that come from the inside require a visit to the clinic, because they don’t get better quick enough with herbal medicine. (Rural client)*

However, herbal medicines may be used both topically and internally and matan dook do not generally limit their field of expertise to the treatment of wounds or skin ailments.

Group discussions did not explicitly address the complex issue of mental health. Some clients did cite mental illness though as an example of a kind of disease that can not be cured by “foreign medicine.”

*If you have an internal infection then you need to get hospital treatment. But if you have mental illness you can get medicine from the hospital but it will only calm it down, not cure it. Eventually you’ll need traditional medicine to be cured. (Rural client)*

Perceptions of illness aetiology are thus important because they influence the type of treatment sought. Blood, which is classified into various good and harmful forms, also figures centrally in community knowledge and practice. Red blood (raan mean) is healthy blood, while white blood (raan mutin), black blood (raan metan), and dirty blood (raan foer) are associated with various health problems and require preventative and curative measures. For example, black or dirty blood in postpartum women must be expelled by heating the body –through drinking hot fluids and the practice of “sitting fire” (tuur ahi). Black blood can also be caused by head traumas or surgery. “White blood going to the head” is considered to be a serious health threat to postpartum women. This condition is triggered by contact with cold air or water and can cause pallor, dizziness, or even madness and death (Van Schoor 2003). Van Schoor suggests that the symptoms of a “white blood” infection resemble puerperal psychosis linked to genital sepsis. Regardless though of whether local disorders have a biomedical equivalent, they are important for understanding health seeking behaviour, and may profitably be addressed by education and health promotion efforts.

**Perceptions and misunderstandings of biomedicine**

Attitudes towards biomedicine or “foreign medicine” (aimoruk malai) are generally positive. However, it is worth pointing out that even where biomedical illness terms have been adopted, clients may underestimate the health threat. Malaria, for example, is often classified as a “normal” rather than as a serious illness. This informal rating of illness severity may lead patients to delay or forego medical treatment.

*My parents are not educated and so when there is fever or another illness in the family they think it is nothing. I might think it’s better to go to the hospital, but the will say it’s better to use traditional [i.e. herbal] medicine. (Urban client)*

Folk perceptions of “foreign medicine” also have implications for pharmaceutical demand and compliance issues. Clients rate pharmaceuticals according to the form in which they are administered and their “strength.” For example, due to a belief that injections (sona) are more powerful than orally administered medicine, nurses may be pressured for inappropriate injections (there was also a report from an expatriate doctor needles being reused in some regions). Availability of sona may also affect provider choice.

*Sometimes if we go to a clinic they just give us medicines, and some clinics give both injections and medicines. In this case we prefer go to the one that can give us both injection and medicines. (Urban client)*

*In my CHC they don’t give any injection, they just give medicines, and the medicines sometimes cannot cure the disease. I think if it’s fever they must give an injection to the patient. (Urban client)*

On the other hand, perceptions of certain pharmaceuticals as being too “strong” may also affect health seeking behaviour. A belief that an injection can kill a patient, especially a child, with a high fever can lead to delays in or avoidance of treatment. (This belief may be traceable to fever associated with vaccines.)

*If a kid with a high fever is taken to the hospital the nurse will give him an injection. But many people believe that if you have a fever you can die from an injection [because it is too strong] and so they are afraid to take their kids to the hospital when they have a fever. (Urban client)*

Another possible health implication is that pharmaceuticals not perceived as “powerful” will be rejected, or that resources will be wasted on buying patent forms of pharmaceuticals. For example, a pharmacist argued, “patent antibiotics are more powerful” than the generics available at government facilities: “Most people prefer to buy the patent one but this is only for people who have money.”

**The decision to seek health care in a context of medical pluralism**

How do folk disease aetiologies affect health seeking behaviour? Treatment options generally fall within four broad categories: self-treatment with traditional (herbal) medicine, self-treatment with pharmaceuticals, consultation with a traditional healer, and treatment by a biomedical provider. Complex factors affect which of these -- or which combination -- is chosen. Patients may consider past experiences with various providers, the familiarity and severity of the illness, and ease of access to clinics. In some cases, the perception of the cause of the illness will also affect the decision.

We believe that some illnesses require treatment by a traditional healer (matan dook), those illnesses that are caused by the sacred house (uma lulik). The matan dook can tell what is wrong by taking betel nuts.

In other words, disease aetiologies that fall outside the categories of biomedicine may require the intervention of a traditional healer.

At this point, it may be useful to point out that there are several types of traditional healers offering services in Timor-Leste. Note that most of these practitioners may also be referred to by the Indonesian term dukun.

*Matan Dook (literally “eye far”): a kind of shaman, usually a man, who practices divination and performs various rites, which may involve animal sacrifice, candle smoke, and betel nut chewing. Some matan dook have national reputations and attract patients willing to spend considerable amounts of money on their services. One matan dook in Dili, for example, claimed to have a clientele that extended from Lospalos to Maliana, Portugal and Australia and to have cured 3000-4000 people between 1979 and 2005. Some matan dook incorporate aspects of Christian ritual into their practice, such as praying with rosary beads.*

*Tohar: a bone setter*

*Ema Aimoruk Timor: herbalist*

Daya or Liman Badain (“hand workers”) or simply Tia Ferik (“old aunt”): Birth attendants who administer massage to pregnant women and assist with deliveries and postpartum care. Some also use various herbal preparations. Some can use their hands to turn a baby in breech position or relieve pain during a miscarriage. They usually treat only local women (See Van Schoor 2003).

The category of “traditional healer” thus includes several types of practitioners who employ a range of practices, only some of which may be of potential concern to policy makers. Some herbal preparations of course have therapeutic benefits, though more research is needed on the pharmacological properties of plant-based medicines used in Timor-Leste. Other practices, such as the postpartum tuur ahi (“sitting fire”), may contribute to respiratory infections, for example. Even where practices cause no direct health problems it may be asked whether reliance on traditional healers leads some clients to delay or forego biomedical treatment. How do the various traditional healers affect health outcomes?

This report can not provide a comprehensive answer, but we can make a few points based on group discussions with clients. “Foreign” and “Timorese” medicine are seen as complementary. “When one fails, try the other” often seems to be the logic behind health seeking decisions. Traditional healers and birth attendants also appear to have a generally favourable view of biomedicine, and will in some cases encourage clients to seek care at CHCs or hospitals, though there is no organized system of referrals in place. Sequential treatment is common. Patients who cannot be cured at a clinic are commonly taken to a matan dook (and vice versa). Which option is chosen first, however, varies. In some cases, performing a ritual (adat) is a necessary preparation for a successful visit to a hospital or clinic.

*Some women who are bleeding too much before the baby is born perform a ritual activity before they come to the hospital. So when they get to the hospital they are already unconscious. I am not sure why they do this but I guess this is their belief: if they don’t do a ritual then they will not get cured when they go to the hospital. (Rural worker)*

Reliance on traditional healers, however, also leads some clients to seek out biomedicine only for very advanced illnesses.

*Some of them have been to a matan dook and perform a ritual for about a week or more, and if they don’t get cured then they will come to the hospital. But some come here when death is a few hours away and we can not do anything. (Rural worker)*

The treatment’s failure in these instances will of course not add to confidence in “foreign medicine.” Nurses complain of a kind of vicious circle whereby users do not have confidence in biomedicine and so delay seeking care, thereby prejudicing the success of the treatment. The patient will then be confirmed in her belief that the health worker is not skilled.

The problem is significant enough that some rural nurses advocate health promotion that addresses community reliance on traditional healers and birth attendants:

*I think there must be a team to go to the community to explain to them how important it is to seek health care, because when they get sick they perform a ritual first before they come to the hospital and they think they get sick because they didn’t perform a ritual activity. (Rural worker)*

*A lot of people here still perform ritual activity, or go to dukun when they get sick. Some even say, “If medicines can not cure you, and if you don’t perform a ritual activity, then you just wait to die.” So when some one says this, it will affect other people in their community psychologically. So they will start to give their cows to the matan dooks instead of selling the cows to get money for treatment food. (Rural worker)*

Attitudes towards traditional healers varied considerably, apparently independently of indicators such as income, education, and gender. In some areas of the coffee-growing regions, according to nurse staff, there has been a decrease in visits to matan dook and TBAs. Some poor people, for example, avoided matan dook -- either because they couldn’t afford them or because they didn’t trust them. On the other hand, some middle class, urban residents are regular clients willing to spend considerable sums of money on cures.

When my older sister was sick we took her to see all the doctors at the hospital but they all said the problem was blood pressure. We found then a matan dook in Maliana and witnessed the ritual he performed on my sister. When he finished, he charged $350, and before we left he wanted us to pay the whole amount. Finally we gave him $300 plus some animals and he promised to come back in two days. But he didn’t come back and my sister died soon after.

Such experiences do not necessarily undermine faith in traditional healers. The lesson drawn from this particular incident was that “there are two kinds of matan dook, one helpful, one deceitful.”

Opinions towards biomedicine and traditional healers may be split within a household. For example, the father and maternal relatives of a boy who had broken his arm disagreed about whether he should be treated in the hospital or by a traditional bone setter. In the end, the father prevailed, and the boy was taken to the hospital. When the bone failed to heal, however, the boy’s maternal relatives became angry with the father, arguing that the child should have been taken to a traditional practitioner.

Finally, it should be pointed out that some clients of traditional healers are hesitant to talk to researchers because some matan dook have bad reputations. Some East Timorese also believe there may be something “primitive” or shameful about traditional healers. For these reasons, the DHS and other surveys may underestimate community use of traditional healers and birth attendants.

In sum, perceptions of disease aetiology affect health care decisions. Attitudes towards “foreign medicine” are generally positive and even regular clients of traditional healers display a willingness to also seek out biomedicine. But there is a considerable range of attitudes towards traditional healers. Traditional healers and birth attendants continue to attract a fairly large clientele, although several research participants avoid their services altogether. Reliance on traditional healers or self-care may have a larger negative impact on reproductive health, which is often ranked low as a health risk.

**Staff attitudes to patients and community relations**

It was beyond the scope of this study to conduct a service quality assessment. Information is based primarily on clients’ perceptions and a few comments from nursing staff, doctors, and managers. Since the objective of this report is to shed light on problems in health service delivery, we devote less space to describing the positive experiences of health care workers and patients. There was a general consensus that “health workers are important members of the community.” Many patients reported that nurses and midwives were “friendly,” “trustworthy,” and “skilled.”

*Personally I trust the health workers. If they are working in the hospital it means that they have the capacity to do their job as nurses, doctors and midwives. If they didn’t know how to play their role as health workers then I don’t think that they would be working in the clinics. (Rural client)*

However, staff rudeness and negligence was a theme that came up frequently in discussions with clients and to some extent with health workers themselves.

*Their job is more important than the priest’s or the nun’s, because they are the people who can save your life. I always trust them because they have studied, taken an oath, and trained for the job. I think they have enough skills but the service they give to patients is very poor – that’s where they need more training. (Urban client)*

*If we say we don’t understand something the nurses scold us or tell us to go clean up our ears so that we can hear better. We are scared to ask questions. (Urban client)*

Cavalier attitudes can make some clients reluctant to seek out health care.

*I had a friend who an accident on her motorbike. She was almost dead but when we brought her into the emergency room the nurses scolded her. They said, ‘We are not your slave to correct your mistakes. Before you were enjoying yourself and now you come to look for us.’ This makes us scared to go to the hospital. (Urban client)*

Some clients also reported that government nurses did not explain pharmaceutical regimens adequately.

*They don’t explain anymore how to take the medicine. If you don’t understand and you ask them, they get angry and scold us. It is worse when they give instructions saying 3 x 1 or 2 x1. If you ask they respond saying ‘go check yourself.’ (Urban client)*

Several clients complained that those with connections at the clinic received preferential treatment . . .

*If they know you they will attend you first even though you came late. If they don’t know you you’ll be the last person even if you came early. (Urban client)*

. . . which can in some cases lead patients to seek out private providers (see below for more information on provider choice)

*If there are still lots of patients waiting, they won’t attend us, they’ll go for lunch. They don’t care whether you are sick or not, therefore we feel that we’ll be better off at the Catholic Clinic. (Urban client)*

Some health workers also discussed problems in service interactions, though they tended to relate them to overcrowding of clinics.

You can’t be soft with them, or they won’t delivery the baby properly. They won’t push hard enough, and this might even kill the baby. We had training to understand better how to understand their pain. But some of us are still rude.

In at least one of the coffee regions, resentment among coffee farmers about low prices paid for coffee beans is affecting community perception of the Café Timor clinics:

*They say, “Those who are working in the CCT clinic are doing business,” so they don’t like us sometimes. This is a big problem for CCT … recently in they stole the SSB radio from one of our clinics. The community thinks that the coffee price is too low and they think we rip them off. Some of them say, “They are selling our coffee and bringing medicines to us” [i.e. instead of paying a fair price?]. (CCT worker)*

Another nurse though noted that hostility was reserved solely for the commercial, and not the health, division of the Cooperativo Café Timor.

*We are in a different division from the one that buys coffee. Sometimes because they don’t pay well the farmers for the coffee people come and threaten them with machetes. But the community tells us not to be afraid and just come to do our job. (CCT worker)*

Overall, communities seem to have a generally favourable view of the CCT clinics, though it is worth noting that policies concerning commercial exchanges have the potential to affect client attitudes towards the clinics.

**Mistrust, fear**

Given the political circumstances in which many East Timorese first encountered biomedicine, it is not surprising that historically there has been some resistance to the use of government facilities. One “bad encounter” with biomedicine may be enough to discourage future visits.

*Once when my kid got a fever I took him to the hospital and they gave him a needle (sona) and straight away he died from this. And now I’m afraid -- so I just use the traditional medicine I plant in my yard. (Urban client)*

On the whole, a categorical refusal to seek health care, however, appears to be relatively rare (though various forms of “traditional medicine” are commonly used in conjunction with biomedicine – see above). There is fairly widespread confidence in the skills of health workers.

A USAID report on gender issues found that there was lingering mistrust of government health clinics in some areas due to abuses in provision of contraception during the Indonesian era (Diamond 2004). This complaint did not come up in our discussions. However, in one rural district, there was a report that community members who had supported integration with Indonesia were now afraid to visit the CHC.

**Fears about recovering the dead from hospitals**

There is a fear, especially in some rural areas, of hospitals as places “for dying.” This perception may dissuade some from following up referrals from CHCs to the regional hospital. Some clients believed there was a shortage of mobil jenazah, vehicles used to return the bodies of the deceased, compared to the Indonesian era. Or in other cases, there was a fear that costs of transportation would prevent the family from performing proper funerary ritual (see also Mize 2004:14). Reluctance to seek hospital care is due not only to the fear of dying. It is also linked to a perception that families often encounter difficulties in recovering the bodies of the deceased from hospitals and to cultural funerary practices and beliefs.

*Some people don’t go to the hospital because they think if they die at the hospital there will be no transportation to bring them back to their homes. (Rural client)*

*That’s why they don’t go to the Dili hospital. They think the hospital is for dying, not for getting better. They believe it’s not right to put the body on ice. They think, if we die our place will be that place, the “frozen place” (gelo fatin). The body has to be buried soon, at home, so the crying (halerik) can be done. If not, then any relative could get sick or have an accident [i.e. caused by spirit of the deceased]. (Urban worker)*

A failure to perform funerary rituals such as burial, crying, and payments to affines can thus anger the spirit of the deceased, and endanger his family.

*The cold place – that’s not for human beings. The spirit will get angry and keep chasing us … thinking why doesn’t my family do the rituals? (Urban worker)*

Physical access to clinics: distance, transportation and costs

Distance and transportation difficulties are major barriers to the utilization of health care facilities. According to the DHS, 25 percent of households have to travel two hours or more to reach their usual provider, a figure that rises to 35 percent for the poorest families. Furthermore, distance and difficult transportation were the dominant reasons cited by the16 percent of respondents who never use the health care facility closest to their homes. While discussions with clients generally support these findings, two qualifications can be made.

First, clients made clear that distance is not the only significant barrier to health care utilization, as we discuss in other sections of the report. And second, willingness to make the journey to health facilities also depends on the perception of the health risk. Given a long standing tradition of home birth and widespread views that pregnancy is not a health risk, distance and transportation problems are thus an especially significant barrier to hospital birth and ANC.

*The first time I gave birth my neighbour helped me. My husband went to look for a taxi but by the time he got back the baby was out already. I wanted to give birth at the hospital but there was no transportation. (Rural client)*

*I have ten children -- one is passed away and now I have nine children. I had the first one at the hospital, the rest I gave birth at home since we live so far away form the hospital. (Urban client)*

Preventative health care may also be neglected more quickly due to access barriers.

*Those people I know who live near by get a complete vaccination but those who live far away sometimes don’t complete the vaccination for their kids. (Rural client)*

Remote communities may also have inadequate access to emergency transportation.

*Here we don’t call ambulances because we are too far away and the road is very bad so the ambulance doesn’t want to come when we call it. (Rural client)*

Transportation costs can also be a significant barrier for rural communities. Since incomes for farming communities have substantial seasonal variations, there may be times of the year when there is simply no money available for transportation or health care costs. Some rural residents are also hesitant to go to the hospital in part due to fears of unknown costs.

*Since villagers don’t have money, they think twice about going to the hospital. They worry about having money for food, for transportation – or wonder what will happen if they have to stay overnight. (Rural client)*

Pharmaceutical availability

Another major theme in group discussions was the availability of medicine at both government and private clinics. The problem has unequal distribution. In both urban and rural regions, some clinics seem to currently have an adequate supply, while others experience periodic shortages. (Private clinics in Dili that have had problems with pharmaceutical supplies have requested government assistance.) Note that since the research did not attempt to evaluate management and administrative procedures, it is difficult to identify factors contributing to the shortages. One rural worker though claimed that with the centralization of the pharmacy supply system in Dili there has not been adequate management of supply at the district level.

Drug stockouts have a number of implications for health service utilization and health outcomes. Household expenditures on pharmaceuticals may be significant for the poor, directing scarce resources away from other areas vital to health.

*Sometimes we go to Dr. \_\_\_\_ [a private practitioner] to get cured. The problem is the medicine there is very expensive. During Indonesia times if you had $5 you could buy good quality medicine. But now you’ll have to spend $50-60. (Urban client)*

In rural areas, drug stockouts do not seem to have a large impact on provider choice. If a clinic runs out of a particular medication, patients will be referred, when possible, to another provider. In one rural area, however, a client requested that a mobile service formerly run by a Catholic organization resume service to his village because the CHC “never have enough medicine.” He was told by the nuns that they no longer continue the mobile clinic “because a CHC clinic has opened in your area.”

But in Dili, clients can procure pharmaceuticals from a greater range of sources, including a number of private practitioners, private pharmacies, or informally, from health workers. A pattern of stockouts may undermine public confidence in government facilities, leading some clients to go to private providers operating out of pharmacies as a first resort.

*Sometimes I spend up to $15 to buy the medicine that is prescribed by a doctor. I think the government needs to increase the quantity of medicine because there are so many patients and not enough medicine in the hospitals and clinics. (Urban client)*

The medicine in this clinic is stronger than the one at the main hospital. (Client at private practice attached to pharmacy).

*At the hospital, the medicine given is not complete or they don’t have enough medicine. Some people say that when they complain of illnesses such as fever, cough and cold to the doctor, at the end they only get cough medicine. (Private pharmacist)*

**Nurses also noted frequent delays in the delivery of pharmaceuticals**

*The lateness of the medicines really affects the services that we provide. Delays are some times up to a month or even more. In the pharmacy we have a formula to make the calculation but when we get the medicines they do not match our calculation. (Rural worker)*

Self-medication and treatment by inadequately trained pharmacy staff can themselves create health problems and leave clients vulnerable to misinformation about pharmaceuticals – a serious problem found in many developing countries (see Nichter 1996).

*Some patients go to buy medicines at the pharmacy without getting any prescription from the doctor. Some times they buy the medicine that is not right for complications that they have. The big question in my mind is sometimes the doctors give them the prescription but do they really have the money to buy the medicine? (Urban worker)*

In some cases, shortages have led clinics to provide less than a full course of antibiotics.

*If we don’t have enough, we give them just three days worth and then tell them to come back to get the rest in two to three days. (Rural health worker)*

Bottlenecks potentially contribute to drug stockouts. For example, there was a report of drug stockouts at one urban CHC due to overloading of the clinic with patients from other areas of Dili.

*One thing that can make us frustrated is sometimes a lot of patients come to [our CHC] and … we give them prescriptions but when they go to the pharmacy the drug is not available. This is because there are patients coming from other areas in Dili [i.e. which are served by other CHCs]. I think all the clinics provide the same medicines but we don’t know why they come to us while there are CHCs in those places. Anyway, when they come to us we can not refuse them. (Urban health worker)*

Some health workers complained about increased bureaucratic obstacles to maintaining pharmaceutical supplies compared to the system during the Indonesian era.

*In Indonesian times the bureaucracy was not that complicated because if you ran out of medicine you could just get a letter and show it to the person who is responsible for the medicine. But now you have to go through many processes to get the medicine. (Urban health worker)*

Low salaries for health care workers as well as the large number of unemployed nurses may be creating financial pressures to augment income through informal selling of pharmaceuticals.

**Provider choice: public and private**

Provider decisions are affected by a number of factors, including: distance, cost of treatment and transportation, staff attitudes, availability of doctors, perceived quality of service and pharmaceuticals, waiting time, cleanliness, and the urgency of the patient’s condition. The relative importance of each factor varies considerably. It should be pointed out that many clients do not perceive significant differences in service quality between NGO and CHC clinics but instead make their choices according to convenience of location. For some urban clients, the main distinction is not “government” and “private” but “hospital” and “clinic” – whether private or public (see below).

Cost is a significant factor for many. Even very modest registration fees charged by Catholic clinics, for example, discourage some patients from seeking care.

*“The [Dili CCT] clinic is for middle class people and the hospital is for normal people.” (Urban client)*

*“Only people with money can go to the clinics run privately.” (Urban client)*

However, many patients are willing to pay for a private health clinic, especially if it is located nearby, has shorter lines, allows for consultation with a doctor, or is perceived as having “better medicine.” Fees range from a registration card ($1 at many Catholic clinics) to a “full blood test” (around $10) to a consultation plus pharmaceuticals ($40 or more).

*Sometimes I go to the Catholic clinic because there are too many patients at the CHC and I don’t have the patience to wait. I don’t mind paying if it’s quick. (Rural client)*

For others, a belief that medicines available from private providers are more plentiful or “stronger” affects provider choice.

*The CHC only gives you medicine for two or three days. But Dr. \_\_\_ [a private practitioner] gives us a prescription to buy medicine that cures us. (Urban client)*

*If they have money then they will go to the nuns’ clinic because they will get an injection. But if they do not have money then they come to the other two clinics [i.e. CHC or CCT]. (Rural worker)*

*I usually go to the hospital to get the treatment but if the medicine is not working I then take them to this clinic [run by private practitioner] because the medicine here is stronger than the one at the main hospital. Even though I have to pay in this clinic my kids get well quicker compared to the main hospital. (Urban client)*

As we have seen, there was a willingness to combine traditional cures with biomedicine. Similarly, many clients do not hesitate to visit various providers sequentially if pharmaceuticals are not available or do not “work.”

*If the CHC runs out of medicine, they refer us to the Catholic clinic. Same thing if the Catholic clinic runs out of medicine, especially medicine for malaria. This happens often. (Rural client)*

*First we go to the CCT then if we don’t get better we go to the CHC. If the medicine still doesn’t work then we will go to the Catholic clinic, and then sometimes even back again to the CHC to get a referral letter for Dili. (Rural client)*

**Provider choice (in Dili): hospital versus clinics**

Some urban clients expressed a preference for the hospital over clinics, whether government (CHC) or NGO. This preference has a few implications. First, the policlinic at the Dili hospital may be overloaded with cases that would be more appropriately handled by CHCs or NGO clinics. Second, the preference for the Dili hospital policlinic may be related to the fact that patients are attended by a doctor not a nurse. One nurse reported a decline in client confidence in nurses since the Indonesian occupation due to a growing belief that they are an inferior or “lower class” version of a doctor.

*I think that in the Indonesian era people were more enthusiastic about coming to the CHC compared to now. I think they probably think that the CHC is lower class or whatever compared to some others – the main hospital, or [private] doctors, professors, specialists. They think that the doctors and the nurses who work in the CHC have a lower education and are not really trusting trust us. (Urban health worker)*

It may thus be appropriate to set up a triage system at the policlinic to make more efficient use of the doctors’ time (e.g. spending more time with patients who need a physician’s diagnostic expertise). And third, preferences for the policlinic may also indicate quality problems at CHCs.

*When I got sick I went to the CHC and they gave me medicine but didn’t do a blood test. I didn’t get better so I went to the hospital where they cured me after they did a test that said I had malaria. (Urban client)*

(It should be pointed out though that staff rudeness was encountered both at the hospital and at CHCs.)

**Maternal and child health and family planning**

The DHS reports that 90 percent of live births in the five years preceding the survey occurred in the mother’s home and that only 19 percent of mothers were assisted by medical staff. Pregnancy is generally not perceived to be a serious health risk. This is perhaps related to a generally low interest in preventative health or to a view that child birth, unlike serious illness, is just a part of everyday life. Nevertheless, it was not uncommon to hear parents express strong preferences for medically-assisted birth. Awareness of the health benefits that midwives and hospitals provide, however, often paradoxically coexisted with the continued practice of giving birth without a professional birth attendant.

*I think the hospital is the best place to give birth because there are doctors and midwives always standing by … I think giving birth at home is also good because there are traditional attendants or our grandmas who have the skill to deliver the baby. But this does not guarantee that the mum and the baby will survive during the delivery. (Rural client)*

*Sometimes I give birth at home and sometimes I give birth at the hospital. If I think I can handle it at home then I will giver birth at home, if I think I can not handle it better when giving birth at home then I will go to the hospital. (Urban client)*

High rates of home births without medical assistance and under-utilization of ANC, even among couples with higher levels of education, is due partly to a preference for following tradition or family precedents.

*Sometimes those who are quite well educated don’t want to come for antenatal care – maybe they think they know everything. Some come after 7 months and they discover their baby is abnormal. We ask them why didn’t they come earlier and they reply, “We got used to it, because we did the same thing with our first and second child.” (Rural health worker)*

A long tradition of procuring the services of traditional birth attendants persists in some regions . . .

*In every village there are a few dukun (TBAs) that help with deliveries. In the Indonesian era they were trained by the health department and used to work with the local clinic. Some women go to the dukun first … as long as the dukun can still help them they will not come to a midwife, even one who is nearby. Now the government has forbidden this but in the rural areas people still trust them (TBAS). (Rural worker)*

. . . Even though some TBAs expect a valuable gift in exchange for their services.

*If they go to a dukun (TBA) they have to give a pig or tais (woven cloth) after the child is born. I think they probably don’t understand if they come to the hospital they will pay nothing. (Rural worker)*

In-laws may have considerable influence over their daughters-in-law in making decisions about ANC and where to give birth.

*Sometimes their mother-in-law assists them at home in giving birth, that’s why they don’t come to see a midwife. Because their mother-in-law told the mother that she has assisted many childbirths in the family. (Rural worker)*

In sum, knowledge is not enough. Even when respondents believe that medically-assisted deliveries are safer many still choose to give birth alone or with the help of a relative or TBA. (There has been a considerable rise in deliveries at the Dili hospital in the past two years, however, according to an expatriate Ob/Gyn.)

**Part 2: Problems in service delivery and human resource issues**

**Training**

Demand for more training was high among health workers in both the private and public sectors and in urban and rural areas. Some workers stressed the need for all nurses to be included in trainings

*If there is a training from the government they will include only one or two people from our district to attend. There are quite a lot of our friends here haven’t attended a training . . . The rest of us can only rely on the knowledge that we got at school but there has been so much change in the medical domain. So if it is possible we are asking the government to involve all of us in the future trainings. (Rural worker)*

Private sector workers repeatedly requested inclusion in government training programs.

*If possible trainings should also involve those of us from NGOs because the services we provide are not only for one or two patients but for the community in general. (CCT worker)*

*If it is possible, we are asking the government to involve private health workers in the future trainings. So far, CCT has not been involved in any trainings. (CCT worker)*

*I am from a Catholic clinic, and some of my midwife friends from the CHC have attended some trainings such as “safe motherhood” but we as private sector workers have not attended any such trainings. So I suggest that the private sector needs to be included in the coming trainings. (CC worker)*

Some nurses requested additional training in prescribing pharmaceuticals.

*Now we have a national drug protocol so if it is possible we are asking the government to hold a training on drug use for all of us. I think we have a problem with prescription, which is very inefficient. (Rural worker)*

Another theme that came up in group discussions was the need for follow-up assessments of the effectiveness of training programs.

*I don’t think it is enough for us to only attend a training once only in a while. I think they need to have a program to review the previous training in order to assess whether it was enough for us to do our job. If it is not enough the same training needs to be hold next time. (Rural worker)*

**Compensation and pension**

There was a general feeling among workers at different types of providers and in different regions that compensation was inadequate. Note there are significant differences in NGO, Catholic and government health worker salaries: Government workers earn US$123 at level 3 and US$155 at level 4. Salaries in Catholic organizations tend to be somewhat less, while CCT nurses earn around US$220 at a comparable skill level.

*Some people say, “Don’t play with fire or you will get burnt.” Similarly, if we play with disease we will get sick. Because if you are level 3 with a salary of $120 it is not enough to buy food even. We can talk a lot about health but what can we do if we are not healthy? (CHC rural worker)*

Some workers complained about pension policy for family members of health workers who die or become disabled. (A major draw for public sector employment was the hope of a retirement pension -- see below).

*My friend was doing his job and got in an accident and died. His family got compensation only for two months plus the coffin. And the government gave the compensation too late. This makes people frustrated. To my mind the government should acknowledge his work. Sometimes when we go do our job in the rural areas we might not go if we think the government will not support our family if we get in an accident. (CHC urban worker)*

Other workers felt that their work load was higher than it is for civil servants in other sectors even though compensation is the same.

*We work more hours than other sectors, for example, the education sector. Some teachers they start to work at 8am and they finish at 10am but their salary is the same as ours. For them the school holidays last for three months long. But we are working all the time. (Rural worker)*

Rural workers who live far from the clinic report that salaries do not cover transportation costs or accommodation. One worker suggested that the costs of transportation to work may contribute to absenteeism.

*Sometimes I need to borrow money from my neighbours in order to pay for my transportation. Or sometimes I decide not to go to work because I don’t have enough money for transportation. We are happy to do our job but we don’t feel happy about our economical situation. (Rural worker)*

And finally, low salaries may contribute to brain drain – either overseas or to the private sector – or induce some workers to augment their income in the nascent informal health care market.

*Now the salary of the government workers is not enough [compared to the Indonesian era]. If people don’t earn enough they will have to do some other business. After they finish work they might sell drugs. We can not stop people from doing this because they don’t have money for living. Now there are also a lot of people who have left East Timor to work, for example, in Ireland, Japan, and Malaysia. (Urban worker)*

**Management, supervision, accountability**

This study is based primarily on group discussions with health care workers, not managers, and there has been no systematic evaluation of accountability and performance problems in the different providers. Based on worker perceptions, however, we can indicate a few differences between in supervision and accountability practices in the public and private sector.

There seems to be more supervision and accountability in the private sector overall. CCT reviews staff performance before renewing a contract and conducts regular quality assessments (however, it is not clear how effective these are).

*Since we are private the rules are very strict. If you come 10 minutes late, tomorrow you will get called to the office to talk about it. If you continue three times then you’ll be out. The discipline in working is also controlled tightly. Once again since we are working with private NGO we have to follow what the NGO ask us to do. If not, even though you have a one year contract it can be decreased into 6 months contract. (CCT worker)*

*An important aspect of working in the private sector is servicing the patient with good manners. If I instruct them (the other staff) and they do not listen because I am too young for them, I’ll have to go to talk to the head of the clinic. If it doesn’t change unfortunately they’ll have be to fired. (CC worker)*

CCT also provides a job description to its workers that they must sign when they are recruited, while some government workers complained that their responsibilities were only vaguely defined.

In the public sector, there are some accountability mechanisms in principle. Staff are given a verbal warning (lisan) for a first offence, a letter (tulisan) for a second. A third offence requires a meeting with the district office. In practice, however, many health workers seem to be unaware of these measures. And some participants from rural CHCs in fact complained about the absence of supervision and monitoring mechanism of any kind.

*In the CHC, those who come to supervise us are from the WHO … they do not directly reprimand us, but just observe what work we do. Then they will just put a check or cross on their supervision sheet. They do not tell us whether or not we do things properly . . . We do not know where are the weaknesses because they do not tell us. (Rural worker)*

There is little use of incentives aimed at improving performance, except apparently at a few Catholic clinics. Several participants were enthusiastic about the idea of incentives when it was raised in group discussions and specifically requested training as a reward for good performance.

*I think in Indonesian time those who did well in their job got a special reward. This is good because it motivates others to do well in their job. I suggest that those who do well receive extra training overseas. I think this will create a working environment that will improve the quality of our service. (Rural CHC worker)*

**KKN (Indonesian term for “corruption, collusion, and nepotism”)**

Informal payments -- direct payments to health workers for ostensibly free public health services -- do not appear to be a problem in Timor-Leste. While it is fortunate that the health system has avoided a problem that plagues many developing countries, there are other kinds of financial transactions (from corruption to payments that are not technically illegal ) that may undermine efforts to improve access to health care.

Several workers complained about nepotism in government hiring and transfers. Apparently there is no formal mechanism for applying for a transfer within the public sector.

*New job positions – they just pretend they are open. Sometimes 1,000 people come to the test to apply but actually people inside have already chosen a boot sira nian oan (“big person’s son”). It’s just so people won’t see the nepotism. (Urban worker)*

*There is no official way to transfer for the time being. But some people do this through “KKN.” If you know someone who has a high position in the Ministry they can transfer you to a place of your choice. One of my friends did it, she moved from \_\_\_\_\_\_\_[rural subdistrict] to Dili because she knows someone. (Urban worker)*

*Those who have relatives that have been working in parliament can get transferred from a rural area. So my suggestion to the government is to give special compensation (tunjangan khusus) to those who are working in the rural areas just like in Indonesian times so they will be induced to stay in their community. (Urban worker)*

One rural nurse was also concerned about unexplained deductions from her salary.

*I think there might be a corruption in the health sector but we are not in the position to investigate who is doing it. Sometimes we hear there are some funds for certain things, but the money has not been used entirely . . . And the other thing is sometimes our salary is cut and we don’t know why and where the money goes. So this is not clear to us and we are very concerned about this. (Rural CHC worker)*

Reports and speculation concerning theft of medicine from clinics and resale to pharmacies came up a few times during group discussions, though workers seemed unsure about the extent of the problem.

*We suggest, if it is possible, that the government or WHO form a body to investigate and control the activity of all the chemists and clinics. So that they know how the medicines are used in the clinics. Sometimes in Dili there are a lot of hospitalisations and there are no medicines in the hospitals for the patients. This is a big problem. (Rural worker)*

But some workers also argued that there was a perception of drug theft among clients simply because the same brands of pharmaceuticals available at the CHCs were also sold by private pharmacies (which had been opened by nursing staff to supplement their income). They argued that the community should be informed that these pharmacies were legitimate businesses that were importing drugs from Indonesia.

VIP wards in the government hospital may also fuel perceptions of KKN and frustration with quality of service and staff attitudes among non-VIP users. The direct payment of $10 to $15 to nurses for use of these rooms may also set up a dangerous precedent of using cash transfers to health workers in order to gain access to higher quality service.

**Rural urban differences**

As mentioned above, some workers argue that rural postings should receive extra compensation (tunjangan khusus) – a practice that existed during the Indonesian occupation. Others argue that rural positions should be filled with staff who come from the district where they are posted.

*The government needs to place in the rural areas people that come from that particular area and then provide them some transportation or bonuses to motivate these people to work in their community. (Urban CHC worker)*

But others disagreed:

*I think it really depends . . . if I come from the rural area and I have my house there, and my family are in the village, it is not necessary for me to stay in Dili. It’s better to work in the village and look after my farm. (Urban private worker)*

It should be noted that CCT has a policy of not posting nurses and midwives near their families, apparently so that family obligations will not contribute to absenteeism. In any event, many rural workers report feeling isolated. They request that they be notified of training opportunities and kept informed of new treatment protocols.

*But here we don’t get any information. We haven’t been told at all about this [an upcoming test to participate in a training session]. I am asking the Ministry of Health to announce any information like this nationally so that every one can get the same chance to sit for the test to study (Rural CHC worker).*

*Those who are working in the city know about current diseases. For example now people don’t use aspirin anymore, but in the rural areas we are still using it. If I were working in the city I would be happy because I would know about training, meetings and new medical technology. (Rural CHC worker)*

Rural workers also complain of a lack of opportunities to transfer to other districts and gain new experience.

**Labour market choices**

Many developing countries with a large private sector have encountered a growing problem of “internal brain drain” – migration of health workers out of the public sector (Chen et al 2004). So it should first be pointed out that retaining public sector workers does not appear to be a problem in Timor-Leste, at least for the moment. In part this is likely due to a surplus in the labour supply (many nurses formerly employed in the Indonesian administration were not re-hired after Independence). Group discussions, however, also revealed that many workers have a strong preference for working in the public sector. The major attraction of a government post for many is that it offers – or is perceived to offer -- greater security and a retirement pension.

*I think I prefer to work in the government sector than the private sector because in the private sector your contract can be terminated any time. But in the government sector you will work until you reach 50 or 60 years old then you will retire. (Rural worker)*

This was true notably for some private sector workers as well, even for those who receive a substantially larger salary than government workers.

*Personally, I would choose the government sector. Because if you work in for the government you will get a retirement benefit. In the private sector, as long as you are healthy you can work but if you are sick you will have to stop. (Rural private worker)*

This preference was surprising in light of complaints about working hours and inadequate compensation in the public sector. The preference for public sector work may be related to the long period of instability in Timor-Leste and especially the uncertainty surrounding health sector employment in the post-referendum period. Several private sector workers reported that they had first sought government employment but did not pass the exam.

But some workers also expressed pride in being a civil servant in the newly independent government. Thus some form of “intrinsic motivation” – which is often attributed to NGO and faith-based services – also exists in the public sector . . .

*I was working in the private sector then there was a recruitment from the government sector and I started to apply because I felt that I was called to do something for this nation. In the end I was selected so I moved to the government sector. (Urban CHC worker)*

. . . Or can motivate an NGO worker with a higher salary to try to obtain a CHC post.

*I would prefer to work in the government sector because this is for the nation and we have a great contribution to our country even though we don’t get that much paid. But for the time being there is no recruited by the government and we can not keep waiting while there is an opportunity to work in the private sector. (Urban private worker)*

Some Catholic workers said they would prefer to work in the public sector because they would then receive extra training.

Nevertheless, some health workers were aware of higher NGO salaries and better benefits (such as transportation) and viewed them as a potential lure to the private sector.

*If the private sector paid more than the government sector then personally I would choose the private sector . . . to support my family economically. So I suggest the government should create balance in the salaries so that neither the private nor government sector attract more people to work there. (Rural CHC worker)*

*Personally, as a health worker I have the responsibility to do what I can do for the nation. But if the government can not look after us I think people might abandon their job to work in the private sector. (Rural CHC worker)*

*So, sometimes we think that to work in the government sector is to become a slave. That’s the reason why some nurses want to work in NGOs – or why some want to do their own business. There are a lot of NGOs around, and those who are working there have a smaller working load and a higher salary. (Rural CHC worker)*

There appear to be very few instances of public sector nurses or midwives seeking to supplement income through private sector work or by requesting informal payments at government clinics. A number of doctors in Dili have opened private practices in evening hours.

III. Discussion and policy implications

To conclude we relate findings of this study to international evidence and discuss some of their policy implications.

**1. Barriers to utilization**

Sociocultural knowledge and practices, service quality issues, and geographical remoteness all act as barriers to health service utilization. Expanding coverage frontiers would likely increase utilization of services. However, local systems of ethnomedicine – including understandings of health and disease, and reliance on herbal medicine and traditional healers and birth attendants – play a significant role in health seeking behaviour.

Information on client attitudes towards “Timorese” and “foreign” medicine might usefully be integrated into health promotion and education programs. For example, health or community workers might address community perceptions of health care facilities as places for “dying, not curing.” The model of “positive deviance” – building on community knowledge and practices by encouraging existing health-promoting practices – may also have some application. Such engagement may provide greater opportunities to discourage un-healthful practices. For example, “sitting fire” (tuur ahi) after birth has the benefit of protecting infants from the cold in mountainous areas while smoke may contribute to respiratory tract infections.

There are also opportunities to increase the efficacy of herbal remedies currently used by integrating them with clinical services (e.g. AFMET in Los Palos and Clinic Paz in Dili.)

Many clients seem to be partially aware of the benefits of ANC and medically-assisted birth, and yet still not make use of these services. Given the long established traditions of home birth without professionally trained birth attendants, increasing the number of midwives with community ties may be able to significantly boost demand for maternal health services.

**2. Human Resource Issues**

Unlike many developing countries, Timor-Leste does not seem to be experiencing a crisis in its health worker labour markets, probably due the high number of unemployed nurses, a legacy of the Indonesian civil service system. However, emigration of qualified nurses from developing to developed countries is occurring in a number of countries. And studies have found that where nurses feel “overworked and underappreciated” there are higher rates of absenteeism (World Bank 2004). Among health workers in both sectors, there appears to be a high degree of intrinsic motivation – “I have the responsibility to do what I can do for the nation” (as well as anxiety about job security). This can be seen as a form of social capital that can be cultivated by making human resource policy more responsive to staff concerns.

**Training, transfer, and compensation policies**

A common theme in discussions was a desire for more training. Rural health workers in particular felt that there were not enough opportunities for training and that existing ones were not adequately publicized. There was some evidence that training programs could be used as an incentive to work in rural areas or as a reward for performance. Expatriate doctors reported that a competition for overseas scholarships significantly improved morale among doctors.

Given a perception of KKN in hiring and transfer among health workers, greater transparency may help improve motivation and morale.

Group discussions revealed a widespread dissatisfaction with compensation and pensions. At the same time, many nurses and midwives expressed a preference for work in the public sector, apparently due to a form of intrinsic motivation as well as concerns about retirement pensions. This information may thus be of use to policy makers when they formulate a pension policy. It should also be noted that many workers were unsure about retirement and workplace injury benefits currently offered.

Some workers felt that is was unfair that they were hired at a level below their skills and experience, especially given the lack of opportunities for promotion.

Opinion was divided on the issue of extra compensation for rural workers (a policy followed by the Indonesia administration). Some believed extra compensation would help offset the hardship of a rural post. Others argued that if workers were posted to rural areas near their families they would benefit from support networks and be able to supplement their income through agricultural work.

A lack of transportation for some staff posted to remote areas creates hardship and perhaps contributes to absenteeism.

**Transportation and mobile clinic policies**

Mobile clinics: There are significant transportation problems in reaching remote communities. Interruptions in mobile clinic services lower community confidence in health care. Converting some mobile clinics to fixed clinics may thus improve utilization rates in remote areas.

There may also be opportunities to expand coverage through coordination between public and private mobile clinics.

There were reports that district health managers and their deputies are driving vehicles that were donated explicitly for operational use.

**Supervision and accountability**

Workers request that new training programs are accompanied by follow-up assessments.

Training might usefully cover professionalism and community relationships.

There is some evidence that CCT’s supervisory practices have a positive impact on health worker motivation and morale.

**Staffing levels and workloads**

If the MoH decides to review staffing levels, this study suggests a few points to consider.

It was beyond the scope of this study to measure actual working hours at various clinics. Many, but not all, nurses felt that they were overworked and were consequently not always able to provide adequate service.

Group discussions suggested that there was considerable variation in case loads among the different clinics. There may be opportunities to reassign some public sector health workers to even out waiting times for patients and create fairer workloads for staff. There may also be opportunities to redistribute case loads among public and private sector clinics. (See below)

There were widespread community confusion about pharmaceutical regimens, maternal health, and communicable diseases, and complaints of staff rudeness and waiting times. In these circumstances, improvements in the quality and length of patient staff interactions may increase utilization of health services.

**3. Public and private sector coordination and partnerships**

One of the principal aims of this study was to provide information on differences among public and private providers from both client and health worker perspectives. In this concluding section we discuss how research findings bear on opportunities for -- and constraints on – coordination between the private and public sectors.

Since the 1990s, the “public-private partnership” has become fashionable and controversial in the domain of international public health. The director-general of WHO, for example, announced a new policy of exploring “open and constructive relations with the private sector and industry” in her first speech after her 1998 election. Private foundations and government agencies, particularly in the United States, have taken an active role in creating and funding such partnerships in the developing world (Reich 2002, Widdus 2001).

For supporters, partnerships combine and capitalize on the complementary strengths and capabilities of different organizations, thus “minimizing market and government failures in providing services” (World Bank 2004). Partnerships can also address health equity issues, for example, access to pharmaceuticals. For detractors, however, partnerships are the first step down a slippery slope leading to “institutional capture” of public institutions and government agencies by corporations.[[12]](#footnote-12) Partnerships may jeopardize social safety nets, leading to “islands of excellence in seas of underprovision” (Buse and Waxman 2001).[[13]](#footnote-13)

A larger private sector in developing countries can pose particular threats to the poor. Ensuring the quality of private practitioners may require regulatory powers that fall outside of the capacities of health ministries. In India, for example, the rapid growth of the private sector has been accompanied by a widespread problem of under- or unqualified private providers serving the poor (Kumar 2000).[[14]](#footnote-14) A larger private sector can also be associated with informal marketization of public services.[[15]](#footnote-15) Some of the problems with for-profit providers are avoided by NGOs, which often benefit from strong intrinsic motivation and a professional ethos. However, a larger NGO role in the health sector of poor countries is not without risks as well. Evidence from Mozambique, another poor, post-conflict country, suggests that an influx of NGO aid into the health sector can fragment primary health care, undermine self-determination in health policy and public confidence in government services, and augment regional and class inequities in coverage (Pfeiffer 2003, Cliff 1993).

A health system divided into public and private sectors of different quality can also hinder efforts to encourage participation and ownership of health care (Faveret and Oliveira 1990). In Timor-Leste, the influx of foreign aid and expertise in the post-referendum period expedited the reconstruction of the health sector under difficult conditions. However, NGO involvement in the health sector also brought problems -- for example, large, expensive projects that the government cannot afford to fund or maintain after NGO withdrawal (Tulloch et al 2003, Morris 2001). Some current NGO projects may create expectations for services the government cannot at present provide. The presence of international NGOs can create an “unusual social interface” between highly educated expatriate workers and extremely poor communities. Such working relationships can have a beneficial effect on capacity-building, but they can also contribute to local processes of “exclusion and humiliation that undermine equity-oriented efforts in development” (Uvin 1998).[[16]](#footnote-16)

In sum, there is “no technical” answer to finding the right mix of public and private. Decisions have to be made according to political and social values, institutional cultures, and health challenges. It is also difficult to evaluate a priori efficiency and performance in public or private organizations. For example, in Tajikistan and Tunisia government providers have delivered high immunization rates, but in Cambodia and Haiti, NGOs have done so as well (World Bank 2004).

Some of the problems we have indicated here will be of less relevance as the presence of international foreign agencies in the health sector declines, though perhaps they are worth considering as potential risks in the future. We turn now to consider benefits that partnerships and improved coordination between with private providers may yield:

First, it should be noted that public-private partnerships already exist in embryonic form in Timor-Leste, for example, the management of the TB program by a Catholic clinic, and coordination of malaria diagnostic and treatment services between CHCs and Catholic clinics. Workers in both sectors also called for expanded coordination and division of services among the different providers.

Given the fact that access to primary health care continues to be a problem, there are opportunities to reduce bottlenecks and expand coverage by coordinating with private providers. For example, patients at overloaded CHCs in Dili could be redirected to under-utilized Catholic clinics.

Coordination with private providers also presents opportunities to ensure that government treatment protocols are implemented – and duplication of services avoided. In cases where private providers lack essential diagnostic services or drugs, the MoH may consider supplying these, especially if some CHC patients are redistributed to private providers. Such strategies though may require monitoring.[[17]](#footnote-17)  A justification for this policy might in part depend in part on the capacity of the central pharmacy to keep public clinics adequately supplied. A second option would to provide the MoH’s defined basic package of services through a mix of public and private clinics, though this will probably require enhanced communication. Research suggests that a more comprehensive approach to partnerships that aims to improve private providers’ knowledge and skills, externally monitor and evaluate implementation, and encourage users to demand good care has best results (World Bank 2004).

Another issue to consider is whether fees charged by some private providers will undermine health equity or efforts at strengthening public understanding of health care as a right.

Increasing coordination with private providers may also help channel donor funding to the most urgent health priorities. In some regions, staff complained of power and water shortages at CHCs, for example, while NGOs funded projects that do not fall within the government’s district health goals and can not be duplicated on a national level.

Enhanced coordination among clinics can improve MoH’s ability to monitor public health.

Drug stockouts are a problem in both public and private providers. There were reports of health workers informally selling pharmaceuticals, though the extent of the problem is unknown. One option would be to subsidize pharmaceuticals to private clinics in order to reduce client out-of-pocket health care expenditures that weaken equity and potentially adversely affect health, especially among the poor.

Given the growing presence of pharmacies in the health care market, at least in urban areas, and the lack of familiarity with “foreign medicine” among the general public, tighter regulation of private pharmacies may be appropriate.

Partnerships with civil society organizations and community cooperatives may be particularly effective in the areas of self-care and health promotion. Functioning as intermediaries between clients and providers, these types of organizations have in many parts of the world effectively reduced malnutrition, spread the practice of exclusive breastfeeding, and educated parents about the use of oral rehydration solutions. Grassroots and small community based groups often out perform larger public organizations in providing community-level information and support (World Bank 2004).

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**Annex I: Methodology**

There has been a growing recognition of the value of health research that integrates quantitative and qualitative methods, especially in developing countries where there may be significant differences between biomedical and traditional concepts of illness, healing, and health promotion (Yach 1992). Focus groups were selected as a methodology for this study because they are particularly suited to understanding complex behaviour and motivations, and can provide contextual information missing from quantitative data (Morgan 1998). They also provide a forum for participants to understand each other’s views and experiences. A group discussion thus provides participants with a context for exploring motivations that may not have been apparent to themselves before beginning the discussion (Krueger 1994).

The study combined focus group discussions with clients and health service workers with in-depth individual interviews. Focus group protocols were designed to promote open, honest, and nuanced discussion of potentially sensitive and complex topics. These discussions were held in local languages and led by researchers who received basic training in focus group facilitation. Due to the potential effect that status differences can have on the willingness of participants to speak openly, participants of similar socioeconomic and educational background were selected wherever possible. Recognizing the importance of maternal health and gender-based status differences, some focus groups of community members were composed of women only. Health workers consisted of midwives and nurses. Doctors, community leaders, traditional healers, and upper level management were not included in group discussions, but some were interviewed separately.

 Group discussions and individual interviews were transcribed and translated by the research team while in the field. Key discussion themes were then identified and analyzed in relation to existing quantitative data.

 Research was conducted in communities with access to different types of health care facility: government clinics, community health care centres, health posts, mobile clinics, and various types of NGO clinics. The following mix of five subdistricts was selected:

Subdistrict I (Dili) was urban and had a mix of all three types of providers.

Subdistrict II was rural and had a mix of CCT and government clinics.

Subdistrict III was rural and had three types of providers, CCT, Catholic, and government clinics.

Subdistrict IV was rural and had only a CCT clinic.

Subdistrict V was rural and had only Catholic and government clinics.

 Four focus groups with health care workers and five focus groups with health care users were conducted. Each group consisted of six to twelve participants.

Breakdown of focus groups, by region (urban and rural)

|  |  |  |
| --- | --- | --- |
| Region | Health Care Workers | Health Care Users |
| Urban | 1 | 1 |
| Rural | 3 | 4 |
| Totals | 4 | 5 |

Breakdown of focus groups, by sector (public and private)

|  |  |  |
| --- | --- | --- |
| Sector\* | Workers | Users |
| CCT/Gov/Catholic (1 urban, 1 rural) | 2 | 2 |
| CCT/Gov (rural) | 1 | 1 |
| Catholic/Gov (rural) | 1 | 1 |
| CCT only (rural) | (Interviews)  | 1 |
| Totals | 4 | 5 |

\*Sector: For workers, sector refers to the mix of providers from which focus group participants were selected. For users, sector refers to range of providers to which participants have access.

**Annex II: Matan dook treatments**

Partial list of treatments offered by one traditional healer (matan dook) in Dili (terms in Indonesian):

|  |  |
| --- | --- |
| Obat kepintaran | Memory enhancement |
| Gangguan jiwa | Mental illness |
| Patah tulang | Bone fracture |
| Muntah darah | Vomiting (with blood) |
| Buang air besar campur darah | Typhus |
| Buang air kecil campur darah | Urinary infection (“with blood when urinate”) |
| Kencing batu | Kidney stones |
| Epensit usus buntu  | Appendicitis |
| Perut besar/kembung | Flatulence |
| Ingin kembali pada istri/suami | Make a divorced couple get back together (make someone love her/his spouse) |
| Beri-beri | ? |
| Obat untuk mendapatkan anak laki-laki | Enable a woman to give birth to a baby boy  |
| Obat untuk kurang darah | Anaemia |
| Obat kencing manis | Diabetes |
| Gangguan haid | Menstrual problem |
| Kencing kuning/mata kuning | Jaundice |
| Obat untuk tidak menderita disaat melahirkan  | To make a women not feel the pain when she gives birth |
| Gatal-gatal | Skin itches |

**APPendix 4**

 **Timor-LESTE**

**Results from the survey on**

**health care facilities owned and**

**operated by NGOs**[[18]](#footnote-18)

**Introduction**

This NGO survey was undertaken in Timor-Leste in late 2005. The survey serves as the first kind of a comprehensive assessment for non-governmental health sector activities of Timor-Leste. The purpose of conducting the survey is to assist in the process by providing information to enhance policy makers’ understanding of how the private sector has provided health care services to Timorese. It will help policy makers consider choices for a best possible collaboration with private health care providers to address to health issues in Timor-Leste.

Given the absence of the registration data of health service providers in the MOH, the survey originally aimed to cover all kinds of active private health care providers (including both for- and non-profit organizations), such as NGOs, catholic churches, and CCT (except traditional healers and TBAs). A total of 38 providers were addressed in this survey. Of these, 29 are catholic-related organizations, 4 for CCT clinics, and 5 for others[[19]](#footnote-19). It provides a rich data set in the following areas: administration, staffing, facilities, finances, and services.

1. Administration

There was a total of 38 private facilities reported in the survey (Table 1). Of these, 29 were affiliated with catholic churches, 4 were branches of CCT and 5 were operated by other organizations. Dili district had the largest number of private facilities (11). The median time of facility establishment was 2001 while the oldest was established in 1980 and the latest was 2004. All the facilities were registered with the MOH except five Catholic facilities.

Table 1: Overview of private health facilities in Timor-Leste

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
|  | **N=29** | **N=4** | **N=5** | **N=38** |
| **Facility by province** |  |  |  |  |
| Aileu | 1 |  |  | 1 |
| Ainaro | 2 | 2 |  | 4 |
| Baucau | 3 |  |  | 3 |
| Bobonaro | 2 |  |  | 2 |
| Covalima | 3 |  |  | 3 |
| Dili | 8 | 1 | 2 | 11 |
| Ermera | 2 | 1 | 1 | 4 |
| Lautem | 2 |  | 1 | 3 |
| Liquica | 2 |  |  | 2 |
| Manatuto | 1 |  |  | 1 |
| Manufahi |  |  | 1 | 1 |
| Viqueque | 3 |  |  | 3 |
| **Year of establishment** |  |  |  |  |
| Earliest | 1980 | 2000 | 1999 | 1980 |
| Median | 1996 | 2001 | 2001 | 2001 |
| Latest | 2004 | 2001 | 2004 | 2004 |
| **Registered with the MOH** | 83% | 100% | 100% | 87% |

As Table 2 suggested, the majority of responsibility on various decisions was taken by facility managers at Catholic facilities or facilities operated by other organizations. However, the majority of responsibility was taken by HQ at CCT facilities.

Table 2: Responsibility of decision-making at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Who has a responsibility of decision-making to the following?** | **N=29** | **N=4** | **N=5** | **N=38** |
| Appointment of manager |  |  |  |  |
| HQ | 10% | 75% | 60% | 24% |
| Manager*1* | 17% | 25% | 20% | 18% |
| Other | 72% | 0% | 20% | 58% |
| Total | 100% | 100% | 100% | 100% |
| Firing and hiring staff |  |  |  |  |
| HQ | 3% | 75% | 20% | 13% |
| Manager | 86% | 25% | 80% | 79% |
| Other | 10% | 0% | 0% | 8% |
| Total | 100% | 100% | 100% | 100% |
| Disciplinary measures |  |  |  |  |
| HQ | 4% | 75% | 40% | 16% |
| Manager | 86% | 25% | 60% | 76% |
| Other | 11% | 0% | 0% | 8% |
| Total | 100% | 100% | 100% | 100% |
| Salary setting and other compensations |  |  |  |  |
| HQ | 4% | 75% | 60% | 19% |
| Manager | 89% | 25% | 40% | 75% |
| Other | 7% | 0% | 0% | 6% |
| Total | 100% | 100% | 100% | 100% |
| Service and drug charges |  |  |  |  |
| HQ | 4% | 75% | 50% | 17% |
| Manager | 93% | 25% | 50% | 80% |
| Other | 4% | 0% | 0% | 3% |
| Total | 100% | 100% | 100% | 100% |
| Type of services |  |  |  |  |
| Manager | 97% | 100% | 100% | 97% |
| Other | 3% | 0% | 0% | 3% |
| Total | 100% | 100% | 100% | 100% |

*1* The level of manager here often included manager and HQ and/or manager and others.

About two-thirds of the catholic facilities and more than half of the other facilities had never been inspected externally ever since establishment (Table 3). Among facilities that had been inspected, the majority of inspections took place in the past 12 months. Only 2 facilities involved beneficiaries during the inspection. The majority of inspections were carried out by central MOH. 75 percent of the CCT facilities had been inspected externally.

There was no system for complaint submitted by patients/their families or follow-up on the complaints among these facilities, except for one Catholic and one CCT facility.

Table3: External inspection/evaluation at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
|  | **N=29** | **N=4** | **N=5** | **N=38** |
| **External inspection/evaluation since establishment** |
| This month | 3% | 0% | 20% | 5% |
| Last month | 7% | 25% | 0% | 8% |
| Within 6 months | 3% | 0% | 20% | 5% |
| Last year | 14% | 50% | 0% | 16% |
| > 1 year ago | 7% | 0% | 0% | 5% |
| No inspection | 66% | 25% | 60% | 61% |
| Total | 100% | 100% | 100% | 100% |
| **Beneficiary involvement in inspection/evaluation*1*** | 0% | 33% | 50% | 13% |
| **Inspector** |  |  |  |  |
| Individual donor | 0% | 0% | 50% | 7% |
| Central MOH*2* | 60% | 67% | 50% | 60% |
| District MOH | 30% | 0% | 0% | 20% |
| Other | 10% | 33% | 0% | 13% |
| Total | 100% | 100% | 100% | 100% |
| **Used specific inspection forms** | 0% | 0% | 50% | 7% |

*1* Questions 12, 13 and 14 only applied to facilities that had been inspected.

*2* Central MOH here is collective of the Central Ministry of Health (CMOH), CMOH and HQ, CMOH, HQ and others.

While none of the CCT facilities prepared budget, half of the catholic facilities and all of the other facilities did, none of which, however, shared their budget report with Ministry of Health or local community (Table 4).

Table 4: Preparation of budget

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
|  | **N=29** | **N=4** | **N=5** | **N=38** |
| **Does the facility prepare and share annual and budget report with the MOH?**  |  |  |
| Prepared Budget | 48% | 0% | 100% | 50% |
| Shared budget | 0% | 0% | 0% | 0% |
| Prepared Annual Activity Plan (AAP) | 97% | 100% | 100% | 97% |
| Shared AAP w/MOH | 31% | 25% | 20% | 29% |
| Prepared Annual Report | 93% | 75% | 100% | 92% |
| Shared Annual Report w/ MOH | 28% | 25% | 20% | 26% |

1. Staffing

On average, each facility was staffed with 6 workers and about 80 percent of them were full-time, as shows. CCT facilities were the most-staffed in almost every type of worker, with a total number of workers exceeding 13. 98 percent of CCT workers were full-time while one-third of the staff at Catholic facilities were volunteers. All staff at CCT facilities were Timorese while the same was true for more than 80 percent of Catholic staff and more than 90 percent of others. About one-third of the staff at catholic and CCT facilities had some form of additional training in specialty after graduation. On average staff had been working at facilities for 3.7 years. Some workers just joined the facility 1 year ago while some had been working at the facility for 31 years. Typically, physicians were paid twice as high as nurse, midwife or lab technicians in salary. Bonus was almost the same across all types of staff. Although working similar hours per day (6.4), CCT staff were paid the highest salaries among all facilities. The average salary of CCT staff almost doubled the salary of Catholic staff and were more than 33 percent higher than those of “Others”. The annual bonus of CCT staff was 7 times the amount of the average annual bonus of staff at other facilities.

Table 5: Staffing level at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
|  | **N=29** | **N=4** | **N=5** | **N=38** |
| By Qualification (per facility) |  |  |  |  |
| Nurse | 1.3 | 3.8 | 3.2 | 1.8 |
| Midwife | 0.6 | 3.8 | 1.0 | 1.0 |
| Physicians | 0.4 | 0.5 | 0.6 | 0.4 |
| Lab Tech | 0.2 | 0.5 | 0.8 | 0.3 |
| Others | 2.2 | 4.8 | 5.4 | 2.9 |
| **Subtotal** | **4.7** | **13.3** | **11.0** | **6.4** |
| Additional Training beyond graduation | 36% | 34% | 4% | 28% |
| Status |  |  |  |  |
| Full time | 61% | 98% | 91% | 76% |
| Part time | 7% | 2% | 0% | 4% |
| Volunteer | 33% | 0% | 9% | 20% |
| Year of graduation: Earliest | 1957 | 1985 | 1994 | 1957 |
| Median | 1997 | 1993 | 1999 | 1996 |
| Latest | 2004 | 2002 | 2003 | 2004 |
| Years of experience: Least experienced | 1 | 1 | 1 | 1 |
| Mean | 8.8 | 9.3 | 5.1 | 8.0 |
| Most experience | 50 | 20 | 17 | 50 |
| Years at the facility: Shortest | 1 | 1 | 1 | 1 |
| Mean | 4.7 | 2.7 | 2.7 | 3.7 |
| Longest | 31 | 5 | 6 | 31 |
| Salary (overall) | $105 | $196 | $142 | $140 |
| Nurse | $118 | $218 | $147 | $154 |
| Midwife | $122 | $215 | $153 | $168 |
| Physician | $281 | $400 | $500 | $338 |
| Lab Tech | $97 | $208 | $173 | $155 |
| Others | $76 | $150 | $120 | $106 |
| Annual bonus (overall) | $27 | $183 | $25 | $113 |
| Nurse | $38 | $206 | $25 | $137 |
| Midwife | $27 | $202 | $25 | $165 |
| Physician | NA*1* | NA | NA | NA |
| Lab Tech | NA | $158 | $25 | $113 |
| Others | $25 | $151 | $25 | $77 |
| Provided Housing | 31% | 77% | 5% | 35% |
| Provided Pension | 4% | 0% | 0% | 2% |
| Average working hours/day |  |  |  |  |
| Nurse | 6.3 | 6.9 | 6.9 | 6.6 |
| Midwife | 6.0 | 6.9 | 6.8 | 6.5 |
| Physicians | 5.7 | 7.0 | 7.3 | 6.2 |
| Lab Tech | 6.5 | 7.0 | 6.3 | 6.5 |
| Others | 5.9 | 6.9 | 6.9 | 6.3 |
| **Overall** | **6.1** | **6.9** | **6.9** | 6.4 |
| Percent of Timorese staff | 81% | 100% | 93% | 88% |

*1* Data not available.

1. Facility characteristics

All the providers owned their physical facilities except one in the “Other” group, which reported renting the facility. CCT facilities were generally better equipped while catholic facilities appeared to be the worst-off, especially in the category of cold box, refrigerator, power generator and hand-washing facility (Table 6).

Table 6: Types of equipment at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Equipment** | **N=29** | **N=4** | **N=5** | **N=38** |
| Own or rent the facility (own%) | 100% | 100% | 80% | 97% |
| Access to water | 100% | 100% | 100% | 100% |
| Electricity | 100% | 100% | 100% | 100% |
| Telephone | 80% | 80% | 60% | 70% |
| Radio communication | 20% | 100% | 20% | 30% |
| Waiting room | 100% | 100% | 100% | 100% |
| Toilet facility | 100% | 100% | 100% | 100% |
| Private check | 100% | 100% | 100% | 100% |
| Hand-wash facility for staff | 90% | 100% | 100% | 92% |
| Power generator | 41% | 100% | 60% | 50% |
| Solar cell for lighting | 3% | 0% | 40% | 8% |
| Solar cell for refrigerator | 0% | 0% | 0% | 0% |
| Autoclaves | 34% | 0% | 80% | 37% |
| Pressure pan | 21% | 0% | 40% | 21% |
| Hand-wash facility for patient | 86% | 100% | 100% | 89% |
| Aspirator | 0% | 0% | 0% | 0% |
| Spigmomanometer | 97% | 100% | 100% | 97% |
| Stethoscope | 97% | 100% | 100% | 97% |
| Weighing scale adult | 76% | 100% | 100% | 82% |
| Measurer height | 48% | 100% | 60% | 55% |
| Scissor | 93% | 100% | 80% | 92% |
| Microscope | 69% | 75% | 80% | 71% |
| Weighing scale babies | 83% | 100% | 60% | 82% |
| Weighing scale children | 76% | 100% | 60% | 76% |
| Gynecology table | 17% | 50% | 0% | 18% |
| Delivery kit | 10% | 25% | 0% | 11% |
| Refrigerator | 41% | 75% | 60% | 47% |
| Cold box | 7% | 75% | 60% | 21% |

As seen in Table 7, On average each facility had about 5 beds in total, but fewer than 1 bed dedicated for maternity use. Facilities in the “Others” category on average had about 8 beds each, 5 of which dedicated for inpatient use. On the other hand, CCT facilities had only 3 beds per facility, none were for inpatient use.

Table 7: Average number of beds at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Beds** | **N=29** | **N=4** | **N=5** | **N=38** |
| Ave. # of maternity beds per facility | 0.5 | 0.5 | 1.0 | 0.6 |
| Ave. # of inpatient beds per facility | 2.3 | 0.0 | 5.2 | 2.4 |
| Ave. # of observation beds per facility | 1.5 | 2.8 | 1.6 | 1.6 |
| Total # of beds per facility | 4.3 | 3.3 | 7.8 | 4.6 |

On average each facility had 1 car and every two facilities shared a motorcycle (Table 8). The cars were primarily used for outreach and support services while the motorcycles were used primarily for other unidentified activities.

Table 8: Average number of vehicles and motorcycles at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Vehicles and motorcycles** | **N=29** | **N=4** | **N=5** | **N=38** |
| Ave. # of vehicles per facility | 0.7 | 1.3 | 2.2 | 1.0 |
| Ave. hr/wk outreach | 9.8 | 16.7 | 8.6 | 10.4 |
| Ave. hr/wk patient transportation | 5.8 | 4.0 | 6.8 | 5.8 |
| Ave. hr/wk support services | 14.5 | 5.3 | 4.7 | 11.8 |
| Ave. hr/wk personal use | 0.6 | 0.0 | 0.0 | 0.4 |
| Ave. hr/wk other use | 0.0 | 0.0 | 1.0 | 0.2 |
| Ave. # of motorcycles | 0.3 | 1.3 | 0.6 | 0.4 |
| Ave. hr/wk outreach | 0.0 | 1.1 | 3.3 | 1.1 |
| Ave. hr/wk patient transportation | 3.0 | 0.0 | 0.0 | 1.4 |
| Ave. hr/wk support services | 7.2 | 0.0 | 0.7 | 3.5 |
| Ave. hr/wk personal use | 0.0 | 0.0 | 1.3 | 0.3 |
| Ave. hr/wk other use | 9.3 | 38.8 | 28.3 | 22.8 |

50 percent of the facilities reported a hospital as the nearest health care provider (Table 9). About one-third reported a public health facility as the nearest provider. Two catholic facilities identified private health facilities as the closest care provider.

Table 9: Closest health care providers from facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Closest health care provider** | **N=29** | **N=4** | **N=5** | **N=38** |
| Hospital | 48% | 50% | 60% | 50% |
| Public health facility | 38% | 50% | 20% | 37% |
| Private health facility | 14% | 0% | 0% | 11% |
| NGO church | 0% | 0% | 20% | 3% |
| Subtotal | 100% | 100% | 100% | 100% |

1. Finance

No information was available for consultation charges. No facility had clear regular policies and procedures for such charges and none reported discounts to certain category of patients. Patient at catholic facilities mostly paid cash while all patients at CCT facilities and the majority (80 percent) at other facilities paid in “other form” (Table 10).[[20]](#footnote-20)

Very few facilities reported the amount of finance and expenditure details.

Table 10: Source of funding at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Patient fees and payments** | **N=29** | **N=4** | **N=5** | **N=38** |
| Consultation charges | NA | NA | NA | NA |
| Clear regular policies and procedures for charges | 0% | 0% | 0% | 0% |
| Discounts to certain categories of patients | 0% | 0% | 0% | 0% |
| Method of payment |  |  |  |  |
| in cash | 48% | 0% | 0% | 37% |
| in cash and in kind | 34% | 0% | 20% | 29% |
| other | 17% | 100% | 80% | 34% |

1. Services

The numbers reported here were all based on written records provided by the facilities. The volume of patients in May 2005 were lower than the average monthly volume estimated from the annual volume of 2004. In both the May 2005 and annual 2004 statistics, there was an equal share of male and female patients, a majority (more than half) of adult patients and a dominance of services for outpatient consultations. These patterns were consistent across all three categories of facilities (Table 11). However, patient volume per facility at CCT and “Other” facilities more than quadrupled those of catholic facilities.

Table 11: Percentage of patient at facility by gender, age, and service

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Patient volume and composition**  | **Catholic** | **CCT** | **Others** | **Total** |
| **N=29** | **N=4** | **N=5** | **N=38** |
| **Total patient (average per facility) , May 2005** | **439** | **1,184** | **1,533** | **661** |
| By gender |  |  |  |  |
| Male | 49% | 41% | 44% | 48% |
| Female | 51% | 59% | 56% | 52% |
| By age group |  |  |  |  |
| 0 ~ 5 yr | 48% | NA*1* | 28% | 39% |
| 6 ~ 14 yr | 19% | NA | 29% | 24% |
| >15 yr | 34% | NA | 42% | 36% |
| By service category*2* |  |  |  |  |
| Outpatient | 70% | 94% | NA | 83% |
| Family planning | 5% | 1% | 58% | 6% |
| Immunization | 18% | 1% | 22% | 6% |
| Mental health | 0% | NA | NA | 0% |
| ANC and PNC*3* | 7% | 4% | 20% | 5% |
| **Total patient (average per facility) , 2004** | **5,116** | **23,908** | **29,506** | **10,350** |
| By gender |  |  |  |  |
| Male | 53% | 45% | 52% | 52% |
| Female | 47% | 55% | 48% | 48% |
| By age group |  |  |  |  |
| 0 ~ 5 yr | 52% | NA | 23% | 40% |
| 6 ~ 14 yr | 13% | NA | 30% | 21% |
| >15 yr | 34% | NA | 47% | 40% |
| By service category2 |  |  |  |  |
| Outpatient | 60% | 95% | NA | 79% |
| Family planning | 11% | 0% | NA | 5% |
| Immunization | 16% | 3% | NA | 9% |
| Mental health | 0% | NA | NA | 0% |
| ANC and PNC | 13% | 2% | NA | 7% |

1 NA: data not available.

2 Service category also included inpatient and delivery, where information was not available.

3 ANC: Ante-Natal Care; PNC: Post-Natal Care.

More than half of the facilities performed outreach services (Table 12). Among these facilities, all provided peri-natal care and almost all provided ambulatory care. Besides, all facilities that carried out outreach activities had fixed location for outreach and reported outreach in writing. On a per facility basis, CCT facilities outreached far more patients than Catholic and other facilities.

Table 12: Overview of outreach services

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Outreach services** | **N=29** | **N=4** | **N=5** | **N=38** |
| Health education activities | 7% | 25% | 40% | 13% |
| Outreach services (Overall; Yes/No) | 45% | 75% | 80% | 53% |
| Vaccination | 31% | 100% | 75% | 50% |
| ANC & PNC | 100% | 100% | 100% | 100% |
| Health education | 62% | 33% | 50% | 55% |
| Ambulatory care | 85% | 100% | 100% | 90% |
| Others | 0% | 33% | 25% | 10% |
| Outreach Total days in May 05 (per facility) | 6 | 15 | 15 | 9 |
| Outreach Total patients in May 05 (per facility) | 188 | 1,895 | 354 | 483 |
| Outreach Total days 2004 (per facility)*1* | 53 | 146 | 187 | 1,066 |
| Outreach average patients per month (per facility) | 78 | 1,842 | 331 | 397 |
| Staff days for outreach per month (per facility) | 15 | 39 | 19 | 19 |
| Outreach fixed location | 100% | 100% | 100% | 100% |
| Outreach report in writing | 100% | 100% | 100% | 100% |

*1* One CCT facility (facid=9) reported having 18712 outreach days in 2004 and was excluded from the calculations.

Facilities in the “Other” category had the highest number of patients per staff and number of outreach days per staff, in May 2005 and across 2004 (Table 13). CCT facilities had the highest number of outreach patients per staff. It seemed that although CCT staff had fewer outreach days, they tended to reach far more patients per day.

Table 13: Staff productivity at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Productivity*1*** | **N=29** | **N=4** | **N=5** | **N=38** |
| Average number of staff per facility | 5 | 13 | 11 | 6 |
| Average patient per staff in May 05 | 88 | 91 | 139 | 110 |
| Average patient per staff in 2004 | 1,023 | 1,839 | 2,682 | 1,725 |
| Average outreach days per staff in May 05 | 1.2 | 1.2 | 1.4 | 1.5 |
| Average outreach days per staff in 2004*2* | 11 | 11 | 17 | 178 |
| Average outreach patients per staff in May 05 | 38 | 146 | 32 | 81 |
| Average outreach patients per staff per month | 16 | 142 | 30 | 66 |

*1* Indicators are averaged across facility ownership.

*2* One CCT facility (facid=9) reported having 18712 outreach days in 2004 and was excluded from the calculations.

All facilities provided services to everyone that requested them, except one CCT facilities, which claimed to provide services only to members of CCT or members of poor households (Table 14). No patient received special treatment such as lowered fees, special hours or any other form. One facility was required by authorities to report special events or cases.

Table 14: Special attention to disadvantaged population (targeting)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Targeting and case reporting** | **N=29** | **N=4** | **N=5** | **N=38** |
| Provided service to all households | 100% | 75% | 100% | 97% |
| Special attention(lower fees, special hours, other) | 0% | 0% | 0% | 0% |
| Required by authority to report specific events/cases  | 0% | 0% | 20% | 3% |

All but two catholic facilities provided referral services (Table 15). On average, about 7 out of 100 patients were referred to other facilities. All CCT facilities and 4 facilities (80 percent) in the “Others” category provided transportation for referrals, while only 8 (29 percent) of catholic facilities did so. None of the referred patients needed to pay for the transportation.

Table 15: Referrals from facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Referrals**  | **N=29** | **N=4** | **N=5** | **N=38** |
| Referrals (overall; Yes/No) | 93% | 100% | 100% | 95% |
| Average referrals out of 100 patients | 6.0 | 8.8 | 8.3 | 6.6 |
| Provide transportation for referrals | 28% | 100% | 80% | 42% |
| Patient pays for referral transportation | 0% | 0% | 0% | 0% |

As suggested in Table 16, less than half of the facilities had any specific treatment protocols. About 40 percent facilities had a protocol for treating TB. Very few facilities had treatment protocols for malaria, URTI, STI or diarrhea. All facilities that had some protocol reported Ministry of Health and others as their source of protocol.

Table 16: Treatment protocol at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Service quality** | **N=29** | **N=4** | **N=5** | **N=38** |
| Has treatment protocol (Yes/No)*1* | 38% | 50% | 60% | 42% |
| TB | 38% | 50% | 40% | 39% |
| Malaria | 3.4% | 25% | 0% | 5.3% |
| Upper Respiratory Tract Infection (URTI) | 0% | 25% | 20% | 5.3% |
| Sexual Transmitted Infection (STI) | 0% | 0% | 20% | 2.6% |
| Diarrhea | 0% | 25% | 0% | 2.6% |
| If had protocol, source of protocol |  |  |  |  |
| MOH and other | 100% | 100% | 100% | 100% |

*1* Percentages of having protocol for specific diseases were calculated among all facilities by type, not among facilities that reported to have treatment protocols.

Almost all patients were prescribed with some drugs from the facilities and all of them received/purchased medicine with the prescription and all of them got discounts (Table 17). While average payment for medicines was 1.13 dollars, CCT provided medicines to patients free of charge and facilities in the “Others” category charged a nominal 5 cents on average. If patient didn’t obtain medicine at the facility they visited, two-thirds of them obtained at a government health facility only and one-third obtained medicine at both private pharmacy and government health facility.

Table 17: Availability and source of prescription drugs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Prescription drugs** | **N=29** | **N=4** | **N=5** | **N=38** |
| Prescribed medicine out of 100 patients | 100 | 100 | 96 | 99 |
| Received/purchased medicine out of prescription | 100 | 100 | 95 | 99 |
| Average payment for all medicines (US$) | 1.47 | 0.00 | 0.05 | 1.13 |
| Discounts on medicines | 100% | 100% | 100% | 100% |
| What type of patients got discounts (frequency) |  |  |  |  |
| All | 28% | 100% | 60% | 39% |
| Poor | 72% | 0% | 40% | 61% |
| Location to obtain medicines elsewhere |  |  |  |  |
| Private pharmacy | 0% | 0% | 20% | 3% |
| Government health facility | 69% | 75% | 40% | 66% |
| Both | 31% | 25% | 40% | 32% |

About 8 out of 100 patients underwent diagnostic test (Table 18). Half of them underwent the tests at the facility they visited. If not, about 70 percent got the tests done only at government facilities and 30 percent at both government and private facilities.

Table 18: Availability of diagnostic test at facility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Catholic** | **CCT** | **Others** | **Total** |
| **Diagnostic tests** | **N=29** | **N=4** | **N=5** | **N=38** |
| Underwent test out of 100 patients | 8.2 | 10 | 8.3 | 8.4 |
| Test done at the facility | 4 | 2.5 | 4.8 | 3.9 |
| Where else to get tests |  |  |  |  |
| Government health facility | 69% | 75% | 80% | 71% |
| Government or private facility | 31% | 25% | 20% | 29% |

When asked to rate the importance of performance constraints, facilities on average rated “lack of equipment and supplies” and “shortage of drug stock” as the most important constraints to performance (Table 19). “Legal obstacles” and “lack of security and stability” received the lowest ranking among 6 constraints that were rated. “Other obstacles placed by government” and “poor relations with other providers in the area” didn’t get any rating from the facilities. Only 1 facility agreed that government played a role in help facilities overcome obstacles.

Table 19: Average rating of importance of performance constraints

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Importance of performance constraints (average rating)** | **Catholic** | **CCT** | **Others** | **Total** |
| **Rating scale: 1 most important, 10 least important** | **N=29** | **N=4** | **N=5** | **N=38** |
| Lack of skills of staff | 1.4 | 2 | 1.5 | 1.5 |
| Lack of equipment and supplies | 1.1 | 1 | 1.2 | 1.1 |
| Shortage of funding | 2.1 | 3 | 2.2 | 2.2 |
| Legal obstacles | 3.4 | 3.5 | 3 | 3.4 |
| Other obstacles placed by government | NA | NA | NA | NA |
| Lack of security and stability | 3.6 | 3.3 | 3.8 | 3.5 |
| Shortage or stock-outs of drugs | 1.1 | 1 | 1.3 | 1.1 |
| Financial difficulties | 3.1 | 2.3 | 2.8 | 2.9 |
| Poor relations with other providers in the area | NA | NA | NA | NA |
| Government played role in help overcome obstacles (Yes/No) | 4% | 0% | 0% | 3% |

NA: information not available.

Facilities that answered “No” to the government role question were asked to rate the importance of the things government could offer help (Table 20). “Tax and/or utility charges exemption/discounts” were rated the most important while “participation in assisting Ministry of Health in decision-making” received the lowest importance rating.

Table 20: Expectation to the Government

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **What could the government do to help the facility? (average rating)** | **Catholic** | **CCT** | **Others** | **Total** |
| **Rating scale: 1 most important, 10 least important** | **N=29** | **N=4** | **N=5** | **N=38** |
| Training | 1.0 | NA | 5.0 | 3.0 |
| Tax and/or utility charges exemption/discounts | 1.4 | 2.0 | 1.8 | 1.5 |
| Improving exchange of information | 1.7 | 1.3 | 2.5 | 1.8 |
| Help in providing more services with financing | 1.8 | 1.0 | 2.3 | 1.8 |
| Participation in assisting MOH | 3.1 | 3.0 | 4.3 | 3.2 |
| Improving legal environment | 3.0 | 2.7 | 2.8 | 2.9 |
| Improving electricity and water network | 1.6 | 1.7 | 3.0 | 1.8 |
| Other | NA | NA | NA | NA |

**APPENDIX 5**

**1. Sample sizes of the four nationally representative surveys**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | Households | All sex and age | Women 15-49 years | Children 0-4 years  | Children 12-23 months  |
|  |  |  |  |  |  |  |  |  |  |  |
|   | N | Response rate (%) | N | Response rate (%) | N | Response rate (%) | N | Response rate (%) | N | Response rate (%) |
| LSMS 2001\* | 1800 | N/A | 9113 | N/A | - | - | - | - | - | - |
| MICS 2002\*\* | 3982 | 99.6 | - | - | 4606 | 95.9 | 4454 | 99.1 | - | - |
| DHS 2003\*\* | 4320 | 100.0 | - | - | 4177 | 99.2 | 5255 | 96.9 | - | - |
| Cluster Survey 2004\*\*\* | - | - | - | - | - | - | - | - | 2662 | 98 |

\* LSMS collected information on health from all household members from selected households.

\*\* MICS and DHS interviewed women 15-49 years and collected health information on them and their children under 5 years of age.

\*\*\* EPI Cluster Survey also interviewed 2659 women who had births within the last 12 months. Information from the women’s interview is not used in this study.

**2. Sample sizes of East Timor Province in surveys conducted in Indonesia prior to independence**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | Households | All sex and age | Women 15-49 years | Children 0-4 years  |
|   | N | Response rate (%) | N | Response rate (%) | N | Response rate (%) | N | Response rate (%) |
| DHS 1991 | 499 | 99.6 | - | - | 475 | 98.3 | 104 | N/A |
| DHS 1994 | 1001 | 99.9 | - | - | 970 | 99.8 | 115 | N/A |
| DHS 1997 | 1000 | 100.0 | - | - | 920 | 100.0 | 113 | N/A |
| SUSENAS 1993 | 5632 | N/A | 28612 | N/A | - | - | - | - |
| SUSENAS 1997 | 5664 | N/A | 27126 | N/A | - | - | - | - |

N/A: not available

**3. Data sources for international comparison figures**

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | Definition/ Note | Year | Source |
| GDP per capita | constant 2000 US$  | 2003 | WDI |
| Measles immunization | % of children 12-23 months immunized for measles | 2003 | WDI |
| Full immunization | % of children 12-23 months fully immunized  | \* | DHS  |
| ARI/fever treatment  | % of children under 5 years with ARI or fever taken to a health facility | \* | DHS |
| ORS/RHF use for diarrhea | % of children under 5 years with diarrhea who received either ORS or RHF | \* | DHS |
| Antenatal care | % of women received antenatal care from a doctor, a nurse, or a midwife during a pregnancy within 5 years before the survey | \* | DHS |
| Tetanus toxoid | % of women received tetanus toxid twice or more during a pregnancy within 5 years before the survey | \* | DHS |
| Skilled birth attendant | % of live births attended by a doctor, a nurse, or a midwife | \* | WDI |
| Facility delivery  | % of live births delivered at a health facility during the 5 years before the survey  | \* | DHS |

\* Year may vary by indicator and country. Latest estimates between 1999 and 2004 were used.

**4. Discrepancies in the data prevalence of ARI or fever within the 2 weeks before the survey, and curative services utilization among those with ARI or fever**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | 2-week prevalence of ARI/fever  |   |   |   |
| Age (month) | no | yes | utilizing curative services |  |  |
|   |  |  | no | yes |  |  |
|  | N | N | N | N | % utilization\* | Standard error\* |
| 0-5 | 505 | 163 | 59 | 104 | 61.9 | 4.3 |
| 6-11 | 377 | 243 | 84 | 159 | 65.6 | 3.7 |
| 12-23 | 714 | 447 | 140 | 307 | 69.4 | 2.7 |
| 24-35 | 817 | 385 | 137 | 248 | 63.8 | 2.9 |
| 36-47 | 768 | 278 | 91 | 187 | 67.3 | 3.2 |
| 48-59 | 637 | 195 | 76 | 119 | 60.2 | 3.5 |
| Total | 3,818 | 1,711 | 587 | 1124 |   |   |

\* % utilization is weighted for sampling weights.

Curative child health services refer to visiting following health facilities for ARI or fever:

public hospital, health center, other public sector, private hospital, private clinic, private doctor, other private medical sector, delivery post, health post, and health cadre. The figure does not include visiting traditional healer, pharmacy/drug store, and shop.

**APPENDIX 6:**

**Differentials in health sector utilization: multivariate regression analysis results**

**1. Immunization services among children 12-23 months old**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | BCG |   |   | DPT1 |   |   | DPT3 |   |   | DPT3/DPT1 |   | Measles |   |   |
|   | dF/dx | P>|z| |   | dF/dx | P>|z| |   | dF/dx | P>|z| |   | dF/dx | P>|z| |   | dF/dx | P>|z| |   |
| poor | 0.023 | 0.605 |   | 0.034 | 0.493 |   | -0.112 | 0.073 |   | -0.182 | 0.022 | \* | -0.024 | 0.734 |   |
| rich | 0.130 | 0.006 | \*\* | 0.111 | 0.037 | \* | 0.056 | 0.320 |  | -0.008 | 0.912 |  | 0.158 | 0.006 | \*\* |
| education\_ever | 0.065 | 0.169 |  | 0.031 | 0.560 |  | 0.155 | 0.010 | \* | 0.226 | 0.003 | \*\* | 0.085 | 0.153 |  |
| education\_primary  | 0.090 | 0.096 |  | 0.133 | 0.019 | \* | 0.011 | 0.866 |  | -0.109 | 0.154 |  | 0.104 | 0.089 |  |
| radio | 0.007 | 0.871 |  | 0.016 | 0.743 |  | -0.038 | 0.457 |  | -0.076 | 0.248 |  | -0.012 | 0.832 |  |
| rural west | 0.092 | 0.074 |  | 0.134 | 0.042 | \* | 0.045 | 0.587 |  | -0.050 | 0.606 |  | 0.201 | 0.002 | \*\* |
| rural centre | 0.038 | 0.521 |  | 0.057 | 0.413 |  | -0.031 | 0.675 |  | -0.082 | 0.339 |  | 0.018 | 0.801 |  |
| rural east | 0.026 | 0.657 |  | 0.072 | 0.295 |  | 0.093 | 0.227 |  | 0.085 | 0.353 |  | 0.069 | 0.355 |  |
| time1hr | 0.014 | 0.770 |  | -0.043 | 0.448 |  | -0.067 | 0.277 |  | -0.070 | 0.338 |  | -0.094 | 0.139 |  |
| time2hr | -0.105 | 0.381 |  | -0.064 | 0.586 |  | -0.054 | 0.743 |  | -0.038 | 0.847 |  | -0.020 | 0.875 |  |
| mobile | 0.045 | 0.643 |  | -0.001 | 0.996 |  | -0.054 | 0.660 |  | -0.064 | 0.622 |  | 0.112 | 0.359 |  |
|  \_cons  |   | 0.117 |   |   | 0.550 |   |   | 0.007 | \*\* |   | 0.476 |   |   | 0.601 |   |
| N | 621 |   |   | 624 |   |   | 607 |   |   | 434 |   |   | 590 |   |   |
| LL | -292 |  |  | -354 |  |  | -395 |  |  | -284 |  |  | -367 |  |  |
| Chi2 | 29 |  |  | 23 |  |  | 33 |  |  | 23 |  |  | 36 |  |  |
| pseudo R2 | 0.063 |  |  | 0.044 |  |  | 0.038 |  |  | 0.043 |  |  | 0.059 |  |  |
| observed P | 0.799 |  |  | 0.719 |  |  | 0.407 |  |  | 0.570 |  |  | 0.627 |  |  |
| predicted P | 0.817 |  |  | 0.729 |  |  | 0.402 |  |   | 0.573 |   |   | 0.637 |   |   |

**2. Curative child health services among children under 5 years who had a specified symptom**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|   | fever/cough |   | diarrhea |   |   | Antimalaria drug |   |
|   | dF/dx | P>|z| |   | dF/dx | P>|z| |   | dF/dx | P>|z| |   |
| poor | -0.079 | 0.041 | \* | 0.028 | 0.502 |   | -0.055 | 0.137 |   |
| rich | -0.021 | 0.631 |  | -0.105 | 0.001 | \*\* | 0.086 | 0.034 | \* |
| education\_ever | 0.083 | 0.018 | \* | 0.031 | 0.465 |  | -0.009 | 0.814 |  |
| education\_primary  | 0.049 | 0.229 |  | -0.001 | 0.978 |  | -0.055 | 0.134 |  |
| radio | -0.008 | 0.809 |  | -0.022 | 0.553 |  | 0.027 | 0.489 |  |
| rural west | -0.092 | 0.132 |  | -0.120 | 0.002 | \*\* | 0.072 | 0.174 |  |
| rural centre | -0.052 | 0.352 |  | -0.226 | 0.000 | \*\*\* | -0.030 | 0.602 |  |
| rural east | -0.058 | 0.309 |  | -0.157 | 0.000 | \*\*\* | 0.060 | 0.237 |  |
| time1hr | -0.073 | 0.061 |  | 0.021 | 0.642 |  | 0.039 | 0.402 |  |
| time2hr | -0.168 | 0.008 | \*\* | -0.060 | 0.133 |  | 0.103 | 0.255 |  |
| mobile | -0.105 | 0.142 |  | -0.023 | 0.762 |  | 0.030 | 0.667 |  |
|  \_cons  |   | 0.009 | \*\* |   | 0.291 |   |   | 0.000 | \*\*\* |
| N | 1913 |   |   | 524 |   |   | 1180 |   |   |
| LL | -1251 |  |  | -194.1 |  |  | -532 |  |  |
| Chi2 | 60 |  |  | 42.7 |  |  | 20 |  |  |
| pseudo R2 | 0.037 |  |  | 0.117 |  |  | 0.034 |  |  |
| observed P | 0.585 |  |  | 0.148 |  |  | 0.177 |  |  |
| predicted P | 0.588 |  |  | 0.122 |  |  | 0.168 |  |  |

**3. Maternal health services among women who had a live births in the past 5 years before the survey for the most recent birth**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | anc\_med |   | delatt\_skatt |   | delplace\_facility |   | pp\_vst  |   |   |
|   | dF/dx | P>|z| |   | dF/dx | P>|z| |   | dF/dx | P>|z| |   | dF/dx | P>|z| |   |
| poor | -0.126 | 0.000 | \*\*\* | -0.068 | 0.001 | \*\* | -0.023 | 0.052 |   | -0.063 | 0.001 | \*\* |
| rich | 0.180 | 0.000 | \*\*\* | 0.186 | 0.000 | \*\*\* | 0.090 | 0.000 | \*\*\* | 0.118 | 0.000 | \*\*\* |
| education\_ever | 0.106 | 0.000 | \*\*\* | 0.041 | 0.036 | \* | 0.034 | 0.005 | \*\* | 0.071 | 0.000 | \*\*\* |
| education\_primary  | 0.095 | 0.003 | \*\* | 0.055 | 0.003 | \*\* | 0.024 | 0.034 | \* | 0.014 | 0.415 |  |
| radio | 0.044 | 0.122 |  | 0.036 | 0.021 | \* | 0.033 | 0.002 | \*\* | 0.049 | 0.004 | \*\* |
| rural west | -0.033 | 0.477 |  | -0.071 | 0.023 | \* | -0.048 | 0.004 | \*\* | -0.015 | 0.647 |  |
| rural centre | -0.077 | 0.093 |  | -0.096 | 0.000 | \*\*\* | -0.062 | 0.000 | \*\*\* | -0.105 | 0.000 | \*\*\* |
| rural east | -0.029 | 0.525 |  | -0.041 | 0.133 |  | -0.036 | 0.029 | \* | -0.008 | 0.788 |  |
| time1hr | -0.082 | 0.038 | \* | -0.063 | 0.019 | \* | -0.018 | 0.324 |  | -0.034 | 0.168 |  |
| time2hr | -0.075 | 0.302 |  | -0.037 | 0.547 |  | -0.050 | 0.086 |  | -0.017 | 0.800 |  |
| mobile | 0.010 | 0.832 |  | 0.104 | 0.118 |  | -0.024 | 0.336 |  | 0.082 | 0.126 |  |
|  \_cons  |   | 0.020 | \* |   | 0.000 | \*\*\* |   | 0.000 | \*\*\* |   | 0.000 | \*\*\* |
| N | 3263 |   |   | 3263 |   |   | 3263 |   |   | 3263 |   |   |
| LL | -1973 |  |  | -1298 |  |  | -839 |  |  | -1385 |  |  |
| Chi2 | 317 |  |  | 276 |  |  | 210 |  |  | 155 |  |  |
| pseudo R2 | 0.096 |  |  | 0.168 |  |  | 0.205 |  |  | 0.103 |  |  |
| observed P | 0.610 |  |  | 0.185 |  |  | 0.099 |  |  | 0.181 |  |  |
| predicted P | 0.626 |   |   | 0.149 |   |   | 0.061 |   |   | 0.157 |   |   |

\* p-value<0.05, \*\* p-value<0.01, and \*\*\* p-value<0.01

dF/dx: change in the probability for a unit change in each independent

Huber/White/sandwich estimator of variance was used, and potentially dependent observations within cluster were specified.

Source: DHS 2003

Table: Definitions and sample means of covariates in the regression analysis \*

|  |  |  |  |
| --- | --- | --- | --- |
|   | Definition | Average (percent)\* | Variable name |
| Household wealth |  |  |
|  | household is in the three middle quintiles of the asset index | 60.1 | Reference |
|  | household is in the lowest quintiles of the asset index | 20.9 | Poor |
|  | household is in the highest quintiles of the asset index | 19.0 | Rich |
| Woman's/Mother's education |  |  |
|  | None | 52.8 | Reference |
|  | Ever attended school | 47.2 | education ever |
|  | completed primary school | 30.0 | education primary  |
| Women's/Mother's exposure to media |  |  |
|  | Listens to radio less than once a week or not at all  | 76.0 | reference  |
|  | Listens to radio at least once a week  | 24.0 | Radio |
| Region |  |  |
|  | Urban | 23.1 | Reference |
|  | rural west | 18.1 | rural west |
|  | rural centre | 33.8 | rural centre |
|  | rural east | 25.0 | rural east |
| Time to the closest facility[[21]](#footnote-21) |  |  |
|  | household in a cluster where average time to the closest facility < 1 hour | 68.7 | Reference |
|  | household in a cluster where average time to the closest facility ≥ 1 hour  | 31.3 | travel 1hr |
|  | household in a cluster where average time to the closest facility ≥ 2 hours | 5.5 | travel 2hr |
| Type of the closest facility  |  |  |
|  | closest facility is not a mobile clinic | 96.6 | Reference |
|   | closest facility is a mobile clinic | 3.4 | Mobile |

Note: \* Proportion of total 4320 households for household wealth, region, time to the closest facility, and type of the closest facility. Proportion of total 4245 women 15-49 years for women’s education and exposure to media. Distributions vary by regression model depending on the outcome used.

*Differentials in health service utilization: multivariate regression analysis results*

1. Utilization patterns by socioeconomic background, region, and travel time to a facility are summarized in **Error! Reference source not found.**. The following multivariate analysis was conducted in order to examine adjusted differentials in service utilization using DHS 2003. The analysis focus on seven selected maternal and child health services:
* receiving antenatal care from a trained medical professional (doctor, nurse, or midwife) among pregnant women in the past 5 years for the most recent birth[[22]](#footnote-22);
* deliveries attended by a trained medical professional (doctor, nurse, or midwife) among pregnant women in the past 5 years for the most recent birth;
* receiving DPT1 immunization among children 12-23 months;
* completing DPT3 immunization among children 12-23 months who received DPT1;
* receiving measles immunization among children 12-23 months;
* receiving presumptive treatment of fever with anti-malaria drug among children under 5 years; and
* receiving treatment from a medical facility for fever and/or cough among children under 5 years.
1. A probit regression analyses was conducted, with binary covariates summarized in [[23]](#footnote-23). Regression was weighted by sampling weights and statistical significance was defined for p-value less than 0.05.

Table ‑: Definitions and sample means of covariates in the regression analysis \*

|  |  |  |  |
| --- | --- | --- | --- |
|   | Definition | Average (percent)\* | Variable name |
| Household wealth |  |  |
|  | household is in the three middle quintiles of the asset index | 60.1 | Reference |
|  | household is in the lowest quintiles of the asset index | 20.9 | Poor |
|  | household is in the highest quintiles of the asset index | 19.0 | Rich |
| Woman's/Mother's education |  |  |
|  | None | 52.8 | Reference |
|  | Ever attended school | 47.2 | education ever |
|  | completed primary school | 30.0 | education primary  |
| Women's/Mother's exposure to media |  |  |
|  | Listens to radio less than once a week or not at all  | 76.0 | reference  |
|  | Listens to radio at least once a week  | 24.0 | Radio |
| Region |  |  |
|  | Urban | 23.1 | Reference |
|  | rural west | 18.1 | rural west |
|  | rural centre | 33.8 | rural centre |
|  | rural east | 25.0 | rural east |
| Time to the closest facility[[24]](#footnote-24) |  |  |
|  | household in a cluster where average time to the closest facility < 1 hour | 68.7 | Reference |
|  | household in a cluster where average time to the closest facility ≥ 1 hour  | 31.3 | travel 1hr |
|  | household in a cluster where average time to the closest facility ≥ 2 hours | 5.5 | travel 2hr |
| Type of the closest facility  |  |  |
|  | closest facility is not a mobile clinic | 96.6 | Reference |
|   | closest facility is a mobile clinic | 3.4 | Mobile |

Note: \* Proportion of total 4320 households for household wealth, region, time to the closest facility, and type of the closest facility. Proportion of total 4245 women 15-49 years for women’s education and exposure to media. Distributions vary by regression model depending on the outcome used.

1. Adjusted differences in the probability of service use are summarized in – . Utilization of maternal health services was positively associated with household wealth and women’s education level () (). The predicted probability of having a skilled birth attendant was higher among women listening to radio once a week, compared to that in their counterpart, adjusted for other covariates. Women living in rural west or rural center had a lower probability of having a skilled birth attendant (0.08 and 0.05, respectively), compared to women in urban areas (0.15). Women living in a cluster where travel time to the closest facility was one hour or greater had lower probabilities of using antenatal care and of having a skilled birth attendant (0.54 and 0.09, respectively), compared to the reference group (0.63 and 0.15, respectively). Nevertheless, living in a cluster where travel time was two hours and more did not additionally reduce probability of service utilization.
2. A qualitative study further examined determinants of delivery care and postpartum care (van Schoor 2003). No specific health education was provided at antenatal clinics and a majority of women did not recognize the need for a skilled birth attendant, indicating a missed opportunity of providing health education at the time of antenatal care[[25]](#footnote-25). Additional reasons for not using a facility included poor/unhygienic facility, attitude of hospital staff, and discomfort with a hospital bed.

Figure ‑: Adjusted predicted probabilities of using antenatal care and skilled birth attendant among women who had a live birth in the five years before the survey for the most recent birth,

by household wealth and woman’s education

Note: \* reference group

All other covariates are mean of each distribution.

Table ‑: Adjusted differences in probability of using selected maternal health services among women who had a live birth in the past 5 years for the most recent birth: probit regression

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | Receiving antenatal care from a medically trained person |  | Having a medically trained birth attendant |   |
|   | dF/dx | P>|z| |   | dF/dx | P>|z| |   |
| Poor | -0.126 | 0.000 | \*\*\* | -0.068 | 0.001 | \*\* |
| Rich | 0.180 | 0.000 | \*\*\* | 0.186 | 0.000 | \*\*\* |
| education\_ever | 0.106 | 0.000 | \*\*\* | 0.041 | 0.036 | \* |
| education\_primary  | 0.095 | 0.003 | \*\* | 0.055 | 0.003 | \*\* |
| Radio | 0.044 | 0.122 |  | 0.036 | 0.021 | \* |
| rural west | -0.033 | 0.477 |  | -0.071 | 0.023 | \* |
| rural centre | -0.077 | 0.093 |  | -0.096 | 0.000 | \*\*\* |
| rural east | -0.029 | 0.525 |  | -0.041 | 0.133 |  |
| time1hr | -0.082 | 0.038 | \* | -0.063 | 0.019 | \* |
| time2hr | -0.075 | 0.302 |  | -0.037 | 0.547 |  |
| Mobile | 0.010 | 0.832 |  | 0.104 | 0.118 |  |
|  \_cons  |   | 0.020 | \* |   | 0.000 | \*\*\* |
| N | 3263 |   |   | 3263 |   |   |
| LL | -1973 |  |  | -1298 |  |  |
| Chi2 | 317 |  |  | 276 |  |  |
| pseudo R2 | 0.096 |  |  | 0.168 |  |  |
| observed P | 0.610 |  |  | 0.185 |  |  |
| predicted P | 0.626 |   |   | 0.149 |   |   |

Note: \* p-value<0.05, \*\* p-value<0.01, and \*\*\* p-value<0.01

dF/dx: change in the probability for a unit change in each independent

Huber/White/sandwich estimator of variance was used, and potentially dependent observations within cluster were specified.

Source: DHS 2003

1. For children’s immunization, household wealth and mother’s educational differentials are not consistent across selected immunization programs. For DPT1 and measles immunization, children in rich households had higher probabilities of receiving immunization (0.84 and 0.79, respectively), compared to children in the middle (0.73 and 0.64, respectively) (). There was no significant difference in probabilities between children in middle and poor households. However, the probability of completing three doses of DPT among those who started was significantly lower among the children in poor households (0.39), compared to those in the reference group (0.57) – suggesting challenges in reaching children in the poorest quintile for a complete series of immunization, as opposed to a single dose. Considering that immunization is provided free of charge, associations between immunization and household wealth status imply importance of indirect costs such as travel cost or mother’s opportunity cost of taking a child to a facility. Mother’s education was positively associated with both DPT1 and completion of DPT3, but not with measles immunization.
2. In particular, unlike maternal service utilization, immunization did not vary by travel time to the closest facility, indicating mass immunization campaigns might have reached children with poor access to the same extent as their counterparts. Finally, for DPT1 and measles, children in the rural west had *higher*probability of receiving immunization (0.86 and 0.84, respectively) than urban children (0.73 and 0.64, respectively). However, there was no significant regional difference between urban and rural center or rural east. This suggests relatively more successful immunization programs implemented in rural west by local governments or NGOs than in other regions, although there was no regional difference in completing DPT3.
3. The EPI Cluster Survey 2004 studied reasons for not immunizing children 12-23 months (EPI Cluster Survey 2004 Final Report). Among mothers whose children were not immunized, about 32 percent reported a distant health facility as a reason[[26]](#footnote-26), although travel time is not significant in our analyses adjusted for other covariates. Overall 28 percent and 4 percent reported lack of information[[27]](#footnote-27) and lack of motivation. Maternal education was significantly associated with DPT1 and completion of DPT3 in the regression analysis as well. Health education on the importance of vaccination during an antenatal visit may be a mean to increase awareness. About 5 percent was related to issues in facilities such as vaccinator absent or vaccine unavailable.[[28]](#footnote-28)

Table ‑: Adjusted differences in probability of using selected childhood immunization services

among children 12-23 months old: probit regression

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | DPT1 |  |  | DPT3, among those who received DPT1 |  | Measles |  |  |
|  | dF/dx | P>|z| |  | dF/dx | P>|z| |  | dF/dx | P>|z| |  |
| Poor | 0.034 | 0.493 |  | -0.182 | 0.022 | \* | -0.024 | 0.734 |   |
| Rich | 0.111 | 0.037 | \* | -0.008 | 0.912 |  | 0.158 | 0.006 | \*\* |
| education\_ever | 0.031 | 0.560 |  | 0.226 | 0.003 | \*\* | 0.085 | 0.153 |  |
| education\_primary  | 0.133 | 0.019 | \* | -0.109 | 0.154 |  | 0.104 | 0.089 |  |
| Radio | 0.016 | 0.743 |  | -0.076 | 0.248 |  | -0.012 | 0.832 |  |
| rural west | 0.134 | 0.042 | \* | -0.050 | 0.606 |  | 0.201 | 0.002 | \*\* |
| rural centre | 0.057 | 0.413 |  | -0.082 | 0.339 |  | 0.018 | 0.801 |  |
| rural east | 0.072 | 0.295 |  | 0.085 | 0.353 |  | 0.069 | 0.355 |  |
| time1hr | -0.043 | 0.448 |  | -0.070 | 0.338 |  | -0.094 | 0.139 |  |
| time2hr | -0.064 | 0.586 |  | -0.038 | 0.847 |  | -0.020 | 0.875 |  |
| Mobile | -0.001 | 0.996 |  | -0.064 | 0.622 |  | 0.112 | 0.359 |  |
|  \_cons  |  | 0.550 |  |  | 0.476 |  |  | 0.601 |   |
| N | 624 |  |  | 434 |  |  | 590 |  |   |
| LL | -354 |  |  | -284 |  |  | -367 |  |  |
| Chi2 | 23 |  |  | 23 |  |  | 36 |  |  |
| pseudo R2 | 0.044 |  |  | 0.043 |  |  | 0.059 |  |  |
| observed P | 0.719 |  |  | 0.570 |  |  | 0.627 |  |  |
| predicted P | 0.729 |  |  | 0.573 |  |  | 0.637 |  |   |

Note: \* p-value<0.05, \*\* p-value<0.01, and \*\*\* p-value<0.01

dF/dx: change in the probability for a unit change in each independent

Huber/White/sandwich estimator of variance was used, and potentially dependent observations within cluster were specified.

 Source: DHS 2003

1. For presumptive use of anti-malaria drug use, children in rich households had a higher probability (0.25) than children in the middle (0.17) (). There was no significant difference in the probability by other covariates. On the other hand, for treatment at a medical facility for cough and/or fever, children in poor households and children living in a cluster where traveling time to the closest facility was two hours or more had a lower probability of utilization (0.51 and 0.42, respectively) than the reference group (0.59). In addition, children whose mothers had some primary education had a higher probability of utilization (0.67) than children whose mothers had no education (0.59), but there was no significant difference by primary school completion additionally.

Table ‑: Adjusted differences in probability of using selected childhood immunization services

among children under 5 years: probit regression

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | Treatment at a medical facility for fever/cough |  | Antimalria drug for fever |   |
|   | dF/dx | P>|z| |   | dF/dx | P>|z| |   |
| Poor | -0.079 | 0.041 | \* | -0.055 | 0.137 |   |
| Rich | -0.021 | 0.631 |  | 0.086 | 0.034 | \* |
| education\_ever | 0.083 | 0.018 | \* | -0.009 | 0.814 |  |
| education\_primary  | 0.049 | 0.229 |  | -0.055 | 0.134 |  |
| Radio | -0.008 | 0.809 |  | 0.027 | 0.489 |  |
| rural west | -0.092 | 0.132 |  | 0.072 | 0.174 |  |
| rural centre | -0.052 | 0.352 |  | -0.030 | 0.602 |  |
| rural east | -0.058 | 0.309 |  | 0.060 | 0.237 |  |
| time1hr | -0.073 | 0.061 |  | 0.039 | 0.402 |  |
| time2hr | -0.168 | 0.008 | \*\* | 0.103 | 0.255 |  |
| Mobile | -0.105 | 0.142 |  | 0.030 | 0.667 |  |
|  \_cons  |   | 0.009 | \*\* |   | 0.000 | \*\*\* |
| N | 1913 |   |   | 1180 |   |   |
| LL | -1251 |  |  | -532 |  |  |
| Chi2 | 60 |  |  | 20 |  |  |
| pseudo R2 | 0.037 |  |  | 0.034 |  |  |
| observed P | 0.585 |  |  | 0.177 |  |  |
| predicted P | 0.588 |  |  | 0.168 |  |  |

Note: \* p-value<0.05, \*\* p-value<0.01, and \*\*\* p-value<0.01

dF/dx: change in the probability for a unit change in each independent

Huber/White/sandwich estimator of variance was used, and potentially dependent observations within cluster were specified.

Source: DHS 2003

1. The current regression model specification utilized in this report is admittedly parsimonious, and there other indicators - such as care quality at a facility and perceived severity of condition - valuable to understanding determinants in utilization. Qualitative studies discussed in particular a perceived low risk of pregnancy and delivery (van Schoor 2003, Edmonds 2005). Women generally considered delivery low risk and preferred home birth to the cost and long travel time to a facility. Even when women recognized benefits of delivery at a facility, women still chose to have home delivery. In addition, it was highlighted that physical access to a facility and perceived low health risks are generally closely related (Edmonds 2005). Transportation cost can be a significant barrier, in particular in rural areas. Some rural area residents also reported fears of unknown cost of care at a facility. Finally, concerns about drug availability and lack of perceived ‘strong’ drugs (usually injections) at a particular type of facility may also determine service utilization.
1. UN Millennium Project Task Force on Child Health and Maternal Health :“Who’s got the power ? Transforming health systems for women and children”. [↑](#footnote-ref-1)
2. But this is not the case for interventions to reduce maternal mortality, as explained below. [↑](#footnote-ref-2)
3. Op. Cit., page 66. [↑](#footnote-ref-3)
4. Op. Cit, page 72. [↑](#footnote-ref-4)
5. UN Millennium Project 2005. Coming to Grips with Malaria in the New Millennium. Task Force on HIV/AIDS, Malaria, TB, and Access to Essential Medicines, Working Group on Malaria. See www.unmillenniumproject.org/documents/. [↑](#footnote-ref-5)
6. UN Millennium Project 2005. Investing in Strategies to Reverse the Global Incidence of TB. Task Force on HIV/AIDS, Malaria, TB, and Access to Essential Medicines, Working Group on TB. [↑](#footnote-ref-6)
7. WHO, Eliminating Lymphatic Filariasis, Strategy Page. See http:www.who.int/ctd/filariasis/Elimination/strategy.html. [↑](#footnote-ref-7)
8. Deworming for Health and Development, Report of the Third Global Meeting of the Partners for Parasite Control, November 2004, WHO. [↑](#footnote-ref-8)
9. UN Millennium Project Task Force on Child Health and Maternal Health :“Who’s got the power ? Transforming health systems for women and children”, page 64. [↑](#footnote-ref-9)
10. This report was undertaken as part of a broader Health Sector Review in Timor-Leste that is currently being undertaken by the World Bank. It was prepared by Alexander Edmonds (Department of Anthropology, Macquarie University), in collaboration with Rui Paulo de Jesus, Magnus Lindelow, and Ian Morris from the World Bank. Research assistance was provided by Lizety Mendonça and Aguido da Silva. The findings, interpretations, and conclusions expressed herein are those of the authors, and do not necessarily reflect the views of the International Bank for Reconstruction and Development, the World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent. The authors would like to thank the health care workers and clients for their thoughtful contributions and generous donation of time to this research. The team gratefully acknowledges the generous support of the Government of the Netherlands through the Bank-Netherlands Partnership Program. [↑](#footnote-ref-10)
11. For example, a broken bone was caused by the spirit of a boy’s grandfather, which had become displeased by failure to follow the practice of giving an infant the nickname of a recently deceased grandparent. [↑](#footnote-ref-11)
12. Thus reshifting health priorities, for example, away from the more difficult task of capacity development to programs such as drug donation with a higher chance of success (Buse and Waxman 2001) [↑](#footnote-ref-12)
13. A few caveats should be kept in mind in assessing the merits of public-private partnerships -- and the relevance of the debate surrounding them – for Timor-Leste. In much of the discussion of public private partnerships, they are defined as a working relationship between at least one not-for-profit organization and one private *for-profit* organization. NGOS are thus sometimes placed in the “public” side of the equation public-private partnerships (Reich 2002: 4). Though NGOs are independent of the state, according to this line of reasoning, they act in the pursuit of public rather than private interests. By this definition at least, most partnerships in East Timor – both those existing and those being considered -- are really “public-public.” In any event, partnerships in the health sector will involve different kinds of opportunities and concerns if commercial organizations are excluded. [↑](#footnote-ref-13)
14. For example, practitioners with a poor clientele frequently treated febrile patients with a one day treatment, arguing they were simply responding to the needs of patients who could not afford a peripheral blood-smear test (Kamat 2001). [↑](#footnote-ref-14)
15. That is, the rise of informal payments to public providers, which has been documented in Africa, East Asia, and Eastern Europe (Belli and Shahriari 2002, Lindelow et al 2004). [↑](#footnote-ref-15)
16. Another potential drawback to a larger NGO presence is the effect it can have on government health worker morale and performance. Higher private sector salaries can add to public sector workers’ dissatisfaction, encourage informal payments, or contribute to absenteeism as workers take private sector employment to supplement their income. Salary differentials can lead to “internal brain drain” from public to private clinics (Pfeiffer 2003). This last possibility seems fairly unlikely in the immediate future given the fairly large supply of health workers seeking employment. Nevertheless, during the period of reconstruction, higher salaries paid to local staff of international agencies contributed to discontent with government compensation (Tulloch et al 2003). [↑](#footnote-ref-16)
17. A study found that antimalarials supplied to pharmacists had been sold to street vendors who resold individual tablets at a higher unit cost (Foster 1991). [↑](#footnote-ref-17)
18. This report was undertaken as part of a broader Health Sector Review in Timor-Leste that is currently being undertaken by the World Bank. It was prepared by Xiaodong Cai (A Ph.D candidate, Department of International Health, Bloomberg School of Public Health, Johns Hopkins University), in collaboration with Ian Morris, Magnus Lindelow, and Naoko Ohno from the World Bank. The team gratefully acknowledges the generous support of the Government of the Netherlands through the Bank-Netherlands Partnership Program. [↑](#footnote-ref-18)
19. Five organization categorized into “others” are: Bairo Pite clinic, World Vision clinic, AFMET clinic, Comunidade Edmond Rice clinic, Immanuel Same clinic. [↑](#footnote-ref-19)
20. Patient fees and payment at CCT clinics are compensated by the profits of coffee sales that CCT makes (CCT 2004). [↑](#footnote-ref-20)
21. Time to a health care provider is asked only to those who visited a facility in DHS 2003. Therefore cluster average is used in the analysis. Among households whose member(s) ever visited the closest facility, 36 % and 18 % reported travel time equal to or greater than 1 hour and 2 hours, respectively. [↑](#footnote-ref-21)
22. The most recent births were given on average 18 months before the survey, compared to 27 months for all births in the past 5 years. Antenatal care use varies significantly by the denominator: 60.9 % among the most recent births vs. 36.0 % among the all births. However skilled birth attendant, facility delivery, and postpartum care did not vary by the denominator. [↑](#footnote-ref-22)
23. We also explored women’s decision making and exposure to TV but did not include them in the final model. [↑](#footnote-ref-23)
24. Time to a health care provider is asked only to those who visited a facility in DHS 2003. Therefore cluster average is used in the analysis. Among households whose member(s) ever visited the closest facility, 36 % and 18 % reported travel time equal to or greater than 1 hour and 2 hours, respectively. [↑](#footnote-ref-24)
25. However, it was also reported lack of personnel at a clinic is problematic. [↑](#footnote-ref-25)
26. Reasons were reported among 94 % of mothers whose children 12-23 months were not immunized. [↑](#footnote-ref-26)
27. Lack of information includes ‘unaware of need for immunization’, ‘fear of side effects’, place and time for immunization unknown’, ‘unaware of need for 2nd and 3rd dose’, and ‘wrong ideas about contraindications’. Lack of motivation includes ‘postponed until another time’ and ‘no faith in immunization’ [↑](#footnote-ref-27)
28. The rest 31 % reported mother too busy (14 %), time inconvenient (7 %), child ill (5 %), family problems (3 %), others (2 %). Reasons were reported among 94 % of mothers whose children 12-23 months were not immunized. [↑](#footnote-ref-28)