In recognition of the global benefits from immunisations, numerous developed countries, philanthropic organisations, and UN specialised agencies provide considerable funding support for the EPI in developing countries. Increasingly, the governments of these countries are also treating the EPI as a priority and allocating funds from their meagre resources for its implementation. Although this means that there is a relatively good supply of vaccines to these countries, poor infrastructure and limited cold chain facilities continue to impede the satisfactory in-country storage and distribution of these vaccines. At the local community level, socio-cultural beliefs and traditional practices remain important barriers that limit widespread acceptance of vaccinations.

This comparative study in Sierra Leone is part of a wider anthropological research that entailed the conduction of larger studies in the Gambia and Guinea, and another small comparative study in Nigeria. The objectives are to determine how supply/delivery and acceptance of immunisation at the local level is influenced by processes in the overall health care delivery system; how demand is shaped by socio-cultural knowledge, local aetiologies, rumours concerning disease and immunisation; and how the public reacts with frontline EPI workers. The findings are expected to inform policy and contribute towards improving immunisation coverage in a socially sensitive, effective and sustainable manner.

The methodology included field investigations conducted in an urban and a rural locality in the Eastern province that entailed the conduction of focus group discussions with women of child bearing ages, older women 50 years and above, and men; this was followed up with discussions and participants’ observations. In addition, child health biographies of 10 children in the second year of life in each locality were obtained. Finally, the field activities included the observation of service delivery and interactions between mothers and health staff, and the investigation of the views of staff members on vaccine supply and demand issues. Other methods included literature review and interviews with key national and local policy makers, health professionals, and donor/NGO representatives on their perceptions of vaccination supply and demand issues.

The findings reveal a good understanding of the importance of immunisation amongst policy makers and other stakeholders at the national level. At the local level, vaccinations go side by side with traditional medicine that is still widely practiced. Intensive IEC since the inception of the EPI has contributed to a good understanding of
the benefits of immunisations, and this is accompanied by widespread acceptance and a
strong social demand. Numerous “sayings” in the local language, Mende, highlight and
emphasis this fact. For example, “Kporyor leo, lasimu leo, ndowo leo gbe keg be leo,
knoya nya nde ngor bi makilatie wumbu kumie li a bi lui kinikihun” – “Whatever charms
or amulets they use, pregnant women should go to the hospital for ante-natal care and
also take their children to the under-five clinic”.

Unfortunately, inadequate cold chain facilities and difficulties with transportation impede
the regular supply, storage and distribution of vaccines, especially in the rural areas.
Other factors like some socio-cultural beliefs, traditional practices, the introduction of
informal fees and negative staff attitude towards mothers continue to impact negatively
on immunisation uptake.

The most important findings are summarised as follows:

- The social benefits of immunisations are recognised worldwide, and there is
  considerable support for the EPI in developing countries. Although Sierra
  Leone continues to benefit from this international goodwill, the government is
  also endeavouring to increase support to the programme.
- There is widespread belief in witchcraft and the use of protective charms
  (accepted as being complementary to the protection provided by vaccines).
- The EPI was brought to a virtual standstill during the war, but has been
  resuscitated with the replacement of kerosene refrigerators with solar-powered
  ones. The coverage levels have also increased considerably, partly due to
  intensive IEC activities.
- Vaccination is widely accepted and there exists a strong social demand for
  EPI services.
- Disease-specific knowledge is low, especially in the rural areas. Rumours
  abound, with a persistent one that immunisations cause paralysis.
- Some side effects of immunisation like fever and swellings are interpreted
  positively, and understood as the potent vaccines “attacking and destroying”
  dormant diseases.
- Vaccine supply and EPI services are better in the urban than in the rural
  areas, where inadequate cold chain facilities, poor roads, informal fees, and
  negative attitude of unmotivated staff impede supply and demand.
- Frontline EPI staff members perceive informal fees as a solution to problems
  associated with service delivery, whilst mothers find them unaffordable, and
  consider them a deterrent to vaccination uptake. These fees are seen to
  affect supply and demand negatively. It is part of a wider problem relating to
  poor conditions of service of all health staff.
- There is significant political and religious support for the EPI.

Recommendations include the following:

- In a socio-culturally diverse country like Sierra Leone, similar studies should be
  conducted in other regions, and the results used to inform policy, both nationally
  and internationally.
- IEC continues to be crucial in the EPI, and must therefore be strengthened; IEC
  messages must be developed using the findings of this study in order to increase
coverage in a culturally sensitive manner. Vaccine benefits as well as risks should be properly explained.

- Steps must be instituted to control the demand for fees for immunisation services. The cost-recovery programme being currently revised and the policy on introduction of fees for services being developed should be speedily concluded and implemented.
- Advocacy for the continuation of support to the EPI should be intensified.

1. INTRODUCTION

It is now universally accepted that in an increasingly interdependent world, one country’s actions will often have implications for its neighbours and for the rest of the world. There is also a growing recognition that some needed public goods and services can only be secured through international cooperation (World Bank – World Development Report 1997). In the health sector, childhood vaccinations definitely fall into this category of public services. The Expanded Programme on Immunisation (EPI) is an example of international cooperation in health, where numerous partners from different socio-economic backgrounds cooperate towards ensuring that the world’s children are protected from the vaccine-preventable diseases. A very high proportion of the costs of the EPI in under-developed countries (e.g., for the procurement of vaccines, installation of cold chain equipment) is borne by other, mostly developed countries, philanthropist organisations, international financing institutions, and UN agencies. The situation is therefore characterised by a relatively well-informed and well-funded supply mechanism at the international level. The same does not hold true in most developing countries. Although most policy makers in these countries now recognise the importance of the EPI, there is still considerable reluctance to “put their money where their mouths are” in terms of allocating funds to the programme, particularly for the procurement of vaccines. Despite intensive advocacy, health education and IEC activities, there is still very little evidence of active demand for EPI services, especially in the most needy communities in under-developed countries, notably in sub-Saharan Africa.

The current study is part of a wider research with the overall goal of determining the factors affecting the delivery and acceptance of immunisation services in African health systems. Earlier studies have been conducted in the Gambia and Guinea that were much broader in scope, and another small comparative study is being conducted in Nigeria. This report presents the findings of a short, comparative research in Sierra Leone, aimed at bringing a Sierra Leonean perspective to the overall study.

1.1 COUNTRY PROFILE

Sierra Leone is an Anglophone West African country that is contiguous with the Republic of Guinea, which is one of the (Francophone) countries included in the current study. The total land area is 71,740sq km with a census population of almost five million (December 2004), over 40% of which is below 20 years of age. The elderly, 65 years and over, are less than 5% of the total population. The underfives are 17% and women of child bearing ages 25%.

English is the official language but Krio, a patois developed out of English is the Lingua Franca, understood all over the country. Indigenous tribal languages are about 15 with Mende, Temne, Limba being dominant. However, Foulah and Madingo are also spoken in all parts of the country.
Administratively, Sierra Leone is a Democratic Republic divided into four major regions namely the Western Area comprising the peninsula on which the capital city Freetown is located, and three provinces - North, South and East. The provinces are aggregations of tribal chiefdoms - 53 in the North, 44 in the East and 52 in the South. For administrative purposes these chiefdoms are grouped into districts, five in the North, three in the East and four in the South. The administration of the district is headed by a Senior District Officer (SDO). All matters relating to health are in the responsibility of the Ministry of Health and Sanitation (MOHS).

Each health district is under the care of a District Medical Officer (DMO) who is a public health physician. He is supported by a District Health Management Team (DHMT) comprising the principal officers of health care service delivery namely; Hospital Medical Superintendent, Hospital Matron, District Health Sister, District Environmental Health Officer, District Monitoring and Evaluation Officer, District EPI Operations Officer, District Health Education Officer, District Social Mobilisation Officer, District Pharmacist and the District Health Finance Officer.

The DMO coordinates all health care activities in the district including the service delivery of the health Non Governmental Organisations (NGOs) who are highly valued partners in the provision of health and medical care.

The MOHS operates at least one general hospital in each district supported by Peripheral Health Units (PHUs) in each chiefdom in the district. This district hospital is the referral point from the PHUs. There are three ranks of PHUs namely; the Community Health Centre (CHC), the Community Health Post (CHP) and Maternal and Child Health Post (MCHP).

The religious missions, the mining industries and private proprietors also operate hospitals and PHUs in many parts of the country. Additionally, some government health care facilities are under the Ministries of Defence, Social Welfare and Education severally. For effective service delivery the MOHS is structured into 9 directorates and some 22 programs. At the head of each programme is a manager. Immunisation services are within the Maternal and Child Health Program in the Directorate of Disease Prevention and Control.

The infective and parasite diseases characteristic of the tropics are endemic in Sierra Leone. These include malaria (the greatest cause of morbidity and mortality especially in the underfives), the different types of filariasis (e.g., onchocerciasis and elephantiasis), and schistosomiasis. Viral haemorrhagic fevers (especially lassa fever) also pose health threats to the people. Measles and meningitis tend to become epidemic from time to time during the dry season and cholera and other waterborne diseases during the rainy season.

The health care services had included curative, rehabilitative, preventive and promotive strategies since colonial times (i.e., until 1961). But after the 1978 Alma Ata declaration the preventive and promotive aspects which had hitherto been subordinate and under funded, were gradually given a higher profile in the socio-cultural philosophy of Primary Health Care (PHC) whose goal was accessible, affordable and acceptable "Health for All". Child survival became one of the principal concerns. Immunisation as a preventive measure was enhanced.
Before Alma Ata, vaccinations were directed mainly against small pox. There were also certain inoculations which were essential for international travellers. The anti small pox immunisation was not aggressive. It was done once a year. Initially, as many children as could be reached easily (in schools and at hospitals) were vaccinated. Public Health Inspectors (PHIs) carried out this annual program. The technique caused pain and so small pox immunisation was avoided as much as possible. Over the years, the technique improved and became less painful, and people became more cooperative.

To effect infant survival under the "Health for All" strategy within the Alma Ata declaration, a programme of routine immunisation of infants and underfives was started in Sierra Leone in 1982. Health personnel were trained and the policy of not allowing minor health workers to give injections was gradually relaxed in favour of a new cadre of community health workers, the MCH Aides, so that they could deliver service to the remotest parts of the country.

In 1986 the child immunisation programme was evaluated. The coverage was found to be only 6% of children in the second year of life (12-23 months). The Head of State launched the EPI in 1986. Massive reorganisation accompanied by intensive health education raised the coverage to 24% in 1988.

Further reorganisation was effected and the Italian Government donated six million dollars ($6,000,000.00) to UNICEF to boost the EPI. By 1991, Sierra Leone had attained universal child immunisation (UCI) i.e., over 75% coverage of all children in the second year of life with all the antigens given at the correct age and intervals between shots.

The global desire to eradicate polio became very pressing. Therefore, a "Kick Polio out of Sierra Leone" programme was launched by the MOHS and actively supported by the UNICEF, WHO, and Rotary International. This programme conducted a series of nationwide Immunisation drives covering the whole country on special days called National Immunisation Days (NIDs). During these NIDs, Polio vaccine was dropped into the mouths of children under five years; vitamin A supplement was also given.

Between 1991 and 2002 the war in Sierra Leone affected every part of the country and caused massive destruction of health facilities, especially PHUs in the rural areas. Over 75% of these were destroyed. Most district hospitals were completely looted and/or burnt down. Almost all members of staff were dispersed, and many found refuge in neighbouring countries. Many others, especially the highly trained physicians and nurses left the country for good, exporting their expertise and services to Britain, the US and other countries with better prospects.

With the destruction of numerous health facilities and staff flight, all health services were brought to a virtual standstill. This also affected the EPI, which collapsed almost completely – only some cold rooms in safe urban areas were functional. Feeble efforts made to effect immunisation during the war could reach only a small part of the population. However, it should be mentioned here that the various fighting factions appreciated the benefits of immunisation and through the mediation efforts of UNICEF, sometimes allowed Government-employed personnel to extend EPI services behind rebel lines, especially during NIDs.
But the bulk of the population was dispersed, with some hiding in the forests, and others living in special camps for the internally displaced in Sierra Leone or in refugee camps in neighbouring countries. Thus the war created:

- Dislocation of routine services;
- Destruction of health care facilities including the cold chain;
- Dispersal of health personnel;
- Dispersal of people from towns and villages into the bush;
- Flight of professional expertise;
- Non-immunisation of children in the bush and in some localities behind rebel lines;
- Overcrowded cities with disorganised and inadequate health care services;
- Greater need for clinical specialists to treat and rehabilitate the war wounded;
- Total break down of the transportation system;
- Psychological trauma; and
- Massive poverty and homelessness. The list is endless

The war was finally declared over in February 2002. Since then, there has been significant donor support to rehabilitate the devastated health services. Many local and international NGOs came to help, and funds from loans and donations flowed in to support the health sector rehabilitation efforts.

A significant percentage of the damaged and destroyed infrastructure has been renovated, rebuilt, equipped and appropriately staffed. The cold chain has been gradually rehabilitated with the replacement of most kerosene refrigerators with the more efficient solar-powered refrigerators. The immunisation coverage which had declined to <35% during the war increased to 52% by 2004, and the upward trend continues.

1.2. **GOAL AND OBJECTIVES**

Although EPI is widespread all over the world, the acceptance of immunisations is not universal. There is considerable variation between and within countries in regards to the acceptance of EPI as a cost-effective public health service. In a country like Sierra Leone, where numerous tribes with differing cultural beliefs co-exist, perceptions about immunisations may vary considerably. Based on these differences, the demand for EPI services is also expected to vary. An insight into the relationship between these socio-cultural beliefs and demand for EPI services should guide the formulation of strategies to increase demand, and thereby increase coverage.

The current study is part of a wider anthropological research programme on “Childhood Vaccination: Public Engagement with Science and Delivery”, with initial studies conducted in the Gambia and the Republic of Guinea, and another being conducted in Nigeria. The long-term aim of the overall project is to support the development of new, effective approaches to public involvement in vaccine research, delivery and promotion in the context of the rapid proliferation of new vaccines and technologies and evidence of public worries about these.
This comparative study is for research and policy networking activities to bring Sierra Leonean perspectives into the study. The overall goal is to contribute towards feeding new insights concerning:

- The interaction of supply and demand side influences on vaccination uptake;
- The cultural and political dynamics of vaccination acceptance and delivery; and
- Intensification of policy efforts to improve vaccination coverage in a socially sensitive, effective and sustainable manner.

The specific objectives are to explore:

- How the supply/delivery and acceptance of infant immunisation at the local level is influenced by processes and imperatives in the wider context of the health care system;
- How vaccination demand is shaped by (a) socio-cultural knowledge, local aetiologies. Conceptualisations, information sources and rumours concerning disease and immunisation, immunity, injections, and side effects; (b) people’s broader political identities and perceptions of the state of health services; (c) social differentiation in these; and
- How publics interact with delivery institutions and their frontline workers, the discourses and communicative practices involved in these micro-interactions, and how they interplay with issues of knowledge, accessibility and affordability.

1.3. METHODS

One chiefdom was selected out of the 97 chiefdoms in the Mende speaking East and South. The selected chiefdom was Small Bo which is one of the 16 chiefdoms in the Kenema District. It is the western most point of the Eastern Province being contiguous with Baoma Chiefdom in the Bo District. It has a population of nearly 65,000 (according to the preliminary census figures December 2004). The largest locality is the chiefdom headquarter town of Blama (population 12,000). The people in this part of Mende land are Kor Mendes who are rather more influenced than the Kpaa Mendes to their west. Blama, however had direct link with Freetown by means of a rail road. This has made it more cosmopolitan than villages farther away from the railway line. This rail road was closed in 1972 and a highway constructed.

There is a CHC in this town and the district hospital is at Kenema 12 miles away in the neighbouring chiefdom of Nongowa to the East. Agriculture is the principal occupation in the chiefdom. This town was the urban site of the study.

A village 8 miles away called Nyangbe Bo with a population of under 1000 was selected as the site for the rural investigation. An MCHP is located there, supervised by the CHC at Blama, which is also its immediate referral point. There is another CHC 7 miles away to the North at Levuma in the Kandu Leppiama chiefdom and a refugee camp clinic at Jembe in the village on the boundary between Bo and Kenema Districts on the banks of the Sewa River.
METHOD OF FIELD STUDY

Two experienced field investigators (one of either sex, the male being a Mende fluent in the language) were given two days orientation on the objectives of the study and modus operandi of the fieldwork. They then spent a week in each locality after first calling on the DMO at Kenema, the district headquarters, to brief him about the study. The DMO gave them helpful pieces of advice and directives, after which they then proceeded to the chiefdom selected for study. They paid courtesy calls on the paramount chief and elders at Blama, where they briefed the chiefdom elders about the purpose of the field study. The field investigators were then directed to the heads of the selected localities that then ensured their security and provided whatever support was essential to facilitate the field work.

In each locality, the study was conducted in four parts namely:-

A. Three Focus Group Discussions (FGDs) were conducted. Each of them was recorded live after obtaining the permission of the discussants. After the necessary assurances that the material collected would not be used for purposes other than pure research and that the anonymity of the respective participants would be ensured, the “ice was broken” by Christian and Muslim prayers and self introduction of everybody present including the researchers who acted as moderators. Each group consisted of between 8 and 12 persons satisfying certain criteria namely:

(a) Women of child bearing ages i.e., between 15 and 49 years. This included pregnant, lactating and other women in this age bracket;
(b) Older women (i.e. women over 50 years); and
(c) Adult males (20 years and over).

The moderators only introduced topics for discussion and ensured the flow by probes and in some cases, inviting reticent persons to participate.

The topics of discussion were:-

- What is immunisation? How is it understood in this locality? What is the Mende term connoting immunisation?
- What benefits does it bring to the baby? Probes were used to bring out benefits relating to strength, growth, protection against certain diseases which the discussants were encouraged to explain.
- What secondary effects are experienced? How are these interpreted?
- What are the cultural beliefs and rumours around immunisation?
- What are people’s experiences with immunisation services? Probes ensured that positive and negative aspects were brought out.
- How are mass campaigns viewed? What are they for?
- How do people in this community see the differences between mass campaigns and routine immunisation services?

Each FGD lasted between 40 and 60 minutes. It ended by the moderators playing back part of the discussions so that participants could hear their own voices. The assurances of secrecy and anonymity were repeated and the discussants thanked.
B. Some issues arising in the FGDs were followed up through informal conversations and participants' observations of mothers about protecting their children's health, whether there are any worries or anxieties or rumours and what their experiences were with immunisation. In the FGD with women of childbearing age, this was directed only to women who had or were nursing at least one child.

C. The child health biographies of 10 children in the second year of their life (i.e. between 12 and 23 months) were obtained. According to the immunisation policy in Sierra Leone such children should have completed the five immunisation schedules and received the complete doses of BCG, Polio (0, 1, 2, and 3), DPT (1, 2 and 3) and Measles antigens. The investigations were guided by the following questions:

- where was the child born?
- what were the problems around the birth?
- how was the child's health?
- what measures were taken to protect its health?
- any problems?
- what was done?
- when was the first immunisation taken?
- how was the mother's experience at the PHU?
- Were other immunisations taken?
- What does the mother think each of them was for?
- Were there any adverse effects?
- Where were the immunisations taken?
- What was the experience at the health facility?
- Has mother any concerns about immunisation service delivery?
- Has mother any concern about rumours relating to immunisations? If yes, what are they?

D. At the PHU in each locality (namely; the CHC at Blama, and the MCHP at Nyangbe Bo):

(i) Two days were spent observing service delivery and interactions between mothers and the health staff especially during immunisation; and

(ii) Investigations were made about the views of staff members on demand for immunisation and any problems that they encounter during the delivering of these services.

OTHER METHODS

In addition to the field investigations, literature review was conducted, and key national and local policy-makers, health professionals, NGO and donor representatives were interviewed on their perceptions of vaccination supply and demand issues.
2. FINDINGS

2.1. SUPPLY ISSUES

Worldwide vaccinations have been generally accepted as a public health service that can be beneficial to the whole world, and not just to individual countries or communities. That has influenced supply positively in the sense that numerous philanthropic organisations and individuals are donating vast amounts to the EPI. In addition, there is also considerable support from the UN agencies, primarily through UNICEF and WHO. The international financing institutions like the World Bank and the African Development Bank are also contributing significantly towards achieving the goals and objectives of the EPI. Friendly governments from the developed world also bring their fair share of support to EPI in underdeveloped countries, e.g., the Italian government provided support for the achievement of UCI in Sierra Leone in the eighties. This is evident in Sierra Leone, where UNICEF, WHO, and Rotary International are supporting government’s efforts to “Kick Polio out of Sierra Leone”. Health projects funded by the international financing institutions and other donors like the EU also support the EPI. The country is currently receiving funding from the Global Alliance for Vaccines and Immunisations (GAVI), which provides support for the introduction of new and underused vaccines, injection safety and for strengthening of immunisation services.

Although there is considerable support for EPI at the international level, the importance of sustainability dictates that governments should take increasing responsibility for ensuring the continuation of the EPI, with special emphasis on the reliable supply of vaccines. In the peculiar situation of post-conflict Sierra Leone, competing priorities relating to the rehabilitation of the devastated country restrict the level of funding that can be allocated to the EPI by the government. That notwithstanding, the Government of Sierra Leone (GOSL) has demonstrated firm commitment to the programme by allocating funds for the procurement of vaccines. This is in addition to the considerable support provided in terms of personnel and infrastructure. All the major stakeholders are aware of the need to introduce elements of sustainability into the plans for the EPI – as a matter of fact, major donors like GAVI insist that the development of a Financial Sustainability Plan (FSP) is a pre-condition for continuation of support. There are indications that some elements of donor fatigue are creeping in, and GOSL is being sensitised that it must take over its responsibilities as far as ensuring sustainability of the EPI is concerned.

Another important consideration affecting supplies is that vaccines are not manufactured in Sierra Leone. There are sometimes shortages in the international market, highlighting the importance of proper planning and budgeting for the importation of the various antigens. This is particularly important during outbreaks (like meningitis and yellow fever). UNICEF remains the main source of supplies for the EPI program in Sierra Leone, and the government works closely with this organisation to ensure constant availability of vaccines.

Other important considerations pertain to the storage and transportation of the vaccines, and ensuring the potency of the various antigens up to the point of delivery. Solar refrigerators have replaced the kerosene ones that were deployed before the war. Staff members have been appropriately trained, and supervision has been strengthened, resulting in a more efficient cold chain.
Other factors affecting supply include delivery schedules, administrative red tape, poor road network and inadequate transportation facilities, policy of decentralisation that entails direct delivery to the districts thereby facilitating availability of supplies, and attitude of personnel responsible for the administration of the vaccines.

### 2.1.1 PRE- AND POST-WAR STATUS

Before the war, EPI services had been extended country-wide, with an efficiently managed cold chain using predominantly kerosene refrigerators. Potent vaccines were widely available, personnel were trained, and an effective system of supervision, monitoring and evaluation led to high vaccine coverage rates.

At the start of the war in the early nineties, deterioration of security prevented access to numerous communities. As the war escalated, the situation worsened to the point where the EPI was brought to a virtual standstill. Most health facilities were destroyed, staff fled their posts, communities dispersed, and EPI activities were restricted to only a few, safe, mostly urban centres that included the camps for the internally displaced and refugees. Despite this situation, attempts continued to keep the programme alive. The NIDS continued with support from UNICEF and other partners (conducted simultaneously with neighbouring countries). Even children behind enemy lines were immunised after negotiations with the various fighting factions.

From the above, it can be noted that the urban areas were better served with EPI services during the war, primarily because of insecurity as a result of which the rural areas were less accessible. The necessary infrastructure and logistics were missing, even in areas that were populated. The cold chain was destroyed, and most members of staff had fled their posts.

### 2.1.2 CURRENT STATUS

There has been massive rehabilitation of the damaged health infrastructure, with functioning cold room facilities now available in all districts and most chiefdoms. The villages are served during outreach clinics with the vaccines kept at the required temperatures in cold boxes with ice packs. These outreaches do not cover all villages, and vaccines are not always available during the sessions, as was often the case in the study village of Nyangde Bo. Women often have to walk miles to obtain the services, which serves as a deterrent to many busy mothers.

There is now a functional hospital in each district, with a DHMT that works together with the DMO to plan supply of vaccines and immunisation services. There is also at least one CHC in each chiefdom. Each district has a cold room, and all CHCs have refrigerators, from which vaccines can be distributed in cold boxes with ice packs. The current installation and use of solar powered freezers has reduced demand on the unreliable power supply from the National Power Authority (NPA) and fossil fuels generally. Solar power ensures that once supplied to a cold room storage point, the potency of the vaccines is maintained until they are removed for transport to the service delivery site. Ice packs are widely used – they can be constantly renewed in the solar freezers to ensure the preservation of vaccine potency during transport.
It must be highlighted that the supply of vaccines is still worse in the rural areas, where communities still have to depend on outreach clinics that are not always conducted regularly.

2.1.3 VIEWS FROM COMMUNITY MEMBERS

Vaccines are almost always available in the CHC in the chiefdom headquarter town of Blama. This is not the case in the village of Nyangde Bo, where there are no cold chain facilities. The outreach clinics are not regular, and when they do take place, there are often no vaccines available. This irregular availability of vaccines could have very negative effects on demand. If mothers are sensitised about the benefits of the EPI, and the vaccines are not available when needed, the demand for the services will definitely decrease eventually.

In this respect, the communities prefer the National Immunisation Days, which are usually preceded by intensive mobilisation, and accompanied by adequate vaccine supplies administered in the homes by cordial staff. Participation is however mandatory, with stiff fines levied on defaulters. This is in stark contrast to the routine immunisation services, when vaccines are not always available, especially in the villages. Mothers usually have to pay fees for the services, and personnel administering the vaccines are not always cordial.

Although like all other health services, EPI services are supposed to be provided free of charge, the issue of informal charges levied by PHU staff came out prominently as a deterrent preventing mothers from presenting their children for vaccination. This issue will now be discussed as it affects vaccine supply. The PHU personnel conceded that they do charge fees, but insist that this is justified because they are necessary to ensure the provision of EPI and other services. Certain costs are incurred during the delivery of the services, e.g., transportation costs (for collecting drugs, vaccines from Kenema and conducting outreach clinics), and payment of fees to “non-salaried volunteers” assisting in the provision of these services. Although services are meant to be free of charge, they cannot be provided if these fees are not collected. This means that the supply and availability of vaccines is also dependent on the collection of fees. This is part of the wider problem relating to the inadequate support for the provision of services, as well as the overall poor conditions of service of all health staff. It is apparent that in addition to the need to provide services, the introduction of fees is some form of “survival mechanism” for poorly paid staff. The problem is compounded by the fact that the (relatively successfully implemented) Essential Drugs Cost Recovery Programme that was generating funds to address some of these needs has not been resuscitated since the end of the war – it is only being revised now with a view to include fees for all services. It is expected that once resuscitated, enough funds will be generated to meet most, if not all of the above-mentioned costs.

2.2. DEMAND ISSUES

EPI is widely accepted in Sierra Leone, probably due to the intensive health education, social marketing and IEC activities that have been integral components of this programme since its inception. However, this has not led to the abandonment of native,
traditional practices relating to the health and protection of children. These are used and practiced side by side with vaccination, with both methods “supplementing each other” to make the children stronger and healthier as far as the parents are concerned. The underlying norm is that child survival is regarded as most important to the communities. For this reason parturition, paediatrics and family nutrition have always been the peculiar concern of the women. However, men are also being increasingly sensitised to take interest in these matters.

There exists a strong social demand for EPI services, with mothers willingly taking their children for vaccinations. Even at the community level, the levying of fines on defaulting mothers and families is an indication of the recognition of vaccinations as a public good that should not be compromised by the actions of a few.

2.2.1. PRE- AND POST-WAR STATUS

Sierra Leone had a successful health education/ IEC campaign for EPI/ UCI that mobilised all stakeholders at all levels of society. Innovations included advocacy that led to political commitment from the President and Ministers of government; mobilisation of community leaders, involvement of religious leaders from the two main religious groups through the formation of Islamic Action Groups (ISLAG), and Christian Action Groups (CHRISTAG), participation of market women and other petty traders. School children and students of institutions of higher learning, members of the armed forces were all mobilised to participate in the programme. The extensive gains of these efforts were eroded during the decade long civil conflict that was accompanied by the collapse of almost all health education/ IEC activities. This adversely affected demand for the services, which in any case, were not so readily available during and immediately after the war. Mothers were more worried about other competing priorities relating to basic survival like food and shelter.

The need to quickly re-stimulate demand for EPI services was partly dictated by the fact that regional efforts at controlling diseases like Polio were being compromised by the weak performance of the programme in Sierra Leone. An intensive IEC campaign was re-introduced, and the conduction of the NIDs was also accompanied by massive mobilisation efforts. These led to a gradual increase in demand for the EPI services.

2.2.2. CURRENT STATUS

The demand for EPI services has risen significantly since the end of the war, partially explained by the upswing in health education and IEC activities. The NIDS have been resuscitated, and are usually accompanied by intensive social mobilisation activities at all levels of society. The availability of the services has also contributed towards creating and maintaining demand – the cold chain has been rehabilitated, more efficient solar refrigerators are being introduced, personnel have been trained, and supervision has been intensified.

There were only two choices as far as health care services were concerned in the localities studied, and mothers either depended on traditional practices or attended the PHUs. It became clear that traditional practices were still the preferred first choice, with many diseases being considered unsuitable for conventional (sometimes termed “English” treatment). Even when treatment was sought at the PHUs, the use of various
charms and other traditional practices continued simultaneously. Most of the respondents and discussants used both traditional and conventional methods, sometimes simultaneously with the understanding that they complement each other.

2.2.3. VIEWS FROM COMMUNITY MEMBERS

To ensure child survival native child care depends primarily on the herbs in the environment. Various herbs are used to cure various childhood illnesses. For example, when during dehydration the fontanels become depressed (Orka in Mende), herbs are used to treat this condition. Herbs are also used as prophylactics. The community informed the researchers of “Bitter Medicine” (Haihuagua in Mende) being “brewed” and given to children daily to prevent illness and preserve health. Herbs were also used as protection as follows:

- Antelope horns were washed and stuffed with certain herbs and hung as charms round the neck of children as protection. The charms were renewed monthly at the new moon.
- Cowries (Kporyea in Mende) were also used as protective charms against certain illnesses.
- The Kor Mende being more islamised that the Kpaa Mendes have also included Koranic charms – the lassmami for the protection of children and to ensure their survival.

With the advent of immunisation, the research shows that there was a cautious approach towards support and acceptation. Pain and side effects initially prevented continued participation in this “new” technique. But health education and its aggressive use by the health care providers gradually won over the women initially and later the men also. The research shows that the women, especially the younger women, are more knowledgeable about the instructions relating to times and types of antigens than their older sisters, mothers, and the men. There was no marked difference noted between the urban and rural areas.

The current study revealed greater confidence in immunisation, with some women even persisting with immunisation in spite of side effects. As a matter of fact, side effects are sometimes viewed as an indication of the “strength and potency of the vaccines whilst destroying the illnesses in the children”. It is interesting to note that they persisted with the immunisation schedule at the same time that the children wore the traditional protective charms and/ or used the prophylactic herbs like “bitter medicine”. This was often considered as a way of providing “double protection” for the children. Numerous sayings of mothers in Mende were obtained during the field work that reflect the trust and confidence they have in vaccinations, e.g., “Ndo gbi lie ngi nga I makilatie wumbua I yama yea ndo Ingi makilate sia wumbua, ndo laa hingbeh a laa a ngiyea I na I ngi makilate sia wumbua lor” – “A child will not contact any childhood illnesses as long as the mother is vaccinated and the baby is also vaccinated”; “Kporyor leo, lasimo leo, ndowo leo gbe ke gbe leo, konya nya nde ngor bi makilatie wumbu kuimie li a bi lui kinikihun” – “Whatever charms they have, pregnant women should go to the hospital for ANC and also take their children to the UF clinic”; “Makilatie waiguelay kia kokwaynah gbayema kor wei huanghaa taa tu hain meh gbaahun” - “Immunisation is like a fence around the farm to prevent animals from entering and eating the crops”.

14
It was not initially easy to get people to accept the EPI and create a demand for the services. Firm traditional beliefs in the power of witchcraft and evil spirits made it difficult for the communities to understand the rationale behind immunisations. Initial side effects were blown out of proportion and promptly misinterpreted as reasons for not accepting the programme. However, the gradual reduction of the prevalence of some common childhood diseases like measles finally won the community over to support the programme. Health education has now been added to the arsenal of native child health care with the following being practiced:

- Baby’s personal hygiene including daily baths;
- Baby’s nutrition including exclusive breast feeding;
- Maternal nutrition to ensure flow of milk;
- Maternal vaccination during pregnancy (so that the illness of the mother cannot pass on to the child and that there would be no problems during parturition);
- Infant vaccination;
- Community endorsement of the need for maternal and infant vaccination by making negligence or disregard punishable by heavy fines levied on the family. It thus becomes the responsibility of the family to ensure that the child is presented for immunisation;
- The community has also made it a concern to “own” a site for immunisation outreach so that accessibility is assured even in the absence of a PHU within easy reach;
- Environmental hygiene was also mentioned by few respondents;
- The creation of ISLAG and CHRISTAG has ensured religious support for the programme, leading to acceptance and increased demand for immunisation; and
- Health staff members trace defaulters and ensure that they complete the schedule.

OTHER FACTORS INFLUENCING DEMAND

There are numerous other factors that influence demand, notable amongst which is the payment for vaccination and related services. Although this has already been discussed in relationship to vaccine supply, it is a particularly important factor because it can prevent children from being vaccinated due to inability to pay the fees. In numerous instances, respondents categorically stated that the vaccines were not administered if payments were not effected. Many also complained that the fees charged were too high. During discussions with PHU staff, it was conceded that payments were requested for services, with justification being that staff could only provide services themselves if they could afford to buy fuel or pay for transportation to collect vaccines from Kenema, as well as for transportation to the outreach points. The fees charged ranged from Le.300.00 to Le.5,000.00. These represent substantial amounts in the very poor communities being served, especially in the rural areas. However, it must be recognised that this is part of a much wider problem relating to the poor conditions of service of health professionals, with non-living wages being paid irregularly. The practice of charging fees for services that are supposed to be free is not restricted to the EPI, but is widespread in all health facilities country-wide. It has been demonstrated that the willingness to pay during emergencies is much higher than for preventive services like immunisations, where there is not always a felt need (Fabricant and Kamara 1993). This means that the introduction of (exorbitantly high) fees could prevent a significant number of children from being immunised.
The EPI is part of a package of services provided to the mothers and their children in the PHUs and during outreach clinics. One of the most influential of the other services is health education. At the start of every clinic session, mothers are sensitised on issues of public health importance that include immunisations, nutrition of mothers and babies, and environmental sanitation. This is done in a pleasant atmosphere, accompanied by singing and dancing. Mothers therefore look forward to clinic days, where added incentives sometimes include the distribution of food items donated by the World Food Programme (WFP). Unfortunately, staff-patient relationships are not always cordial, and the attitude of some staff members towards attendees continues to make clinic attendance an unpleasant experience for many women; this is another important problem that needs to be addressed.

Outbreaks of vaccine preventable illnesses like tetanus and meningitis tend to increase anxiety of parents and hence demand for immunisation. Local bye-laws enforce participation of all during the NIDs for the eradication of Polio - all domestic activities take second place to the immunisation of the under fives in all households.

3. CONCLUSIONS AND IMPLICATIONS

The current study has clearly shown that Sierra Leone’s child immunisation programme has been embraced by the community and health education is impacting positively on the demand for it. Religion and politics have not had negative effects on it; as a matter of fact, there are all indications that the programme receives considerable support from religious and political leaders. The fact that the programme is associated with improvements in the health status of children is definitely appreciated by the communities surveyed. The reduction of child morbidity and mortality has therefore contributed towards increasing the demand for and cooperation in the immunisation programme.

Intensified efforts are definitely needed to maximise this positive effect so that in time, the demand for the services will increase to the point where all children will be immunised. Health education must remain the vehicle to drive demand forward and ensure that it is universal. Some discussants, especially health care workers, were even suggesting that other antigens should be added to the routine. This needs careful consideration prior to future implementation.

However, this situation can be very easily compromised if the problems associated with the regular supply of vaccines are not satisfactorily resolved. Proper planning, budgeting and procurement must be regarded as very essential to effective supply and service delivery. Efforts must continue to improve the cold chain and strengthen the immunisation services. The political commitment shown so far must be translated into concrete efforts to ensure vaccine supply through the provision of assured funding for the programme through the regular GOSL/ MOHS planning and budgeting cycle. Advocacy must continue to ensure funding support continues from traditional partners and other stakeholders in the light of other emerging priorities. Efforts should continue to ensure that the religious atmosphere continues to impact positively on immunisation, as well as on other child survival issues. Staff should be discouraged from charging exorbitant fees for EPI services – efforts must be intensified to solve the wider problems associated with poor conditions of service, including low wages that are irregularly paid.
As the socio-economic status of the average Sierra Leonean improves, the introduction of some cost-recovery or cost-sharing mechanisms for EPI services in consultation with the communities should be seriously considered as one way of addressing this problem.

Mende cultural beliefs and norms exist and continue to guide health seeking behaviour, and traditional medicine is still widely practised. Efforts must continue to understand these and use them in conjunction with immunisation services to improve child survival. This has not been the case in the past, and these practices have often been dismissed off-hand because of their perceived negative effects on child survival. A policy on Traditional Medicine has been recently developed after the formation of an Association of Traditional Medical Practitioners – this is another opportunity to further investigate these widely used practices with a view to gradually integrating them into the conventional medical practice in Sierra Leone.

The EPI programme is currently an integral part of the package of child survival services. Other aspects of child survival, i.e., food security, nutrition, transport, personal hygiene, environmental sanitation, education of the parents and other caretakers, and social security are also essential. Efforts should continue to integrate these services to facilitate a more holistic approach to child survival issues. This should also contribute towards increased sustainability of the EPI.

In conclusion, this study has succeeded in determining some of the factors affecting vaccine supply and demand in the EPI in Sierra Leone. Some suggestions have been made to address the problems highlighted. One of the limitations of the field aspects of the study is its coverage, which is restricted to only one urban and one rural area in the Mende – speaking Southern province of the country. However, there are enough similarities between the various communities in Sierra Leone as far as their behavioural patterns are concerned to justify cautiously extra-poloating the findings and recommendations from this study across the country. In addition to socio-cultural and tribal norms, religion plays a very important role in shaping behaviour patterns, and the vast majority of Sierra Leoneans have many common behavioural traits because they are either Christians or Muslims - many behavioural norms are guided by the teachings of the Koran and Bible.

The increasing inter-dependency in the world is emphasised throughout this report, with an emphasis on immunisations as a public health service "without borders". This dictates that the findings from this study should also be of interest to all stakeholders in the field of immunisation, as they could also contribute towards informing "international policy", and not only "national policy" in Sierra Leone. As a matter of fact, many of the issues discussed with stakeholders at national level relate to the whole country and beyond, and could therefore prove useful to inform national and international policy, as well as for comparison with the findings from the studies in the Gambia, Guinea and Nigeria.

**ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHC</td>
<td>COMMUNITY HEALTH CENTER</td>
</tr>
<tr>
<td>CHP</td>
<td>COMMUNITY HEALTH POST</td>
</tr>
<tr>
<td>CHRISTAG</td>
<td>CHRISTIAN ACTION GROUP</td>
</tr>
<tr>
<td>DHMT</td>
<td>DISTRICT HEALTH MANAGEMENT TEAM</td>
</tr>
<tr>
<td>DMO</td>
<td>DISTRICT MEDICAL OFFICER</td>
</tr>
</tbody>
</table>
REFERENCES

Amin, Ruhul, 1994, "Immunisation Coverage, Infant and Child Mortality, Family Planning Knowledge and Practice, and Status of Women in Rural Sierra Leone: An Integrated Analysis of Quantitative and Qualitative Data”, report submitted to USAID Center for University Cooperation in Development Global Bureau


UNICEF SIERRA LEONE (undated) “MARKLATE ME – Playing Magic with Social Mobilisation in Sierra Leone”

UNICEF SIERRA LEONE, 1989, “Rough Road for EPI in Sierra Leone"

WHO, 1993, “First Meeting of the WHO/ AFRO Task Force on Immunisation in Africa”


WHO, 1994, “Using Immunisation Contacts as the Gateway to Eliminating Vitamin A Deficiency” – A Policy Document