

# 1.0 INTRODUCTION AND BACKGROUND

This report is a followup of an Elective medical student internship at Mifumi Health Centre in Tororo district in January 2008. The internship was the second of its kind at Mifumi Health Centre. The first was in November, 2007 under the COBES programme during which a baseline survey on the knowledge of Malaria, common practices and beliefs were assessed. One of the goals of the second internship was to access the roll out the Malaria MedlinePlus tutorial in Mifumi village and later carry out researches to access the role played by such ICT health interventions in reducing mortality and morbidity. In addition to the above goal the medical students also offered clinical services and were involved in community outreach programmes.

The internship was made possible through a partnership programme between Makerere Medical School, US National Library of Medicine and Mifumi Project. This followed talks between Julia Royall (NLM/NIH), Makerere Medical students and the founding members of Mifumi Project.

The Mifumi Project is a developmental NGO and leading indigenous women rights agency working to end violence against women in Eastern Uganda. The project was born out of the efforts of Mifumi village who rallied around the building of a primary school in the late 80s. This led to the registration of a charitable organisation as MIFUMI UK in 1995 and MIFUMI Uganda in 1997. From a small agency Mifumi has grown to become a National Women's rights agency in Uganda. The project envisions a world where women and children are free from violence and oppression and where everyone has the opportunity to realise their full potential. (visit Mifumi Project website for more information about the project.)

Mifumi village is located 35 km from Tororo town in Eastern Uganda and has a population of about 3000 people. Most of the people in the village are peasants and they live in huts.

Makerere University, Faculty of Medicine through the COBES programme gives students an opportunity to offer holistic health services in communities where they will eventually serve when they become doctors. The COBES residences are done for a period of about 5-6 weeks in over 20 districts in Uganda. The programme is run in 4 phases which are distributed over a period of 4 years for each academic year. The phases include:

- \ Identifying the health needs of a community
- \ Carrying out a community diagnosis
- \ Developing a Project proposal
- \ Implementation of the Project.

## **2.0 MEDICAL STUDENTS ACTIVITIES IN MIFUMI VILLAGE**

### **2.10 Malaria MedlinePlus Tutorial for Africa**

The Malaria tutorial was to be rolled out in 2 phases. Phase I involved the use of hard copy formats of the tutorial in patient education and community public health education. Hard copy formats included the Malaria booklets and posters. Phase II involved the use of electronic versions of the tutorial. These included both visual and audio tutorials.

### **2.20 Methodology**

#### **2.21 Phase I**

- λ Focus Group discussions (FGDs) with several community groups; Youth, School children, Women groups and Health workers .
- λ Training sessions for Community Health Workers (CHW) and nurses on how to use the tutorial in community public health outreach programmes and Patient Education (P.E)..
- λ Home visits and School visits.
- λ Putting up posters on the walls of the HC and in the trading centre.

#### **2.22 Phase II**

- λ Audio tutorial played at the outpatients reception area.
- λ Training sessions for women using the electronic visual formats .

### **2.30 Output indicators**

1. 4 FGDs were held. These included the Youth, Young Mothers , Theke Theke group and HWs
2. 3 CHWs and 3 nurses were trained .
3. 20 homes were visited and Mifumi primary school was visited.
4. Malaria posters were put up at the Mifumi HC, Kiyeyi HC , Nagongera HC and Tororo Hospital.

Unfortunately due to power shortage were unable to carry out Phase II. It will be carried out in April and after which a survey will be carried out to establish the role of medical informatics community interventions in decreasing malaria mortality and morbidity in this rural community.

(Malaria booklet)

(Malaria posters at the reception area of clinic)

(Lubega training CHWs to use Malaria tutorial)

(Young mothers in a FGDs using the tutorial)

(Kiweewa during a homevisit)

(Youth of Mifumi after training session)

#### **2.40 General Observations.**

- λ CHWs were very happy to receive the Health education aids. They said the main problem hindering their work was the lack of educational materials.
- λ Nurse sisters at Mifumi HC found the Malaria booklet and poster tutorials very useful in educating patients.
- λ People in the community pinned up the posters in their houses and promised to share the health information with other family members and neighbors.
- λ Community members expressed a need for constant health education as most of them forget and need to be constantly reminded.
- λ During the home visits and community visits we had an insight into the next tutorial on malnutrition.

### **3. HOLISTIC HEALTH SERVICE DELIVERY**

#### **3.10 MIFUMI HEALTH CENTRE**

Mifumi Health Centre is a community HCIV with a modern unit and facilities including outpatients ,maternity wing, laboratory,dispensary,education room,treatment room with examination tables and also offers accommodation for staff .It currently treats over 20000 patients per year.

It runs a clinic on a 6 day basis:Monday-Friday 0800-1700 hrs and Saturday 0800-1300 hrs.The reception is manned by Bernard .The Nurse Incharge is Sr.Gorretti and has 2 nursing assistants.A doctor visits the hospital every Tuesday and Thursday.

The following services are offered by the HC:

- u Maternal and Antenatal
- u Laboratory
- u Outpatients services
- u Admissions
- u Family planning

(Inauguration stone of Mifumi HC)

(Front view of Mifumi HC)

### **3.11 MEDICAL STUDENTS' CLINICAL SERVICES**

We clerked and examined patients. Were also able to make diagnoses which were based on laboratory findings. In case of difficult cases we referred the patients to Nagongera HC. We did procedures such as I&D, inserted IV lines, and any other clinical procedure as would be deemed necessary. Patient Education was carried out whenever there was need.

(Medical students in the clinic)

### **3.12 OBSERVATIONS AT THE CLINIC**

Most of the cases we encountered were of Malaria, RTIs, diarrhoea, chicken pox and other skin diseases, Pelvic Inflammatory Diseases, Peptic Ulcer Diseases and other gynaecological and obstetric cases.

We observed that patients still hold perceptions that affect their health seeking habits or even the efficacy of the medication given to them such as Malaria being caused by eating mangoes or evil spirits, sharing of drugs with other family members who they suspect to have similar diseases, failing to complete medication upon achievement of temporary relief.

### **3.20 COMMUNITY OUT REACHES.**

We were privileged to interact with several social groups. These included the Youth, Young mothers, School children, Domestic Violence Survivors and Theke Theke Group.

### **3.21 YOUTH OF MIFUMI**

While in Mifumi, We interacted with a youth group. Discussed lots of issues ranging from Health, Academics, Vocational Skills and brain stormed on Economic empowering projects.

General Observations included:

- λ Most of the youth lacked Vocational skills and they expressed the willingness to learn .
- λ They admitted that there are few activities in Mifumi that the youth are involved.
- λ The youth group consisted mainly of boys,the girls were left out.
- λ School going youth were left out in Youth activities.
- λ Youth felt left out in the activities of the Mifumi project because the project was established with a domestic violence background.
- λ Youth spent most of their free time playing games.
- λ Expressed the need to be involved in economic empowering activities.
- λ Lacked knowledge of writing project work plans,project documentation.
- λ Youth group had no constitution and was not a registered group.

### **3.22 YOUNG MOTHERS**

The interaction with the young mothers was mostly health oriented with overtones of economically empowering projects. Most of the young mothers expressed fears about health conditions such as Malaria, Immunisable diseases, Domestic Violence at home. Most of the young mothers were concerned about their children suffering from Malaria which was a killer disease in Mifumi. They wanted to know more about Malaria prevention and Treatment. Expressed the common myths and beliefs as regards to diseases such as Malaria. Some still believed that Malaria was caused by Evil spirits and others believed that it was a curse from the gods for not celebrating the Harvest .

Also they said that they had very few opportunities to access health education. And they needed constant reminding. Some reported that their husbands came back home late at night drunk and that they could not share health information with their men.

Economically expressed the desire to learn vocational skills such as art and craft,tailoring,carpentry to mention but a few.

## **4.0 SIGHTS OF MIFUMI VILLAGE**

(Homestead in Mifumi village)

(Children resting outside their hut)

(A man poses besides his granary)

(Boy fetches water from an underground well)

## **CHILDREN OF MIFUMI**

## **HEALTH PROMOTION**

### **5.0 MEDICAL STUDENTS' WELFARE**

#### **5.10 TRANSPORT**

##### **5.11 INTER-DISTRICT TRAVEL**

Mifumi Project provided a van to transport the medical students from Kampala to Tororo and back. The fuel and driver's allowance were provided for by NLM. Alternative transport options to Mifumi village involve the taking a bus from Baganda Bus Park in Kampala to Tororo town, then using a taxi cab to Mifumi village.

##### **5.12 INTRA-DISTRICT TRAVEL**

Bicycles are a popular means of transport in Mifumi village. Almost every household owns a bicycle and those who don't own one have to hire one or walk on foot. During the home visits most households were accessible by footpaths.

(Kiweewa and Brian going for a community visit)      (Medical students going for home visits)

## **5.20 ACCOMODATION AND SOCIAL WELFARE**

Mifumi project provided us with accommodation. We were housed in beautiful self contained flats. The project has about 8 flats. They are furnished with mattresses,beds and sitting furniture.

NLM provided us funds for the cook and purchase of food. We had 2 local cooks and most of the food supplies were bought from a nearby trading centre , about 20 metres away from the Health Centre. Local food supplies included matooke,rice,meat and maize flour. Some supplies such as bread,sugar,packed milk and other urban luxuries were not available in this remote village. Such supplies were bought from Tororo Town once a week.

The locals were very hospitable and we received warm welcomes in most households. Some families were so grateful for the community services rendered and they offered us foodstuffs such as chicken, mangoes, jackfruit and groundnuts.

The most commonly used language in Mifumi village is Japadhola and very few locals know Luganda and English so were had to use translators. Bernard a community health worker at the Health Centre was our main translator and he was very helpful to us.

(Mifumi flat)

(Nixon and Ronnie outside the student flat)

## **6.0 CHALLENGES AND OBSERVATIONS**

### **6.10 Malaria MedlinePlus Tutorial for Africa**

- λ All households visited wanted booklet and posters, however we only had a limited number.
- λ There was a language barrier problem due to high illiteracy levels in the village. The booklet formats are in English and yet the most widely used language is Japadhola.
- λ Due to power shortage in the village the electronic version of the tutorial wasn't used.
- λ The Health Centre has a limited number of computers and the computer illiteracy levels are high and this is a bottleneck to the roll out of Phase II .
- λ Some people in the community believed malaria was caused by bad spirits and in order to get cured one has to perform a ritual.

### **6.20 Mifumi HC**

- λ Some patients could not afford shs. 800 for the basic baseline investigations, we had to treat symptomatically yet this kind of non- investigation evidence based management is discouraged.
- λ Through the interactions with the patients at the clinic we noted that most of the patients had myths and several misconceptions about diseases and this affected their health seeking habits and compliance to the given prescriptions.
- λ Many patients came from far off destinations and thus could not afford to come back for follow up yet this was necessary for some conditions.
- λ The visiting doctor comes on 2 days a week and yet the patient work load is high since most of the patients visit the clinic on the days the doctor is available.

### **6.30 Community Outreaches**

- λ Language barrier was a bottleneck to effective communication so we had to employ the services of a translator.
- λ Some homes were only accessible by footpaths.
- λ During the educational outreaches very few men attended.
- λ Few school children were educated and that's because it was holiday time.
- λ Few bicycles were available for the medical students to use during the home visits.



## **7.0 RECOMMENDATIONS**

### **7.10 Malaria MedlinePlus Tutorial for Africa**

- u Tutorial should be translated into Japadhola.
- u In partnership with Mifumi Project , electronic versions of the tutorial should be used in CD-Rom format during the health education sessions.
- u The audio format of the tutorial should be played at the reception area as the patients wait to see the doctor.
- u Posters and Booklet formats should be accessible by alternative medicine practitioners as these in most cases have the first contact with patients.

### **7.20 Mifumi Health Centre**

- u Patient Education should be integrated in the everyday management of patients .
- u More health education campaigns should be carried out as people need to be constantly reminded. Also myths and beliefs should be tackled immediately to allay fears that hinder the access to health care
- u The doctor should visit the healthcentre at least 3 times a week.
- u We recommend that in future if possible these investigations be subsidized further or even awarded free for effective management.
- u We also recommend that the patients have patient education IEC materials or even personnel probably at the reception area to help them allay some of their fears, misconceptions and malpractices as regards their health seeking habits and adherence to medication. A particular package and emphasis about family planning that very many people lacked would be very useful

### **7.30 Youth of Mifumi**

- u Vocational training should be established.
- u Integrated Youth Groups should be established. Increased participation of the Girl child.
- u Economic empowering activities such as Goat rearing should be encouraged.
- u Student activities such as Sports, Health Education Campaigns and Vocational skills should be taught at the student center .

## **Annex 1:MIFUMI MALARIA PROJECT**

The Mifumi Malaria Project, in Mifumi village outside Tororo, Uganda is a collaboration between Mifumi Project – Makerere University, Faculty of Medicine /COBES Programme – U.S. National Library of Medicine/National Institutes of Health - Walter Reed .

The research project is dedicated to uncovering the difference ICT interventions can make in empowering of health professionals, grassroot communities and ultimately improving the health in Mifumi . Community involvement is the mainstay of the project so that cultural concepts, relevant local knowledge and health practices are incorporated in the development of the Health Educational tools to ensure acceptability ,sustanabilty and efficacy of health messages, which ultimately results in behavioural change and a reduction in malaria disease burden.

The baseline survey is critical in determining whether an information intervention in electronic and hard copy formats can make a difference in the morbidity and mortality of malaria in this community.

### **OBJECTIVES:**

- 1.To determine the disease burden in Mifumi Village
- 2.To determine the knowledge about Malaria disease causation .
- 3.To determine the Treatment seeking behaviours
- 4.To determine the attitudes and perceptions of the local community with regard to malaria.
- 4.To determine the common Malaria prevention practices in the community.
- 5.To determine the common sources of health information and the efficacy of these messages in causing behavioural change.

Below is the statistical analysis of the Malaria baseline survey:-

## 1.1 BACKGROUND CHARACTERISTICS

This section looks at the background characteristics of the respondents.

### 1.1.1 Sex:

Table 1 reveals that in the sample, 30.30 percent of the respondents were males and the remaining 69.70 percent were females. This reveals that the sex ratio of males : females is 1:2 within the sample.

**Table 1: Distribution by sex**

Sex	Frequency	Percentage
Male	30	30.30
Female	69	69.70
Total	99	100.00

### 1.1.2 Age:

**Table 2: Distribution by sex**

Age	frequency	percentage
15-20	9	9.18
21-25	16	16.33
26-30	13	13.27
31-35	16	16.33
36-40	11	11.22
40+	33	33.67
Total	98	100.00

In the table above, the largest percentage of the respondents, 33.67 percent is above 40 years and the least percentage, 9.18 percent is between 15 – 20 years. The remaining 57.15 percent is evenly distributed between 21 – 40 years.

### 1.1.3 Education:

Table 3 shows the distribution of respondents by the education level attained. The biggest percentage, 68.36 percent attained some education whereas the 31.63 percent had not attained any education. Of those

who had attained some education, 56.12 percent had attained primary education while 12.24 percent had attained secondary education

**Table 3: Distribution by level of education**

EDUCATION	Frequency	Percent
None	31	31.63
Primary	55	56.12
Secondary	12	12.24
Total	98	100.00

#### 1.1.4 Religion:

**Table 4: Distribution by religion**

RELIGION	Frequency	Percent
Catholic	87	87.88
Protestant	7	7.07
Pentecostal	2	2.02
Other	3	3.03
Total	99	100.00

Table 4 above shows that a very big percentage, 87.88 percent of the respondents were Catholics while 7.07 percent were Protestants and 2.02 percent were Pentecostals. The other religions, made up the remaining 3.03 percent.

#### 1.1.5 Average income:

**Table 5: Distribution by family average income**

Income	Frequency	Percent
0 – 5000	44	57.14
5001 – 10000	10	12.99
Above 10000	23	29.87

Total	77	100.00
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Table 5 above reveals that the biggest percentage, 57.14 percent of the respondents averagely earn below sh. 5,000 while 12.99 percent earn between sh. 5,001 – sh. 10,000 and only 29.87 percent of the respondents earn more than sh. 10,000.

## 1.2 DISEASE BURDEN

### 1.2.1 Commonest disease in Mifumi:

Table 6 below shows that 86.32 percent of the respondents think that malaria is the diseases residents of Mifumi suffer from most while 5.26 percent think that the disease is HIV/AIDS. Only 6.32 percent think that it is cough and 2.11 percent think it is diarrhoea.

**Table 6: Commonest disease**

Disease	Frequency	Percent
AIDS	5	5.26
Cough	6	6.32
Diarrhoea	2	2.11
Malaria	82	86.32
Total	95	100.00

### 1.2.2 Diseases within households:

Table 7 below shows that the disease suffered from most within the respondents' household is malaria, followed by cold/flu, diarrhoea and cough.

**Table 7: Diseases within households**

Disease	Frequency
Diarrhoea	27
Cold	31
Malaria	74
Abdominal pain	1
Arthritis	1
Chest pain	1
Cough	21
Headache	1

Joint pains	1
Measles	1
Stomach ache	2
Tonsillitis	1
Ulcers	1
Vomiting	1
Weakness	1

### 1.3 KNOWLEDGE ABOUT MALARIA DISEASE CAUSATION

#### 1.3.1 Malaria disease causation:

Table 8 below reveals that 63.16 percent of the respondents think that malaria is caused by mosquitoes, 17.89 percent admit that they don't know while the remaining 18.95 percent give causes like bad food, dirty water, moon shift, poor environment and coldness.

**Table 8: Causes of malaria**

CAUSE	Frequency	Percent
Air borne	1	1.05
Bad food	2	2.11
Cold	1	1.05
Coldness	3	3.16
Don't know	17	17.89
Drinking dirty water	2	2.11
Flies	1	1.05
Moon shift	1	1.05
Mosquitoes	60	63.16
Poor environment	1	1.05
Rain	2	2.11
Rainy season	1	1.05
Stagnant water	1	1.05
Un boiled water	2	2.11
Total	95	100.00

## 1.4 COMMON PREVENTION PRACTICES

### 1.4.1 Malaria prevention:

**Table 9: Malaria prevention:**

	Frequency	Percent
No	4	4.44
Yes	86	95.56
Total	90	100.00

Table 9 above reveals that 95.56 percent of the respondents think that malaria can be prevented while only 4.44 percent think that malaria can not be prevented. The respondents that think malaria can not be prevented give reasons such as not hearing/knowing any means of preventing malaria while those that think that malaria can be prevented give ways such as using mosquito nets and medical treatment.

### 1.4.2 Prevention Practices

Table 10 below shows that 43.55 percent of the respondents use treated mosquito nets, 22.58 percent cut the bushes growing around the house, 18.55 percent close the windows and doors early, 9.68 percent get rid of the stagnant water in the yard and only 0.81 percent spray with doom.

**Table 10: Prevention practices**

Practice	Frequency	Percentage
Cut bushes	28	22.58
Treated mosquito nets	54	43.55
Mosquito coils	3	2.42
Get rid of stagnant water	12	9.68
Spray with doom	1	0.81
Wear covering clothes	3	2.42
Close windows and doors early	23	18.55

### 1.4.3 Importance of prevention:

Table 11 below reveals that 58.67 percent of the respondents are of the view that malaria prevention is

important, 40.00 percent think it is very important while only 1.33 percent think that malaria prevention is not important.

**Table 11: Importance of malaria prevention**

Importance	frequency	percent
Very important	30	40.00
Important	44	58.67
Not important	1	1.33
Total	75	100.00

#### **1.4.5 DDT knowledge:**

Table 12 below shows that the biggest percentage of the respondents, 85.71 percent have not heard anything about DDT while the remaining 14.29 percent have heard something about DDT. Of the 14.29 percent who have heard about DDT, the majority don't know anything more about DDT.

**Table 12: Heard about DDT**

	Frequency	Percentage
No	78	85.71
Yes	13	14.29
Total	91	100.00

### **1.5 TREATMENT SEEKING BEHAVIOURS**

#### **1.5.1 Places for treatment:**

Table 13 below shows that the largest percentage of the respondents, 56.84 percent go to the clinic for treatment, 17.89 percent go to the drug shop and only 3.16 percent visit the herbalist. The remaining 22.11 percent visit other places such as the health centres.

**Table 13: Treatment places**

Place	Frequency	Percentage
Drug shop	17	17.89

Herbalist	3	3.16
Clinic	54	56.84
Other	21	22.11
Total	95	100.00

### 1.5.2 Shared medication

**Table 14: Have ever shared medication**

	Frequency	Percent
No	87	90.63
Yes	9	9.38
Total	96	100.00

Table 14 reveals that only 9.38 percent of the respondents have ever shared their medication with other people while 90.63 percent have not shared their medication with anyone else. Those who have shared their medication have shared it mainly with family members such as their children, spouses and grand children.

### 1.5.3 When to stop medication:

Table 15 below shows that 63.33 percent of the respondents stop taking their medication when it is finished, 24.44 percent stop when they feel better while 12.22 percent stop the medication when they don't have enough money to buy more medication.

**Table 15: When to stop medication**

	Frequency	Percent
Feel better	22	24.44
Finish medication	57	63.33
Don't have money	11	12.22
Total	90	100.00

## 1.6 COMMON SOURCES OF HEALTH INFORMATION

### 1.6.1 Information sources:

Table 16 reveals that 27.33 percent of the respondents obtain information from the health centre, 22.98

percent obtain information from the health workers, 20.50 percent obtain information from the radio and 15.53 percent obtain information from friends.

**Table 16: Sources of information**

Source	Frequency	Percent
Family	6	3.73
Friends	25	15.53
Health worker	37	22.98
Health centre	44	27.33
Doctor	4	2.48
Nurse sister	5	3.11
Drug shop	3	1.86
Radio	33	20.50
Television	3	1.86
Newspaper	1	0.62

### 1.6.2 Behaviour change:

In Table 17 below, 93.02 percent of the respondents have changed their behaviour based on the information they get while 6.98 percent have not changed behaviour. The behaviour change includes practices such as using mosquito nets, visiting the hospital, taking all the medication as prescribed.

**Table 17: Have changed behaviour**

	Frequency	Percent
No	6	6.98
Yes	80	93.02
Total	86	100.00