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Towards an Integrated Approach to Diarrhoeal Disease Control in Malawi

Assessment of current programmes and
challenges



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Acronyms

ACGF	Africa Catalytic Growth Fund
ACSD	Accelerated Child Survival and Development
CBCC	Community Based Child Care
CBO	Community Based Organisation
CCM	Community Clinic Management
CDD	Control of Diarrhoeal Disease Programme
CIDA	Canadian International Development Agency
CLTS	Community Led Total Sanitation
CMS	Central Medical Stores
CTC	Community Therapeutic Care
DCT	District Coordinating Team
ECD-SGD	Early Childhood Development – Survival Growth Development
EHP	Essential Health Package
EPI	Expanded Programme of Immunisation
GAVI	Global Alliance for Vaccines and Immunisations
GoM	Government of Malawi
HII	High Impact Intervention
HSA	Health Surveillance Assistants
IMCI	Integrated Management of Childhood Illnesses
IYCFP	Infant and Young Child Feeding Programme
JICA	Japan International Cooperation Agency
JMP	Joint Monitoring Programme
JSI	John Snow Inc
MCHIP	Maternal and Child Health Integrated Programme
MDG	Millennium Development Goals
MDHS	Malawi Demographic and Health Survey
MGDS	Malawi Growth Development Strategy
MICS	Multiple Indicator Cluster Survey
MNCH	Maternal, Neonatal and Child Health
MoH	Ministry of Health
MIWD	Ministry of Irrigation and Water Development
MSH	Management Sciences for Health
NGO	Non Governmental Organisation
OPC	Office of the President and Cabinet
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PATH	Program for Appropriate Technology in Health
PHAST	Participatory Hygiene and Sanitation Transformation
PSI	Population Services International
SC4CCM	Supply Chain for Community Clinic Management
SWAp	Sector Wide Approach
TA	Traditional Authority
TWG	Technical Working Group
UNICEF	United Nations Children’s Fund
VHWC	Village Health and Water Committee
WASH	Water, Sanitation and Hygiene
WHO	World Health Organisation
WSSCC	Water Supply and Sanitation Collaborative Council
WVI	World Vision International

1.0 Executive Summary

1.1 Background

In 2009, the WHO and UNICEF launched a campaign to raise the profile of diarrhoeal disease control and treatment entitled *Diarrhoea: why children are still dying and what can be done*. This document reasserted the fundamental issues pertaining to diarrhoeal disease in developing countries and advocated for a more integrated approach from governments and health related organisations.

Malawi has a history of effective diarrhoeal disease control and treatment. Having participated in the control of diarrhoeal disease (CDD) programme in the 1980's, training and systems were put in place for the administration of ORS in health facilities. Other efforts in the improvement of water and sanitation, breastfeeding and immunisations were also tackled albeit to a lesser extent than ORS at that time. Since the 1980's a number of successful programmes have been developed and implemented in Malawi either directly or indirectly addressing diarrhoeal disease control, and Malawi was also the site of trials for the Rotavirus vaccine. Nevertheless, it has been noted that despite being one of the main causes of morbidity and mortality in children under the age of five, little focus is given to diarrhoeal disease control within the national health priorities.

1.2 Methodology

A review of the control and treatment of diarrhoeal disease in Malawi was undertaken from September 2010 to February 2011. Stakeholders from all sectors involved in elements of diarrhoeal disease control were invited to participate in the review, and were classified as follows:

- Oral Rehydration Therapy and Zinc treatment
- Water, Sanitation and Hygiene (WASH)
- Vaccinations and Breastfeeding
- Fluid replacement in dehydration

A series of workshops were held to share and consolidate information from these sectors. Findings of these workshops were then substantiated through assessments conducted through the environmental health departments of three Districts in Malawi.

1.3 Challenges and Recommendations

Within each subsection, a number of specific challenges and recommendations were documented. However, a number of overarching issues were highlighted which affected all areas and these were placed into five categories namely,

- a) The profile of diarrhoeal disease in national priorities.
- b) The implementation of effective policies.
- c) Collaboration and integration of programmes affected diarrhoeal disease control.
- d) Effective programmes rolled out on a national scale.
- e) Information, education and communication regarding diarrhoeal disease control.

1.3.1 Profile of diarrhoeal disease

The profile of diarrhoeal disease, in terms of the health sector remains low. Priority of diseases such as HIV, malaria and TB have been high in recent years and although diarrhoeal disease is outlined within the Essential Health Package as a priority, it still receives little coverage in media or priority setting on a national scale. It is therefore imperative that the Government, with or without donor support increases mass and local media coverage in terms of diarrhoeal disease control and treatment. In order to achieve this, political will in this area requires to be increased, and this may be achieved initially through the sensitisation of politicians and media on the importance of diarrhoeal disease control. Subsequently it is hoped that diarrhoeal disease would receive adequate profile and funding within the Sector Wide Approach (SWAp) 2 programme.

1.3.2 The implementation of effective policies.

A large number of policies, strategies and guidelines exist in Malawi which address the specific areas of diarrhoeal disease control either directly or indirectly. However, stakeholders consistently referred to obstacles when translating these documents into practice at District level. A number of factors were identified which affect this issue including,

- The prioritisation of policies tends to be donor driven due to dependency on funding for development and dissemination. As such, some policies are not evidence based and lack community consultation and therefore support. This is compounded by the lack of consistent and accurate data available for many of the sectors involved whether it is the number of cases of diarrhoea, number of latrines, the number of children receiving vitamin A supplementation or the number of caregivers using ORS to treat symptoms. It is therefore very difficult to advocate for further funding and programme development or donor support without an evidence base.
- After the development of policies, strategies and guidelines, there are often inadequate procedures for the dissemination and implementation of programmes at District level, which stay with the district health officer only. This is compounded by a lack of capacity within departments for training at district level. This lack of training and donor driven priority setting has also led to poor attitude of health staff at district level in terms of implementation. An example of this is the development of a National Sanitation Policy which is yet to be rolled out to Districts. This policy requires the position of sanitation officers to be filled at district level, who could work effectively with HSAs and water monitoring officers to provide an integrated approach if funds allowed.
- A number of technical working groups (TWGs) have been established within the government structure. TWGs relating to diarrhoeal disease control are outlined within specific subsections but all indicate similar challenges of coordination and consistency of meetings. These groups are often chaired by civil servants who are overburdened with other duties and as such, the meetings are often driven from the Sector Wide Approach Directorate rather than through the Chair. A committed approach is needed from the Chairs of these TWGs if they are to operate effectively, and achieve results in terms of integration.

To overcome these challenges, the following approach was recommended by stakeholders:

- Development of a sub technical working group, under the TEG for the EHP focussed on diarrhoeal disease control.

- Consolidation of data on diarrhoeal disease control and conduct research to allow effective policies, and strategies to be developed which address problems specific to Malawi. This includes the need to prioritise diarrhoeal disease control within the National Health Research Agenda.
- Development of a specific diarrhoeal disease control policy and strategy which aligns the separate issues for easy reference and implementation.
- National dissemination of policy and strategy documents with training and implementation guidance.
- Development of district diarrhoeal disease control teams to oversee, monitor and evaluate programme implementation.
- Effective use of HSAs, water monitoring officers, and sanitation officers as diarrhoeal disease control teams.

Such a TWG would also be able to advocate for specific areas of diarrhoea disease control and may lead to improved provision of services.

1.3.3 Collaboration and Integration of Programmes

For all areas of diarrhoeal disease control, the Government has a need for inter-ministry, donor and NGO collaboration. In some cases, this collaboration and coordination was found to be effective with clear guidance on meetings and programme responsibilities. For example, case management of diarrhoeal disease is well documented, as is the expanded immunisations programme. Nevertheless, although the coordination at high level appears to be effective in these areas, the same cannot always be said for district level. This was attributed to a number of issues including lack of training, lack of/inconsistent supply of resources, lack of capacity to implement all programmes at district level.

Integration between the different groups involved in diarrhoeal disease control does not currently exist in Malawi. Diarrhoeal disease is not given a specific platform under which to meet and develop. Should the political will be demonstrated, an increase in collaboration would be achieved through the formation of the diarrhoeal disease sub TWG. However, such a sub TWG would need to have an active chair person and ensure that they coordinate with other TWGs to share and disseminate information.

1.3.4 Development of Programmes on a National Scale

In a number of the subtheme areas, donors and large NGOs are operating with the Government of Malawi in the implementation of policy on a national scale. However, more commonly, NGOs are operating in target districts within the country and therefore any programme which addresses an element of diarrhoeal disease control is limited a specific geographical area. Although the impacts of some of these programmes are well documented and demonstrate effective coordination and collaboration between the WASH and health sectors, there is little evidence of national scale up due to financial constraints. An example of this is the recent hygiene promotion programme which was coordinated with the perinatal care system (Sheth et al 2008). This programme targeted two districts in Malawi and was shown to have a strong positive impact on hygiene behaviour in mothers attending ante natal, delivery and post natal services at health facilities. The programme was also an

integration of the WASH and health sectors, with the promotion of safe drinking water, hand washing with soap and the use of ORS in treatment of diarrhoeal disease. Nevertheless, budgetary constraints have meant that this programme has not been maintained in the pilot districts or scaled up to other areas of the country. A mechanism needs to be developed to allow good practice to be shared and where possible scaled up to national level. In order for this to be possible, government need to invest in the sub TWG as a coordinating body and strong implementation structures at district level. Failure to achieve these structures will lead to further development of policies and documents with little development on the ground. Commitment from Government in terms of funding, for example the SWAp 2 Programme of Work, also needs to be secured to ensure programmes can be delivered on a national scale without the reliance and disruption of donor dependence in this area.

1.3.5 Information, Education and Communication

The role of public, and professional education in terms of diarrhoeal disease cannot be underestimated. In Malawi, research has shown that the number of cases of diarrhoea reported at health facilities is an underestimation, as a number of families do not use health services due to time or financial constraints (Morse et al 2007, Mulholland 2005). This is perhaps a reflection of community understanding of diarrhoeal disease and the importance or lack thereof placed upon diarrhoeal disease by health workers. Focus group discussions indicated a fundamental understanding within participants of the causes and treatment for diarrhoeal disease. Nevertheless, this is not reflected in a change in behaviour and/or reduction in cases of diarrhoeal disease and it can only be presumed that this is due to a poor understanding of symptoms, treatment and preventive measures at all levels.

In Malawi, Health Surveillance Assistants play an integral role in health education and disease control, and are seen as the major source of health knowledge within communities. They are directly involved with WASH education and development, community clinics and community case management including integrated management of childhood illnesses, child health days, growth monitoring and immunisation programmes. As such, they are the key personnel to integrate the control and treatment of diarrhoeal diseases at community level. Nevertheless, even at district and community level these issues tend to be addressed in isolation and not with an integrated approach taking into consideration the specific issue of diarrhoeal disease.

In terms of health education, this tends to be donor driven and is funded by donors on specific programmes. In some cases, a mass media approach is used particularly using radio. However, smaller level campaigns are also common with poster development, newsletters and more localised drama group and community based messages. Despite the existence of a health education unit within the Ministry of Health, stakeholders still indicated that there is need for improved coordination between organisations in terms of media development and sharing of materials and concepts to ensure best use of funds and consistency of approach. With particular reference to diarrhoeal disease control, a number of excellent education tools have been developed in recent years, particularly in partnership with WHO, UNICEF and PSI/Malawi. However these tend to focus on a specific subtheme of diarrhoeal disease control, for example ORS, handwashing or school sanitation as part of a campaign rather than looking at all areas within one programme.

The education of the population on an integrated approach to diarrhoeal disease control and treatment was discussed at length by stakeholders. It was agreed that improved awareness at all levels is essential if the current situation is to be improved. As such, IEC should tackle a number of levels within the education and community systems including, teacher training, school education (inclusion in the national curriculum), higher education (inclusion in training of engineers, health workers and other relevant cadres to ensure cross profession understanding) and mass media.

On a mass media scale, excellent IEC materials are already in place in terms of hygiene, water, sanitation and ORS which can be integrated into campaigns with additional materials on zinc and vaccinations. These materials should be released as part of a holistic diarrhoeal disease campaign and not as individual programmes, coordinated through a suitable technical working group equivalent.

1.4 Way Forward

Malawi has a number of excellent and effective programmes and policies which tackle aspects of diarrhoeal disease control. Nevertheless, it is evident from stakeholders, community members and facility assessments that these programmes are not in place at all levels, and an integrated approach to diarrhoeal disease does not currently exist. Each aspect of diarrhoeal disease control and treatment is operating within limitations and has unique challenges. However, there are overarching issues which need to be addressed. Stakeholders should assess the political will and opportunity to develop a specific sub technical working group for diarrhoeal disease control whose initial objective would be to develop a programme to implement an integrated approach to diarrhoeal disease. Subsequently, the recommendations of this report would have an avenue from which to be addressed within the Government of Malawi SWAp 2 system, thereby increasing the chances of a sustainable, national level programme to address the issue of diarrhoeal disease.

2.0 Introduction and Background

2.1 Introduction

Diarrhoea is defined as having loose or watery stools at least three times per day, or more frequently than normal for an individual (WHO, 2009), and remains a leading cause of morbidity and mortality in developing countries, killing nearly two million children every year. Exposure to agents that cause diarrhoea is predominantly related to consumption of contaminated water and unhygienic practices in food preparation and excreta disposal.

In Africa diarrhoeal disease is thought to contribute to approx 19% of deaths in children under the age of five (Black et al 2010). In Malawi, it has also been well recorded that one of the main cause of death in children under the age of five along side malaria and acute respiratory infection (MICS, 2006).

In 1981, the National Control of Diarrhoeal Diseases (CDD) programme was established in the Ministry of Health to reduce morbidity and mortality due to diarrhoea through the provision of safe water, intensification of the immunisation campaign against measles-related diarrhoea, promotion of sanitation and hygiene measures, and case management through the use of Oral Rehydration Salts (ORS). This programme concentrated predominantly on the use of ORS in health facilities throughout the country. This had a successful impact in areas such as Kamuzu Central Hospital (Lilongwe) where 32% reduction in case fatality rates was reported as a result of ORS administration (Heymann et al 1990). However, since funding in this area ceased, the presence of ORS centres in health facilities and their subsequent impact has reduced. The MDHS (2004) indicated that 20% of U5s in interviewed households had suffered from diarrhoea in the 2 weeks previous to the interview taking place. Despite this it is estimated that only 27% of under fives in Malawi with diarrhoea receive ORT (MICS 2006). An initial assessment conducted as part of this report indicated that only up to 60% of health facilities had functioning ORT corners.

In order to re-establish diarrhoeal disease as a priority in developing countries, the WHO and UNICEF launched a document entitled: *Diarrhoea: why children are still dying and what can be done* in 2009. The purpose of this document was to raise the profile of diarrhoeal disease as one of the leading killers of children under the age of five globally. This document tied in directly with the Millennium Development Goals (MDGs) and in particular the target to reduce child mortality by two thirds between 1990 and 2015. This is also one of the key goals of the Malawi Growth and Development Strategy which is in line with the MDGs. These concepts are not new and the travesty of diarrhoeal disease is that many of these diseases are easily preventable and treatable unlike some of the main global killers such as HIV which receive higher press coverage.

The Government and organisations working within Malawi are aware that there are a number of successful programmes which are achieving reductions in diarrhoeal disease. Nevertheless there appears to be a lack of coordination between the various ministries of Government of Malawi involved and non- governmental organisations, particularly in the sharing of good practice and the need for an integrated approach. Organisations often stand alone in their geographical and subject area, concentrating perhaps on one aspect of diarrhoeal disease prevention or treatment, e.g. ORT, zinc provision, water and sanitation, with little consideration for other aspects. A more holistic

approach is required to integrate programmes and ensure that there is an effective impact on a national scale for diarrhoeal disease control.

With this in mind, PATH recruited the Government of Malawi (Environmental Health) and University of Strathclyde to coordinate a review of the current status of the programmes affecting diarrhoeal diseases in Malawi. The aims of this review was to:

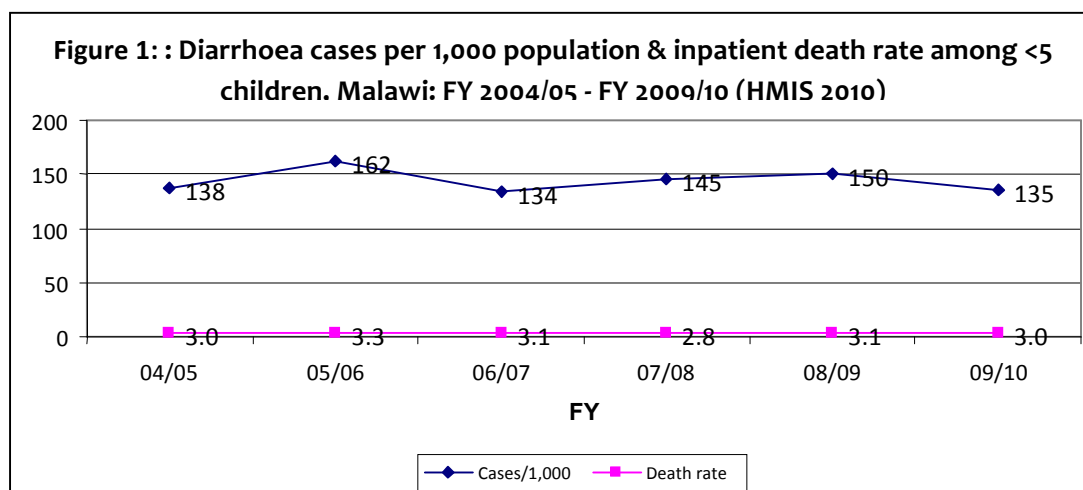
- Identify key stakeholders currently involved in the control and treatment of diarrhoeal diseases in Malawi.
- Review current epidemiological data, policies, strategies, guidelines and programmes which are currently addressing issues of diarrhoeal disease.
- Identify challenges which are affecting the introduction of an integrated approach to diarrhoeal disease control.
- Outline recommendations to facilitate an integrated approach to diarrhoeal disease control in Malawi.

The seven point plan for diarrhoea control (WHO 2009) was used as a guide in undertaking this review, and all seven aspects including both treatment and prevention were found to be currently operating in Malawi either on a national or district level. This document aims to bring together a summary of the good practices and challenges that are faced by these organisations and Government of Malawi to identify a way forward for diarrhoeal disease control in Malawi.

2.2 Background

2.2.1 Epidemiology of Diarrhoeal Disease in Malawi

Although some research has been conducted on diarrhoeal diseases prevalence and control in Malawi, statistics and specific data remain limited. Those collated through the HMIS tend to be erratic and based on health facility data. Therefore this data does not take into consideration that many guardians do not attend health facilities with under-fives when they are suffering from diarrhoea. A recent report from HMIS (2010) indicated that rates of diarrhoeal disease and death rate have remained the same for the period 2004 – 2010 with a rate of 135 cases per 1000 under five population being treated for diarrhoea with 3 deaths per 1000 new cases in 2009/10 (Figure 1).



Causative agents of diarrhoeal disease in Malawi have been described in a number of research studies, although stool specimens are not routinely examined at health facilities to accurately document the incidence and prevalence of specific pathogens (Morse 2006).

Table 1 Common causes of diarrhoea in developing countries (updated from Morse 2006)

Presentation	Disease	Organism	Characteristics	Diagnosed in Malawi to date
Acute watery diarrhoea	Food poisoning Gastroenteritis (bacterial)	<i>Staphylococci</i>	Sudden onset with vomiting in group of people associated by food	Pers comm. Molyneux M
		<i>B. cereus</i>		
		<i>C. perfringens</i>		
		<i>V. parahaemolytica</i>		
		<i>Salmonella sp</i> <i>E. coli</i> Non specific		
		<i>Rotavirus</i> and other <i>enteroviruses</i>	Common, mainly in children	Pers comm. Molyneux M
	Gastroenteritis (viral)	<i>Rotavirus</i>	Occurs in children, and may be a particular problem in institutions.	Pavone et al 1990; Cunliffe et al., 2002; 2001; 1999
	Cryptosporidiosis	<i>Cryptosporidium spp.</i>	Identified in children and adults in Malawi. Associated with HIV and malnutrition.	Pavone et al., 1990; Gatei et al., 2003; Cranendonk et al., 2003; Peng et al., 2003. Morse et al., 2007
	Cholera	<i>Vibrio cholera</i>	Severe dehydration, rice water stools, epidemic.	Gordon et al., 2001; Roberts et al., 2001; Swerdlow et al., 1997.
Acute diarrhoea with blood	Bacillary dysentery	<i>Shigella sp</i>	Severe, seasonal, all ages	Pitman et al., 1997
	Campylobacter	<i>C. jejuni</i>	Sporadic, from contaminated food, animal reservoir.	Pers comm. Molyneux M
Chronic diarrhoea	Giardiasis	<i>G lamblia</i>	Mainly children, can cause malabsorption.	Pers comm. Molyneux M
	Malabsorption syndromes	-	Adults mostly males, nutritional deficiencies, especially of folic acid.	Pers comm. Molyneux M
Chronic diarrhoea with blood	Amoebiasis	<i>E. histolytica</i>	Cooler climates, mainly adults	Pers comm. Molyneux M
	Balantidiasis	<i>B. coli</i>	Similar to amoebiasis, associated with pigs	Pers comm. Molyneux M
	Schistosomiasis	<i>S. mansoni</i>	Endemic areas	Pitman et al., 1997 Bowie et al 2002

2.2.2 Risk factors in diarrhoeal disease

Contaminated drinking water, poor hygiene practices, lack of sanitation and poor food hygiene are all documented sources of diarrhoeal disease in Malawi (Morse, 2006; Tauro, et al. 2009). In addition, literature has described specific risk factors which also contribute the presence of diarrhoeal disease in households including zoonotic transmission from domesticated animals, educational and employment status of the head of the household, maternal age, and the size of the household (Morse et al 2007, Masangwi et al 2010)

2.2.3 Health access for diarrhoeal disease treatment and prevention

A number of factors are thought to affect whether a household seeks care for diarrhoeal disease. Munthali (2005) reported a high degree of self medication with drugs purchased from groceries without health referral. These included the use of ORS, chlorphenicol, metronidazole, cotrimoxazole and penicillin none of which were prescribed. In addition, the study also found that elderly women and men never mentioned ORS as treatment for diarrhoeal illness although younger mothers had learned of ORS use during antenatal visits. The course of action taken by individuals or guardians in managing a case was based on the perceived cause of the diarrhoea. In some cases these were thought to be attributed to breastfeeding when pregnant, incompatibility of food with the child or teething and therefore treatment for the illness was not sought.

Despite the implementation of the CDD programme in Malawi in the 1980's and the significant impact of ORS in the treatment of diarrhoeal disease morbidity and mortality, a number of the effective aspects of this programme have now regressed in health facilities since the cessation of the CDD programme (Enzley and Barros 1997, MICS 2006). Facility assessments conducted during the development of this report outlined the difficulties of ORS being out of stock due to lack of availability in the Central Medial Stores, which subsequently impacted on the presence of ORS corners for patients to access. The introduction of low osmolarity ORS to Malawi has been achieved in both health facilities and groceries for private purchase. PSI/Malawi is the main partner in ORS provision in Malawi, and a greater emphasis is now placed on community education and the self purchase of low osmolarity ORS from local groceries in addition to availability at health facilities, to overcome the issues of travel to facilities, time management and stock outs. Nevertheless, the recent MICS survey (2006) indicated that only an estimated 27% of diarrhoea cases were being treated with ORS which is well below the 90% target. The government are currently working with partners (MSH and PSI/Malawi) in the introduction of zinc in conjunction with ORS in the treatment of diarrhoea to reduce the severity and length of the symptoms. Zinc is only available in limited quantities in specific districts at present. Facility assessments and focus groups discussions in three districts in Malawi indicated that these communities were completely unaware of zinc as a treatment although health workers had been sensitised.

In terms of diarrhoea prevention, access to vaccinations and vitamin A supplements are also key elements. Measles vaccines are widely available in Malawi and recommended for administration at nine months. Nevertheless uptake of vaccine and maintenance of the cold chain can lead to limitations in vaccine coverage.

This was demonstrated in 2009/10 when Malawi experienced an outbreak of measles which reported 118, 712 cases and 249 deaths from the disease. Malawi is also planning to introduce the rotavirus vaccine to the expanded programme of immunisation (EPI) in 2012/13. Trials of the

rotavirus vaccine are taking place in Malawi and South Africa (Shabir et al 2010). Vitamin A supplements are a long standing component of the nutrition and health programme in Malawi targeting children under the age of five and pregnant women. The 2010 HMIS report indicated that vitamin A supplementation had declined by nearly 20% from the previous year, although this did not reflect coverage from campaigns such as child health days. This figure is of significant concern.

2.2.4 Home based prevention of diarrhoeal disease

Research demonstrating the reduction of diarrhoeal disease in Malawi through good practices such as hand washing with soap, and use of effective ecological sanitation has been published since the 1980s (Young et al 1988; Peterson et al 1998). However despite this information and data there seems to be little regard within policy or programme development to roll these successes out on a national scale. A particular example of this is the recent hygiene promotion programme within the peri-natal care system. Funded by USAID and implemented by Government of Malawi, PSI/Malawi and UNICEF, this programme sought to target mothers attending antenatal check-ups at health centres in two districts. By attending the clinic they were provided with a bucket with a tap, water guard, ORS and soap and taught about the need for hygienic practices within their homes including having and using toilet facilities (latrines). Assessments of the programme indicated a significant improvement in the number of women who were practising good hygiene within their homes. There was also the added value of an increased number of women attending antenatal checks in order to benefit from the programme. It was recommended that this programme be rolled out on a national basis and be further integrated with HSAs at community level and make use of the EPI system to target more mothers. However the government is still assessing if such a programme is financially viable (Sheth et al 2008).

Sanitation is another factor that can influence the occurrence of diarrhoea illness in most communities. A number of programmes targeting improvement and increased sanitation coverage have been reported in Malawi in recent years. These include Participatory Hygiene and Sanitation Transformation (PHAST), Ecological Sanitation (EcoSan) and Community Led Total Sanitation (CLTS). All of these programmes have been implemented through NGO partners in specific districts with varying level of success.

3.0 Methodology

The concept of a road map for diarrhoeal disease control was launched at the 2nd IFEH All Africa Environmental Health Congress held in Lilongwe in 2010 by PATH to compliment their Call to Action on Diarrhoeal Disease launched (www.defeatdd.org) in 2009.

Having raised the profile of the need for an integrated approach in diarrhoeal disease control and treatment in Malawi, PATH entered into a partnership with the University of Strathclyde (UK), University of Malawi – Polytechnic and the Government of Malawi to develop an up to date outline of the following:

- Key stakeholders currently involved in the control and treatment of diarrhoeal diseases in Malawi.
- Current epidemiological data, policies, strategies, guidelines and programmes which are currently addressing issues of diarrhoeal disease.
- Challenges which are affecting the introduction of an integrated approach to diarrhoeal disease control.
- Recommendations to facilitate an integrated approach to diarrhoeal disease control in Malawi.

This was achieved in two ways.

- Stakeholder meetings

A series of meetings and interviews with key stakeholders from Government, academia, non-governmental organisations and the donor sector were facilitated (Appendix A).

Three workshop meetings of all stakeholders took place to consolidate the information required for this report.

- 29th – 30th September 2010 – Community Health Services Unit, Ministry of Health, Lilongwe
- 20th – 21st December 2010 – Lilongwe Hotel, Lilongwe
- 15th February 2011 – Crossroads Hotel, Lilongwe

Within the workshops, participants were assigned to specific subject areas according to their expertise to work on the subsections as follows:

- Oral Rehydration Therapy and Zinc treatment
- Water, Sanitation and Hygiene (WASH)
- Vaccinations and Breastfeeding
- Fluid replacement in dehydration

- District Assessments

In order to verify and add value to the information outlined at the stakeholder meetings, simple assessments were undertaken at District level within the three Regions of Malawi (Appendix A).

Firstly focus group discussions were conducted with urban, peri-urban and rural communities to assess the knowledge, attitudes and practices of communities in terms of diarrhoeal diseases

causes, prevention and treatment. Secondly, district staff conducted spot checks at health facilities to determine knowledge, attitudes and practices of health workers in term of diarrhoeal disease, and to identify if ORS and ORS corners were available for patients.

The draft document was circulated to all stakeholders for comment via e mail and during the final workshop held in February 2011.

4.0 Sub theme areas

In line with the WHO 2009 report *Diarrhoea: why children are still dying and what can be done*. This document has broken the areas of diarrhoeal disease control and treatment into subsections as follows:

- Case management (treatment of dehydration and zinc supplement)
- Breastfeeding and Vitamin A supplement
- Vaccinations
- Water, sanitation and hygiene (WASH)

Each subtheme is broken down into the following:

- Introduction
- Key stakeholders
- Current status of treatment/intervention
- Collaboration mechanisms
- Challenges in implementation
- Recommendations from subgroup

Each sub theme was developed by key stakeholders working within the thematic area. Sub group members are outlined in Appendix A.

4.1 Case Management of Diarrhoeal Disease

4.1.1 Background

Diarrhoeal disease can attack people of all ages, with those within the vulnerable groups being most at risk from symptoms (Young, old, pregnant and immuno-compromised). Despite efforts to prevent infection, there will always be cases of both acute (less than two weeks) and chronic (more than two weeks) diarrhoea within the population. These are further complicated by contributing factors such as malnutrition, HIV/AIDS and poor health access within the country. As such effective case management regimes need to be in place for the population to ensure that diarrhoeal disease is treated swiftly and effectively thereby reducing the risk of mortality.

ORS as a treatment for diarrhoea was introduced for inpatient treatment in Malawi in 1977, and was subsequently promoted for outpatients from 1984 in line with the WHO Control of Diarrhoeal Disease programme (CDD). Although focused on treatment of symptoms rather than the prevention of diarrhoea, the programme introduced training centres which trained health workers in the use of ORS. A study by Heymann et al (1990) demonstrated that 2 years after establishing the ORS programme at Kamuzu Central Hospital, Lilongwe there was a 50% reduction in diarrhoea admissions, a 300% increase in the number of children receiving ORS, and a 300% decrease in the use of IV fluids for rehydration. As a result of this improved performance, hospital diarrhoea case fatality rates fell by 39% and hospital costs for diarrhoea treatment declined by 32%.

ORS should now be widely available at health facilities for free, and for purchase from groceries for home administration to diarrhoea sufferers. Although some issues still require to be addressed to ensure correct use and safe preparation of ORS, it is a widely accepted treatment in both rural and urban centres. The predominant supplier of ORS in Malawi is Population Services International (PSI) in the form of the product *Thanzi*. This is a low osmolarity ORS as recommended by WHO and the Ministry of Health for more effective treatment. Low Osmolarity ORS can effectively treat 90% of the cases except those with severe dehydration. Nevertheless, figures indicated that only 27% of children suffering from diarrhoea were treated with ORS (MICS, 2006). As such, issues pertaining to the effective treatment, and the education of guardians in the methods for addressing diarrhoeal disease still need to be rolled out to the grassroots level. Munthali (2005) outlined the current challenges facing Malawi in terms of diarrhoeal disease treatment. In particular, she identified that young mothers were more aware of the use of oral rehydration salts (ORS) in the treatment of symptoms compared to older care givers. However a number of traditional beliefs, use of traditional medicines and easy access to antibiotics meant that misdiagnosis and inappropriate treatments were still common practice.

At present, the inconsistent supply of ORS in health facilities is affecting the operation of ORS corners. Health education on diarrhoea in general has gone down with more focus going to other problems like HIV and AIDS and nutrition. The threat of diarrhoea is also frequently undermined by people being more afraid of cholera than general diarrhoeal disease. The partners involved with the supply of ORS put more effort into creating awareness on cholera prevention, treatment and control than to diarrhoea in general.

Treatment of severe dehydration through IV treatment is outlined within the appropriate case management manuals available to health workers. Widely used in district hospitals, IV can also be provided at some health centres dependent on the cadre of health worker available. Inconsistent supply of ringers lactate can affect treatment of cholera during some outbreaks.

More recently, a holistic approach to diarrhoeal disease treatment has been recommended by WHO encompassing:

- Low osmolarity oral rehydration salts (ORS)
- Zinc supplementation
- Continued and increased feeding throughout and after diarrhoeal episode.

In compliment to low osmolarity ORS, zinc plays a crucial role in reducing severity and duration of diarrhoea. It promotes cellular growth and boosts immune system. It is therefore encouraged to give zinc along with low osmolarity ORS to a person with diarrhoea.

These recommendations are being adopted in Malawi and training in this programme is currently being rolled out in partnership with PSI/Malawi and Management Sciences for Health (MSH) through the Ministry of Health Manual for the Management of Diarrhoea in Under Five Children using Low Osmolarity ORS and Zinc (2009) in terms of diarrhoeal disease in under fives.

4.1.2 Key stakeholders

- Government of Malawi Ministry of Health
 - Preventive health
 - Environmental health
 - Health education
 - Primary health care
 - Disease control (IMCI)
 - Clinical health
 - Medical
 - Nutrition
 - Nursing
 - Community health
 - Planning and Policy Development
 - SWAp
 - Planning
 - Health Technical Support Services
 - Pharmacy
 - Finance and Administration
- Government of Malawi Office of President and Cabinet
 - Department of HIV/AIDS and Nutrition
- Non governmental partners
 - Management Sciences for Health
 - PSI Malawi
 - UNICEF

- John Snow Inc
- Private sector

4.1.3 Current Status

The main clinical features of diarrhoea result from the loss of fluids causing complications. These include electrolyte imbalance, dehydration and malnutrition. The Essential Health Package (EHP) refers to the need to control acute diarrhoeal diseases at both health facilities and community level. In particular it refers to treatment of severe dehydration in under five cases, management of cholera and dysentery cases, education of guardians in effective use of ORS, promotion and use of ORS and the need to treat and refer community based cases to health facilities.

The current guidelines from the Ministry of Health indicate that case management of diarrhoea patients may include the following once the case has been appropriately assessed:

- Oral Rehydration Therapy (ORT) using Oral Rehydration Salts (ORS) to rehydrate
- Zinc supplementation to decrease the duration and severity of diarrhoea episode
- Continued feeding throughout diarrhoea episode
- Provision of antimicrobials in cases of bloody diarrhoea
- Intravenous rehydration in cases of severe dehydration

The treatment protocols for children under the age of five years are well summarized in the Ministry of Health Manual for the Management of Diarrhoea in Under Five Children using Low Osmolarity ORS and Zinc (2009), and this document brings together a number of the guidelines contained within existing protocols. These include:

- Ministry of Health Manual for the Management of Diarrhoea in Under Five Children using Low Osmolarity ORS and Zinc (2009)
- Essential Health Package
- Malawi Standard Treatment guidelines
- Cholera manual for health workers
- IMCI Approach Policy for Accelerated Child Survival and Development in Malawi
- Paediatric Handbook for Malawi

Overall, documents are detailed in their descriptions of how to address diarrhoeal disease in cases, and there is a consistency of approach throughout on the criteria and methods to be adopted.

Due to the use of these guidelines by health workers on a day to day basis, it is felt that they are effectively implemented at grassroots level in both urban and rural areas. Nevertheless, the efficacy of their implementation is affected by the availability of low osmolarity ORS and zinc supplements.

Community perceptions

Focus group discussions outlined a number of issues pertaining to the treatment of diarrhoeal disease. Overall, communities showed an awareness that diarrhoeal disease was one of the main illnesses within their population (this was raised along with malaria, HIV/AIDS and pneumonia). One community indicated that over 10 children had died from diarrhoeal disease in the four months preceding the FGD. In the rural areas, communities indicated that they try to use health facilities for treatment however this may be delayed depending on how sick they think the individual is. They

were also more likely to use traditional medicines for treatment than those in urban areas. The main barriers to seeking health care for diarrhoea were the long distances of travel and in some cases the user fee associated with treatment (CHAM and private facilities). Other issues were also raised which hinder or delay treatment including the lack of medicines available at facilities, unavailability of health workers, and negligence of health workers at facilities who may place a low priority of treatment of diarrhoeal disease.

FGDs were also questioned on their knowledge about zinc as a treatment for diarrhoeal disease. None of the groups questioned had heard of zinc as a treatment method. Nevertheless, two thirds of health workers had been made aware of zinc as a treatment through various routes, although none of the health workers interviewed had used the treatment to date.

Programme Implementation

The implementation of these guidelines is funded and supported through the EHP. Nevertheless, there are number of programmes in Malawi both Government and Non Governmental based which address the issue of diarrhoeal disease case management and therefore overlap in their activities.

- **Integrated Management of Childhood Illnesses**

The Ministry of Health is implementing Integrated Management of Childhood Illnesses (IMCI) approach with a goal to contribute to the reduction of childhood morbidity and mortality by two thirds between 2000 and 2015 in Malawi. The approach also ensures that all children suffering from common illnesses are managed holistically at out – patient and in – patient departments of health facilities and at home. The approach also includes Community Case Management (CCM) programme where treatment of cases has to start at a community level through Health Surveillance Assistants that are managing Village Clinics. Save the Children is implementing CCM activities in 6 districts i.e. Blantyre Rural, Mulanje, Mchinji, Dowa, Ntchisi and Nkhosokota. Save the Children procures through CMS and the drugs are distributed during routine deliveries of drugs by CMS to health facilities. HSAs in these districts get their drugs from the Government of Malawi Central Medical Stores (CMS) but the supply from CMS does not include zinc.

PSI is implementing CCM activities in five districts which are Mwanza , Neno ,Thyolo, Machinga and Zomba. With funding from CIDA, PSI has procured zinc and ORS as a treatment package for diarrhoeal diseases which are being distributed to HSAs for treatment of under five children right in their communities. A child suffering from diarrhoea is given two sachets of ORS and 10 tablets of zinc and the child takes 1 tablet of zinc for 10 days. Assessment of zinc treatment adherence is yet to be done. It is interesting to note that health facilities are not supplying zinc to patients presenting with diarrhoea.

- **Supply Chain 4 Community Case Management**

The Supply Chain 4 Community Case Management (SC4CCM), supported by JSI/Deliver Research and Training Institutes Inc., seeks to ensure that community health workers have access to quality medicines for the treatment of common childhood illnesses. The SC4CCM is conducting a pilot project in six district i.e. Machinga, Nkhosokota, Nkhosokota, Mulanje, Ntchisi and Karonga to improve product availability at Health Surveillance Assistant level and subsequently contribute to improved child health in communities.

- **Key Family and Community Childcare Practices**

The Ministry of Health in collaboration with the Ministry of Gender and Community Services, WHO and UNICEF developed Key Family and Community Childcare Practices which should be promoted at household level. Among such practices is the practice of feeding and giving fluids during illness

The implementation of Key Family and Community Childcare Practices registered census was done under Community Integrated Management of Childhood Illnesses (C/IMCI) and Early Childhood Development for Survival Growth and Development (ECD – SGD) project in 2001. This project was done as a pilot project in selected districts i.e. Blantyre, Kasungu, and Mzimba. The implementation of these practices resulted in the development of Accelerated Child Survival and Development in order to reach as many children as possible with the Key practices. These practices are being promoted nationwide where there are registered CBCC centres and CBOs

- **Accelerated Child Survival and Development**

The Ministry of Health developed a Five Year Strategic Plan for Accelerated Child Survival and Development (ACSD) in Malawi in the context of Essential Health Package (EHP). This plan looks at how government will scale up High Impact Interventions (HII) quickly, equitably and sustainably to more children and mothers in all villages in Malawi with a goal of reducing childhood morbidity and mortality by two thirds between the year 2000 and 2015 in Malawi, and to develop the Malawian child to his or her full potential. Among the HIIs is the use of Low Osmolarity ORS. Caregivers are encouraged to feed, offer more fluids, breastfeed, and give Low Osmolarity ORS to children when they are sick. The implementation of the High Impact Interventions is being done by various partners like Ministry of Women and Child Development, Ministry of Irrigation and Water Development, Ministry of Health, Local Government and other partners like UNICEF who are funding Community Led Total Sanitation (CLTS). All CCM partners like PSI, Save the Children, SC4CCM are partners to ACSD and have their CCM projects running up to 2012, BASICS/MSH and MCHIP are winding up their operations on CCM this year (2011), and JSI. Among the donor partners are WHO, and UNICEF.

- **Maternal and Child Health Integrated Program**

Maternal and Child Health Integrated Program (MCHIP) has a programme goal to accelerate the reduction of maternal, neonatal and child mortality towards the achievement of MDGs with a prime programmatic objective to increase utilization of Maternal Neonatal and Child Health (MNCH) services and practice of healthy maternal, neonatal and child behaviour this includes the use of low osmolarity ORS.

- **PSI/Malawi Child Survival Programme**

In order to promote the management of diarrhoea at home, PSI/Malawi distributes *Thanzi* Low Osmolarity ORS to communities through local shops and pharmacies. Individuals can purchase *Thanzi* Low Osmolarity ORS at a price of K30 (~\$US0.20) per sachet. PSI work in partnership with the Ministry of Health in the development and training of HSAs for the support and promotion of ORS for the treatment of diarrhoea. They work directly with the Ministry of Health in the development of Community Case Management in Phalombe, Machinga and Blantyre Districts and the Hygiene Promotion Programme with USAID and UNICEF targeting the Perinatal Care System in Salima and Blantyre Districts.

- **MSH/BASICS**

The BASICS Project has objectives to expand access and use of quality child health interventions. BASICS is supporting the MoHs initiative to implement zinc and low osmolarity ORS to manage diarrhoeal disease. These efforts have included the alignment of the EHP and EDL to incorporate zinc as a supplement and the development of an implementation plan for zinc and low osmolarity ORS. BASICS has supported the quantification of zinc needs and the development of a training package and communication strategy.

4.1.4 Collaboration

In terms of case management, the majority of partners are working directly with relevant departments within the Ministry of Health. As such the collaboration between government, donors and non-governmental organisations is relatively structured. Nevertheless, due to geographical location of specific programmes, there can be replication of projects with little collaboration between the funding partners. As such, Government departments need to take a stronger role in coordinating these groups and ensuring communication, sharing of best practice and that all organisations are working within the same guidelines.

Specific forums available for collaboration include:

- Technical working group for IMCI/CCM which meets with implementing partners. The meetings were supposed to be done on quarterly basis but are usually done on availability of funds which is usually longer than the planned period. When the meeting is held, there is sharing of information by implementing partners, however, this can be affected by the coordinating office and the agenda.
- Rapid response epidemic team at national and district level. These undertake situation analysis, coordination, resource mobilization, dissemination, awareness campaigns. These teams both at national and district levels are supposed to meet frequently, especially during an outbreak. The meetings are not being held as frequently as they are supposed to be.
- District epidemic management committees chaired by the District Commissioner should meet on a regular basis. However, a survey conducted as part of cholera supported supervision in 2010 found that these committees were inactive in a number of districts.

During such meetings, the focus is usually on other disease conditions rather than diarrhoea. The District Epidemic Management Committees usually meet during cholera seasons and the focus of their discussions is on how to prevent, control and treat cholera. Similarly, the Rapid Response teams were instituted to respond to any epidemics occurring in the district or country at that time. Since diarrhoea does not necessarily come as an outbreak, discussions during the Rapid Response teams usually focus on the outbreak that has occurred at that time, with little long term planning. This is also seen at the TWG level where the TWG for CCM looks at a number of disease conditions that affect children. During TWG meetings, the focus usually shifts to diseases like malaria that seem to pose more threats to children as compared to diarrhoea. For example, a child presenting with malaria and diarrhoea, will often receive attention on the treatment of malaria with little reference to the diarrhoea symptoms. This therefore shows that diarrhoea is not being given special attention in any of the above forums.

Nevertheless there are examples of good collaboration in case management and diarrhoea prevention in Malawi, and these include:

- ORT corners

In order to facilitate the treatment of diarrhoea/dehydration, ORT corners are set up in health facilities. These ORT corners are set up in wards, OPD, Under Five clinics. However, the intermittent supply of ORS is affecting the progress on ORT corners. Assessment of the presence of these in three districts found that only two thirds of facilities had functioning ORS corners. The presence/absence of these was affected by the availability of nurses at the health facility and availability of ORS. All facilities indicated that they are 100% reliant on the Central Medical Stores for the supply of ORS and as such could not guarantee having it in stock. Nevertheless, a number of the FGD members indicated that they purchased ORS from local shops should the facility fail to have the treatment available.

- Community case management

Bearing in mind that access to health facilities is still a big challenge in most districts, Community Case Management aims at reaching out to sick children in the communities. Village clinics that are manned by HSAs were set up in various parts in order to facilitate treatment of sick children at community level. The coming in of several implementing partners in CCM is improving health care access to sick children in the communities. However the long term sustainability and impact of these remains to be measured.

- Infection control.

Health facilities and health workers are expected to be exemplary for instance, hand washing is supposed to be done before and after touching a patient. At Kamuzu Central hospital there was a launch on hand hygiene campaign on the 2nd July in 2009 in partnership with John Cook University Hospital. It was a WHO initiative under the African Partnership on Patient Safety. Currently it is gaining momentum and there are plans to roll it out countrywide.

- NGO collaboration

PSI with some partners (Fresh Water Project, WVI, Work for Rural Health and Blantyre Synod) have implemented an integrated approach to diarrhoeal prevention and management in the partner targeted areas through the promotion of point of use water treatment using *WaterGuard*, promotion of hand washing with soap at critical times, proper water storage, use of *Thanzi* ORS and promotes construction of simple hand washing facilities using locally available resources.

- Private sector involvement

PSI already has a large scale social marketing of *Thanzi* ORS as part of their child survival programme through the commercial sector. Although currently working in CCM with zinc, they have yet to roll out social marketing for zinc which may be considered for the future and improve community access.

4.1.5 Challenges

As with all areas of the health sector, case management of diarrhoeal disease also faces significant challenges in terms of guideline application and achieving case recovery. In particular, the following areas were highlighted by practitioners:

Collaboration and integration

- Although integration between case management partners is relatively effective, there is a lack of integration with other partners implementing water and sanitation activities. It was indicated that programmes working in preventive areas of diarrhoeal disease control do not often include low osmolarity ORS or zinc as interventions for diarrhoeal disease management.

Logistics

- As with other areas of curative care, stock out of Low Osmolarity ORS in government facilities due to budgetary constraints at district level is not uncommon. As such, patients are often unable to access treatment at their health facility and must resort to purchasing ORS personally from local shops. This can lead to guardian administering ORS without support and advice of health workers, or the patient being denied treatment due to lack of funds.
- Limited stocks of zinc are currently available in selected districts through donor and NGO partners. This needs to be scaled up to a national level in conjunction with training and awareness campaigns. As outlined in the community FGDs, although health workers were aware of zinc as a treatment for diarrhoea, none of the community members had heard of it to date.

Health Worker Training

It was felt that treatment of diarrhoeal diseases with ORS are well documented and that health workers have a good awareness of effective use. Nevertheless, medically trained stakeholders indicated concerns that the health workers in some areas lacked supervision and that training had not been adequate on the assessment and overall management of dehydration.

In terms of zinc treatment, very few health personnel have been briefed on zinc to date although a programme of training is underway. Concerns were raised regarding the dosage regime and the need for health workers to understand the treatments for different age groups.

Community Education

The main areas of concern and the majority of perceived challenges were raised in the area of community awareness and education.

ORS

- A common issue raised in terms of diarrhoeal disease treatment is the delayed administration of Low Osmolarity ORS to the child by caregivers at the onset of diarrhoea. Few caregivers start administration of Low Osmolarity ORS at home at the onset of diarrhoea before they visit the clinic. This can be perpetuated by traditional beliefs which are blamed for the presence of the diarrhoea, for example, diarrhoea in a child is normal especially during teething time, breastfeeding when pregnant will give the feeding child diarrhoea, etc.
- In addition to the late administration of the ORS, stakeholders had concerns that guardians were unable to determine quantity of ORS to give the child. Many caregivers fail to administer

the total dosage of ORS within 24 hours thereby reducing the efficacy of the treatment. This is compounded by the low literacy levels of caregivers and a poor understanding of the rationale behind administering ORS.

- The taste of Low Osmolarity ORS has been indicated by some caregivers to be a factor in the poor administration of ORS to children, as they refuse to drink the solution.
- Poor hygiene practices by caregivers and the use of contaminated drinking water when preparing ORS may lead to the safety of the solution being compromised and re-infecting the patient.
- Affordability of Low Osmolarity ORS available on the market. The current *Thanzi* Low Osmolarity ORS on the market is sold at K30 (US\$0.20) per sachet which may not be affordable to some caregivers
- As zinc is relatively new to the market the full extent of challenges have not yet been identified however the following challenges were anticipated by stakeholders.
 - Taste of zinc may affect compliance
 - Misconceptions about zinc (used as family planning for their children)
 - Noncompliance by caregivers to finish administering the whole dosage of zinc for 10 days even if the child stops diarrhoea early
 - People may think that zinc has replaced Low Osmolarity ORS

4.1.6 Recommendations

- Provision of adequate resources tailored for the management of diarrhoea diseases in terms of improving health workers skills and procurement of ORS to be available at health facilities.
- There is need for guidelines for implementation of diarrhoea interventions for partners.
- There is need to improve information sharing amongst partners to avoid duplication of services
- Government and partners should increase funding and coordination in order to reduce drug stock outs
- There is need for increased awareness on both Low Osmolarity ORS and zinc to communities and health workers
- National scale up for zinc programme to ensure all districts are covered at both health facility and CCM level.
- Increase safe water and sanitation coverage in order to improve hygiene practices when preparing ORS
- Procure Low Osmolarity ORS and Zinc with palatable flavours to improve compliance

4.2 Breastfeeding and Vitamin A Supplementation

4.2.1 Background

In Malawi, breastfeeding is a traditional norm practiced by almost all mothers (97%), but exclusive breast feeding still remains a challenge. A high proportion of children (94 percent) are reported to be put to the breast within 24 hours of birth while only 58 percent are breastfed within the recommended one-hour after birth. Exclusive breastfeeding is not fully practiced in Malawi. Among children under 6 months of age, only 57 percent are exclusively breastfed. This means that many mothers in Malawi still practice sub-optimal breastfeeding which according to Malawi profiles, (2006) contribute approximately 19% of infant mortality. Eighty-nine percent of children aged 6–9 months receive breast milk and complementary foods (IYCF Nutrition Policy). By age 12–15 months, 97 percent of children continue to be breastfed. A significant proportion of children are completely weaned off the breast by age 20–23 months (MICS, 2006). Studies in Kenya, Guinea Bissau and South Africa all reported faecal contamination of weaning foods with *Salmonella sp*, *E. coli*, *Shigella sp*, and *Campylobacter jejuni*. (Molbak *et al.*, 1989; Potgeiter *et al.*, 2005; von Steenberg *et al.*, 1983). It is therefore possible to deduce that contamination of other foods may occur during preparation, cooking and storage in the household.

Supplementing children ages 6 – 59 months with Vitamin A is the policy of the Ministry of Health in Malawi. Vitamin A is essential for good vision, growth development and resistance to infection. As such, every child is expected to receive Vitamin A supplement twice annually through child health days, growth monitoring and immunization programmes (static and outreach clinics). In the year 2009/10, it is estimated that only 17.3% of the population of under fives received the required doses of Vitamin A. This is a decline of 18% since 2008/09. The Ministry of Health has indicated that these figures may not reflect the distribution of supplements during national campaigns, and estimate that a coverage of approximately 80% was achieved. Nevertheless health facility data indicate that coverage is five times lower than expected (HMIS 2010).

4.2.2 Key stakeholders

- Government of Malawi Ministry of Health
 - Preventive health
 - Health education
 - Primary health care
 - Clinical health
 - Medical
 - Nutrition
 - Nursing
 - Community health
 - Planning and Policy Development
 - SWAp
 - Planning
 - Health Technical Support Services
 - Pharmacy
 - Finance and Administration
 - Procurement

- Government of Malawi Office of President and Cabinet
- Department of HIV/AIDS and Nutrition
- Non Governmental Organisations
- UNICEF
- PATH
- Management Sciences for Health
- WALA consortium
- World Vision International

4.2.3 Current Status

Currently Malawi has the following policies and guidelines that promote the importance breastfeeding and vitamin A supplementation in children:

- Malawi National Nutrition Policy and Strategic Plan 2007 - 2011)
- Infant and Young Child Feeding Programme and strategic plan
- Accelerated Child Survival and Development
- Integrated Management of Childhood Illnesses Policy
- Essential Nutrition Action strategies
- Baby Friendly Hospital Initiative strategies
- EPI field manual (2002)

More specifically, the policy statements contained within the Infant and Young Child Feeding Programme and the Expanded Programme on Immunisations outline the specific requirements in breastfeeding and Vitamin A:

Vitamin A:

- All children aged 6-59 months shall routinely be given Vitamin A supplementation every 6 months.
- All women within 8 weeks of delivery shall be given vitamin A supplements
- The national nutrition policy and strategic plan (2007 – 2012) is being implemented through 10 strategies one of which concerns immunizations and vitamin A supplementation and looks to prevent and control micronutrient deficiency disorders with emphasis on vitamin A deficiency, anaemia and iodine deficiency disorders

Breast feeding:

- All infants must be exclusively breastfeed during the first six months
- Children shall be put to the breast immediately after birth to promote skin to skin contact
- Breast feeding shall be initiated within half an hour after birth

The implementation of these programmes is currently through both NGOs and Government partnerships. As with many programmes, in some cases there is a focus on specific geographical locations as detailed below:

Programme Implementation

- *PATH-IYCN (Janet Guta – 0888850923, jguta@path.org)*

- Capacity building for community based nutrition and HIV services.
- *BASICS* –(*Mwate Chintu, mchintu@basicsmw.org*)
 - Phalombe – Promotion of Essential Nutrition Actions (ENA)
 - Zomba – promotion of ENA
- *World Vision International – Child Survival- (Regina Mander)*
 - Various Districts doing child survival programmes
- *WALA Consortium (Dr Adugna Kedebe/Julita Nsanjama, jnsanjama@walamw.org)*
 - Promotion of ENA especially exclusive breast feeding and complementary feedings in the 8 districts in southern region (Thyolo,Nsanje, Zomba, Balaka, Machinga,Chikwawa,Mulanje,Chiradzulu)
 - Routine immunizations services
 - Supplemental immunization activities (SIAs)
- MoH IMCI program (Country wide)
- MoH Nutrition Unit (Tapiwa Ngulube - 0999276052/ Dalitso Kang'ombe) - management of malnutrition, Promote, support and protect breast feeding - country wide

Community perceptions

From discussions with stakeholders it was clear that there have been significant national campaigns to promote exclusive breastfeeding in children under six months. These campaigns have used mass media as well as local health facilities to deliver these messages. Feedback from focus groups discussions showed that these campaigns have been successful in promoting the use of breastfeeding as a means to treat and control diarrhoeal disease, as all groups outlined it as an integral aspect of treatment in young children to ensure that fluids are replaced, nutrition is provided to the child when ill, and that the child does not become weak quickly. No mention of Vitamin A as a means of reducing the risk of diarrhoeal disease was noted. Nevertheless, although the knowledge was apparent in the groups, it is not known if the practices were in place in reality.

4.2.4 Collaboration

- Vitamin A supplementation and vaccinations during child health days (CHDs) and national vaccination campaigns which involve all stakeholders in terms of health service delivery (CHAM, MoH, etc.)
- Integrated Information, Education Communication approach – prevention of malaria, diarrhoea, infant and young child feeding etc done by Health education unit (MOH) in collaboration with ministry of information with input from various programmes
- Establishment of coordination departments/ technical working groups, such as the Community Therapeutic care (CTC) Technical working Group

4.2.5 Challenges

Despite the increase in awareness of control such as breastfeeding, stakeholders still felt that there was inadequate dissemination of the policies to district level which was also affected by the inadequate capacity of health workers at this level to implement programmes. The main underlying factor for this was the lack of funding for implementation. However it was felt that this could be improved if there was better coordination between partners.

4.2.6 Recommendations

- Establish a policy dissemination mechanism to distribute documents to all levels – zonal, district and community. The field/community worker should access the information rather than information being stuck at the district (DHO) level.
- Develop and implement a training strategy with regular refresher trainings and in service trainings for serving staff on new guidelines and policies, with associated funding to ensure executive of programmes.
- Conduct policy reviews and incorporate recent best practices to improve the outcomes of the programmes implemented.
- For isolated and remote areas, it is recommended to work with local communities to develop strategies and implement activities.
- Involve training institutions and other partners in the development of policies and best practices
- Policy development process should involve the community through consultative meetings with relevant groups within the community.

4.3 Immunization

4.3.1 Background

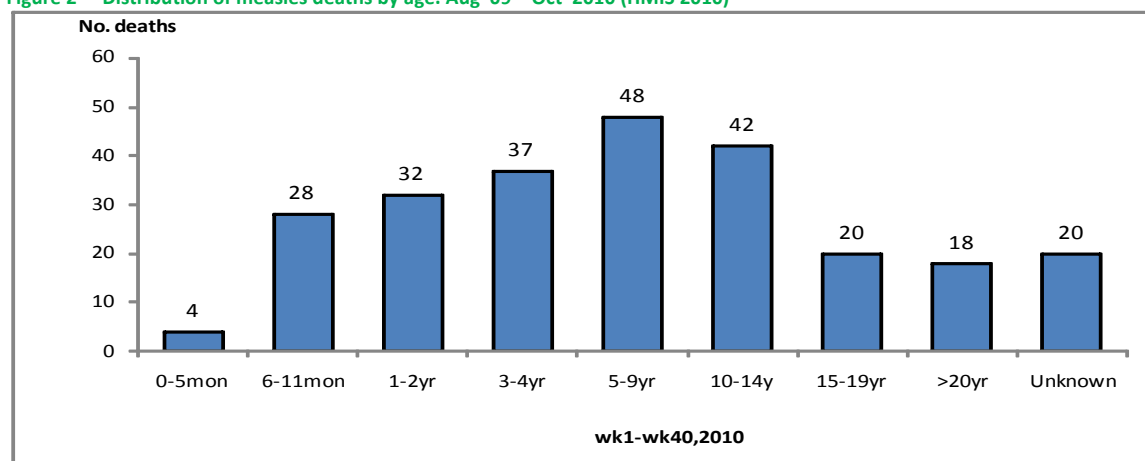
Immunisations help to reduce the number of deaths from diarrhoeal disease in two ways:

- By preventing infections that can lead to diarrhoea as a complication of an illness, such as measles or,
- By helping prevent infections that cause diarrhoea directly, such as rotavirus.

With reference to immunisations in this context, Malawi currently has an Expanded Programme of Immunisations (EPI), which ensures fulfilment of immunisations as a key element of the essential health package. Immunization activities are carried out along with other components of essential health package among these growth monitoring, nutrition, health education, malaria prevention and diarrhoea prevention. Routine data from MoH shows that coverage of children under one increased stepwise from 1981 till 1994 reaching 98% for every antigen (DPT3, polio, measles). Since then, with exception of BCG coverage, the coverage of other antigens has fluctuated with general tendency to decline. About 690, 722 children aged 1 year were expected to be vaccinated in 2010. However, only 600, 928 children received measles vaccinations representing 87 % (EPI unit data).

2009/2010 saw an outbreak of measles in Malawi. The epidemic figures in the 2010 update indicated a total of 118,712 reported cases with at least 249 deaths. Approximately 40% of these deaths were in children under 5 years (Figure 2). Immunization reduces diarrhoea associated with measles. Measles is known to predispose children to diarrhoeal disease. Feachem and Koblinsky (1983) estimated that measles vaccine given to 45 – 90% of infants would prevent 44 – 64 % of measles cases, 0.6 – 3.8 % of diarrhoeal episodes, and 6 – 26% of diarrhoeal deaths among children under five. In Malawi, nearly 88% of under ones were immunised against measles in 2009/10 which was slightly lower than 2008/09.

Figure 2 Distribution of measles deaths by age. Aug 09 – Oct 2010 (HMIS 2010)



In 2009, WHO recommended that countries introduce a rotavirus vaccine in combination with other preventive and treatment options to reduce the burden of diarrhoea in under fives. Rotavirus is a major cause of severe gastroenteritis among young children and in Malawi. A survey between 1997 and 2007, examined 3740 children less than five years of age with acute gastroenteritis who received hospital care at the Queen Elizabeth Central Hospital in Blantyre, Malawi, of which 30% were positive for rotavirus. Surveillance activities for rotavirus were expanded to include Kamuzu Central Hospital, in Lilongwe, Mangochi District Hospital and Karonga District Hospital from July 2005 to June 2007. Rotavirus detection rates similar to those observed in Blantyre were found.

Three-quarters of all rotavirus infections were identified in children less than 1 year of age, and one-third occurred in infants under the age of 6 months. Rotavirus circulated throughout the year, with the disease burden greatest during the dry season months of May to October, when total, all-cause diarrhoea was lowest. As such, Rotavirus vaccines are an important part of a comprehensive strategy to prevent and manage diarrhoeal disease. With this in mind, and in line with WHO recommendations, the Government of Malawi got approval from GAVI last year for the introduction of two new vaccines including rotavirus. Rotavirus vaccine is planned to be introduced in 2012/2013 (Introduction Plan for Rotavirus Vaccine 2009).

4.3.2 Key stakeholders

- Government of Malawi Ministry of Health
 - Preventive health
 - Expanded Programme on Immunization (EPI)
 - (IMCI)
 - Environmental health
 - Health education
 - Epidemiology
 - Clinical health
 - Public health laboratory
 - Medical
 - Nutrition
 - Nursing
 - Community health
 - Planning and Policy Development
 - SWAp
 - Planning
 - Health Technical Support Services
 - Central Medical stores
 - Pharmacy Medicines and Poisons board
 - laboratory Finance and Administration
 - Procurement
- Non Governmental Organisations
 - Management Services for Health
 - UNICEF
 - Medicin Sans Frontier
 - Christian Health Association of Malawi
 - Malawi Red Cross
 - WHO

4.3.3 Current Status

Policies and Guidelines

All areas of immunization in under five children fall under the Expanded Programme on Immunizations (EPI) located within the Department of Preventive Health Services in the Ministry of Health. As such the programmes pertaining to both measles and rotavirus vaccine are within this department.

The Malawi policy regarding EPI as stipulated in the Field Operational Manual 2002 (which will be reviewed shortly) is to:

- Immunize all children less than 12 months
- Immunize pregnant women and all other females 15-45 years of age.
- Increase public awareness through health education and motivation on the need for immunization
- Use every contact of a child with the health delivery system as an opportunity to immunise

The following policies and guidelines have integrated the EPI policies:

- Reproductive health policy and guidelines
- IMCI policy

Community perception

Focus group discussions assessed the knowledge of participants on the role of vaccinations in the reduction of diarrhoeal disease. The results were varied, however a number of members were aware of the effect of the measles vaccine in terms of diarrhoeal disease control. This may reflect the mass media campaigns and vaccination programmes which took place in 2010 as a result of the measles epidemic. No health workers or FGD participants were aware of the rotavirus vaccine which is unsurprising as the vaccine has not yet been introduced to Malawi.

Programme Implementation

The programme of immunisations is implemented through a number of mechanisms including:

- Static Units – services offered at hospitals and health centres run by government, CHAM, and private institutions on regular basis.
- Outreach Units – Hospitals and health centres run outreach services which give an opportunity of reaching the rural and isolated communities
- National Immunization days. Periodically the EPI runs special immunization campaigns in support to global goals.
- Monitoring and Evaluation are conducted to identify problems and take corrective actions to improve performance in key areas such as :
 - Morbidity and mortality of vaccine preventable diseases
 - Immunization coverage
 - Vaccine wastage
 - Adverse events following immunization.

These are done through the Comprehensive EPI reviews and Annual WHO/UNICEF joint Report Form (JRF)

4.3.4 Collaboration

Collaboration exists between government departments and NGOs/partners, including:

- Health Education
- IMCI
- Epidemiology
- Nutrition Unit
- Community Health Science Unit (CHSU) – public health laboratory MSF
- The Malawi Red Cross
- UNICEF – Child Health programmes
- WHO – Child Health Programmes

Programmes including EPI have sub technical working groups which report to the EHP technical working group. The sub technical working groups meet quarterly to discuss issues relating to programme implementation

4.3.5 Challenges

In terms of national level vaccination programmes, the Government has developed and implemented policies for measles vaccination, and coverage has been seen to improve over the years. Nevertheless, the recent measles epidemic perhaps demonstrates the challenges that still exist in this area including:

- Maintenance of a cold chain for vaccines
- Ability to reach remote communities
- Accurate reporting of health workers

These issues may have all been driving forces in the recent epidemic and require to be addressed for the future to reduce the risk of the repetition of such an epidemic.

Rotavirus vaccines are on the agenda of the Government to roll out in 2012. Nevertheless, this will be affected by adequate funding for the training, information dissemination, vaccine availability and education campaigns in the future.

4.3.6 Recommendations

- Establish a policy dissemination mechanism to distribute documents to all levels – zonal, district and community. The field/community worker should access the information rather than information being stuck at the district (DHO) level.
- Develop and implement a training strategy with regular refresher trainings and in service trainings for serving staff on new guidelines and policies.
- Conduct policy reviews and incorporate recent best practices to improve the outcomes of the programmes implemented. For isolated and remote areas, it is recommended to work with local communities to develop strategies and implement activities.
- Involve training institutions and other partners in the development of policies and best practices
- Engage hard to reach groups (e.g. religious faith groupings) to improve vaccine coverage.

4.4 Water, Sanitation and Hygiene

4.4.1 Background

Infectious diarrhoea is directly related to water quality, sanitation and hygiene. It is a major killer of children under-five, although the true burden of disease attributable to diarrhoea in Malawi has not been accurately quantified.

Currently, efforts are being made by the government and other non-state actors to improve the provision of potable water and to improve sanitation and hygiene facilities. Through the National Water Programme II and National Sanitation Policy coordinated by the Ministry of Irrigation and Water Development, a number of water supply, sanitation and hygiene projects and interventions are being implemented with the prime objective of increasing access. These are focusing on; water quantity, water quality, improved sanitation and hygiene promotion in order to curb water, sanitation and hygiene related diseases including diarrhoea

The responsibility for water and sanitation primarily lies with the Ministry of Irrigation and Water Development at present with supporting activities being undertaken at the Ministry of Health. The recent development of the Department for Sanitation to coordinate the National Sanitation Policy is a demonstration of political will to address the continuing problem of open defaecation in Malawi, and also go further by helping to empower the people of Malawi to achieve universal access to improved sanitation by 2020. Nevertheless, little financial support or human resources have been provided to implement this policy or support this department. Coordinated work is being undertaken between the Ministry of Irrigation and Water Development and the Ministry of Health in the development of programmes and proposals for the Global Sanitation Fund which is improving the communication network between the water and health sectors. The recently launched National Sanitation and Hygiene Coordination Unit has led to the improvement in coordination among key stakeholders at National level.

In Malawi potable water coverage is reported to be 74% (MICS, 2009), however this figure is an underestimate as many water points are non functional or abandoned at any one point in time. The Malawi Growth and Development Strategy indicates 82.7% coverage for basic latrines (GoM/EP &D, 2006) while improved sanitation is estimated at 46% (UNICEF, WHO, JMP 2005). Hygiene practices demonstrated through the use of the simple act of hand washing with soap and running water after going to the toilet is low. Hand washing after using the toilet is around 35% according to MDHS 2004. From this information it is clear that there is great variation among the coverage's of water supply, sanitation and hygiene. It is therefore justifiable that more effort should be focusing on sanitation and hygiene interventions. The MoH with support from the MIWD propose to have an office to be coordinated hand washing campaigns as a step in improving hygiene.

There are a wide number of stakeholders in water and sanitation in Malawi. However, data collection and data handling for sanitation and hygiene is poor and the accuracy of this data must be questioned. For example, the degree to which built latrines are used and the frequency with which latrines collapse and are therefore rendered useless is not necessarily captured by data collectors. Definitions of basic and improved latrines, though stipulated in the National Sanitation Policy, are applied inconsistently by data collectors. Due to lack of a defined data bank for the water sanitation and hygiene, there is variation of information and access to key information for the stakeholders.

4.4.2 Key Stakeholders

- Ministry of Irrigation and Water Development
- Ministry of Health
 - Preventive Services
- Ministry of Local Government
- Ministry of Education
- WHO
- UNICEF
- World Bank
- Africa Development Bank
- JICA
- Water Aid
- Concern Universal
- Water for People
- Engineers Without Borders
- Pump Aid
- World Vision International
- Malawi Red Cross
- Plan Malawi
- CICOD
- Child Legacy International
- Hope for the heart Missions
- Interaide
- PSI

4.4.3 Current Status

There are several policies and guidelines that guide the operations of the water, sanitation and hygiene sector in Malawi.

- National Sanitation Policy (approved by cabinet in August 2008)
- National Water Policy (2007)
- Draft Health Care Waste Management Policy (under development)
- Draft Health Promotion Policy (under development)
- Draft Environmental Health Policy (under development)
- Environmental Policy

Note: These policies tackle some issues on diarrhoeal disease prevention.

Guidelines

- Guidelines on Infection prevention and control
These guidelines are developed by the MoH to help the prevention of diseases within health facilities
- District Investment and Strategic Plans
These are developed by the District Authorities to guide on priorities for the district infrastructural investments and should include issues of water and sanitation coverage.
- District Development Plans
These are general district plan for both hardware and software part of WASH
- District Socio-economic Profiles
These are catalogues that provide detailed information of the social economic status of the district. The District Authorities themselves develop the District Socio-economic Profiles
- Village Action Plans

These are plans at village level which contribute to the District Development Plans. They are developed by the Village Development committees and should contain aspects of WASH.

Manuals

- Manual on conducting Water Quality Monitoring in Malawi
- Manual on Operation and Maintenance of Gravity Fed Water Systems in Malawi
- Manual on Operation and Maintenance of Boreholes
- Manual on Urban Water Supply and Sanitation
- Participatory Hygiene and Sanitation Transformation (PHAST 2007)
- Health care waste management manual is in draft form
- Sanitation Marketing Strategy for Blantyre and Lilongwe Peri-Urban Areas Manual 2009

Community Perception

All focus groups discussions indicated that diarrhoeal disease arose from the consumption of contaminated food or water and the lack of good sanitation and hygiene practices at community level. The reason for poor latrine coverage was given as unstable soils causing latrine collapse in some areas. This indicates that media and related educational messages are being delivered and understood by communities. Nevertheless, studies and assessments from a number of water and sanitation programmes over the years have shown that little has changed at community level in terms of hygiene practices, improved latrine coverage or the treatment and safe storage of drinking water at household level.

Programme Implementation

Currently interventions on improved water supply, water quality monitoring at both the source and point of use and sanitation and hygiene promotion are made by various stakeholders: MoIWD, MOH, Other Government Ministries and departments, NGOs, District Councils, and the beneficiary communities. The interventions in WASH are implemented through various structures at different levels; the District Coordination Team (DCT) at district level, the Area Development Committee at Traditional Authority (T/A) level and Village Development Committee at village level. At the grass-root level, there are committees such as Village Health and Water Committees (VHWCs) and Water Point Committees. The activities being implemented include provision of improved water points, water quality monitoring both at water points and household level, water treatment at the point of use (using chlorine-based such as *WaterGuard* and 1% Stock Solution of HTH) , promotion of appropriate sanitation technologies such as Eco-san in areas with high water table or rocky soils, promotion of hand washing with soap, construction of pit latrines in rural communities using Community-Led Total Sanitation (CLTS) strategy and PHAST and hygiene education.

Government Programs

- The Peri-Urban Water Supply and Sanitation project through the Lilongwe and Blantyre Water Boards funded by the European Commission and European Investment Bank
- WASH PROJECT funded by Netherlands govt, UNICEF and Government of Malawi in 12 districts on water, sanitation and hygiene: Chitipa, Mzimba, Nkhata Bay, Likoma Kasungu,

Mchinji, Salima, Dowa, Lilongwe, Blantyre, Mangochi, Mwanza, and also the 2 Flemish government funded districts Karonga and Chiradzulu, making a total of 14 districts.

- Rural Water Supply and Sanitation funded by African Development Bank operational in Lilongwe, Machinga, Zomba & Mulanje (constructing sanitation facilities in schools, health centres, communities and public places e.g markets)
- Rural Water Supply and Sanitation ACGF and World Bank-piped water gravity fed schemes Chitipa, Kasungu, Ntcheu, Zomba, Balaka, Chikhwawa, and Dedza. A pilot on both gravity fed schemes and boreholes in Chitipa, Dedza, and Chikhwawa. Eleven other schemes have been ear marked for a similar project under phase two to be funded by ACGF.
- Infrastructure Services Project- Mangochi, Mwanza, Neno, Chitipa, Zomba, and Likoma
- Rural Water Supply and Sanitation Project funded by ICEADA, - Mangochi
- JICA- Lilongwe, Mchinji and Kasungu
- Global sanitation fund (funded by Water Supply and Sanitation collaborative council WSSCC). (6 districts on a five year program on community led total sanitation and capacity building in Balaka, Ntchisi, Chikhwawa, Phalombe, Rumphu, Nkhotakota
- Ground water Extraction Project funded by the Government of Malawi in Ntcheu, Chiradzulu and Dowa

Non Governmental Organization programmes

- Water Aid- Machinga, Salima, Nkhotakota, Mzuzu, Lilongwe peri-urban (Water sanitation and hygiene)
- Concern Universal- Ntcheu, Balaka, Thyolo, Mulanje
- Water for People – Chikhwawa, Rumphu Blantyre peri urban
- Engineers Without Borders- only monitoring
- Pump Aid- All districts except Mwanza
- World Vision International - Mchinji
- Livingstonia and Nkhoma synods
- Plan Malawi- Urban
- Interaide /Baseda– ZA, Mchinji, Lilongwe
- PSI

Integrated approaches in WASH Sector

A number of WASH sector programmes are trying to ensure collaboration between partners within the public, private and nongovernmental sectors. In some cases they are also trying to bridge the divide between the WASH and health sector approaches to diarrhoeal disease prevention and treatment.

- **Water for People**

Water for People helps impoverished people worldwide to improve their quality of life by supporting sustainable drinking water, sanitation and hygiene projects. Water For People partners with local

government, private sector, and other trusted local nongovernmental organizations to ensure broad support for their work. It facilitates the input and cooperation of all stakeholders so that everyone involved is committed to ensuring the long-term success of every project. It has projects in Blantyre, Chikhwawa and Rumphi Districts

Water for People - Malawi's approach to sanitation focuses on building viable businesses in sanitation, so that people are served and sanitation capacity is sustained, regardless of a particular donor initiative. Traditional subsidized sanitation programs, where organizations provide free or discounted latrines to communities, distort markets and tend to collapse once subsidies are removed, resulting in limited coverage expansion. Water for People - Malawi addresses these challenges and makes a sustainable impact on sanitation through its *Sanitation as a Business* program. By promoting small loan-inspired investments in improved sanitation and making sanitation a service between entrepreneurs and households, rather than a once-off delivery of a latrine, Water for People - Malawi helps expand sanitation coverage in communities.

The *Sanitation as a Business* approach is simple – Water for People - Malawi identifies ways for the private sector to generate income from developing on-going relations with households through sanitation services. The private sector, recognizing that profit can be made, has incentive to find clients who require sanitation services and thus, expand sanitation coverage. In Malawi, this pro-business service relationship is achieved through the latrine pit emptying service.

In the rural areas they use Ecological sanitation. In the *Sanitation as a Business* program, households are sold Ecosan latrines through a loan provided by a sanitation entrepreneur. The compost is used to pay back the loan over time and once the latrine is fully paid for, the household can then sell its compost, for much needed income, to the sanitation entrepreneur. The sanitation entrepreneur makes a profit by selling the compost to a local fertilizer buyer or farmer, which pays for the expansion of services to further households, as well as supports operating costs. The incentive of profit for both the household and entrepreneur helps ensure sustainability, as households are motivated to use their latrines appropriately to create high-quality compost, and sanitation entrepreneurs are motivated to provide quality service to maintain and expand their client base.

Water For People - Malawi piloted this program with success in peri-urban Blantyre, and over 20 villages in the rural districts of Chikhwawa and Rumphi. The organization provided initial seed funding and training for sanitation entrepreneurs on different sanitation technologies, business skills and compost market identification. In one village, capital provided for 100 latrines, enabled a group of sanitation entrepreneurs to develop a secondary composting facility and roll out a further 368 latrines. Water for People - Malawi is now scaling-up the program by working with micro-finance institutions to provide loans to sanitation entrepreneurs and households.

- **Primary school programmes**

Provision of safe water, promotion of point of use water treatment using HTH/water guard and promotion of hand washing. PSI in partnership with WVI has implemented safe water and hygiene practices in 12 primary schools around Mtakataka/Matowe area in Salima. Pupils have constructed simple hand washing facilities outside pit latrines, soap is provided by the school, each classroom has a drinking water storage bucket and this water is treated with Water Guard every day. The

reported benefits are reduced coughs/flu, reduced diarrhoeal cases among pupils, saves a lot of time for pupils that spent a lot of time out to go and get drinking water from the borehole, has reduced congestion at the borehole during the time of eating porridge through the school feeding programme.

4.4.4 Collaborations

- WES Donor Aid Coordination Network includes heads of key ministries, donors and 1 NGO representative at their meetings. These allow the sharing of good practice and planning for future funding to expand water and sanitation programmes.
- National Sanitation and Coordination Unit chaired by MOH and secretariat MoIWD, meetings are held quarterly.
- WES NGO Network holds quarterly meetings. Currently chaired by Water Aid, the group now has a secretariat in place, National Coordinator hired.
- National Cholera Task Force (as well as District Epidemic Management Committee), should meet monthly, and then more frequently during outbreaks. Nevertheless, this timescale is often not maintained due to commitments of members to other activities.
- Quarterly Sector Coordination meetings are held at district level, however these are only active in few districts.
- District Coordination Teams: Monthly meetings
- District Epidemic Management Committee : meets monthly but during outbreaks meets every fortnight. A recent survey of these committees revealed that many districts were inactive.
- Village Health and Water Committees. Recommended to be monthly but usually adhoc meetings.
- National WASH Emergency group meets during emergencies

4.4.5 Challenges

Currently, there are comprehensive government policies on how to advance sanitation and water supply; however transferring policy into practice in rural and urban Malawi is a major challenge, hampered by inadequate support for districts that are required to implement projects coupled with insufficient coordination between different government departments and NGOs. Furthermore there are inconsistencies between departments, policies and targets, for example the MDGs aspire to eliminate cholera by 2015, whilst the water sector aims for 50% reduction in people without access to safe water. Members of the Ministry of Irrigation and Water Development also indicated that they can be hindered by the lack of political understanding and therefore will to provide further safe water supplies and promote sanitation as they do not always understand the concept of how these issues affect health.

Specific challenges impeding progress and collaboration in the WASH sector were summarised as follows:

- Information flows and data management for water and sanitation coverage is currently uncoordinated due to the cross Ministry aspects of the programmes. As such there is a lack of data on incidence, prevalence and burden of disease attributable to diarrhoeal illness and this

information is essential in assessing the impact of public health measures such as improvement of water supply, sanitation and hygiene practices.

- There are inadequate diagnostic microbiological facilities which would isolate the types of pathogens that are leading to diarrhoeal illnesses, which in turn would direct future interventions.
- Inadequate coordination between government and non-government actors. There are many stakeholders in the water, sanitation and hygiene sector and most of their efforts at operational level are inadequately coordinated. As such successes and failures are not fed back in to a system of knowledge sharing and best practice for future developments.
- Lack of enforcement of policies and guidelines to implementing agencies. This might be facilitated by more robust M&E systems. In particular, many NGOs or donors may provide boreholes within communities which are drilled and fitted but are not followed up to assess the chemical and microbiological quality of the water or to ensure that the communities are trained to be able to maintain the system. However, they are not currently answerable to an enforcing agency on these issues to improve the sustainability of safe water sources.
- Limited human and financial resources to implement programs. At times, the human resources in place do not have the adequate skills to implement programs and inadequate systems in place to provide them with the necessary skills. An example of this is the current Department of Sanitation which has few personnel and cannot therefore implement the sanitation policy at district level. This is also exacerbated by the employment of teachers and similarly qualified personnel in the role of sanitation officers, who have little training and understanding of the intricacies and role of sanitation in disease control.
- There is a weak spare parts distribution system for borehole pumps and gravity fed scheme pipes which has led to an estimated rate of 30% disrepair in Malawi. Communities are not able to access spare parts and in some cases have not been adequately trained to allow them to carry out simple repairs.
- Only a few District Coordinating Teams are active.

4.4.6 Recommendations

- Increase political will and profile of WASH in disease prevention by identifying individuals in government with an interest in public health who will be a strong advocate for improvement in sanitation and public health.
- Improve coordination between government and NGOs and ensure follow-up and application of regulation and policy to all groups working within this sector. This will need the establishment of accountability mechanisms for implementing agencies and the implementation of robust monitoring and evaluation systems at all levels.
- The Department of Sanitation is relatively new and therefore needs to be provided with more resources to strengthen the department. To assist with inter ministry development and communication, support should also be given to the proposed MoH and MIWD hand washing coordinating office to ensure that it operates in collaboration with the Department of Sanitation and relevant section of the Department of Preventive Health.
- In order to develop the district level coordination of WASH programmes more effectively, the following recommendations were made:

- Create budget lines for emergencies (e.g. cholera) for MIWD with the understanding that the MoH cooperation is needed.
- Employ and train personnel (water monitoring assistants, sanitation officers etc.).
- Allocate adequate funds for community activities to ensure training of water point and village health committees, as well as other educational and training needs.

A system for improved WASH sector planning was developed and piloted in several district by UNICEF in 2008/09. This programme assisted District Management Teams to effectively budget and plan to ensure that WASH sector issues were included within their District Implementation Plans, and gave clear outlines for donors should funding be sought. Such programmes should be rolled out on a national scale to allow all Districts to benefit.

5.0 Discussion

The control and management of diarrhoeal disease in Malawi is an area which falls under a number of Government ministries, donors, non-governmental organisations and health providers. As such the current systems tend to operate in isolation with limited coordination or integrated approach particularly in the area of preventive measures.

Assessment of the separate sectors involved in diarrhoeal disease control was made as follows:

- Case management (treatment of dehydration and zinc supplement)
- Breastfeeding and Vitamin A supplementation
- Vaccinations
- Water, sanitation and hygiene (WASH)

The current status of these sectors was discussed and documented by stakeholders working within the specific areas. These included representatives from government departments, donors, non-governmental organisation, academia, health workers and community members. As such the information contained within each sub section is considered to be comprehensive at the time of writing and representative of the current situation in Malawi.

The purpose of this study was to assess the current challenges in the diarrhoeal disease control sector. With this in mind, the assessment was undertaken on three levels:

1. Current status, challenges and good practices within the specific areas of diarrhoeal disease control.
2. Current challenges in achieving an integrated approach to diarrhoeal disease in Malawi.
3. Recommended way forward to overcome the challenges faced.

Despite the control of diarrhoeal disease in under fives being a main target of the Essential Health Package (EHP), an integrated approach to the disease is still lacking. Cooperation and management of sub theme programmes appears to be well integrated between the relevant government departments and donors/NGOs in terms of implementation. Nevertheless, each sector still tends to operate in isolation and have a number of documented challenges which limit the efficacy of their programmes and subsequently their ability to affect a reduction in diarrhoeal disease. In addition to the unique challenges of each area within diarrhoeal disease control and treatment, as outlined in Section 4, there are also overarching challenges which need to be addressed to allow an integrated approach to be developed.

5.1 Challenges for an Integrated Approach

5.1.1 Profile of Diarrhoeal Disease in Health Priorities

The profile of diarrhoeal disease, in terms of the health sector remains low. Priority to diseases such as HIV, malaria and TB have been high in recent years and although diarrhoeal disease is outlined within the Essential Health Package as a priority, it still receives little coverage in media or priority setting on a national scale. This may be as a result of donor driven development in recent years, an example of which is the reduction in ORS centres and corners in outpatient departments when the WHO CCD programme came to an end despite the documented benefits of the programme. At

present, there is no high profile health sector or political individual who is advocating a reduction in diarrhoeal disease in Malawi and as such, the various intervention and treatment strategies to reduce the burden of disease receive limited support, and continue to work in isolation.

5.1.2 Policy development vs. Implementation

It was evident throughout this process that a large number of policies, strategies and guidelines exist which address the specific areas of diarrhoeal disease control either directly or indirectly. Nevertheless, groups consistently reported that despite the existence of this documentation, the implementation of these policies at district level was often below standard. This was due to a number of factors:

- The prioritisation of policies tends to be donor driven due to dependency on funding for development and dissemination. As such, some policies are not evidence based and lack community consultation and therefore support. This is compounded by the lack of consistent and accurate data available for many of the sectors involved whether it be the number of cases of diarrhoea, number of latrines, the number of children receiving vitamin A supplementation or the number of caregivers using ORS to treat symptoms. It is therefore very difficult to advocate for further funding and programme development without an evidence base or donor support.
- After the development of policies, strategies and guidelines, there are inadequate procedures for the dissemination and implementation of programmes at District level, which often stay with the district health officer. A limitation in dissemination is the lack of capacity within departments for training at district level. This lack of training and donor driven priority setting has also led to poor attitude of health staff at district level in terms of implementation. An example of this is the development of a National Sanitation Policy which is yet to be rolled out to Districts. This policy requires the position of sanitation officers to be filled at district level, who could work effectively with HSAs and water monitoring officers to provide an integrated approach if funds allowed.
- In the case of most policies and related documents, little monitoring and evaluation is conducted to assess the efficacy of the programmes, and where it is conducted, it was felt that the results of the evaluation were not always used to inform changes to the programmes and policy based documents.
- A number of technical working groups (TWGs) have been established within the government structure. TWGs relating to diarrhoeal disease control are outlined within specific subsections but all indicate similar challenges of coordination and consistency of meetings. These groups are often chaired by civil servants who are overburdened with other duties and as such, the meetings are often driven from the Sector Wide Approach Directorate rather than through the Chair. A committed approach is needed from the Chairs of these TWGs if they are to operate effectively, and achieve results in terms of integration.

5.1.3 Collaboration and integration of programmes

For all areas of diarrhoeal disease control, the Government has a need for inter-ministry, donor and NGO collaboration. In some cases, this collaboration and coordination was found to be effective with clear guidance on meetings and programme responsibilities. For example, case management of diarrhoeal disease is well documented, as is the expanded immunisations programme. Nevertheless, although the coordination at high level appears to be effective in these areas, the implementation of case management, immunisation and education at district level continues to be problematic. This was attributed to a number of issues including lack of training, lack of/inconsistent supply of resources, lack of capacity to implement all programmes at district level.

In the WASH sector, the issue of collaboration and integration appears to be particularly fragmented. The crossover between the Ministry of Health and Ministry of Irrigation and Water Development in terms of implementation and programme management has caused problems previously. However some measures have been taken to overcome this including the current integrated committee developing proposals for the Global Sanitation Fund. There are also a number of donors and NGOs in this sector who are working within their own agendas with little reference to government policy making coordination and policy implementation a major challenge. The formation of WES donor and NGO coordination groups have gone some way to addressing this issue. However, while NGOs continue with separate operations in different geographical areas, there is still need for a more concerted exchange of good practice and knowledge sharing if the sector is to develop on a national scale.

5.1.4 Development of Programmes on a National Scale

In a number of the subtheme areas, donors and large NGOs are operating with Government of Malawi in the implementation of policy on a national scale. However, more commonly, NGOs are operating in target districts within the country and therefore any programme which addresses an element of diarrhoeal disease control is limited a specific geographical area. Although the impacts of some of these programmes are well documented and demonstrate effective coordination and collaboration between the WASH and health sectors, there is little evidence of national scale up due to financial constraints. An example of this is the recent hygiene promotion programme which was coordinated with the perinatal care system (Sheth et al 2008). This programme targeted two districts in Malawi and was shown to have a strong positive impact on hygiene behaviour in mothers attending ante natal, delivery and post natal services. The programme was also an integration of the WASH and health sectors, with the promotion of safe drinking water, hand washing with soap and the use of ORS in treatment of diarrhoeal disease. Nevertheless, budgetary constraints have meant that this programme has not been maintained in the pilot districts or scaled up to other areas of the country.

5.1.5 Information, education and communication

The role of public and health worker education in terms of diarrhoeal disease cannot be underestimated. In Malawi, research has shown that the number of cases of diarrhoea reported at health facilities is an underestimation of the reality, as a number of families do not use health services due to time or financial constraints (Morse et al 2007, Mulholland 2005). This is perhaps a reflection of community understanding of diarrhoeal disease and the importance or lack thereof placed upon diarrhoeal disease by health workers. The subsections indicated that some of the

challenges faced were as a result of poor understanding of symptoms, treatment and preventive measures at all levels.

In Malawi, Health Surveillance Assistants play an integral role in health education and disease control, and are seen as the major source of health knowledge within communities. They are directly involved with WASH education and development, community clinics and community case management including integrated management of childhood illnesses, child health days, growth monitoring and immunisation programmes. As such, they are the key personnel to integrate the control and treatment of diarrhoeal diseases at community level. Nevertheless, even at district and community level these issues tend to be addressed in isolation and not with an integrated approach taking into consideration the specific issue of diarrhoeal disease. As detailed above, if the position of water monitoring officer and sanitation officer were to be filled appropriately for all districts these issues could be more effectively managed at the grassroots level.

In terms of health education, once again this tends to be donor driven and is funded by donors on specific programmes. In some cases, a mass media approach is used particularly using radio. However, smaller level campaigns are also common with poster development, newsletters and more localised drama group and community based messages. Despite the existence of a health education unit within the Ministry of Health, stakeholders still indicated that there is need for improved coordination between organisations in terms of media development and sharing of materials and concepts to ensure best use of funds and consistency of approach. In particular reference to diarrhoeal disease control, a number of excellent education tools have been developed in recent years, particularly in partnership with WHO, UNICEF and PSI/Malawi. However these tend to focus on a specific subtheme of diarrhoeal disease control, for example preparing ORS, handwashing or school sanitation as part of a campaign rather than looking at all areas within one programme.

5.2 Recommendations

As part of this assessment, stakeholders were asked to consider ways in which Malawi can overcome the current challenges facing diarrhoeal disease control. Subtheme areas worked on their specific areas of interest which are detailed within the report. However, we were particularly interested in the recommendations which could support a more integrated approach to diarrhoeal disease control. As such recommendations are focussed on the same areas as the challenges:

5.2.1 Raising the profile of diarrhoeal disease

The profile of diarrhoeal disease, although present, remains relatively low in the scale of disease prevention media. In comparison to HIV and malaria, diarrhoeal disease receives little coverage and only comes to the fore in terms of cholera control during seasonal campaigns. It is imperative that the government, with or without donor support increases mass and local media coverage in terms of diarrhoeal disease control and treatment. In order to achieve this, political will in this area requires to be increased therefore a series of steps are recommended in this area:

- Sensitise politicians and media on the importance of diarrhoeal disease control.
- Ensure that diarrhoeal disease receives adequate profile and funding within the Sector Wide Approach (SWAp) 2 programme.
- Excellent IEC materials are already in place in terms of hygiene, water, sanitation and ORS which can be integrated into campaigns with additional materials on zinc and vaccinations. However,

the main recommendation is that these materials are released as part of a holistic diarrhoeal disease campaign and not as individual programmes, coordinated through a suitable technical working group or the like.

5.2.2 Policy development and implementation

The necessary policies and strategies exist within the Government of Malawi for the implementation of all aspects of an effective diarrhoeal disease programme. However these are not all implemented, e.g. sanitation policy, and have no coordination between them with a diarrhoeal disease focus. It is therefore recommended that the following steps be developed to improve this area once political will has been secured:

- Sub technical working group focussed on diarrhoeal disease control to be formed under the essential health package technical working group.
- Consolidate data on diarrhoeal disease control and conduct research to allow effective policies, and strategies to be development which address problems specific to Malawi. This includes the need to prioritise diarrhoeal disease control within the National Health Research Agenda.
- Development of a specific diarrhoeal disease control policy and strategy which aligns the separate issues for easy reference and implementation.
- National dissemination of policy and strategy documents with training and implementation guidance.
- Development of district diarrhoeal disease control teams to oversee, monitor and evaluate programme implementation.
- Effective use of HSAs, water monitoring officers, and sanitation officers as diarrhoeal disease control teams.

Such a TWG would also be able to advocate for specific areas of diarrhoea disease control and may lead to improved provision of services.

5.2.3 Collaboration and integration

At present the levels of integration and collaboration within sub themes vary from very effective to poor. Nevertheless in terms of integration for all diarrhoea disease control issues there is little currently in place. Should the political will be demonstrated, an increase in collaboration would be achieved through the formation of the diarrhoeal disease sub TWG. However, such a sub TWG would need to have an active chair person and ensure that they coordinate with other TWGs to share and disseminate information.

Roles of the TWG would be as follows:

- Coordination of programmes with subsection TWGs
- Documentation and sharing of best practice
- Monitoring and evaluation for district data
- Assessment of EHP programmes
- Recommendations for national scale ups

5.2.4 National Programmes

Development of programmes on a national scale are limited at present. Even within large NGOs, there was little coordination demonstrated between their health and WASH divisions. With this in

mind, a mechanism needs to be developed to allow good practice to be shared and where possible scaled up to national level. In order for this to be possible, government need to invest in strong implementation structures at district level. Failure to achieve these structures will lead to further development of policies and documents with little development on the ground.

Integration between the different groups involved in diarrhoeal disease control does not currently exist in Malawi. Diarrhoeal disease is not given a specific platform under which to meet and develop. Should the political will be demonstrated, an increase in collaboration would be achieved through the formation of the diarrhoeal disease sub TWG. However, such a sub TWG would need to have an active chair person and ensure that they coordinate with other TWGs to share and disseminate information.

5.3.5 Information, Education and Communication

The education of the population on an integrated approach to diarrhoeal disease control and treatment was discussed at length by stakeholders. It was agreed that improved awareness at all levels is essential if the current situation is to be improved.

School education

Education of teachers through teacher training colleges is needed to ensure they understand all aspects of health including the need for diarrhoeal disease control and treatment. Only with their understanding can they expect to behave as role models and teach children good hygiene practices. Further to this it is essential that the curriculum reflects hygiene practices and disease control in an integrated and clear manner. There was concern amongst stakeholders that these issues may be spread across a number of subjects and therefore need to be consolidated into the health/life skills aspect of the school curriculum.

Professionals

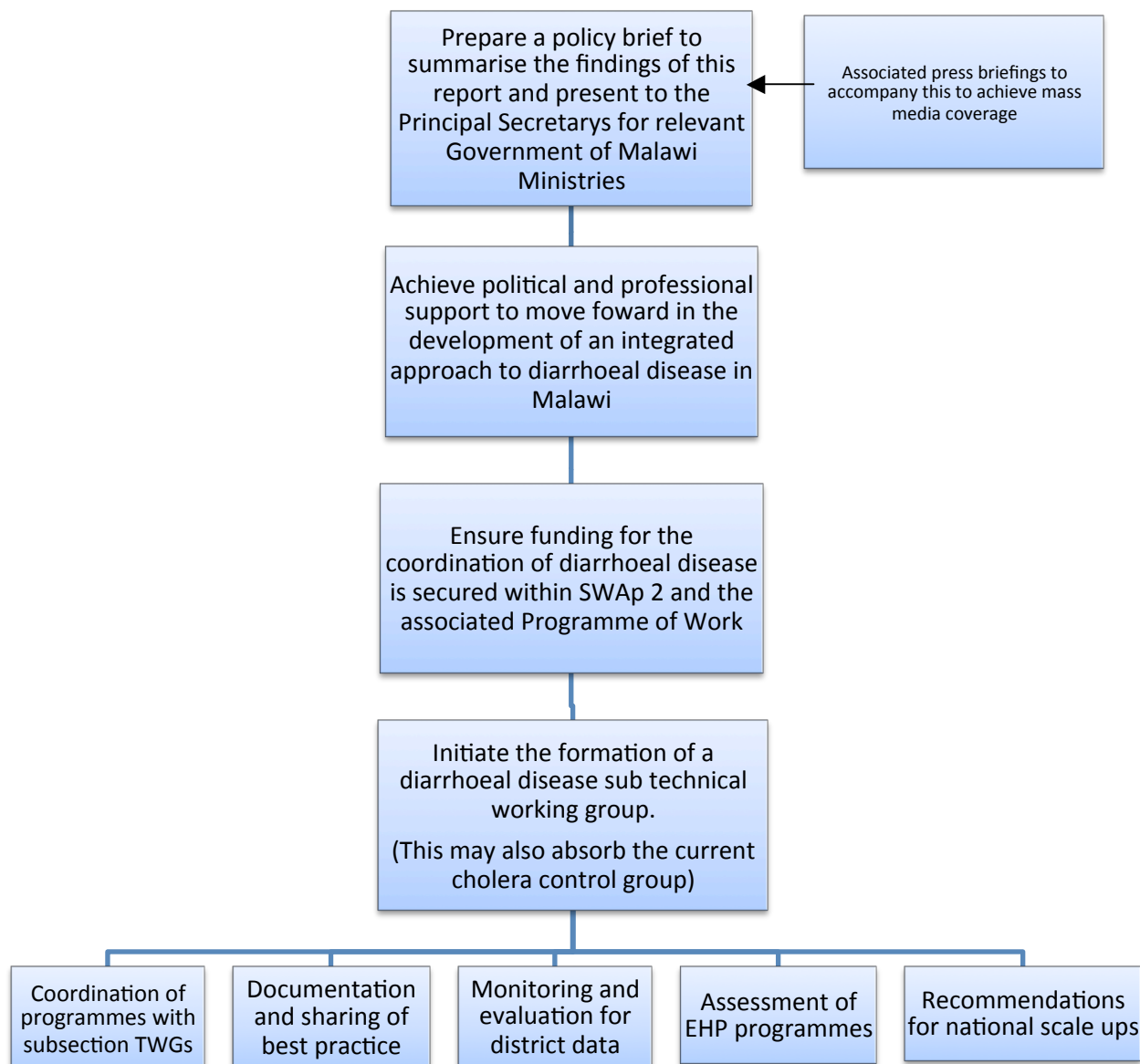
A programme is needed to address concerns that professionals who specialise in a specific area, for example engineering or nursing, may not have an overall understanding of the various aspects of diarrhoeal disease control. In order to overcome this, a review of the curriculum from the appropriate institutions needs to be undertaken to improve knowledge and awareness in all sectors. This will allow an integrated approach to develop naturally and for health professionals and engineers to work more effectively with their counterparts. Short courses and continued professional development programmes can also be used to address these issues.

National education programmes

A more integrated approach is recommended between the health education unit, donors, NGOs and the Ministry of Information. This will allow one clear message to be disseminated at a national level and ensure a consistency of approach which may not have been achieved to date.

6.0 Way forward

Taking into consideration all of the comments from stakeholders and communities on the challenges and recommendations to improve the integration of diarrhoeal disease control treatment, the following way forward is recommended:



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Appendix A

Members of Working Group

Organisation	Name of Representative	Subtheme Area	Method of Participation
University of Malawi Polytechnic (Dept of Environmental Health)	Dr Tracy Morse	N/A	Programme coordinator
Ministry of Health – Department of Environmental Health	Mr Humphreys Masuku	N/A	Programme coordinator
University of Malawi Kamuzu College of Nursing (Dept of Community Nursing)	Mrs Madalo Malemba	Breastfeeding, Vitamin A and Immunisations	Stakeholder meetings
Ministry of Health – Department of Environmental Health	Mrs Hannah Hausi	Breastfeeding, Vitamin A and Immunisations	Stakeholder meetings
Ministry of Health – Dept of Nutrition	Mrs Tapiwa Ngulube	Breastfeeding, Vitamin A and Immunisations	Stakeholder meetings
PATH/Malawi	Mrs Janet Guta	Breastfeeding, Vitamin A and Immunisations	Stakeholder meetings
	Mr Osbourne XXXX	Breastfeeding, Vitamin A and Immunisations	Stakeholder meetings
Office of the President and Cabinet – Dept of Nutrition, HIV and AIDS	Mrs Susan Mwafulirwa	Breastfeeding, Vitamin A and Immunisations	Stakeholder meetings
Ministry of Health – IMCI	Mr Humphrey Nsona	Breastfeeding, Vitamin A and Immunisations	Separate meeting
		Breastfeeding, Vitamin A and Immunisations	Stakeholder meetings
Ministry of Health – Health Education Unit	Mr Austin Makwakwa	Breastfeeding, Vitamin A and Immunisations	Stakeholder meetings
Ministry of Health – Clinical	Dr Robert Milazi	Case management	Stakeholder meetings
	Dr Frank Sinyiza	Case management	Stakeholder meetings
	Dr James Mwaisemba	Case management	Stakeholder meetings
Ministry of Health - Nursing	Mr Grief Matemba	Case management	Stakeholder meetings
Ministry of Health - Epidemiology	Mr Settie Kanyanda	Case management	Stakeholder meetings
USAID	Mrs Catherine Chipazi	Case management	Stakeholder meetings
PSI/Malawi	Mrs Mary Baloyi	Case management and WASH	Stakeholder meetings
University of Malawi College of Medicine (Dept of Community Health)	Dr Bernard Mbewe	Immunisations	Stakeholder meetings
	Dr Bagrey Ngwira	Immunisations	Stakeholder meetings
Ministry of Health – EPI	Mr Moussa Valle	Immunisations	Stakeholder meetings
	Mrs Christabel Kambala	WASH	Stakeholder meetings
	Mr Noah Silungwe	WASH	Stakeholder meetings
	Mrs Flora Dimbi	WASH	Stakeholder meetings
	Mr Young Samanyika	WASH	Stakeholder meetings

Organisation	Name of Representative	Subtheme Area	Method of Participation
Wellcome Trust	Dr Nick Feasey	WASH	Stakeholder meetings
Ministry of Health - Epidemiology	Dr Matthew Kagoli	WASH	Stakeholder meetings
Ministry of Irrigation and Water Development	Mr Hudgeson Muhezuwa	WASH	Stakeholder and separate meetings
	Mr Lewis Mkweta	WASH	Stakeholder meetings
Water for People	Mrs Kate Harawa	WASH	Stakeholder meetings
Wateraid	Lovemore Mvula	WASH	Stakeholder meetings
UNICEF - WASH	Mr Blessius Tauzie	WASH	Separate meeting

District assessments

District	Facilitators	Communities	Health Facilities
Mzimba North	Alexander Mwangonde Sighn Austin Khunga Kenan Mfune Patrick Chima James Njikho Yananga Gondwe Adams Chunda	Ekwendeni Enukweni Lusangzi Luwinga Masasa Mchengautuwa	Ekwendeni Hospital Mzuzu Central Hospital Mtwalo Health Centre Mzuzu Health Centre
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