



A Case Study of Integrated Management of Childhood Illness (IMCI) Implementation in Kenya

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TABLE OF CONTENTS

<i>List of Acronyms</i>	5
<i>Executive Summary</i>	7
<u>Section I: Introduction</u>	10
<u>Section II: IMCI in Kenya</u>	
i General overview.....	12
ii Key actors.....	14
iii Coverage of IMCI implementation in Kenya.....	16
iv Health systems context.....	18
<u>Section III: Methodology</u>	
i General approach.....	20
ii District selection.....	20
iii Context of study sites.....	21
iv Stages of data collection.....	23
v Data analysis.....	24
<u>Section IV: IMCI in Homa Bay & Malindi</u>	
i Training coverage.....	27
ii Equity of coverage of IMCI trained staff.....	29
iii Follow-up supervision.....	32
iv On-Job-Training (OJT).....	32
v Health worker compliance to IMCI guidelines.....	33
vi Managerial perceptions of IMCI implementation.....	34
vii Fees charged for under 5s.....	35
viii Care giver compliance to referrals.....	36
<u>Section V: Factors leading to low levels of implementation at health facilities</u>	
i Factors affecting health worker compliance with guidelines	
a. Health worker perceptions of IMCI.....	37
b. Time constraints.....	42
c. Facility support.....	45
ii Supervision & OJT	
a. Inadequate support supervision.....	50
b. Ineffectiveness of OJT.....	52
iii Factors affecting community uptake & compliance to referrals	
a. User fees & Poverty.....	53
b. Non-compliance of care givers to referrals.....	56
<u>Section VI: Factors affecting training coverage</u>	
Training coverage differences in Malindi and Homa Bay.....	58
i Financing of IMCI training	
a. District level financing.....	58

b.	National level financing.....	59
ii	Reasons for reluctance to fund IMCI training	
a.	High cost of training.....	60
b.	Failure to adopt alternative training options.....	61
c.	Difficulties in demonstrating impact of IMCI.....	65
d.	Increased interest in c-IMCI.....	66
e.	The low profile of child health.....	67
 <u>Section VII: Discussion:</u>		
	IMCI effectiveness and implementation.....	69
	Identifying the root causes of poor implementation	
i	Process of policy introduction.....	72
ii	Context.....	74
iii	Nature of target behaviours.....	75
iv	Role of power in implementation.....	77
	Policy Recommendations	
i	Recommendations concerning IMCI policy content and practice.....	79
ii	Recommendations concerning broader health systems issues.....	81
	<i>References</i>	83
 <u>Appendices:</u>		
	Appendix I. IMCI Implementation Timeline.....	86

LIST OF ACRONYMS

AIDS	Acquired Immuno Deficiency Syndrome	FBO	Faith-based Organisation
AL	Artemether Lumefantrine (Co-artem)	GAVI	Global AIDS Vaccine Initiative
AMREF	African Medical Research Foundation	GFATM/ GF	Global Fund for AIDS TB & Malaria
AOP	Annual Operational Plan	GOK	Government of Kenya
BDMI	Bungoma District Malaria Initiative	HPPH	Head of Promotive & Preventive Health
CDC	Centres for Disease Control	HFC	Health Facility Committee
CDF	Constituency Development Fund	HIV	Human Immuno Deficiency Virus
CHAK	Christian Health Association of Kenya	HMIS	Health Management Information Systems
CHWs	Community Health Workers	IMCI	Integrated Management of Childhood Illness
CO	Clinical Officer	KEMSA	Kenya Medical Supply Agency
CRS	Catholic Relief Services	KEPH	Kenya Essential Package for Health
DANIDA	Danish International Development Agency	KEPI	Kenya Expanded Programme of Immunization
DASCO	District AIDS / STI Coordinating Officer	MCH	Maternal & Child Health
DOCH	Division of Child Health	MEDS	Mission for Essential Drugs & Supplies
DOT	Directly Observed Therapy	MOH	Ministry of Health
DHMT	District Health Management Team	NGO	Non-Governmental Agency
DMOH	District Medical Officer of Health	NHSSP	National Health Sector Strategic Plan
DMS	Director of Medical Services	NCK	Nursing Council of Kenya
ECN	Enrolled Community Nurse	OJT	On Job Training
C-IMCI	Community IMCI	ORT	Oral Rehydration Therapy
F-IMCI	Facility IMCI		

PEPFAR	Presidential Emergency Plan for AIDS Relief
PHMT	Provincial Health Management Team
PI	Poverty Incidence
PMTCT	Prevention of Mother-to-Child Transmission
RN	Registered Nurse
UoN	University of Nairobi
UNICEF	United Nation's Children's Fund
USAID	United States Agency for International Development
USPMI	United States Presidential Malaria Initiative
VCT	Voluntary Counselling & Testing
WHO	World Health Organisation

EXECUTIVE SUMMARY

The major gaps between health policies on paper and the reality on the ground have been documented, especially in relation to policies with the potential to benefit the poor. We have investigated these issues through a study of the implementation of the Integrated Management of Childhood Illness (IMCI) in Kenya.

IMCI was developed by WHO as a holistic approach to improving management of sick children. It consists of a facility component (f-IMCI), which aims to improve health workers' skills and facility supports, and a community component (c-IMCI). The main focus of this study is f-IMCI, which has been official Government policy in Kenya since 1999, and introduced in 64% of districts.

The study was based on case studies of 2 relatively poor rural districts, Homa Bay and Malindi, and relies mainly on qualitative methods. After an initial document review, in-depth interviews were conducted with health workers, district managers and other stakeholders at the district level, followed by additional interviews at the provincial and national levels. This was supplemented by observations of health workers in rural facilities and the collation of nationwide quantitative data on IMCI coverage.

Kenya has made some important progress with IMCI implementation, which could be observed in both Malindi and Homa Bay. Financial and logistical support for training had been secured at national and district levels, from a range of development partners such as AMKENI, DANIDA, CHAK, CRS, Global Fund and PLAN International. DHMT staff in both districts had undergone IMCI case management training and facilitator training, which had improved district capacity to support trainings and follow up supervision.

While training had mainly covered public health workers, some private and faith based institutions were also included, and trained health workers were distributed throughout the districts and across all facility types (hospitals, health centres and dispensaries). Moreover, at a national level, training coverage was relatively equitably distributed across the country, targeting a high proportion of the poorest districts. There is strong support for the technical content of the strategy at all levels of the health system, and it is seen as fitting well with other programmes, such as immunization. Compliance by trained health workers with some aspects of the protocol, such as checking weight and immunization status and counselling the care giver on how to administer drugs, appeared to be adequate. A few health workers had enthusiastically adopted the approach, and even passed on skills to untrained colleagues, and the necessary equipment was generally available. Similarly, some managers have also become IMCI "Champions". In Malindi, the District Medical Officer for Health (DMOH) had a strong commitment to IMCI, and a dynamic and innovative approach to achieving this aim. For example, she had switched to non-residential IMCI training to reduce costs; overseen the introduction of a new HMIS tool based on IMCI classifications; and used supervision to ensure health workers felt closely monitored on IMCI.

Despite these achievements, IMCI implementation has remained highly inadequate in both districts, and two key challenges were identified: low training coverage and low levels of implementation by trained health workers. The percentage of health workers trained in IMCI was 31% in Malindi and 16% in Homa Bay, both well short of the MOH target of 60%. In terms of health facilities, 16.5% have an IMCI trained worker in Malindi, and 12.5% in Homa Bay. Even among trained health workers, adherence to the IMCI protocol was found to be poor in both districts, although it may be somewhat better in Malindi than in Homa Bay. Factors affecting low level of implementation included those specific to the IMCI strategy, such as the length of the protocol, inadequate availability of job aids, and the lack of supervision of IMCI case management practices. In addition, generic health system constraints, such as, short staffing, inappropriate facility infrastructure, and frequent drug stock-outs, had an important impact on

implementation, Finally, two key barriers to accessing IMCI services were identified: frequent charging of user fees for under 5s; and the costs associated with seeking referral care for severe cases. The slightly stronger performance in Malindi, compared with that of Homa Bay, was largely attributed to the personality and dedication of the long-serving DMOH in Malindi, a paediatrician with a strong commitment to improving child health services, and a dynamic and innovative approach to achieving this aim.

The low training coverage figures in Malindi and Homa Bay are typical of the Kenyan experience in general: nationally, 18% of health workers are trained. Coverage of IMCI in pre-service training was failing to eliminate the need for in-service training, due to the limited coverage of IMCI pre-service and the lack of appropriate practical experience. Low in-service coverage reflected inadequate funding for IMCI training, which is costed at over \$1000 per trainee, at both district and national levels. Funds managed at the district level were insufficient to cover these costs, meaning that districts were dependent on central level funds for increasing coverage. At the central level, the Division of Child Health was dependent on development partners, as the government has never funded IMCI training, and, although there had been initial interest by development partners in supporting f-IMCI, it was felt that this had gradually waned. The general reluctance to fund implementation activities by both the government and development partners was attributed to a number of factors. The high cost of training was the most frequently cited factor, and this cost derived from the course length, the requirement for residential accommodation near facilities with high case loads, facilitator costs, and production of training materials. Additionally, the Government was perceived as being reluctant to implement alternative and potentially cheaper training options. Other factors leading to reluctance to fund f-IMCI included: the difficulties in demonstrating the public health impact of f-IMCI; a switch in the focus of development partners towards the community component of IMCI (c-IMCI); and generally low levels of interest in child health at a national and international level.

A number of potential underlying causes for low training coverage and low levels of compliance by trained health workers were identified. First, the process of policy introduction in Kenya involved very little adaptation of the strategy to allow for the local context. The constraints described above were not sufficiently anticipated or addressed, leading to major cost and feasibility challenges in implementation. This reflected the largely top-down introduction of IMCI, which was mainly driven by international stakeholders and placed strong emphasis on the need to adhere to standards, regardless of the feasibility of doing so. Although development partners are increasingly advocating for flexibility in implementing the strategy, Government actors are keen to stick to the original WHO recommendations, reflecting respect for international standards and genuine concern over compromising quality by reducing costs.

Secondly, key contextual issues have affected implementation. These include the control over financial resources by development partners, coupled with a shift in their priorities towards vertical programmes. At a national level, they include: the nature of the Kenyan health system, which has had a major impact, both in terms of health service delivery constraints such as short-staffing and unreliable drug supplies; and the lack of real decentralization of budgetary and planning control to the district level.

Thirdly, the type of health worker's practices targeted by IMCI has, itself, affected implementation. The key focus is on health worker case management practices; however, these are hard to observe objectively and difficult to monitor using routine records. Moreover, community members are generally unaware of IMCI or the benefits of key case management practices and, as a result, neither clients nor supervisors are equipped with enough information to monitor health worker behaviour, and health workers may not perceive any benefits to protocol adherence. A similar asymmetry of information exists between the national and district levels, with the DOCH unable to accurately monitor the level of effort and supervision put into the implementation of IMCI by district managers.

The following policy recommendations were identified from the study results and analysis:

1. Recommendations concerning IMCI policy content and practice:

- 1.1. Increasing training coverage – a general consensus is developing that less costly training options must be identified through, for example, shorter non-residential courses and greater use of on-job-training (OJT).
- 1.2. Improving pre-service training – the future of effective case management must lie in the training provided pre-service. Current inadequacies imply that, to ensure that both theoretical and practical aspects of IMCI are given sufficient coverage across all institutions, a thorough review of pre-service training is required.
- 1.3. Ensuring success of OJT – successful OJT will require the development of a standardized approach, identifying the roles of both fellow health workers and district level staff.
- 1.4. Addressing potential implementation challenges early – health workers do not only need skills training, but also guidance on how to adapt the organisation of their health facilities to facilitate IMCI implementation. A forum for discussion of these issues should be established during IMCI training and/ or in regular health worker meetings.
- 1.5. Improving support supervision – an integrated checklist covering all aspect of rural health facility supervision, including IMCI, is urgently required. In addition, it is essential that observation of case management be included in supervision activities at least once per year.
- 1.6. Advocacy for child health - a concerted effort is required to raise the profile of child health and endorse the benefits of integrated approaches to improving case management.
- 1.7. Building support for the strategy – doctors, the opinion leaders in health, need to be actively involved in adaptation and adoption of child health strategies to improve the medical culture and ensure more support for IMCI amongst physician-clinicians.

2. Recommendations concerning broader health systems issues:

- 2.1. User fees & under 5s - frequent charging of under 5s calls for stricter monitoring of adherence to policy, an initiative to explain the negative impact of charges to health workers, and better community information on official charges. Mechanisms for covering the transport and user fees costs of referrals should also be developed.
- 2.2. Improving staffing - more should be done to improve recruitment and retention of staff at rural health facilities, building on the existing expansion of staff. This may include development of rural incentive packages, addressing both financial and non-financial incentives
- 2.3. Improving drug delivery - there remains an urgent need for a systematic review of the current pull system and identification of gaps which can then be addressed to improve reliability of supplies.
- 2.4. Improving decentralization to district & facility level - DHMTs should be provided with sufficient budgets to finance district-specific needs, and allow them the flexibility of planning and budgeting for what they deem to be priority health activities, including IMCI case management training.

3. Points to bear in mind when implementing any new health policy:

- 3.1. Careful review of policy content in the light of the local context – policy-makers should assess the feasibility of new health policies and ensure they are designed to work in health systems which are less-than-perfect, as well as identifying any key aspects of the health system which will require strengthening to ensure successful implementation.
- 3.2. Involvement of all relevant stakeholders – all key actors should be involved from an early stage, particularly key opinion leaders
- 3.3. Inclusion of measurable outcome and impact indicators – to maintain financial support, it is important to be able to measure the impact of new policies. This may require investment in additional monitoring and evaluation capacity and special surveys.

Section I: Introduction

It is frequently noted that there are major gaps between health policies laid down on paper by governments and their ministries, and the reality on the ground; however, most public health research is directed at the technical aspects of policy, with inadequate attention given to these implementation gaps. Such gaps are found across the health sector, where numerous effective interventions are failing to reach the targeted high coverage levels (WHO, 2001), with inevitable consequences for morbidity and mortality (Jones, 2003). Factors affecting policy implementation include: the content of the policy itself; the actors involved in implementation, and their interests and incentives; the context within which they are located; and the process of policy implementation (Walt & Gilson, 1994).

There is concern that policies with the potential to improve equity of health outcomes may face particular implementation challenges. Health systems performance in low to middle income countries is generally inequitable, with poorer groups unable to access and utilize health care services as easily as wealthier groups, despite spending a higher proportion of their income on health care (Gwatkin et al., 2004, Castro-Leal et al. 2000, Pannarunothai and Mills, 1997). The implementation of interventions to improve these imbalances may be hampered by the relative powerlessness of poor groups; therefore, more effective delivery of policies intended to promote equity is likely to require careful consideration of the causes of the implementation gap.

We have chosen to investigate these issues through a study of the Integrated Management of Childhood Illness (IMCI) in Kenya. The aim is to identify recommendations to improve the delivery of IMCI and other health sector policies.

IMCI is a strategy developed by the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) to address poor child health indicators in low and middle income countries. It aims to improve child health through prevention, early detection and treatment of the main causes of morbidity and mortality in children under 5 which include: diarrhoea, pneumonia, malaria, measles and malnutrition (WHO, 2001). IMCI was developed to improve preventive and curative practices for these diseases in facilities and within communities. It utilizes an integrated approach to case management as several of these diseases share signs and symptoms, making it difficult to establish the precise cause of illness and in many cases children present with more than one condition (Tulloch, 1999).

The strategy consists of 3 main components:

- **Improving case management skills** – front line health workers in primary care facilities are targeted for this component of the strategy. A standard set of management and treatment guidelines developed by WHO is used in training of health workers. Health workers should receive follow-up supervision 6 to 8 weeks after training.
- **Improving health care delivery systems** – this focuses on health systems strengthening by ensuring that facilities are well-stocked with appropriate drugs and equipment, and that trained health workers receive good supervision from managers. Another aspect of this component includes re-aligning activities within facilities to improve how work is conducted.
- **Improving family and community health practices** – this component aims to increase community involvement and awareness of measures to improve child health. These include practices to prevent malnutrition, child abuse and neglect within households. In addition, this component aims to improve recognition of severe disease in young children as well as practicing appropriate home-based care for certain illnesses and improving adherence to recommended treatment prescribed at health facilities.

Source: WHO/ CAH, (2000-2004)

http://www.searo.who.int/EN/Section13/Section37/Section2017/Section2038_10202.htm

IMCI represents an appropriate case study for examining policy implementation and the impact on the poor for the following reasons:

- It has been official policy in Kenya since 1999 and a key strategy in the National Health Sector Strategic Plan (NHSSP) but implementation remains low.
- There are variations in IMCI implementation across districts and facilities.
- The policy objective has the potential to cater for the poorest groups given that:
 - common diseases that are targeted by IMCI tends to disproportionately affect the poorest groups (i.e. most of these diseases are preventable and can be easily treated but lack of access to health services among poorer groups results in avoidable morbidity and mortality of children under 5);
 - the strategy aims to improve service delivery systems and quality of primary health care services in peripheral facilities (i.e. health centres and dispensaries) which are mostly used by rural populations who tend to consist of the poorest groups.
- No analysis of the national scale up of IMCI or the process of IMCI introduction and implementation in Kenya has taken place, thus creating a demand for the research findings.

We have chosen to focus on assessing the implementation of the facility component of IMCI (f-IMCI), which covers the 1st and 2nd of the 3 components listed in the box above. This decision reflects the fact that f-IMCI been official policy and a key government strategy for nearly a decade. In contrast, the community component has only been recently introduced in Kenya, with plans for scaling up implementation from 2008 onwards.

Section II: IMCI in Kenya

1. General Overview:

Guidelines for f-IMCI were first developed in 1995 by the WHO and UNICEF, and to date, IMCI has been introduced in over 100 low and middle income countries worldwide (WHO, 2007). According to WHO, f-IMCI implementation should take place in 3 phases, namely: introduction, early implementation and expansion. During the introduction phase, Ministries of Health (MOH) should familiarize themselves with case management guidelines and realign the provision of child health services to accommodate the IMCI. Other individuals involved in early decision-making, including paediatricians and key stakeholders (e.g. drug procurement agencies, medical training institutions, etc.), should make up an IMCI national working group.

The early implementation phase focuses on the preparation for implementation activities, such as training and follow-up supervision, and carrying out these activities in a few 'pilot' districts. The aim of this phase is to see whether the generic case management guidelines are relevant to each country setting and to then adapt them to fit national conditions. Adapted guidelines are then used to develop in-service training materials and additional training modules for later use during the expansion phase.

Health workers at primary care facilities are the main target group for f-IMCI. Training is conducted at a central residential venue by a group of facilitators (6) and course directors (2), and each course generally caters for 20-25 students. Training lasts for 11 days and health workers are introduced to the IMCI policy, learning both theory and case management skills on how to classify and treat sick children and counsel care takers. All theory sessions take place in a classroom setting while practical sessions take place at a nearby health facility with a high case load of under 5s. Learning materials include training manuals, a chart booklet and a wall chart. Once training is complete, health workers return to their facilities with the chart booklet and wall chart, and expect to receive follow up supervision 6-8 weeks after training.

Table I. shows the timeline for IMCI implementation in Kenya (a more detailed version of the timeline is provided in the Appendix. I). IMCI was first introduced to Kenya in 1996/7 under the US Centres for Disease Control (CDC) program with 80 health workers in Bungoma and Vihiga districts receiving the first case management training in IMCI. Shortly after, the Bungoma District Malaria Initiative (BDMI), a USAID funded project, was introduced. As BDMI was carried out, the key actors involved (CDC; AMREF; USAID) moved to absorb health workers from the first IMCI case management training to help achieve one of their main aims: to improve management of fever and anaemia in children under 5. Over the period of BDMI (1998-2000), additional training and supervision of health workers in IMCI case management took place in Bungoma as part of the Quality Assurance Project (QAP) which monitored health workers' skills and facilitated IMCI implementation (Tavrow et al., 2004).

While the BDMI was underway, the MOH decided to officially adopt IMCI as part of national policy to improve health care services for children under 5 (Ministry of Health, 2005a). IMCI was listed as one of the high-priority strategies in the first National Health Sector Strategic Plan (NHSSP- I; 1999-2004).

In 2001, WHO/AFRO reported that Kenya was in the early implementation phase of IMCI. Three districts (Vihiga, Embu and Kajiado) were selected as 'early use' districts and 41 health workers posted to these districts were selected for case management training and follow up. Subsequently, IMCI was rolled out to districts in Nyanza (Homa Bay) and Coast province (Kwale, Mombasa).

The Children’s Act was enacted in the same year and this stipulates that health is an inherent right of the child (any person under 18 years). One responsibility of the Act is to ensure improvement in growth, development and survival of children under 5 (Chapter 586, Laws of Kenya). This coincided with the establishment of a specific Division of Child Health (DOCH) within the MOH.

The following year (2002), IMCI implementation activities were supported by 10 more development partners, each targeting different regions of Kenya at either national, provincial or district level. Other divisional programmes of the MOH, such as Division of Malaria Control (DOMC) and Kenya Expanded Programme on Immunization (KEPI), also supported IMCI implementation activities in 2002 (MOH, 2002b).

A key concept promoted in the Annual Operation Plans (AOPs) and National Health Sector Strategic Plans (NHSSPs I (1999 – 2004) & II (2005 – 2010) is the Kenya Essential Packages for Health (KEPH). The main focus of KEPH is to promote health through both preventive care and the delivery of health services by integrating health programmes, with IMCI included as one of the main essential packages.

Despite IMCI being identified as a priority intervention in the NHSSP I (1999 – 2004) & II (2005 – 2010), AOPs (MOH, 2005b), and by the DOCH, roll out has been relatively slow. According to the WHO, a minimum training coverage of 60% is recommended in order for IMCI to have a significant impact on improving child health. In 2007, the national training coverage in Kenya was approximately 18%, with 45 out of the 70 districts (64%) currently implementing the strategy to some degree.

Table 2.1 - National Timeline of IMCI Implementation

Events	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Preparation for BDMI (USAID funded); first group of government health workers trained in f-IMCI											
Official start of BDMI; additional government health workers trained in Bungoma district											
QAP project involved in assessment of IMCI for BDMI project											
Kenya adopts IMCI under ARI/CDD Division of MOH											
Start of IMCI training activities in FBO/NGO facilities in Bungoma											
IMCI listed as part of essential packages for health NHSSP- II (2005-'10)											

Events	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Adaptation of IMCI algorithm for Kenyan context begins											
Introduction of intervention package to address IMCI compliance issues in Bungoma district											
Children's Act enacted & creation of DOCH											
WHO/AFRO Regional workshop to include HIV/AIDS component in IMCI algorithm											
Senior health personnel targeted for IMCI training (facilitated by WHO/AFRO)											
IMCI Strategic Planning meeting held in Kenya											
IMCI identified as key intervention in pilot districts under the National Business Plans (2003-'07) & RBM strategy											
DOCH includes IMCI activities in AOPs under NHSSP-II (2005-'10)											

2. Key Actors:

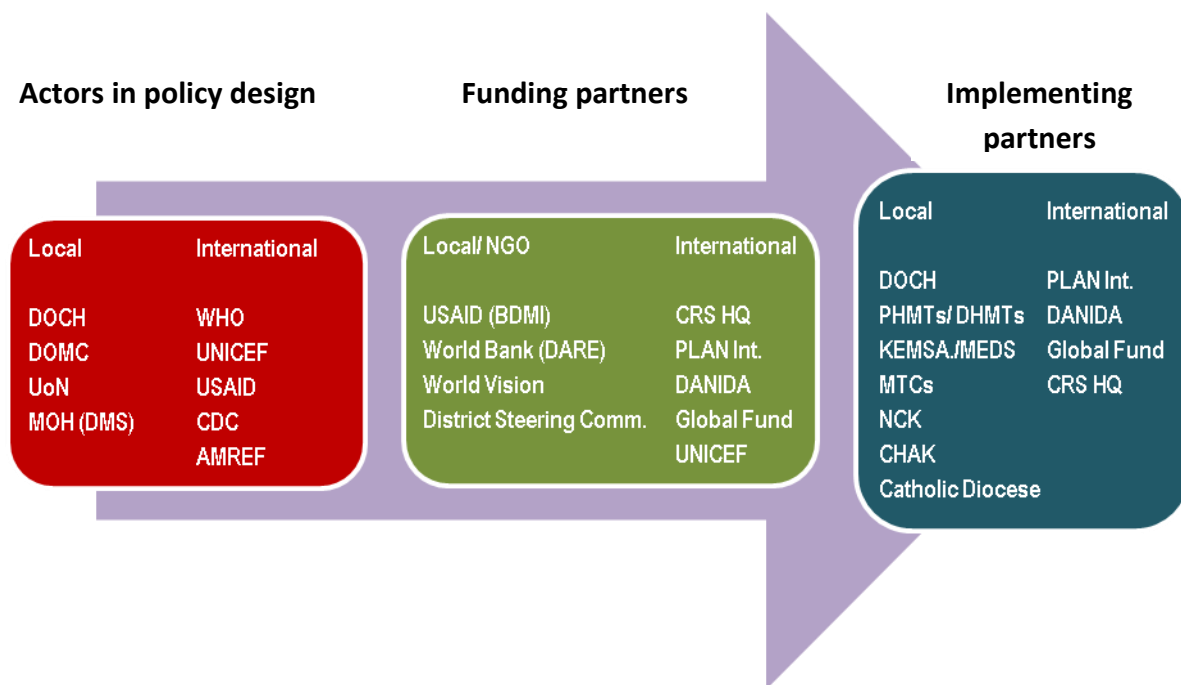
The key actors involved in IMCI implementation in Kenya are shown in Figure 2.1. The DOCH was actively involved in IMCI policy design and guiding adaptation of the generic IMCI materials to suit the local epidemiological context, as well as focusing on specific areas such as clinical guidelines, nutritional guidelines and ensuring the use of appropriate terminology. For this exercise, the DOCH worked closely with other departments within the MOH (DOMC, KEPI) to ensure better coordination of activities across programs, especially those targeting under 5s.

Provision of technical support and funds for pilot projects and subsequent IMCI case management training activities in Kenya have been provided by a range of local and international stakeholders. At the district level during early implementation (1996), district steering committees consisting of representatives from NGOs, and MOH staff worked together to set priorities and draft work plans to strengthen coordination of implementation activities. Local stakeholders involved in implementation activities at the

central level include the MOH, local training institutions such as the University of Nairobi (UoN) and medical training colleges (MTCs). UoN currently offers degree courses in medicine whereas MTCs offer certificate training courses for health workers who intend to be clinical officers (COs) or nurses (RNs). Other local stakeholders include local councils (Nursing Council of Kenya), and drug procurement agencies (Kenya Medical Supply Agency (KEMSA) & Mission for Essential Drugs and Supplies (MEDS)). Other local organisations that were involved in implementation include both faith-based organisations (World Vision, Christian Health Association of Kenya (CHAK) & Catholic Diocese) and other non-governmental organisations (Catholic Relief Services (CRS)-Kenya), PLAN-Kenya). Up until 2006, these organisations were actively involved in training activities and provided technical support (i.e. learning materials, assisting in follow-up supervision). Larger international agencies (World Bank, USAID, WHO, UNICEF, DANIDA, CRS-HQ, Global Fund) supported implementation activities by financing IMCI training, follow-up supervision and production of teaching/ learning materials (training modules, IMCI job aids).

At the district level, the key stakeholders were MOH managerial staff (DHMTs) who assist with training and follow-up and coordinate facility level implementation.

Figure 2.1 - Actors involved in IMCI implementation in Kenya



3. Coverage of IMCI Implementation in Kenya:

IMCI implementation in Kenya has been fairly widespread, with some staff trained in 63% of all districts in the country. The earliest date of first training was 2001, which only targeted 4 districts, namely Kajiado, Embu, Vihiga and Kwale. In 2002, health workers from 3 more districts received case management training (Homa Bay, Nyando and Busia); in 2003, only 2 districts (Nairobi and Kuria); and in 2004, 4 districts (Nakuru, Turkana, Kiambu and Central Kisii). The bulk of training activities took place between 2005 and 2006, covering an additional 16 districts. During early implementation and expansion phases it is likely that donor presence in some districts influenced their selection for IMCI roll out, as donor support was a requirement during this period. Other criteria required that both DHMTs and PHMTs guaranteed district capacity to hold case management training, such as having appropriate venues for accommodation, a primary care facility (hospital) with a high number of patients in OPD, and the capacity to assist in follow-up supervision.

Figure 2.2 shows three maps of Kenya (a,b,c). The first map (a) presents the status of IMCI implementation per district nationwide in mid-2007 (i.e. “Y” indicating presence of IMCI; “N” – indicating no IMCI present). The second map (b) represents the percent health worker training coverage per district in mid-2007, and the last map (c) indicates the average poverty incidence (PI) across districts as of 1999. All districts have at least one health worker trained in IMCI in 2 provinces (Coast and North Eastern). The majority of districts in 3 provinces (Western, Nyanza and Central) have at least one health worker trained. In only 2 provinces (Eastern and Rift Valley) do a minority of districts have IMCI trained health workers.

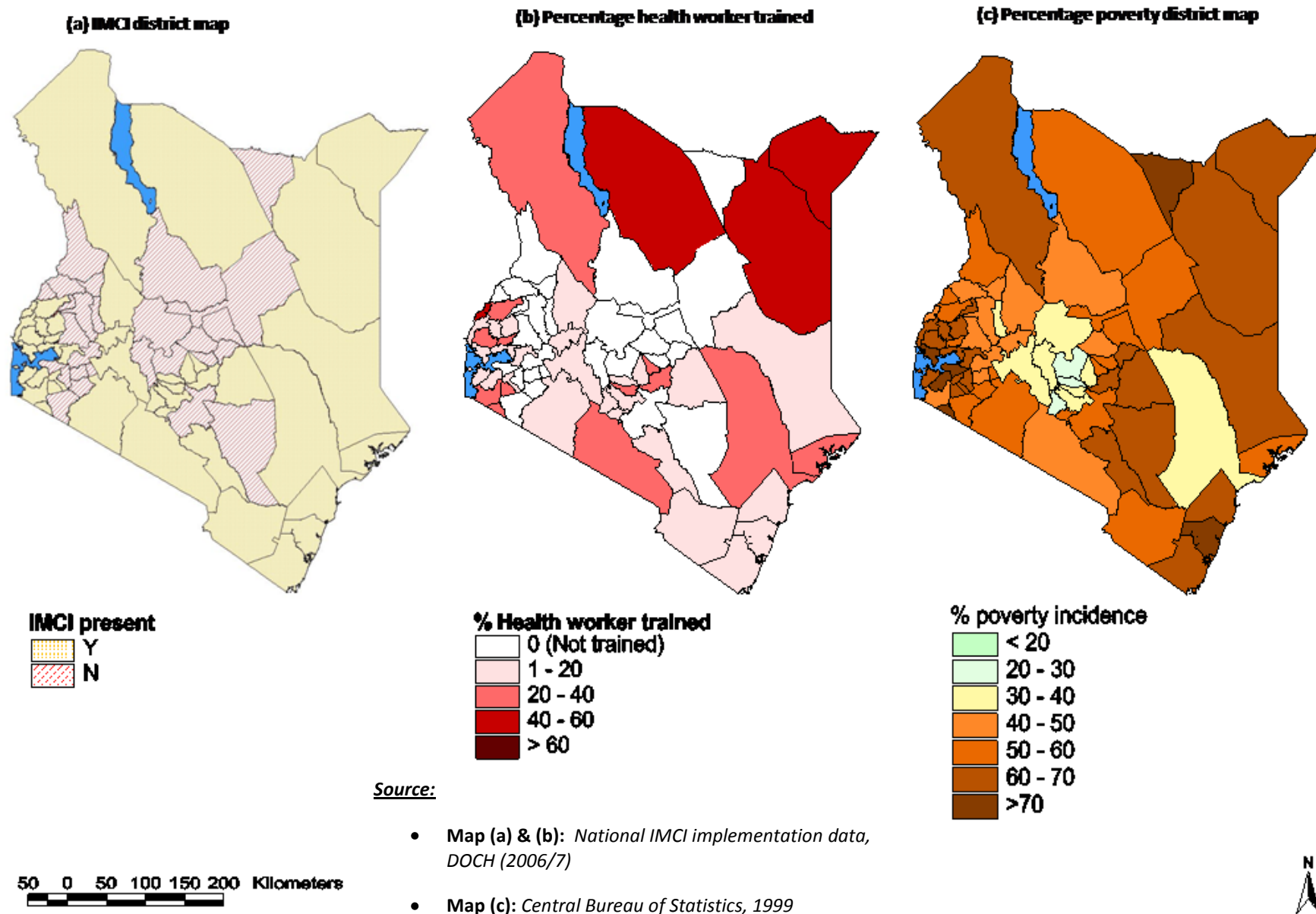
Map (b) shows percentage training coverage across districts. Districts with the highest health worker training coverage (40 - 60%) were in Northern and Western Kenya (e.g. Wajir, Mandera, Karpsabit and Teso), followed by 13 districts in Western, Nyanza, Rift valley and Coast province with 20 – 40% training coverage. Several districts located in Central and Rift Valley province had not participated in IMCI implementation in 2006.

Percentage health worker training coverage, as an indicator, can be somewhat misleading. For example, some districts such as Wajir and Mandera, experience severe health workforce shortages, meaning that training only a few health personnel can lead to a relatively high percentage of IMCI trained staff. Therefore, total number of health personnel within a district should also be considered when utilizing health worker training coverage data as a means to compare district experiences.

The overall roll out pattern appears to have targetted districts with relatively high poverty incidence¹ (Figure 2.2, Map (c)). If the districts are divided into thirds according to the poverty index, 78% of districts in the poorest third (PI of 63-79%) have started IMCI implementation, compared with 61% in the middle third (PI of 51-62%), and 54% in the best off third (PI of 22-50%).

¹ Poverty incidence – also known as the Headcount index, is defined as the percentage of the population falling below the poverty line, which is based on the monthly expenditure required to purchase a basic food basket. In Kenya, the poverty line is currently estimated to be 1,239KSH (19 USD) and 2,648KSH (41 USD) per month for rural and urban households respectively (Central Bureau of Statistics -Vol. 2, GOK, 2005).

Figure 2.2: Nationwide implementation of IMCI & poverty incidence by district



4. Health system context in Kenya:

The organisational structure of Kenya's health system designates specific roles at three levels; district, provincial and central. At the most peripheral district level, the health system consists of a District Health Management Team (DHMT) made up of 10 to 14 members, front-line health workers and health facility committees. The role of the DHMT is to manage all health personnel within the district, as well as coordinate and implement activities which are delegated from provincial and central levels of the health system. Health facilities include a district hospital (level 4 unit), health centres (level 3 units) and dispensaries (level 2 units). The community is considered to be level 1 of the health system.

Nearly 50% of all health personnel employed at the district level work at the district hospital. District hospitals serve the bulk of the district population while health centres and dispensaries are intended to serve much smaller catchment populations of approx. 20,000 to 25,000 and 8,000 to 10,000, respectively. Most health centres and dispensaries do, however, serve far larger catchment populations than expected by MOH norms (e.g. health centres: 50,000 to 90,000; dispensaries: 20,000 to 45,000) (MOH, 2006).

Staff cadres vary depending on the type of health facility. District hospitals include the full range of cadres, from highly qualified (i.e. physicians) to diploma-level health personnel (i.e. COs (clinical officers), RNs (registered nurses)) and a few certificate holders (i.e. ECNs (enrolled community health nurses)). Health centres and dispensaries are normally staffed by lower cadres (i.e. diploma holders and certificate holders) and, in some instances, community sourced workers are hired as support staff to assist in facility maintenance and general duties. Health facility committee (HFC) members also play an important role at smaller facilities: they are selected as community representatives and serve as a bridge between health workers and community members in setting agendas at health facilities (e.g. exemptions, user fees charged), as well as facilitating communication and information exchange to improve awareness and health-seeking behaviour amongst community members.

District Health Management Boards (DHMBs) are also present at the district level. Core functions of the DHMB include overseeing the management of funds at the district level, as well as facilitating DHMTs in planning and carrying out health activities within districts. More importantly, DHMBs are supposed to represent community interests with regards to the implementation of health programme activities, and to ensure more involvement, participation and responsiveness from community members.

The services offered at the different types of health facilities are largely influenced by the cadres posted to the facility. District hospitals offer out-patient and in-patient care, as well as laboratory and obstetric services. Health centres offer general out-patient services and maternity services (with limited in-patient services), whereas dispensaries tend to only offer basic health services in out-patient care.

At higher levels of the health system, other managerial bodies include the Provincial Health Management Team (PHMT) which coordinates health activities between the Central and District level, and offer managerial support to the DHMT. At the Central level, the MOH is made up of 6 departments (Preventive & Promotive health services; Curative health services, International health relations, Research standards & Regulatory services, the Ministerial Management unit and Administration) which are comprised of several divisions such as the Division of Child Health (DOCH) & Division of Policy and Planning (DOPP), each having core functions within the Ministry. In the adoption of specific policies, such as IMCI, the policy is placed under the appropriate department (i.e. Preventive & Promotive health) and division (i.e. DOCH). The DOCH is then responsible for drawing up budgets and carrying out implementation activities at lower levels of the health system.

The health system is financed by government (Treasury), development partners and users. Financial resources allocated to the health sector represent roughly 9% of the total government budget. Traditionally, money is disbursed from Treasury directly to the MOH HQ. Within the MOH, the DOPP is responsible for performing all core functions related to the financing of the health system, such as monitoring collection of received funds, banking, disbursement of funds to lower levels and monitoring expenditure of money.

There has been some decentralization of the health system to provincial and district levels, but the majority of control over planning, management, resource generation and allocation remains at the central level. Under the District Focus for Rural Development Strategy, as articulated in NHSSP-II, decentralization is, however, considered to a priority area, with the strategy pushing for better systems strengthening at lower levels. In doing this, district managers (DHMTs) are given an opportunity to draft budgets in their district health plans (DHPs) which reflect the needs of local stakeholders, including community members (HFC members) and health workers posted to level 2 and 3 facilities. These budget drafts are submitted to the MOH HQ for review and, if deemed appropriate, money is disbursed to DHMTs to perform health activities. However, finance gaps are still reported at the district level, with budget estimates not being met by funds which are typically allocated by the MOH.

Since implementation of 10/20 policy in 2004, user fees at public (GOK) health centres and dispensaries are supposed to be charged at a flat rate of 20KSH and 10KSH respectively, for all individuals except the under 5s who are to be treated free-of-charge; however, higher fees are frequently charged in practice (Pearson, 2005). Efforts to improve funding modalities for the health sector continue, with some development partners working closely with the GOK to consider more efficient disbursement mechanisms. One such mechanism that has been piloted in Coast province is direct facility funding (DFF), where facilities receive funds directly into their own bank account. Local HFCs then decide how these funds should be spent.

Training institutions which currently offer pre-service training for the aforementioned cadres include major universities (e.g. UoN, Kenyatta University, Moi University, Aga Khan University and others) and MTCs. MTCs are much smaller training institutes and are widely spread across Kenya. There are currently 25 MTCs in the country, each offering a mix of training curricula, for COs, RNs and ECNs. In addition, MTCs also offer an upgrading course for ECNs to achieve RN status to improve their qualifications.

Section III: Methodology used for IMCI Case Study

1. General Approach:

A case study approach was used to understand the current status of IMCI implementation by exploring factors that have affected policy implementation, with particular focus on the specific contexts in which the policy is being implemented in Kenya.

The case study unit used for this research study was the district. The rationale for selecting the district was to investigate whether any key contextual differences (e.g. demographics, local infrastructure, managerial capacity of DHMTs, and geography) influenced implementation experience.

2. District Selection:

Two districts were selected according to the following criteria:

1. Districts should be of relatively low socio-economic status (SES)
2. IMCI had been introduced at least 2 years prior to the start of study
3. Districts should vary in their performance of IMCI (based on managerial views – good vs. struggling)
4. Districts should have a minimum of 6 health centres or dispensaries with IMCI trained health workers

The DOCH provided the research team with a list of potential provinces and districts for inclusion in the study, specifying those which were considered to be struggling performers in IMCI implementation and those considered to be good performers.

Based on these criteria we selected Homa Bay district in Nyanza province and Malindi district in Coast province. Poverty incidence in Homa Bay and Malindi currently stands at 71% and 67% respectively, compared with a national average of 52%. Both districts had been implementing IMCI for at least 2 years and had trained health workers posted to at least 6 peripheral facilities (i.e. health centres and dispensaries) as well as the district hospital. DOCH members advised the research team to consider Homa Bay as a 'struggling' performer and Malindi as a 'good' performer.

To ensure that both districts would be suitable for inclusion, the research team visited Homa Bay and Malindi and met with DHMT members for further consultations. These visits lasted 4 days in each district and, during this time, the DHMT members involved in IMCI implementation familiarized the research team on the extent of implementation achieved at the district level and provided a list of all the health facilities currently implementing IMCI within each district. Using this information, the team purposively selected potential health facilities to include in the study. We aimed to visit mostly peripheral facilities (health centres and dispensaries) with trained staff as these facilities mainly served the most rural and poorer populations. We also planned to include at least one public hospital because this type of facility serves as a referral facility in most rural settings. Our list of potential facilities therefore included at least 2 GOK health centres, 2 GOK dispensaries, 1 private dispensary, 1 mission dispensary, and 1 GOK hospital in each district. In addition, one or more additional smaller facilities were included, where feasible within the study time frame.

3. Context of study sites

Malindi is located in the southern coastal region of Kenya, covering an area of 7,605 square km. Homa Bay, in contrast, is a much smaller district, covering 1,160 square km, and borders Lake Victoria. Both districts have noticeable variations in location, climate, and terrain. In terms of terrain, Malindi has 4 different topographic areas: low coastal plains, foot plains, coastal range and a plateau. Homa Bay has only 2 types of terrain: lowlands (closer to Lake Victoria) and an upland plateau. Potential for agricultural industry is relatively low in both districts, with a few isolated areas that produce just enough yields for local consumption (e.g. fruits and vegetables which are sold in local markets). As a result, Homa Bay's economy is largely dependent on the fishing industry, while Malindi's economy depends on revenue raised through tourism. Homa Bay has a slightly smaller population than Malindi, with approximately 312,885, of which 62,585 are children under 5. In comparison, the total population of Malindi is 369,931, of which 65,588 are children under 5. Both districts have poor child health indicators (i.e. under 5 mortality rate (per thousand) of 254 and 187 respectively, compared with a national average of 115) (Table 3.1). Based on outpatient diagnoses, the most common cause for childhood morbidity amongst under 5s in both study districts is malaria. In Homa Bay, other common illnesses include anaemia, pneumonia, HIV infection, and gastroenteritis. In contrast, under 5s in Malindi suffer from diarrhoea, respiratory infections, pneumonia and skin disease.

Table 3.1: Demographic & Health Indicators of Homa Bay and Malindi districts

Demographic & health indicators		Homa Bay district	Malindi district	National average (per district)
1. Population (2006)		312,885	369, 931	472,222
2. Under 5 population – (2003)		62,585	65,588	94,444
3. Health personnel (2006)	<ul style="list-style-type: none"> • Includes: <ul style="list-style-type: none"> ○ Medical officers ○ Clinical officers ○ Nurses 	180	120	271
4. Health personnel per 100,000 (2006)	<ul style="list-style-type: none"> • Includes: <ul style="list-style-type: none"> ○ Medical officers ○ Clinical officers ○ Nurses 	58	32	57
5. Health facilities (2006)	<ul style="list-style-type: none"> • All Health facilities 	88	85	71
	<ul style="list-style-type: none"> • Hospitals – District/ sub-District (GOK) 	2	1	2
	<ul style="list-style-type: none"> • Health centres (GOK) 	9	3	6
	<ul style="list-style-type: none"> • Dispensaries (GOK) 	28	19	21
	<ul style="list-style-type: none"> • NGO/FBO 	12	9	8
	<ul style="list-style-type: none"> • Private clinics 	37	52	24
	<ul style="list-style-type: none"> • Local council clinics 	---	1	--
6. Under 5 mortality per 1000 (2003)		254	187	115
7. Infant mortality rate (IMR) per 1000 (2006/7)		149	85	77
8. Adult literacy rate – (2003)		69%	68%	83%
9. Adult HIV prevalence – (2003)		34%	11%	7%
10. Poverty Incidence – (2006)		71%	67%	52%

Sources: HR mapping & verification exercise – MOH (2006); Facts & Figures – Health & health related indicators, MOH (2006); Kenya Demographic Health Survey, (2003); Malindi District Annual Work Plan (2006/7); Homa Bay District Health Plan (2006/7), Human Development Report, UNDP (2006)

4. Stages of Data Collection:

Data collection involved the following 4 stages:

- Stage I: Document review and collation of nationwide data. The document reviews focused on IMCI implementation experiences, drawing from international and local literature. Sources of literature included journal articles and reports on child health (IMCI) drafted by the MOH and a variety of organisations (e.g. WHO/ AFRO, UNICEF, CDC) who have been involved in IMCI implementation activities. Nationwide data were collected on IMCI coverage by district, based on initial figures provided by the DOCH, supplemented by phone calls to IMCI focal persons in districts that were known to have implemented IMCI² (i.e. held at least 1 case management training course).
- Stage II: Conduct interviews and observations of IMCI case management at health facilities and interviews at the district level (in Homa Bay and Malindi, key respondents at the district level included: trained and untrained health workers; health facility committee members; DHMT members; other local stakeholders, such as NGOs working in child health)
- Stage III: Conduct interviews at the Provincial level (key respondents included: PHMT members and/or key stakeholders).
- Stage IV: Conduct interviews at the National level (key respondents included: MOH employees (DOCH staff) and key individuals from development partners, NGOs and training institutions that were involved in the implementation process).

Data collected at the district, provincial and national level included the following: in-depth interviews, case management observations, health facility checklists, field notes (memos) and utilization data. Additional data sources included district annual reports and work plans.

Interviews were based on semi-structured interview guides. Interview guide questions were selected by drawing on study objectives, document reviews and broad principles of policy analysis, such as policy content, process of implementation and roles of key stakeholders/ actors involved in implementation (Buse et al. 2005).

The majority of the interviews were conducted in English, with only 3 instances where interviews were conducted in Kiswahili. Interviews generally lasted between 45 min to 1 ½ hours; however, interviews with HFC members were noticeably shorter (30 min).

Interviews held at the higher levels of the health system aimed to establish how IMCI was introduced, paying close attention to identify which actors were involved at different stages of implementation. In addition, processes of implementation were captured, noting how preparations, planning and funding arrangements were made. Respondent perceptions of implementation were also documented. At the facility level, trained and untrained health workers were asked to share their perceptions and experiences, noting any challenges and improvements. HFC members were asked about their knowledge of IMCI and, more generally, asked to share their perceptions of the quality of care given to under 5s, as well as

² Some difficulties were experienced when attempting to collate nationwide implementation data where IMCI focal persons were not fully informed. In addition, several new districts were in the process of being established, for which dates of training were not available on the key indicators, such as percent training coverage or percent facility coverage. In the end, we resolved to maintain the list of the original 72 districts which were valid at the start of the study period.

potential barriers to accessing health services for under 5s. District level respondents were asked to share their views on IMCI as a strategy and their perceptions of IMCI implementation.

Informal case management observations were conducted at OPD of selected health facilities with trained health workers only. On average, these lasted for approximately 3 hrs and note takers recorded details in two areas; facility support for IMCI and case management skills.

5. Data Analysis

All qualitative data (i.e. interviews & field notes) were transcribed and cleaned. All transcripts were checked against the tape by a second researcher, referring back to field notes where clarification was required.

Interviews conducted in Kiswahili were transcribed in the same language and later translated into English. Other types of data collected at the district and central level (i.e. case management observations, collation of nationwide implementation data) were also compiled and cleaned prior to the analysis process.

The transcripts were imported into *NVivo7* software for analysis. Sections of interviews were coded in *NVivo7* and used to draw out key issues. The first list of codes was initially developed during the document review. These codes were later combined with new codes which emerged from our data, to create a thematic framework. This framework was tested on a small set of interviews which were separately coded by 2 researchers. This process helped researchers refine the final list of codes into clearer and more specific categories, prior to coding the rest of the interviews. The second stage of analysis involved a more discursive approach amongst research team members by performing a “layered analysis”. This entailed a review of key research questions, and identification of possible immediate and underlying explanations for what was observed and reported.

Quantitative data were used to construct a clearer picture of the implementation experience in Kenya as a whole, with particular focus on date of first case management training and IMCI training coverage by district. To address equity of implementation experience in Kenya, district level poverty incidence data and geographic mapping of health facilities by location in the study districts was used to establish the extent to which IMCI had been rolled out to areas with the poorest populations.

Data collection activities are summarized in Table 3.2.

Table 3.2: Overview of Data Collection Activities

Activity:	Tasks completed:
I. Document review (Sept. 2006)	2 (International review & Kenyan review)
II. Collation of nationwide data (Dec. 2006 – Sept. 2007)	District data collected on IMCI activities (as of 2006): <ul style="list-style-type: none"> • Percent of clinical staff trained in IMCI (collected for 44 out of 45 IMCI districts) • Percent of facilities with at least one IMCI trained staff member (collected for 43 out of 45 IMCI districts) • Date of first training/ follow-up (collected for 32 out of 45 IMCI districts)
III. District level interviews (Jan to Mar 2007)	Homa Bay = 35 <ul style="list-style-type: none"> • DHMT members = 7 • Local district stakeholders (NGO/FBO) = 9 • Health workers = 13 • HFC members = 6
	Malindi = 33 <ul style="list-style-type: none"> • DHMT members = 8 • Local district stakeholders = 3 • Health workers = 16 • HFC members = 6
IV. IMCI case management observations (Jan – Mar 2007)	Homa Bay = 7
	Malindi = 8
V. Provincial level interviews (May – June 2007)	Nyanza = 2 (MOH)
	Coast = 2 (MOH)
VI. National level interviews (Jan – Aug 2007)	Respondents = 25 <ul style="list-style-type: none"> • DOCH staff = 5 • Development partners = 4 • NGO = 7 • MOH = 5 • Training institutions (UoN & MTC) = 4

Summaries of demographic characteristics of interviewees are provided in Table 3.3:

Table 3.3: Demographic characteristics of respondents

Respondents	Gender		IMCI training status		Total
	Male	Female	Yes	No	
Health facility level – Homa Bay:					
• Clinical officer	2	1	1	2	3
• Nurse (ECN/RN)	1	8	8	1	9
• Other	1	0	0	1	1
Total health workers:	4	9	9	4	13
HFC members	6	0	n/a	n/a	6
Health facility level – Malindi:					
• Clinical officer	8	0	4	4	8
• Nurse (ECN/RN)	4	4	5	3	8
• Other	0	0	0	0	0
Total health workers:	11	5	9	7	16
HFC members	4	2	n/a	n/a	6
District managers – Homa Bay & Malindi:					
• Doctor	1	1	2	0	2
• Clinical officer	1	1	2	0	2
• Nurse(ECN/RN)	1	2	3	0	3
• Public Health officer	2	0	1	1	2
• Other	3	1	2	2	4
Total district managers:	8	5	10	3	13
Non-GOK stakeholders :	8	4	1	11	12
Provincial managers – Nyanza/ Coast:					
• Medical officer	1	0	1	0	1
• Clinical officer	1	0	1	0	1
• Nurse (ECN/RN)	0	1	1	0	1
• Advisor/ Manager	1	0	0	1	1
Total:	3	1	3	1	4
National respondents:					
• MOH - HQ	4	3	3	4	7
• DOCH manager	1	3	4	0	4
• Non-GOK stakeholder	4	6	4	6	10
• Other - doctor/ lecturer	2	1	3	0	3
Total:	12	12	14	10	24

Section IV: IMCI in Homa Bay and Malindi

This section provides an overview of the degree of training coverage and IMCI implementation in the study districts. First, we discuss training coverage, including geographical equity. Second, we look at follow-up supervision and on-job training (OJT) experiences in both districts. We then look at implementation challenges at the facility level, based on both our own case management observations and managerial perceptions. Finally, we consider compliance by health workers with user fee exemptions for under 5s, and compliance by care givers with referrals to higher level facilities.

1. Training Coverage:

Homa Bay and Malindi districts officially adopted IMCI a year apart, in 2002 and 2003 respectively. Implementation of the strategy has been relatively slow in both districts. Initial IMCI activities focused on the first component of IMCI (improving case management skills of health workers), with plans to first train managerial staff in IMCI case management and then target front-line health personnel (FLHWs) working in district hospitals and in more rural facilities, such as health centres and dispensaries. The rationale behind this approach was to build district capacity to train health workers, as well as provide follow up to ensure proper implementation after training.

Training activities in both districts were largely donor funded, with CRS and Global Fund sponsoring trainings in Homa Bay, and DANIDA, AMKENI (USAID-funded project) and Global Fund in Malindi. It is important to note that locally generated cost-sharing funds contributed to the costs of training the first group of DHMT members and FLHWs in Malindi. Homa Bay has had 4 IMCI case management trainings, whereas Malindi has only had 2 trainings to date (Table 1). Case management trainings which took place in Homa Bay (2002 and 2005/06) were combined exercises also involving health workers and managers from neighbouring districts. Prior to the first training in Malindi in 2004, the District Medical Officer for Health (DMOH) and the District Public Health nurse (DPHN) received IMCI training a year earlier in Kwale district. Table 1 only provides the number of health workers from Homa Bay and Malindi who attended the sponsored trainings where trainings were shared with other districts.

Table 4.1: IMCI trainings conducted in Homa Bay and Malindi

Study District	Year of training health workers trained	Funding Agency	No.
Homa Bay	2002	CRS	16
	2003	CRS	20
	2005	Global Fund	9
	2006	Global Fund	6
Malindi	2004	DANIDA & AMKENI (+ cost-sharing)	24
	2005	Global Fund	15

Differences in proportions of district managers and FLHWs trained in each district are illustrated in Table 2. Training coverage of managerial staff and FLHWs is much higher in Malindi than Homa Bay. To date, Homa Bay has trained a total of 51 health workers in IMCI case management; however, only 29 remain within the district; Malindi, in comparison, has trained a total of 41 health workers and retained 37. Both districts are well short of the MOH targets of 60% of all health workers trained.

Table 4.2: Proportion of health personnel trained in IMCI

Health personnel	Homa Bay district	Malindi district	National average	MOH Target
DHMT staff members	54% [7/13]	83% [10/12]	not available	not applicable
FLHWs	13% [22/167]	25% [27/108]	not available	60%
Total	16% [29/180]	31% [37/120]	18%	60%

Key: Health personnel includes DHMT members and front-line health workers which includes: clinical officers & nurses

In both districts, all types of health facilities (i.e. public, private and mission) have been included in case management training (Table 3). Percent coverage of health facilities is greater in Malindi than Homa Bay. To date, health facility coverage is 16.5% in Malindi (14 out of 85 health facilities have at least one trained health worker) and 12.5% in Homa Bay (11 out of 88 health facilities); nevertheless, both districts still have considerably lower coverage than the MOH target of 80%, which mirrors WHO recommendations.

Table 4.3: Health facility Coverage in Homa Bay & Malindi

Coverage indicator	Total HFs	Homa Bay district					Total HFs	Malindi district					MOH
		Dist. Hosp.	HC	Disp.	Priv.	NGO/FBO		Dist. Hosp.	HC	Disp.	L.C./Priv.	NGO/FBO	
Type of HF													
Percent of HFs w/ IMCI (%)	12.5% [11/88]	100% [1/1]	55% [5/9]	7% [2/28]	5% [2/37]	8% [1/12]	16.5% [14/85]	100% [1/1]	67% [2/3]	47% [9/19]	2% [1/52]	11% [1/9]	80% --

Key: HF = health facility; Dist. Hosp. = District Hospital (GOK); HC = Health centres (GOK); Disp. = Dispensaries (GOK); L.C. = Local Council & NGO/FBO = Non-governmental Organisation/ Mission

In both districts, the majority of trained health workers are based in public facilities, with district hospitals having the highest number of IMCI trained personnel (13 out of 29 trained health workers in Homa Bay and 10 out of 37 in Malindi), followed by health centres (10 trained staff in Homa Bay and 3 in Malindi) and, finally, dispensaries (3 and 6 in Homa Bay and Malindi respectively).

The community component of IMCI (c-IMCI) has not been implemented in either district. In Homa Bay, district managers identified c-IMCI as a key priority area for implementation in 2007/8. In Malindi, c-IMCI also appears to be a top priority for implementation in the coming year.

2. Equity of Coverage of IMCI trained staff

a) Malindi

Figure 4.1 shows the number of public (GOK), local council/private and NGO health facilities staffed with at least 1 IMCI trained health worker in Malindi district. Distribution of the 14 health facilities are spread out across different locations within the district, with at least 1 IMCI health facility within each location except for one – Malindi location, which is surprising because it constitutes the largest and most remote location in the district. Although the number of IMCI health facilities in the district is relatively low, majority (9) are located in areas with relatively high poverty incidence ranging from 52.4% to 74.4%. However, 3 IMCI health facilities are clustered very near the District town centre which is also located in the least poor location in the district.

b) Homa Bay

In Homa Bay, the distribution of 9 health facilities (public, private, NGO/FBO included) with IMCI trained health workers appears to be more spread out across the district, with a majority located on the borders between locations³. 5 out of 9 mapped facilities are located in very poor areas (59.8% to 68.6% poverty incidence); and 3 other IMCI health facilities lie on divisional borders between areas of varying but very high poverty incidence (72.9% to 88.2%). Only 1 health facility with trained staff is located in an area of noticeably lower poverty incidence (52.3% to 59.8%).

The health facilities with IMCI trained staff in both study districts are in locations with high populations (Figure 4.2). In Homa Bay, only 1 health facility which is implementing IMCI serves a fairly small catchment population of 5526 to 9577. At least 4 facilities with IMCI trained health workers are located in highly populated locations in Homa Bay, ranging from 14,141 to 32,649.

In Malindi, the majority of health facilities implementing IMCI are also located in areas with large catchment populations of 9,117 to 30,536. One notable difference between the districts is that Malindi town centre, the most populated area in the district (30,537 - 80,721), has 3 facilities implementing IMCI. In contrast, town centres in Homa Bay do not have more than 1 facility implementing IMCI.

³ Health facilities included on the map in Homa Bay district (9) do not cover all facilities (11) with IMCI trained staff due to difficulties obtaining exact mapping coordinates.

Figure 4.1: Distribution of health facilities in Malindi and Homa Bay

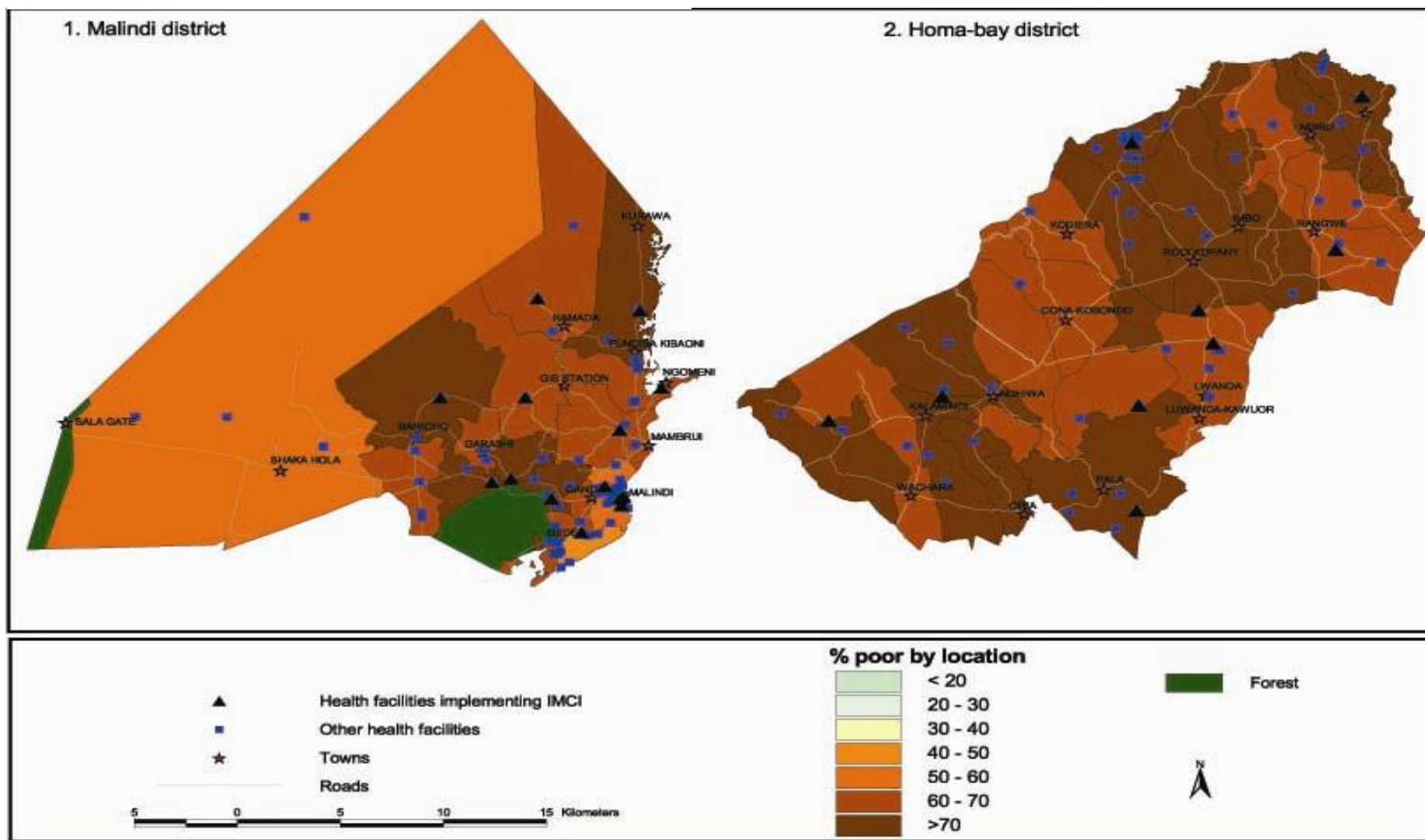
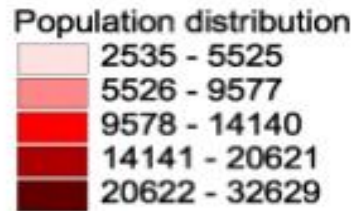
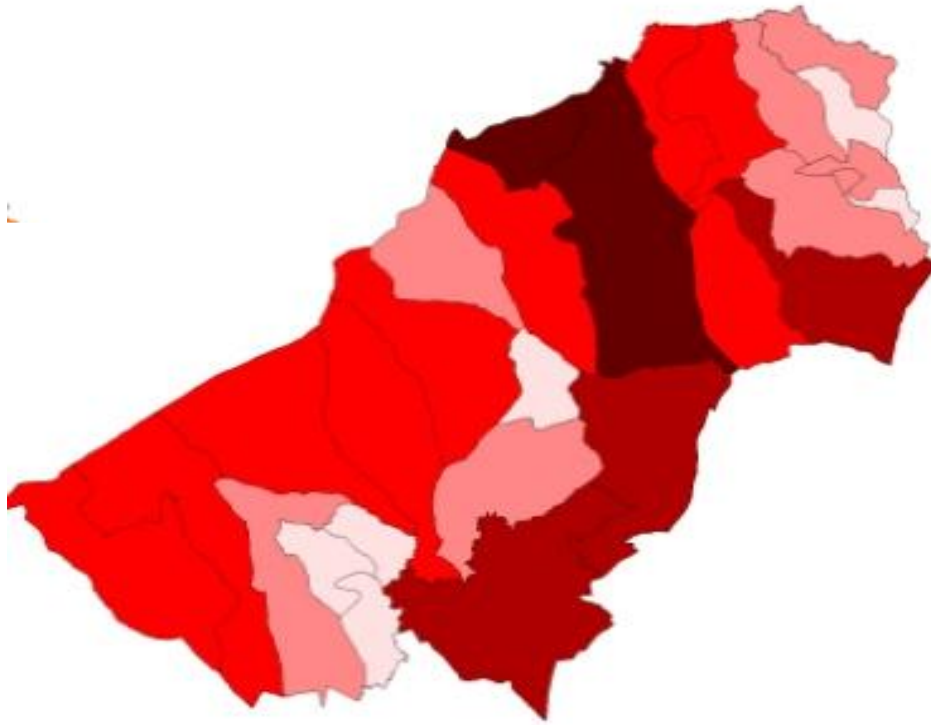
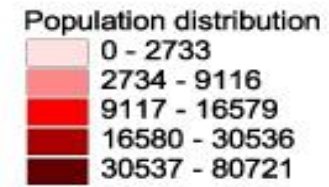
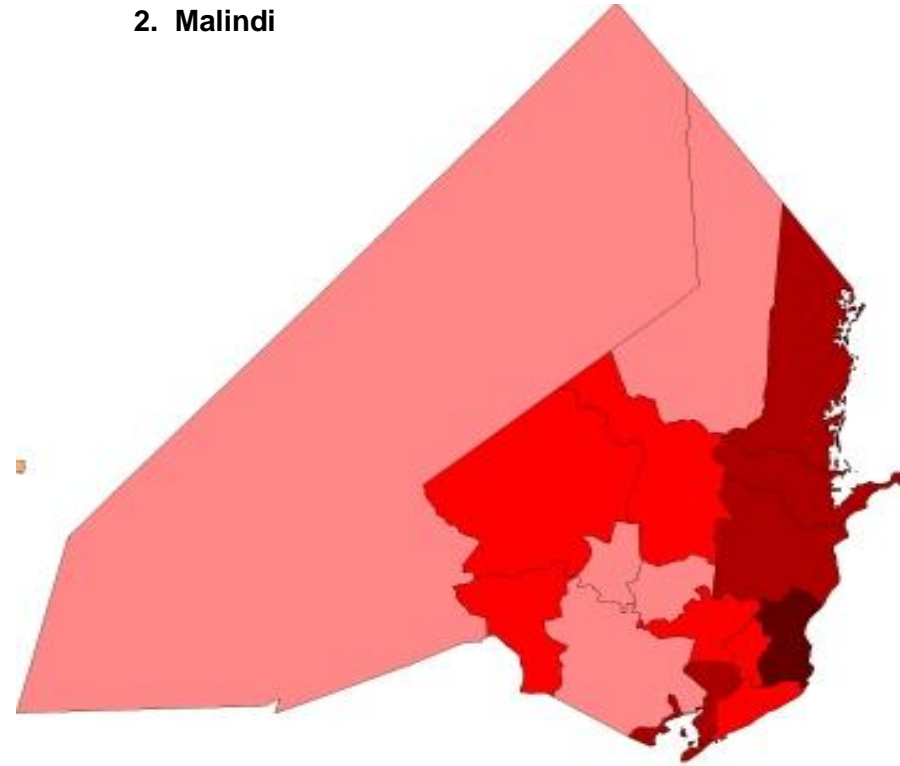


Figure 4.2: Population Distribution in Homa Bay and Malindi district

1. Homa Bay



2. Malindi



3. Follow-up supervision:

Follow up supervision of health workers after case management training is considered to be a critical part of the implementation process, aiming to achieve the following objectives: i) reinforce IMCI case management skills, ii) identify and address potential problems/ challenges health workers may face when trying to implement IMCI at the facility level, and iii) gather general information on facility level supports e.g. equipment, medical supplies, facility infrastructure and job aids (WHO, 1999).

At the district level, follow up supervision is supposed to be conducted 4 to 6 weeks after the health worker has undergone training. In Homa Bay, managers and front-line health workers reported that follow up supervision took place in most cases, with the majority of follow ups taking place 2 weeks after training, and a few up to 4 months later. Similarly, in Malindi, follow up supervision of IMCI trained health workers has also been conducted in most cases; however, health workers reported a longer lag time (i.e. up to 8 months) between trainings and follow up.

In Homa Bay follow up supervision activities were entirely funded by donor agencies (e.g. CRS, Global Fund), but carried out by the DHMT team, usually led by the IMCI focal person for the district. In contrast, follow up supervision activities in Malindi were financed by a combination of donor agencies and cost-sharing money raised at the district level. Follow up supervision in Malindi was facilitated by a mix of stakeholders including the DHMT and ministerial staff deployed from the central level (DOCH), and by development partners such as AMKENI.

4. On-the-Job Training (OJT):

On-the-job training (OJT), often referred to as 'cascade training', was identified early on as a means to increase IMCI coverage by sensitising untrained health workers to the IMCI approach. Although there has not been any standard method or protocol used to ensure a transfer of information, trained health workers are generally expected to lead this process by sharing new information, or by teaching IMCI case management skills to their untrained colleagues at the facility level.

In both study districts, DHMT members reported that OJT is taking place and reports from untrained health workers also confirmed the occurrence of OJT, with most health workers stating that their knowledge of IMCI is a direct result of OJT and only one health worker in Malindi attributing their knowledge of IMCI to having heard about it during pre-service training. Untrained health workers in Homa Bay described their experience receiving OJT as being more of a single, feedback session which was held once their colleague returned from training. The feedback sessions described by health workers were used to inform them of the general overview of IMCI strategy, for example, explaining who was being targeted (under 5s) and why (aim of reducing child mortality), coupled with a few examples of how to treat and manage sick children presenting with key symptoms, such as cough, diarrhoea, dehydration, fever etc., and using IMCI support materials/ job aids (chart booklet, wall chart) as guidelines for implementation.

Health workers in Malindi who had received OJT reported a similar experience. For example, a few untrained health workers described OJT as a brief talk on IMCI followed with examples of how to apply case management skills, with a high level of dependence on IMCI support materials to serve as a guide when attempting to implement it in future practice. Some health workers in Malindi went as far to express dissatisfaction with OJT, implying that, although helpful when sensitising them to IMCI, it was not as effective as in-service training.

Health workers in Malindi have also had the added opportunity to learn more about IMCI through use of a new Health Management Information System (HMIS) register which includes under 5 classifications based on IMCI guidelines. This tool, an initiative of the current DMOH with help from Aga Khan University, was developed and piloted in Malindi since 2004. Reports from key members of the DHMT suggest that adoption and use of the tool at the facility level has been successful, with the majority (80%) of health workers, trained and untrained, applying IMCI classifications when reporting health facility data. There was, however, no marked difference between districts in the reported familiarity of untrained health workers in IMCI and, in both districts, most untrained health workers said they had only heard of IMCI in broad overview, with only a few appearing to know more about the actual approach to the management of sick children.

5. Health worker compliance to IMCI guidelines:

Adherence to IMCI case management guidelines is central to the aim of assessing a child in a holistic manner: the health worker is expected to examine every part of the child's body, whether or not the caretaker has brought attention to these areas. During consultations, the health worker is expected to greet the caretaker warmly and, once comfortable, patient history should be obtained, followed by a close examination of the sick child. Children should be undressed prior to examination, allowing the health worker to fully assess the child. During assessments, health workers are expected to check and record the child's weight, immunization status, check for signs of anaemia (using a technique called 'palm pallor'), check for signs of dehydration (using the 'skin pinch test') and also take the child's temperature (using a thermometer). If the child presents with a cough, the health worker is also expected to count and record the respiration rate (using a timing device) for a full minute. At the end of the examination, classifications are then recorded in patient booklets before counselling caretakers on how best to manage their child at home and informing them of when to return to the facility for follow up. Should the child require a prescription, the protocol emphasises the importance of observing administration of the 1st dose of treatment by a trained health worker. This is referred to as directly observed therapy (DOT).

Although our study did not include a quantitative survey of health worker practices, the national health facility survey (HFS) conducted by the DOCH in 2006 provides insight into this information (MOH, 2006). The HFS sampled 50 facilities and conducted 289 case management observations of IMCI trained and untrained health workers in facilities with at least one trained health worker. The results indicated low levels of implementation at the facility level. For example, health workers were given a score out of 10 for checking three general danger signs, diarrhoea, cough, fever, palmar pallor, vaccination of the child, the weight of the child and the child's weight alongside growth chart (index of integrated assessment), giving an average score of only 5.29. Very few children (11.1%) were checked for general danger signs and less than a half (40.5%) had their weights checked against the growth chart. 7. Children with pneumonia, dehydration and malaria were correctly treated in 63.3%, 76.5% and 41.6% respectively. Finally, facility constraints to implementation were noted, such as inadequate essential equipment and lack of sufficient IMCI job aids.

These findings were backed up by our case management observations at health facilities. Observations of health workers took place over several hours (usually 3 hours), while we paid close attention to their management of under 5s, noting whether the health worker applied basic IMCI skills. Additional observation data collected included a rapid assessment of facility supports, such as equipment and materials (chart booklet, wall chart etc.), as well as operational aspects of facilities (i.e. patient flow).

Generally, health worker compliance to IMCI guidelines in both districts was sub-optimal, with Malindi performing only slightly better than Homa Bay on every section of the IMCI protocol. Furthermore, despite the presence of job aids (e.g. wall charts, chart booklets) at the majority of facilities in both districts, trained health workers did not refer to the guidelines at all during consultation.

In Homa Bay, generally all of the health workers observed obtained patient history and counselled care takers; however, there were a small number of trained health workers who did not demonstrate any knowledge of IMCI case management skills. Few health workers routinely checked immunization status, weighed children and took temperatures, and there was only one health worker from a private facility who adhered to IMCI guidelines, applying all case management skills consistently.

Other IMCI skills which are crucial when providing good quality care (e.g. checking for signs of dehydration & signs of anaemia, counting respiration rate and DOTs) were not being practiced by the majority of health workers in Homa Bay. For instance, not a single health worker observed performed the skin pinch test to check for dehydration. In addition, very few health workers performed DOT, and most did not count respiration rates or check for signs of anemia.

Interestingly, there was one unusual case of an untrained health worker in Homa Bay who adhered to IMCI guidelines despite never having received formal training in IMCI. According to the health worker, he had first heard of IMCI from a trained colleague at his previous place of employment and had also learnt more through OJT in Homa Bay. This same health worker appeared to be very enthusiastic and comfortable using the IMCI approach. During all observations, he kept a chart booklet on his desk to refer to when he needed clarifications on treatment.

In Malindi, all of the health workers observed adhered to 6 key sections of the protocol, such as adjacent seating of the child/ care taker, obtaining history, checking immunization status, measuring temperature, checking weight, and counselling care takers; however, very few were fully IMCI compliant. The majority of trained health workers observed adhered to other sections of the protocol (e.g. counting respiration rate using a timer, checking temperature using a thermometer). A small number of health workers showed no evidence of being IMCI compliant through use of IMCI-specific skills or knowledge.

When comparing health worker compliance between districts, it was evident that more health workers in Malindi used more IMCI-specific case management skills. At least 2 health workers in Malindi performed the skin pinch test, 3 checked for signs of anemia, 4 counted respiration rates and 5 observed first dose of treatment.

6. Managerial perceptions of IMCI implementation

When asked about the level of implementation at the facility level, nearly all managers in Malindi and Homa Bay corroborated the impressions we had obtained during case management observations. In Homa Bay, none of the managers thought health workers were applying IMCI in their day to day duties. DHMT members acknowledged the slow roll out of IMCI within the district, noting both low training coverage and low levels of implementation. When we asked managers whether IMCI was being implemented at the facility level, answers were brief, definite and negative:

“Not so much, *ni kidogo tu* (it’s very little).” – *District manager (2), Homa Bay*

“In the facility I can say for sure that the ideal IMCI has not taken place.” – *District manager (4), Homa Bay*

DHMT members from Malindi seemed more convinced that IMCI was being implemented at the facility level by some trained front-line staff. They were, however, also aware of untrained staff experiencing difficulties with implementation, in spite of the constant reminder of IMCI through the new HMIS register:

“Me, I have a feeling it is being implemented, I think wherever I have gone I have seen them doing.” – *District manager (1), Malindi*

“No, I would say some (health workers) yes, some not fully. Not everybody implements it fully to the expected. I guess I’d say that when I go for the supervision from time to time and I look at IMCI implementation, they are some who are doing it very well, and some still leave a lot to be desired.” – *District manager (5), Malindi*

Several managers from Homa Bay and Malindi expressed difficulties in assessing the impact of IMCI on health and utilisation outcomes. Others argued that there had not been much impact because neither district had achieved the recommended 60% training coverage which would create the critical mass required to have a more noticeable impact. The exceptions were a few DHMT members from Malindi who felt that IMCI had made a positive impact in reducing infant mortality and increasing utilization at the facility level.

Manager opinions at the provincial level in Nyanza seemed to broadly mirror district level manager assessments, further re-affirming the view that IMCI was being implemented very slowly in Homa Bay. Managers also expressed the view that IMCI roll out was slow across all districts in Nyanza province, noting the need to increase training coverage for all facilities in the province.

In Coast province, opinions varied between provincial level informants. Whilst the MOH respondent disagreed with district level views of the status of implementation, stating that facility level implementation was not happening, regardless of the training status of the health workers, a development partner seemed to have a totally different sense of IMCI implementation, arguing that Coast province was implementing IMCI well, using the term ‘good performer’.

7. Fees charged for under 5s:

The 10/20 policy in Kenya clearly states that under 5s should not pay any fees to access health services in all government facilities; however, in both our study districts, health workers or support staff responsible for patient registration were frequently charging care takers a fee for curative services for under 5s. Care givers were usually told that the charges were for registration and, in some cases, the patient book. User fees in Homa Bay ranged from 10 KSH to 20 KSH at health centres and 10 KSH at dispensaries. In Malindi, frontline health workers reported charging slightly higher fees, ranging from 10 KSH to 60 KSH at health centres, and 10 KSH to 20 KSH at dispensaries.

Generally, the majority of health workers were openly aware of the fact that this went against the 10/20 policy. Managers, on the other hand, had varied reactions and opinions as to whether they sanctioned charging under 5s. In Homa Bay, managers appeared to disapprove of under 5s being charged and were

shocked to hear this was happening in their district. In contrast, some managers in Malindi district said they could understand why health workers would continue to charge under 5s and had, in fact, sanctioned this in some of the facilities visited as part of the study.

8. Care giver compliance to referrals:

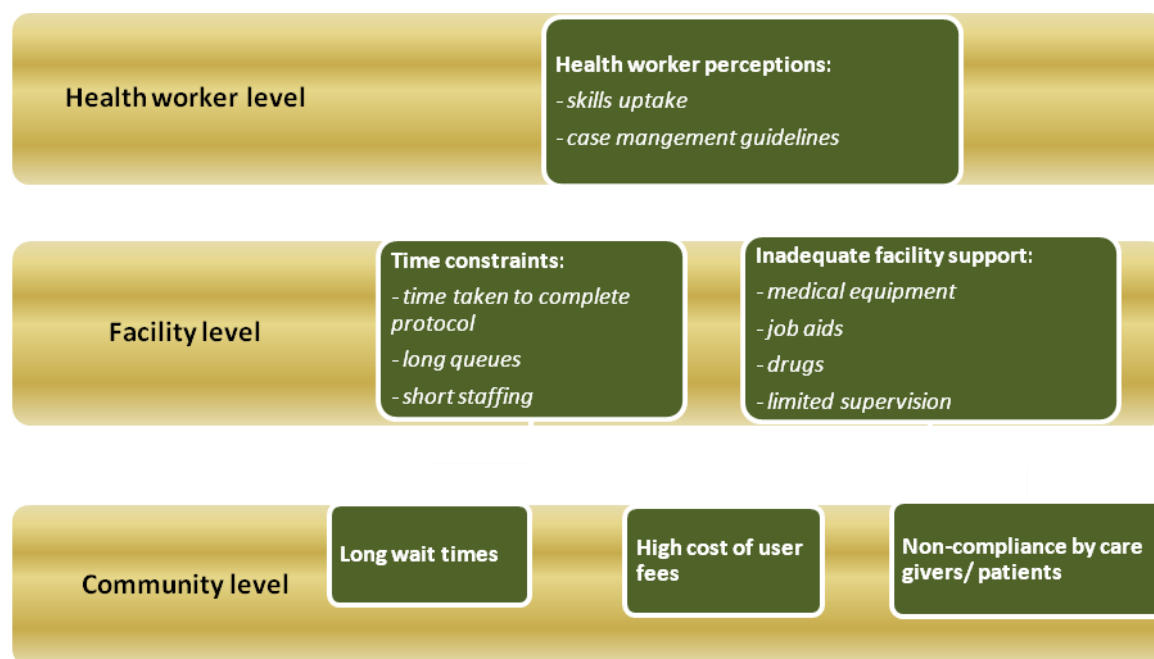
As part of the IMCI guideline, health care providers are expected to refer severely ill children to referral facilities, such as district or sub-district hospitals, which are supposed to be better equipped to deal with such cases. In Homa Bay, FLHS estimated that, on average, 2 out of 10 of the severe cases referred would actually report to referral facilities. In contrast, health workers in Malindi were more optimistic, reporting good patient compliance to referrals and often stating that 9 out of 10 cases would make it to the referral facility. Health workers in both districts reported that complying with referrals was difficult for many care givers.

In summary, training coverage was low in both Homa Bay and Malindi districts, hampering implementation of IMCI by front-line health workers at the facility level. Although observation findings and managerial views suggest that health workers in Malindi adhere more to the guidelines than health workers in Homa Bay, inadequacies in implementation remain consistent across both districts. In the next section (V) we explore potential explanations for this low level of implementation at the facility level, and low uptake and compliance by care givers. The last section of the results (VI) will discuss possible causes of low levels of training coverage.

Section V: Factors leading to low level of IMCI Implementation at health facilities

In this section, key challenges to implementation at the facility level will be discussed, drawing from district level experiences of front-line health workers and managerial views from all levels (district, provincial & national). The aim of this section is to create a better picture of why IMCI implementation has been relatively slow in both study districts, and to identify key differences in how health workers and managers have approached IMCI implementation in Homa Bay and Malindi. Figure I. provides an overview of the key issues raised. At the health worker level, we will explore health worker perceptions of IMCI and attitudes towards policy. At the facility level, we will consider two sets of factors, related to time constraints and facility supports that may have negative effects on implementation. Finally, at the community level, we will discuss broader health systems and context issues that have potential to influence policy outcomes.

Figure 5.1: Determinants of low level of IMCI implementation



1. Factors affecting health worker compliance with IMCI guidelines:

i Health worker perceptions of IMCI

One might expect low implementation to reflect negative attitudes to IMCI among FLHWs; however, interview data generally indicated positive perceptions of the policy. The vast majority of health workers and district managers interviewed stated that they were in favor of the policy and overtly approved of the protocol. Most health workers and managers praised the approach using the terms 'holistic' and 'head to toe', probably reflecting the way they were introduced to the strategy:

“...instead of just concentrating on a single problem maybe that a child presents with, then you have to see that child in a holistic manner. That way you will be able to capture some problems that maybe the mother would not tell you” – *Health worker (trained), Malindi (2_CO1)*

“You manage (the young child) totally from head to toe. You cover treatment plus immunization plus malnutrition plus everything!” – *Health worker (trained), Malindi (4_ECN)*

“Personally the way I understood it...it is some kind of holistic approach, you know, finding out what actually affects the child by examining the child from head to toe...” – *District manager, Malindi*

Those who had received training expressed the view that IMCI had improved their practice and general competency in managing young children:

“...I would say it has increased my skills in tackling these childhood illnesses, since I have a booklet that I follow and I am not afraid to put it on the table and then follow it up for the benefit of the child, so it has increased my skills. I am competent.” – *Health worker (trained), Homa Bay (4_ECN)*

“...it has changed my way of thinking and I can see the fruits.” – *Health worker (trained), Malindi (MHC_CO1)*

“It has changed because I can say sometimes – when I had not gone for the training, I used to misdiagnose but after the training, the skills that I got from the training nowadays I can say that I am competent.” – *Health worker (trained), Homa Bay (2_ECN)*

In Homa Bay, most trained health workers were under the impression that IMCI had a positive impact, with only 1 health worker stated that IMCI had a negative impact. Positive impacts mentioned included better quality of treatment given to children, cost-effectiveness, and increased facility utilization. One health worker also pointed out added benefits of IMCI for other programs (i.e. immunization), suggesting that IMCI had improved immunization coverage within their facility catchment area. Most health workers expressed the view that IMCI had made a positive impression on the community, reporting increased appreciation by community members:

“Yeah, because the community around...you will find some of them discussing that nowadays children are seen in a better way and they are seen faster; so I tend to think that is because of the IMCI.” – *Health worker (trained), Homa Bay (6_ECN)*

However, in another instance, 2 trained health workers posted to the same health centre held contradicting views regarding perceived impacts of IMCI. One argued that there were no apparent changes in facility utilization pre- and post IMCI implementation, whilst the second health worker felt that, since implementation, IMCI had definitely increased under 5 utilization and had significantly reduced the number of severely ill children within their facility catchment area.

In Malindi a few front-line health workers held the view that IMCI had a positive impact in the district; no health worker expressed the view that IMCI had a negative impact. Three major points were highlighted in discussions held with trained front-line staff. Firstly, IMCI had purportedly improved health services at lower level facilities, such as health centres and dispensaries, thus allowing more people to access better medical care. Second, IMCI was perceived to reduce time spent seeking care and reduce any related costs, for example, when a care taker seeks child health services from an IMCI compliant health worker, the likelihood of them having to spend additional money travelling to the next facility to seek better services is greatly reduced because the health worker will have given their child the best possible care by

applying IMCI skills. Furthermore, if the child is seen appropriately, the care taker will not have to spend more time returning to the same facility or a different facility because their child will have received a thorough examination and appropriate treatment, minimizing drug related costs as well.

Health workers in Malindi and Homa Bay also reported a noticeable improvement in drug usage, for instance, knowing how and when to prescribe drugs. When recalling their previous approaches to treating sick children, health workers often described their use of drugs as having been irrational: medicine was frequently prescribed and/or administered, (e.g. giving injectable drugs) without thorough examinations having been performed. A good example of this is presented in the passage below, where one health worker in Malindi described his experience, prior to IMCI training, of prescribing Paracetamol for children, even in the absence of fever or pain:

“It was difficult because we were used to treat the way we were taught in college, you know this condition I can treat it using this and this and this, but we then later realize that there are some conditions that does not need treatment at all just the advice and the mother goes out. We stopped giving that ... Paracetamol...There is no need! Furthermore, Paracetamol is there to reduce what? Fever or to relieve pain. Why should it be given 3 times in a day and there is no pain? Is it a must? No – it is not a must.” – *Health worker (trained), Malindi (4_ECN)*

Health workers in Homa Bay also expressed similar sentiments, frequently attributing improved drug use to IMCI. One health worker explained that she had previously prescribed antibiotics for children who presented with a cough, irrespective of whether the child had any additional symptoms to suggest the possibility of bacterial infections:

“At first we used to give antibiotics for any cough but nowadays we don’t” – *Health worker (trained), Homa Bay (1_ECN2)*

One health worker in Homa Bay attributed the positive impact of IMCI to the implementation of c-IMCI and the role played by CHWs (community health workers). According to this health worker, CHWs who had been trained to draft referral notes and advise community members to seek referral services were said to be largely responsible for successes seen in IMCI. She also suggested that CHWs trained in c-IMCI were able to assist in the prevention of severe disease amongst children, thus reducing costs for those seeking health services as well facility costs (i.e. reduced drug dispensing). In contrast, C-IMCI did not arise in discussions held with health workers in Malindi: here, most health workers tended to focus more on their own individual efforts to implement IMCI at their facility (or during outreach activities), suggesting that perceived positive impacts were attributed to health workers.

The view that IMCI was an appropriate or practical approach to managing sick children was not shared by all.. Two health workers (both COs) argued that IMCI was only suitable for lower cadres, such as enrolled community health nurses or staff posted to work in lower level facilities. Both argued that IMCI does not apply certain clinical skills they have been trained in, such as stethoscope use, which, in their view, would be a better approach in diagnosing a sick child.

One health worker from Malindi also said that classifications were not helpful, specifically those used for conditions involving cough symptoms⁴. The contentious issue was that IMCI classifications, such as ‘no pneumonia’, are considered to be very broad and not specific to any diagnosis. This particular health worker would have preferred to use the traditional approach to diagnosis. More generally, some health

⁴ Conditions include: pneumonia, bronchitis, upper and lower respiratory tract infections

workers felt that IMCI was beneath them because it did not utilize their paediatric training and required unnecessary simplification. They felt that adopting IMCI could potentially undermine their previous practice which, in their opinion, worked perfectly well and gave them a certain level of professional status. Two national level respondents and a district manager from Homa Bay also reported hearing this view and said that resistance to IMCI was mostly seen amongst higher cadres of health workers, especially medical doctors:

“At first you know some cadres were feeling that this one, is not very much important because maybe sidelined *kidogo* (a little) the clinicians...especially the MOs (medical officers) were not very much accepting it...” – *District manager (5), Homa Bay*

“Resistance came from the doctors themselves, they didn’t believe that they needed to go back to school – particularly those who were paediatricians. They would actually question: ‘Why should I go back to school to be taught IMCI? I am a paediatrician! I’m a specialist!’...” – *National respondent, NGO (2)*

“...so the higher level health care providers were not very keen, they thought it was not made for them (with some saying) – ‘do I really need to go for this?’ because it was considered to be a lower level training.” – *National respondent, FBO (1)*

A pre-service training instructor attributed this attitude to the medical culture in Kenya which, he felt, had created classes of cadres with specific ideas about which practices were appropriate to each cadre:

“... a doctor will easily brush something (aside) - “those are for Clinical Officers, those are for Nurses”, and “not me I cannot do those kind of things”. – *Clinical officer instructor, MTC (1)*

Health workers’ attitudes towards elements of the policy were also captured when discussing the limited use of IMCI job aids during consultation. In Homa Bay, only 5 of the 9 trained health workers interviewed said that they referred to the IMCI chart booklet or wall chart during consultation and, during observations, only 1 health worker was actually seen to use the chart booklet. In Malindi, 9 health workers said that they would refer to the IMCI guidelines during consultations. This may be because, unlike health workers in Homa Bay, staff in Malindi were almost forced to use the IMCI job aids because they were expected to fill out the HMIS register using IMCI classifications. Some health workers who had received training did not use IMCI job aids, even though they were readily available. One explanation for not using IMCI support materials was the fear of being perceived as incompetent or unskilled in front of care takers. One health worker in Homa Bay explained that she would be ridiculed if caretakers saw her refer to the chart booklet:

“...but the problem is they will tell you *“bado unasoma tu! ndiyo uniandikiye dawa”* (You still have to read before you can prescribe treatment for us) (*laughs*)” – *Health worker (untrained), Homa Bay (3_ECN)*

Another health worker stated that job aids were important because she could not remember everything from the training:

“I am trying, but I have not taken everything in. I should have that book beside me. I was trying but I was not taking everything in.” – *Health worker (trained), Homa Bay (3_ECN)*

However, later in the interview, the same health worker admitted that she had received a chart booklet after training and placed it in storage, explaining that she had not used it due to “laziness”.

Community expectations were also raised as a factor affecting adherence to IMCI prescription practices. Health workers in both districts expressed the view that community members who frequently accessed health facilities were accustomed to identifying some treatment approaches as being more effective than others. Some people assumed that they were only receiving good treatment if the health worker used a stethoscope or injected their child during consultations; if IMCI is properly adhered to, there is minimal use of injectable drugs, resulting in potential disagreements between health workers and care takers:

“...I say the truth. Majority like being injected. So if a patient comes in here and finds me being IMCI compliant, I will manage the child as per the IMCI guidelines and then if the mother had in mind that the child must be injected, some automatically will not be convinced so next time she comes here and find another person who injects her (laughter).” – *Health worker (trained), Homa Bay (OKD_ECN)*

Other health workers agreed that the IMCI approach to treatment, such as counting the respiration rate or advising care takers to give the sick child at home treatment (e.g. lemon tea) was sometimes considered to be sub-standard and was not well received by care takers.

An additional reason that might explain why health workers have not fully embraced IMCI is that some health workers simply do not feel motivated to learn and implement the strategy. Two managers felt that negative attitudes and lack of interest in IMCI had affected implementation at the facility level:

“I would say it is just a matter of attitude and interest, yeah. If you are interested in doing something obviously you will do all that you can to make sure you do it properly.” – *District manager (5), Malindi*

“...there are some facilities that are performing; there are some that are not performing. But (those) ones I just think (it is about) attitude.” – *District manager (2), Malindi*

One manager in Homa Bay also noted the importance of improving health worker attitudes as a means to improving implementation, noting the presence of “a very big inertia to change”. A health worker in Malindi was in agreement and further pointed out the importance of health worker interest in IMCI in order to effectively implement it once they return to their facilities:

“...you also need to have the desire in your heart. Not just somebody pushing you to go and do it; but you actually need to be interested in IMCI so that when you come back to the field you implement it....it has to be something from within you.” – *Health worker (trained), Malindi (2_CO1)*

Respondents also shared the opinion that targeting health workers who are not actively involved in paediatrics for training is futile when trying to ensure uptake of case management skills. A respondent suggested that the nature of participant selection has led to the training of health workers who may not necessarily apply case management skills in future practice:

“...there are people who are ‘seminar goers’, you finished this one, next week you are going because you were picked by the district leader because you are my friend. So any course, *kakikuja na kuna ka allowance wewe ndiyo nitatuma* (if there is any small course and there is an allowance then I will pick you) – whether you put it into practice what you have learned or not, that is immaterial.” – *National respondent, NGO(2)*

A health worker from Homa Bay reiterated this point and said that trained staff who do not usually work closely with children (i.e. not in the pediatric ward in hospitals, or seeing under five outpatients at health centres or dispensaries) may not see the need to retain any skills learned in training, nor would they have the opportunity to practice their newly acquired skills in their daily work. A good example of this was seen in Malindi where one health worker said that he had received training in IMCI when he was working in the surgery department:

“I went for the IMCI because my other colleague had already done it...and at that time I was in Malindi Hospital in theatre so actually it was really irrelevant to me.” – *Health worker (trained), Malindi (6_CO)*

More broadly, some district level managers blamed poor implementation on low levels of general motivation among health workers. For example, health workers may perceive that they are not paid well, leading to a lack of motivation for providing patients with good services, thus affecting implementation of all services, including IMCI. Other factors affecting motivation were said to include inadequate supportive supervision from facility in-charges or district managers, an issue discussed in more depth below.

In summary, our data suggests that health workers generally reported very positive perceptions of the strategy, highlighting specific improvements in treatment and management they have experienced. These interview findings, however, appear inconsistent with the case management observations and managerial views covered in section IV. Further investigations did reveal some concerns about the strategy, in relation to its suitability for higher cadre health workers, community expectations, use of job aids and the impact of generally low level of motivation amongst health workers. The major contrast between the negative and positive perceptions of the strategy implies that either FLHWs did not always feel free to share their true views of the strategy during interviews, or that other factors are primarily responsible for low implementation. These other possible determinants are discussed below.

ii Time constraints:

a. Time taken to complete IMCI protocol

National level respondents stated that an IMCI trained health worker should take between 10 to 15 minutes to fully assess and classify a child using the IMCI approach, and district managers also thought that health workers should spend on average 15 min per child. National level interviewees, district managers and IMCI course directors did, however, acknowledge that it might take longer at first (between 20 to 30 min), but get quicker with time as health workers practice their skills. In contrast, in our observations, trained health workers spent between 5 and 15 minutes per child with the majority of trained health workers spending less than 10 min.

Front-line health workers frequently argued that it was not possible to complete the full protocol with each child because of time constraints, associated with high work load, long patient queues and low staffing levels. They felt the pressure to get through the queue faster, with health workers using the term ‘clearing and forwarding’ when describing the process. Some also felt additional pressure from their untrained colleagues to stop practicing IMCI:

“...because of time...and sometimes when I try to implement IMCI and then my colleague will ignore...that is another big problem...you see that I am trying to practice then when my colleague

comes, he or she will say '*wacha tuendelea tuu*' (let's just continue) the way we were doing, this one will drag us behind. So it is not easy." – *Health worker (trained), Homa Bay (1_ECN1)*

As a result, trained health workers would find themselves skipping sections of the protocol, particularly leaving out the ones which they perceived to be the most time-consuming such as checking the respiration rate using a timing device. Even those who did this section of the protocol did not check the respiration rate for a full minute, as recommended by the guidelines:

"Ideally when a child comes you are supposed to strip the child naked then start examining the child from head to toe, sometimes that time is not there to do that." – *Health worker (trained), Homa Bay, (2_ECN)*

"...this as I have witnessed it in a number of facilities and some of the explanations is that: '*I try to spend time with a client and if I am going to see every under 5 using the IMCI strategy then I won't be able to leave the facility.*' I have talked to this person...but it is not easy. Somebody will somehow shy off and look for other ways but all of this is the same...the truth is that they are not fully implementing IMCI despite having been trained. Because it takes time and somebody feels that this queue should be cleared before end of my working hours." – *District manager (5), Malindi*

It was argued that this reflected a health workforce shortage, mostly affecting smaller peripheral facilities. According to GOK Norms and Standards (MOH, 2006), health centres are meant to have at least 16 health workers – 2 clinical officers (COs) and 14 nursing staff to serve a catchment population of 30,000. Dispensaries are supposed to have at least 2 nurses and 2 community health extension workers (CHEWs)⁵ to serve a catchment population of 10,000. Within our study districts, health centres had between 1 to 6 health workers (mixture of COs, RNs or ECNs), while dispensaries had 1 to 2 health workers (mostly ECNs).

Staffing at rural peripheral facilities in Kenya has never achieved GOK's recommended *Norms & Standards*. The MoH has attempted to address this issue by deploying additional nurses hired under short term contracts offered by the Clinton Foundation and USAID-funded Capacity project to many districts, including Homa Bay and Malindi. During the study period, some new nurses had already begun to work at some health facilities in Homa Bay and some had been deployed for registration to Malindi district hospital; however, despite these efforts, it was reported that under-staffing remained a barrier to IMCI implementation.

District managers also noted the common complaint of health workers having too many competing tasks, such as administrative duties, with no additional staff to assist them, thus forcing them to multi-task and neglect implementing IMCI:

"...you could find that there is only one nurse in the facility. This one nurse has to do the financial aspect of the (dispensary) she has to treat, she has to write the report...so they were very much overwhelmed that implementing was rather difficult." – *District manager (2), Homa Bay*

Some health workers argued that the low numbers of IMCI trained staff exacerbated general staff shortages and strongly requested that their colleagues should also be trained. It was believed that this

⁵ Although CHEWs are supposed to be posted to rural health facilities as support staff this particular cadre does not yet officially exist within the Kenyan health system.

would both improve the general implementation of IMCI and facilitate the handling of follow up (return) cases:

“...I am just forced...not to practice whatever I learnt because of the workload but had we enough health workers who could actually be trained in IMCI...it requires more technical staff for it to run...smoothly” – *Health worker (trained), Malindi (5_RN)*

“...IMCI it needs many staff and a lot of time (that) is when you can perform it better.” – *Health worker (trained), Homa Bay (3_ECN1)*

b. Long wait times

Patient queues in health centres and dispensaries are usually very long during peak hours (i.e. 10am to 2pm) and these were extended in facilities staffed by only one health worker, where queues were said to take the whole day to clear, depending on how fast the health worker takes to see each patient. Interestingly, early morning visits to health facilities seemed to reflect the treatment culture of rural communities: morning queues tend to be much longer than afternoon queues because fewer people tend to visit facilities later in the day. Communities living within catchment areas of facilities were said to be well aware of variations in wait times of different facilities. Health workers also stated that public facilities offering a variety of additional services, such as Voluntary Counselling & Testing (VCT), Prevention of Mother To Child Transmission (PMTCT), Maternal Child Health (MCH), etc. has resulted in noticeably more patients seeking treatment at these facilities instead of private or mission facilities. However, they also noted that high patient numbers could negatively affect utilization. Some suggested that many people do not like to queue for long hours and that, given the opportunity, many would seek more immediate treatment elsewhere. In Malindi, district managers and HFCs have reported that communities have a strong preference for quick service and this is reflected by people seeking services at the more expensive private facilities:

“...you can imagine now just a lay person outside with a sick child and when one is inside...spending 30 to 40 minutes you know, *lazima* (it is a must)...this mother has a sick child, *amengoja uko* (waiting there) almost half an hour *ata shangaa* (she'll be surprised) what is going on inside there? – *District manager (2), Malindi*

“Another thing could be the private clinics around, If somebody will come here and queue for maybe one or two hours, unlike when he goes to the private where, say maybe (in) 10 minutes he would have been served. So many people (prefer to) go to the private clinic, pay 100Ksh or 200Ksh than paying 20Ksh and stay here for 2 hours without seeing (a) doctor.” – *HFC member, Malindi*

c. Attrition of health workers

District level managers in Homa Bay and Malindi noted that high staff turnover had exacerbated the staff shortages described above. In Malindi, some IMCI staff had been transferred to departments which do not deal directly with children or to facilities outside the district, negatively affecting IMCI implementation at the facility level. Most new staff recently recruited to fill empty posts had not received formal IMCI training and the only exceptions to this were the younger health workers who had acquired some IMCI knowledge during pre-service training. Older staff had not been exposed to the strategy as IMCI had only

recently been integrated into the pre-service curriculum for nurses and clinical officers. This new influx of untrained health workers was argued to have increased the necessity for additional IMCI training:

“...maybe for now as we get the newly trained staffs, those ones who are coming out of the colleges now, it might be a bit easier because at least they go through a bit of IMCI training in the colleges, so for them it might not be very difficult. But for the old people (*laughs*), it is not easy because our training was different so we have a negative attitude towards IMCI.” – *District manager (6), Malindi*

“...whomever you bring there (to the facility) they must be committed to do the IMCI and most of them have not been trained the new nurses we have, so you get it? So even if you are going to orientate it, they need time. And they also need to be committed to be able to understand that guideline.” – *District manager (4), Malindi*

Homa Bay also experienced high staff turnover which, as in Malindi, partly reflected transfers: however, district level managers and development partners in Homa Bay and neighbouring districts in Nyanza province suggested that HIV also played a major role in increased absenteeism and attrition. Nyanza province has a relatively high HIV prevalence of 34%, compared with 10.5% in Coast province, and a national average of 6.7% (MOH, 2006). This figure has reportedly led to Homa Bay health workers repeatedly falling sick from AIDS-related illnesses and, therefore, taking large blocks of time off work to recover, leaving facilities seriously under-staffed. Whilst Homa Bay trained 51 health workers in IMCI case management, there were only 29 IMCI trained health workers at the time of data collection (i.e. loss of 22 staff since first training that took place in 2002). In contrast, Malindi trained 41 health workers and had managed to retain 37 of these. Although information on the exact number of health workers lost due to AIDS was not available for Homa Bay, many health workers were said to have eventually died from AIDS:

“...there is a big turn (over) of staff, many of our people in the province are disadvantaged in that they work with the sick people, but...go to some health facilities (and) you find that this health worker is also a sick person, which is common in Nyanza province. The death rate among health staff is very high compared with other provinces because of HIV mostly. So you see this is a problem.” – *Provincial manager, Nyanza*

The MOH and development partners were aware of this problem and had tried to address it by hiring more staff for the province. As in Malindi, new staff were often not trained in IMCI, and financial resources were not available for further in-service training. Maintaining existing coverage was therefore a major challenge for Homa Bay due to the heavy losses of IMCI trained staff to HIV/AIDS.

iii Facility support

a. Infrastructure & equipment

Infrastructure, equipment and supplies to support the strategy presents another set of issues which may affect IMCI implementation. Beginning with the infrastructure and lay out, health centres and dispensaries are generally made up of one or more buildings, consisting of a waiting area and a series of 5 to 12 separate rooms which are rarely interconnected. Nurses and clinical officers seeing outpatients tend to be seated in the main consultation room, with other staff manning the MCH, injection room, public

health office, laboratory (where this exists), storage room and pharmacy. A positive aspect of IMCI implementation was observed in most facilities, with sick children being first seen at MCH, where their weight and immunization status is checked and updated, before proceeding to consultation and lab tests (where available). After completing consultation, they usually proceed to the pharmacy to collect their prescription.

Several respondents who reported that the infrastructure was unfavourable for IMCI implementation focused on the general lack of space available to see under 5s separately from older patients. Two health workers complained that the lack of space for an ORT (oral rehydration treatment) corner in consultation rooms has affected their ability to effectively monitor children with severe dehydration for the length of time recommended in the IMCI protocol. ORT corners are sometimes set up elsewhere but the health worker is then not able to give their full attention to the sick child:

“For the ORT corner, we don’t have...we just use the same, same place where we...immunize the children. Whereby it is hard to go and monitor; sometimes you just continue with your work until we forget....” – *Health worker (trained), Malindi (3_ECN)*

Some health workers also discussed the need for facilities to have clean water (piped or stored) for the ORT corner, which was a problem for facilities lacking storage tanks. Facility lay out also compromised the ability of health workers to observe the first dose of treatment, a key component of IMCI. Drugs are generally dispensed from the pharmacy where patients queue up outside a grilled window and, therefore, most health workers do not dispense drugs themselves, let alone witness patients taking any doses. Furthermore, rooms were rarely interconnected, forcing trained health workers to either move to the next room (e.g. pharmacy to retrieve drugs and/or treatment room to administer first dosage), or to refer the child to a colleague after consultation. The few exceptions where we witnessed health workers dispensing drugs at the end of consultation seemed to occur at much smaller facilities, such as dispensaries or private clinics, and was probably due to the lack of a separate pharmacy or short staffing. Only a few of the health workers dispensing drugs did, however, directly observe the first dose of treatment.

In terms of equipment, health workers generally felt that equipment, such as weigh scales and thermometers, were well supplied at facilities, with only 2 reports of broken thermometers not being replaced by the district. In both cases, the health workers had to use their own money to buy new thermometers for the facility. Timing devices such as wall clocks or desk clocks were, however, not provided and, as a result, health workers either relied on their own wrist watches or skipped the counting of respiration rates:

“...you are told things have changed and you have to reorganize yourself....I had to buy a watch for the MCH so that they can be able to get the respiratory rate of the children who (came) with some complex colds.” – *Health worker (trained), Malindi (6_CO)*

IMCI also contains specific indications for referral to higher level facilities; however, a lack of infrastructure was also noted as a major barrier to referral by health workers. No rural health centres and dispensaries had a vehicle available on site. Theoretically, health workers in both districts could call the district hospital and request for an ambulance, but health workers noted problems with this system:

“What is preventing us is when you are referring a patient to a district; you get problems, because you have to ring. There is a hotline, you ring, (and) somebody tells you that the ambulance is I don’t know where, such like so you delay in referring a patient...the problem is transport.” – *Health worker (trained), Homa Bay (1_ECN2)*

In practice, ambulances were usually used to transport emergency obstetric cases in both districts, but not for severely sick children where it was expected that public transport could be used. Patients often lacked sufficient funds to cover transport costs and additional registration fees at the referral facility. Moreover, since introduction of the 10/20 policy, cost-sharing revenues at health facilities had been reduced, limiting the ability of the facility to cover referral costs. In addition, health workers were reluctant to spend their personal money on referral cases.

b. Inadequate supply of IMCI job aids at health facilities

After training, health workers are given IMCI job aids to leave with and the 3 types of support materials which health workers are supposed to use at their facilities are wall charts, chart booklets and recording forms. IMCI support materials all aim to provide health workers with a clear, step-by-step approach to case management. As pointed out by a health worker in Malindi, job aids can be particularly useful in the early stages of implementation as health workers begin to sharpen their newly acquired skills:

“...in fact now quite often I do refer because we have the weakness of forgetting quite often and I do refer to it. And for me you don’t just give something; you have to be sure of what you are giving. That’s when you have to refer.” – *Health worker (trained), Malindi (2_CO1)*

The wall chart encapsulates the entire IMCI algorithm, providing the health worker with a detailed guide covering the 4 key areas of case management: assessment, classification, treatment of sick child and counselling of the caretaker. The chart booklet is very similar to the wall chart, covering the areas addressed in the wall chart but relatively small in size and, therefore, easily portable. Colour schemes are used in wall charts and chart booklets to assist health workers in following the algorithm. In contrast, the recording form, the most abbreviated of the 3 job aids, is a checklist of specific areas to be covered during consultation recording the child’s general information (i.e. age, sex...etc) as well as documenting symptoms, clinical signs, treatment, and counselling given. The key difference between the recording form and the other 2 job aids is that one recording form should be completed per child. Recorded information is supposed to be kept by the health worker and may be used as reference during follow up visits. A copy of the recording form is also printed on the back of the chart booklet.

In the study districts, recording forms had not been provided to the majority of the health workers in health centres or dispensaries. Only 3 health workers in Malindi (2 working at the district hospital and 1 posted to a dispensary) reported that they had been given copies of the recording form to use, and this was only as a guide to treatment and not for completion for every child. The majority of trained health workers said that they had used the recording form in training but had not been given a set of forms to return to the facility with. This was discussed with district managers, who said that recording forms were not being supplied to facilities because the cost of photocopying would be an additional expense which would cut into their limited budget. Moreover, some managers felt that health workers would not be able to organize and file patient records correctly and patient information would be lost, suggesting that the use of recording forms would be a hindrance to IMCI implementation:

“To cut down cost I don’t think we really need that tool...if you give them loose papers just know they will lose them...we are going to cut down on the cost of stationary.” – *District Manager (1), Malindi*

Chart booklets and wall charts had been introduced to health facilities by health workers returning from training but were rarely both present in facilities with trained staff, an exception being the district hospitals in Malindi and Homa Bay.

Several explanations were given for the absence of job aids. First, some respondents said that trained health workers understood that they owned the aids themselves, especially the chart booklet which is easily portable. When they transferred to another facility, they therefore tended to take the materials with them:

“What has happened is the people who have been trained they have been given a set of modules that they have personalized...they have taken them home, when they are there at the facility the day they move away from the facility they go away with the tools.” – *District Manager (1) Malindi*

When asking a health worker about job aids present at their facility, he informed us that he had a chart booklet and firmly stated that it was his:

“...that one (chart booklet) was mine I came with it from where I was working...the booklet is mine.”- *Health worker (trained), Malindi (2_CO)*

Second, some health facilities had been painted and wall charts were often damaged when they were removed from the walls. Replacements were difficult to obtain, as noted by one health worker in Homa Bay:

“...we had some copies on the other side so when they were painting they plucked them out and they were never returned.” – *Health worker (trained), Homa Bay (2_ECN)*

Third, no health worker reported additional provision of job aids besides those given to them in training. This might reflect the high cost of production which could explain why the Ministry has been unable to fund printing of additional aids for the study districts. In Malindi, the reporting tool (HMIS register) was printed using cost-sharing funds.

c. Inadequate drug supplies at health facilities

In order to implement IMCI fully, all first-line and second-line drugs specified in the protocol should be available at the facility. All MOH facilities receive their drug supplies from the Kenya Medical Supplies Agency (KEMSA), a parastatal procurement agency which is supposed to deliver directly to health facilities on a quarterly basis. During the initial stages of IMCI implementation, IMCI specific drugs were pre-packaged to form an additional IMCI drug kit because certain drugs were not included in the standard health centre and dispensary KEMSA kits. In time, the standard kits were updated to include these drugs and the IMCI kits were discontinued; however, health workers said that, even now, the standard kits do not always contain all IMCI specific drugs for first-line or second-line treatment. Nalidixic acid, an anti-microbial drug used to treat severe diarrhoea caused by invasive bacteria (*Shigella*), was often reported missing in drug kits, which hampered health workers from adhering to the guidelines:

“...we are talking of Nalidixic acid which is not there, so, the guidelines (say) this, but the kit is not supplied so application becomes difficult”- *Health worker (trained), Malindi (MHC_RCN)*

Other drugs that were reported missing from drug kits, albeit less frequently, included ORS, Chloramphenicol, Cotrimoxazole (child dose) and Artemether lumefantrine (AL). Although AL is not listed

as an IMCI-specific drug, it has been introduced as first-line treatment for malaria and, at the national level, the IMCI guidelines are being updated to replace SP with AL. Health workers who found themselves out of stock with these drugs, have had to treat children with half the adult dosage of Cotrimoxazole (i.e. breaking tablets) or administer other anti-malarial drugs, like SP (previous first-line treatment) or Amodiaquine, when treating children with suspected malaria.

Traditionally, drug supplies have been based on the 'push system', where KEMSA sends standard kits to all facilities. Over time, this is being replaced with the 'pull system', a new approach where facilities place orders for the drugs they need which are then processed by KEMSA. In Homa Bay, the pull system was still relatively new at the time of the study, operating for the district hospital but not health centres or dispensaries. In contrast, the pull system appeared to have rolled out to smaller facilities in Malindi. According to both front-line staff and district managers, the pull system has not been working well in either study district and respondents stated that some facilities did not receive any drugs for several months at a time:

"...we still have a lot of teething problems, yeah, there are certain times like in the month of October, November and December we never received any drugs." – *District Manager (1) Malindi*

In the few cases when drugs were delivered on time, the deliveries frequently failed to correspond with those ordered in type and/or quantity. This was mainly blamed on inefficiencies within KEMSA although poor road infrastructure was also reported to impede drug deliveries to remote health facilities:

"Actually it (drug deliveries) has not been happening frequently but the problem is the kit that is brought here...this is a health centre, now a health centre is different from a dispensary but they have always been bringing the kit for a dispensary." – *HFC member, Malindi*

"Chronic – that is the exact word because actually when I went there (the) only antibiotic I found was Cotrimoxazole only. All we had there it was like we had non-prescription drugs apart from Septrin (Cotrimoxazole)...there is even no Paracetamol. So now I am using facility money to go and buy from the chemists." – *Health worker (trained), Malindi (5_CO)*

Health workers experiencing stock-outs felt that there was little they could do to address this due to the limited funds raised by cost sharing. Before the introduction of the 10/20 policy, fee revenues had sometimes been used to purchase additional drugs, as described by this HFC member:

"There was a time we would have a small fee collection to buy drugs whenever a shortage would come up. Women who would bring their children here would buy the drugs. Nobody would be sent away from here without full treatment because they have no money. Whatever they could afford they could get treated because we had a chemist right here at the facility." – *HFC member, Homa Bay*

With lower fee revenues under the 10/20 policy, it was now rarely possible to address drug shortages. The only exceptions were facilities where the HFCs had sanctioned the charging of higher fees which were found in both districts. In Malindi, health workers admitted to charging more than the fee revenues permitted under official policy. A district manager confirmed that instructions had been given to health workers encouraging them to have open discussions with HFC members about fees being charged at facilities and how the money would be used to improve health care services. A district manager had also advised health workers to emulate the district hospital's use of cost sharing funds to purchase essential drugs and later expressed that this was the best way to address the issue of drug stock outs. In feedback

discussions held with DHMT members in Homa Bay, district managers acknowledged the existence of the 10/20 policy but also expressed the view that charging higher fees at facilities would be acceptable as long as communities support the idea.

All district managers said that they were never given any clear explanations for the drug shortages from KEMSA or the DOCH. Instead, they were instructed to wait to receive drugs on the next delivery cycle, which was never specified. A manager also felt that problems with drug deliveries from KEMSA would continue and strongly argued that the DHMT should have a mandate to procure drugs locally.

In contrast, respondents working in private and mission facilities did not raise any issues regarding drug deliveries. NGOs and mission facilities procure drugs from the Mission for Essential Drugs and Supplies (MEDS), suggesting that MEDS is a more reliable procurement agency than KEMSA.

2. Supervision & OJT

i Inadequate support supervision

Respondents from all levels expressed the view that supervision of IMCI at facility level was inadequate in both nature and frequency. According to IMCI guidelines, IMCI-specific supervision visits should take place regularly, covering 4 main areas: i) assessment of health systems support (i.e. checking for drugs, supplies, infrastructure to support IMCI case management); ii) assessment of records (i.e. checking recording forms or out-patient department (OPD) register to see if health worker uses IMCI classifications); iii) assessment of skills (i.e. observing a health worker manage a child using IMCI approach); and iv) assessment of community practices (i.e. checking if caretakers have received adequate counselling, and are aware of possible danger signs and when to return for follow up).

It was found that, apart from the follow-up supervision after training, IMCI-specific visits had never been conducted in either district and were often argued to be infeasible. DHMTs are made up of around 10 health personnel with expertise in different program areas (i.e. public health, nutrition, HIV/AIDS etc.), one of whom is designated as the IMCI-focal person. Managers reported that their capacity to conduct supervision was constrained by heavy workloads, many competing tasks, and limited transport. This was particularly evident in Homa Bay which had only 8 full DHMT members, in contrast to 11 in Malindi, resulting in some Homa Bay DHMT members performing multiple roles (e.g. 1 individual was the DASCO⁶, DCO⁷ and IMCI focal person). Instead of conducting program-specific supervision, both districts undertake integrated supervision, where any DHMT member can cover multiple program areas (i.e. HIV/AIDS, VCT, TB, Malaria, KEPI, IMCI etc.).

Health workers in Homa Bay and Malindi said that supervision was helpful, frequently saying that they found it to be very supportive in contrast to previous experience:

“It is helpful. It is very helpful to us.” – *Health worker (trained), Homa Bay (OKD_ECN)*

“In fact I love these supervisions; they are very good because just as I have told you nowadays there isn't that what we call traditional supervision, we have facilitative which is actually the best. Where you see a mistake and tell somebody this one is done this way....It is not like the old days

⁶ District AIDS/ STD Coordinator

⁷ District Clinical Officer

when somebody will come there just look for mistakes (and) no team is supporting you.” – *Health worker (trained), Malindi (1_ECN)*

The difference to the supervision practices between the districts was largely related to the frequency of visits. In Homa Bay, health workers were in agreement that supervision did not occur frequently enough, whereas health workers in Malindi felt that it occurred fairly regularly but at random, suggesting that they had to remain alert in case of any surprise visits:

“...they (managers) do not inform us. They just come so you only get shocked that the people are here. For me, since I came here I have not missed a month without being supervised, so I am always alert.” – *Health worker (trained), Malindi (8_ECN)*

Health workers in both districts noted that supervision did not address IMCI. One health worker in Malindi recalled his experience, noting one particular instance where a manager did inquire about IMCI; however, he pointed out that the manager only covered one area (classifications) and did not address any other aspects of case management.

Managers generally felt that the main constraint to conducting regular supervision was the lack of financial resources at the district level, which were required for fuel and staff allowances. Scarcity of resources had also created additional pressure for managers to visit as many facilities as possible per day, and conduct supervisions as quickly as possible, with managers spending very little time at facilities and hurriedly rushing over various program areas.

There was no clear checklist of areas to be covered during the integrated supervision in relation to IMCI, with the result that it was frequently ignored. Where managers did address IMCI, they admitted that they did not observe case management, largely focusing on assessing facilities for IMCI support such as ORT corners and clean drinking water in the consultation room. Managers in Malindi confirmed health workers' experiences, saying that they also checked whether health workers entered IMCI classifications correctly into the patient register (HMIS tool).

In Malindi, although IMCI was not always covered in supervision visits, health workers still felt like they were being monitored very closely by the DMOH who, in particular, might check the classifications entered into the HMIS tool and patient booklets, when these reached the district hospital. This suggests that the approach to supervision in Malindi was ongoing and much more intense than in Homa Bay, forcing health workers to adhere to a higher standard when implementing IMCI at the facility:

“...we have a very good *daktari* (doctor) who is a paediatrician, so with these kids she feels bad if you mismanage the child. Ah! That is what I have told you...with IMCI...she will be on your neck!!!” – *Health worker (trained), Malindi (4_ECN)*

In addition, unlike the DMOH in Homa Bay, the Malindi DMOH had deliberately trained every DHMT member in IMCI, maximizing their capacity to conduct future supervision. Moreover, she almost always invited key DHMT members (i.e. DPHN, FMN, DMOH) to play more active roles in IMCI support supervision during integrated supervision visits, with at least one of the 3 aforementioned DHMT members present during every supervision exercise.

One major observation noted was the differences in DMOH leadership. The DMOH in Malindi district is particularly strong compared with most DMOs in Kenya. First, she is said to be highly competent in her

field (paediatrics), and her strong character and passion for ensuring that child health issues have been positively influenced the level of implementation experience in her district. As a highly respected and well-known champion of IMCI within the medical community, she has also been able to strongly advocate for IMCI implementation activities at the national level. In contrast, the DMOH in Homa Bay during the time of the study was relatively new to the district and had only recently received training in IMCI. Furthermore, frequent changeover of DMOs over the past 7 years might also explain the low level of ownership and interest in ensuring that f-IMCI is implemented well within the district. It is still, however, important to note that the supervision had failed to ensure full IMCI implementation in either district.

ii *Ineffectiveness of OJT in scaling up IMCI coverage*

According to managerial views, OJT has not been very effective in increasing training coverage in Homa Bay and Malindi. Health workers who had not received training often said that they had heard of IMCI and were aware that their colleagues had received a 2 week training to improve the way they managed sick children. The majority of the untrained health workers that reported having received OJT from colleagues admitted that they still continue to use a more traditional approach when handling sick children. The following reasons were given for the limited success of OJT.

First, some managers said that untrained health workers were reluctant to learn new skills from trained colleagues as opposed to fully qualified trainers. They also suggested that health workers were not confident in the abilities of their colleagues to teach them well, especially if the trained health workers did not appear to be strongly confident in their case management skills. In addition, some untrained health workers were reported to lack the motivation to learn case management skills on-the-job. The training culture which is shared by many health workers assumes that any new skills training should occur off-site, allowing them to have a break from working at the health facility, and receive substantial per diems (allowances).

Second, successful OJT requires adequate IMCI support materials to be present at the facility (e.g. more than one chart booklet, wall chart, etc.); however, as discussed above, there are frequently insufficient support materials for the trained health worker, let alone for other staff members. In the instances where untrained health workers reported having seen some job aids, they generally felt that they were easy to read and clear, though confusing at times, and, therefore, not a complete substitute for proper training. A good example was given by a health worker in Malindi who had received OJT. He described the wall chart as being confusing in some sections, making it difficult for untrained health workers to know how to classify conditions appropriately when presented with symptoms (i.e. fever, diarrhoea) which may well signify a plethora of possible infections (i.e. pneumonia, malaria, flu...etc):

“Yeah, in IMCI they are telling you that any fever over 37.5° and above you have to give Coartem (Artemether Lumefantrine) or anti-malarial. So, it happens maybe this fever is due (to) other bacterial infections so I get a challenge there. I am seeing as if I am giving that child anti-malarials, so I am not sure, so I think that are I get challenges.” – *Health worker (untrained), Malindi (5_CO)*

This highlights the need for highly trained, competent health workers to be able to assist untrained health workers by answering questions and queries confidently.

Third, under-staffing of trained health workers at health facilities is reported to have affected the effectiveness of OJT. One manager from Homa Bay raised this particular issue, noting that OJT has the

potential to work well but the small number of trained staff at health facilities can affect how well it is effected:

“On the job training of IMCI has potential, but depends on the workload and time available. IMCI needs high concentration with minimal distractions. On the job training also depends on the number of staff trained; if the number trained is fewer than the untrained, then it is very difficult.” – *District Manager (7), Homa Bay*

Trained health workers said they found it difficult to take time out of their daily duties to train colleagues because of competing tasks. For example, while the trained health worker is offering consultation services for under 5s, his colleagues perform other tasks, such as registering patients, running the MCH, dispensing drugs, etc., leaving no time for OJT:

“...In fact what I have done is sort of generally introduce them (to) IMCI but of late...I have been wanting to train them on the job on IMCI just for a few...4 hours...because of workload and lack of time is what has been hindering me...I hope I will get time one of these days” – *Health worker (trained), Malindi (2_CO1)*

As mentioned above, basic supervision of training staff is currently argued to be inadequate. District managers expressed the view that OJT, like in-service training, requires follow up supervision, as well as more regular supportive supervision than in-service training, suggesting that any additional supportive supervision of health workers trained using OJT might be even more difficult:

“Once you go through the IMCI course – and I decided to go through it so that I could be able to appreciate (IMCI), you find that it is quite intensive. You need to be very keen and you need a lot of support for you to be able to take up (IMCI) and practice it...On job training might be quite a challenge.” – *District Manager (1), Homa Bay*

3. Factors affecting community uptake & compliance to referrals

i User fees & Poverty

National poverty data (2006) indicates high poverty incidences in both study districts with a reported 71% in Homa Bay and 67% in Malindi. Health workers, district managers, development partners and HFC members were aware of this:

“...we have 70% living below the poverty line...what that means is that for people to get just a dollar a day that money is not there. So if you get that dollar you will not think of going to the hospital. You first of all think of your stomach, not for that person, that child (who) is sick but for the whole family.” – *Development partner, Homa Bay NGO (1)*

“...you should just take a walk around you will just see from the way they live and where they live that majority of our people are still living a poor life...” – *HFC member, Malindi*

In terms of financial sources of income, health workers and district managers in Homa Bay frequently said that communities living farther away from town centres supported themselves through subsistence farming. Fruits and vegetable vendors were also considered to be poor because they are still unable to raise enough disposable income which could be used to access health care (pay registration fees):

“...the whole catchment area, including myself, we are very poor people. We can't do much because although we are farmers our soil (is) very poor...the harvest will be very little and from

that I get a little money...where will I get wealth? Our catchment area is poor.” – *HFC member, Homa Bay*

In Malindi, health workers and district managers also noted that the more remote communities were the poorest saying:

“...From any point, getting off the tarmac a stretch of about 20 kilometres from the tarmac you start experiencing real poverty there. And it continues and it can go as far as 100 kilometres...and as you go further from the ocean, further from the tarmac, poverty becomes more prominent, more prominent to the eye.” – *District manager (5), Malindi*

Unlike Homa Bay, Malindi’s climate and topography makes it very difficult for communities to farm, with many rural areas experiencing severe drought for long periods of time. As a result, communities are forced to depend on relief food to survive these periods.

As mentioned in section (II), user fees are charged at all public facilities. Patients over 5 are expected to pay 10 KSH at dispensaries and 20 KSH at health centres, and user fees charged at hospitals tend to be significantly higher at 100 KSH or more. Official policy clearly states that under 5s should not pay any user fees as they are exempt from paying all costs (both consultation and treatment costs); however, some public facilities do not adhere to 10/20 policy and still charge under 5s, as observed among facilities visited. Most under 5s in Homa Bay, for example, were being charged roughly 10 to 20 KSH at dispensaries and 20 KSH to 40 KSH or more at health centres. Similarly, user fees were being charged for under 5s at health facilities in Malindi.

Difficulties were experienced when trying to obtain accurate information on user fees from health workers, as many were aware that they were not supposed to be charging under 5s. For example, when asked whether user fees for under 5s were charged at the facility, health workers would often state that under 5s were exempt; however, when we then asked them to explain the instances where we noticed them asking care takers to pay a certain fee (e.g. 20 KSH), health workers would then attempt to validate the charging of under 5s by saying that the fee charged was very small and inconsequential:

“...Because when we charge 30 shillings I still believe that this is not enough money to bar anyone from coming...” – *Health worker (trained), Homa Bay (6_ECN)*

“...I feel that one (10 KSH) is very affordable, very affordable.” – *Health worker (trained), Malindi (1_ECN)*

Health workers at facilities that were not adhering to official 10/20 policy often said that the reason their fees were high was because of the better quality of healthcare services they offered (e.g. lab tests). In addition, they said that the fees were used to raise revenue to maintain the facility and pay salaries for support staff (community health workers, watchmen etc):

“...I told you, formerly the government would employ for us subordinate staff, but right now they are not there...So that money is used to pay the, we call them supporting staff, so it is helping us to keep the facility clean, to hire cleaners, assistance, we have to hire messengers....most of these people we pay them from these funds...” – *HFC member, Homa Bay*

Similarly, other health workers argued that user fees were raised to match the drug prices. Drugs that were more expensive were not given free of charge to care takers with sick children. Instead, care takers would pay an extra fee (if they had not already paid for registration) to obtain drugs at the facility:

“...ours there is no consultation fee. We just take into account the drugs that we give, you know, how much do they cost, and that is what I need....” – *Health worker (trained), Homa Bay (4_EC1)*

“Yes, for under 5s they pay for things like Paracetamol; they will have to pay for those ones...it is just 20Ksh, the syrup...” – *Health worker (trained), Homa Bay (5_EC2)*

In view of the high poverty levels, it was surprising that HFC members rarely expressed the view that poverty might affect community members' ability to pay user fees. Some were convinced that 10Ksh or 20Ksh were very small amounts of money, implying that these fees were inexpensive for most:

“The payment is not high...beyond, you know about 20Ksh. We've got a few staff here we call 'supporting staff'. We are not charging high, just to make them pay those supporting staff.” – *HFC member, Homa Bay*

“...facility is meant to serve the community here and it is almost free, I should say it is almost free, they are getting medication almost free...they pay little money, very little, very little...why I am using 'very little' so many times is because 10 KSH there is very little you can do with it...” – *HFC member, Malindi*

Other health workers were convinced that people did not necessarily place high value on accessing good health care services in comparison to other things, as illustrated below:

“...no (user fees) can keep them away. Unless somebody decided not to come because before we were buying sugar for 10 KSH and now (sugar) is 100 KSH and still people drink sugar (laughs), if somebody doesn't want to come, she doesn't want to come...the fee cannot prevent them” – *Health worker (untrained), Homa Bay (5_EC1)*

Only a few health workers said that fees might be a barrier but limited this judgment to people who sought treatment at private facilities, or at the district hospital, where fees were said to be much higher than smaller public facilities. Registration fees at referral facilities, transportation or drug costs were the only instances where poverty was identified as a barrier to accessing good health care.

When we asked health workers how they would handle patients who could not afford to pay registration fees, they said that patients who were 'very poor' were waived (for that specific day) and would then receive free treatment (including drugs available at the facility pharmacy). Health workers said that they would use their own perception of individuals who came to facilities to determine whether they could pay for registration. Some HFC members also said that they have assisted health workers to establish which patients were too poor to pay:

“...the way they come, yeah, their physical outlook, that one tells a lot. So if you say you don't have, you don't have.” – *Health worker (trained), Malindi (5_RN)*

“Because we come from the community and we know how people behave in their homes, you might be poor, you might not be having money (and) currently we can give you a waiver...so before we give a waiver, we actually look at the truth within these homes.” – *HFC member, Malindi*

At district hospitals, patients who were waived from paying registration fees were not expected to pay for certain services; however, prescription drugs were not necessarily free for under 5s. Health workers explained that some drugs were more expensive than others, which might explain variations in user fees.

Generally, most interviewees held the opinion that communities were aware of both exemptions for under 5s and waivers for the very poor. Only a few health workers and managers said that community members might be unaware that waiver systems existed at health facilities and would therefore be less inclined to seek health care services:

“...whether they have money or not they can still go to the local dispensary and get assisted but there are still others who may not be aware that there is a waiver system (exemption system)...so I would say that is the situation.” – *District manager (2), Malindi*

As data were not collected directly from non-HFC respondents from local communities, it was not possible to verify views of HFC members, and, although it was frequently reported that waivers were offered to the poorest, no formal exemption criteria checklist appeared to be in place at any of the health facilities in Homa Bay and Malindi.

ii *Non-compliance of Care givers to referrals*

Health workers working in health centres and dispensaries in Homa Bay and Malindi generally gave the impression that they adhered to the referral segment of the protocol (referring children who would present with severe symptoms to higher level facilities), with none reporting failure to comply. When we discussed patient compliance to referrals, however, health workers in Homa Bay typically reported it to be very problematic, often saying that the majority of patients who are referred fail to go to the referral facility (i.e. 7/10 of those referred). In contrast, health workers in Malindi district seemed to be more optimistic about care giver compliance to referrals, stating that the majority of patients (i.e. 9/10) would go to referral facilities to seek treatment, as advised by the health worker.

Health workers in both Malindi and Homa Bay identified several reasons why some care givers may not comply to health worker recommendations, citing similar explanations across both districts. The majority of health workers in Homa Bay and Malindi explained that patients who do not go to referral facilities are very poor and cannot afford transportation costs or the user fees charged at the referral facility, often higher than that charged at lower level facilities:

“You see maybe 2 out of 10 (will go to a referral facility) because most of them when we tell them this child of yours needs to be taken to the district hospital to be managed there, what the parent will tell you immediately (is): ‘ *I don’t have money. Sister, just help me here.*’...and they will tell you: ‘*if the child is meant to live, he will live, if he is meant to die, he will just die whether I go to Homa Bay (district hospital) or not, so I can’t go because I don’t have money.*’ So most of them don’t go...” – *Health worker (trained), Homa Bay (1_ECN1)*

As mentioned above, several health workers identified the lack of ambulances or available transport at peripheral health facilities as a barrier to referrals, resulting in care givers having to pay for local transportation costs. Unfortunately, most health centres and dispensaries do not have cash kitty available, forcing health workers to pay out of pocket in such circumstances.

It is possible that, in addition to poverty, care givers’ non-compliance with referrals can have cultural explanations; and this is more evident in rural communities where the father acts as head of the household. Health workers in Homa Bay district said that women living in rural communities tended to adhere strongly to this cultural practice and usually had to seek consent from husbands before taking their sick child to any health facility to seek treatment, including referral facilities.

In summary, this section has identified and discussed constraints to implementation at individual, facility and community levels. Some of the issues raised are specific to the IMCI strategy, such as the length of the protocol, availability of job aids, and IMCI supervision; others are generic health systems constraints, such as short staffing, and inadequate facility support in terms of equipment, drugs and supervision. In addition, the importance of recognizing socio-economic constraints to accessing health services suggests that successful implementation of a strategy like IMCI would be fairly complex, requiring better uptake of the strategy from health service recipients as well as better adherence to guidelines by health workers. In both districts, these problems were observed in the context of low levels of IMCI training coverage (16% in Homa Bay and 31% in Malindi). The next section will focus on explaining why training coverage is so low in the study districts and across Kenya in general.

Section VI: Factors affecting training coverage

Training coverage indicators in both study districts were low, standing at 16% in Homa Bay and 31% in Malindi in 2007. This is reflective of the situation nationwide, with the majority of districts in Kenya having few health workers trained in IMCI. This section will revisit training coverage in both districts and explore possible explanations for differences between them. Next, we will examine underlying factors which might affect training coverage, drawing from discussions held with district, provincial and national level stakeholders and policy-makers.

Training coverage differences in Malindi & Homa Bay:

As seen in Section (IV), Malindi currently has more IMCI trained health workers than Homa Bay (27/108 and 22/167, respectively). One possible explanation for this difference in numbers is that Malindi started training 2 years after Homa Bay⁸ and there has, therefore, been more time for attrition of trained staff in Homa Bay which has experienced higher turn-over of trained health workers. In the majority of districts that have undergone training, health personnel first targeted for training were managerial staff who tend to be older than most front-line health workers and therefore more likely to retire much sooner after training, as was the case in Homa Bay. It is also important to note that the denominator used (total number of health workers) in each district might also explain differences in the health worker training coverage indicators. Homa Bay currently has more front-line health workers posted to the district than Malindi (i.e. 167 and 108, respectively) due to the recent influx of new, fixed-term contract health personnel deployed to Homa Bay as part of a new initiative to improve staffing in rural areas, driven by the MOH, Clinton Foundation and USAID- funded Capacity project.

Despite Malindi having higher health worker training coverage than Homa Bay, both districts still fall far below MOH targets and WHO recommendation of 60%. This implies that there are still a number of general issues that could explain why Kenya has low coverage. Opinions on the causes of this elicited by a range of stakeholders from different backgrounds (e.g. Ministry, development partners, NGOs, etc.) will be discussed in-depth below.

I. Financing of IMCI training

i. District level financing:

The key planning tool for district managers is their annual work plan. According to the Homa Bay District Annual Work Plan (2006/7), key priorities for the coming year outlined under Early Childhood (i.e. 2 weeks to 5 yrs) included IMCI training activities in both community IMCI (c-IMCI) and facility IMCI (f-IMCI). For c-IMCI, district managers planned increased c-IMCI interventions. At the facility level, the importance of increasing the number of facilities with IMCI trained staff was noted, highlighting the need for more case management training for health workers.

Early Childhood activities outlined in the Malindi District Annual Work Plan (2006/7) only included c-IMCI as a key priority area and made no reference to f-IMCI for 2006/7, although managers in both districts frequently emphasized the importance of more f-IMCI training. Despite this emphasis, interviews with managers from our study districts suggest that DHMTs are extremely limited in their capacity to plan and budget for f-IMCI training. District managers can include specific activities in their plans but the scale of

⁸ Malindi district held its first case management training in 2004 whereas Homa Bay had its first training in 2002.

resources in the annual budget is simply not of the order of magnitude to fund IMCI case management training.

In Malindi, this has been particularly challenging because their budgetary allocation is lower than that for other districts; although informally recognized as a “district”, it has not yet been officially gazetted by the GOK and, therefore, continues to have official “sub-district” status. Budgetary resources received from central MOH can be supplemented by user fees collected locally but this is quite limited. First, implementation of 10/20 policy has officially eliminated charging of under 5s and has placed a limit on charges for other age groups. Second, with both study districts having very high poverty incidence, the amount of money considered feasible to charge local residents is very small. Malindi used cost-sharing money to compliment other funds for training but, in reality, the amount of revenue raised through cost-sharing was not sufficient to support IMCI training completely. Homa Bay, on the other hand, has never used cost-sharing funds for IMCI training activities. To fund IMCI training, DHMTs are therefore forced to rely on donor funds identified by the DOCH or those raised locally (e.g. lobbying for money from NGOs). For example, the DHMT has lobbied for funds from partners such as, Catholic Relief Services (CRS), Global Fund (GF), and USAID-funded APHIA-II project:

“...we hope that (development partners)... also coming in to support the community strategy might also (want to) discuss with us the issues of IMCI...we hope we are going to make our Operations plan for 2007/8 (and that) some of these plans will include trainings in IMCI...” – *District manager (4), Homa Bay*

This approach might force DHMTs to make compromises with donors over the health activities which are funded.

Despite these attempts, funds identified locally have not been even close to sufficient to meet training needs in either district. A representative of a UN agency suggested that Kenya’s lack of a decentralized health system is the reason why there has been slow roll out of IMCI. The respondent said that this has hampered the level of financial autonomy achievable at the district levels to budget and carry out health activities on their own accord, thus resulting in slow implementation of IMCI:

“...countries that seem to have been successful in scaling up and in improving IMCI (have used) the decentralization process, which Kenya has not done...You do not need central funding, so I think that is our main stumbling block in Kenya, the lack of decentralization.” – *Development partner, UN agency (3)*

ii National level financing

Funds that the MOH receives from Treasury are divided amongst various departments within the MOH and department Heads then decide how best to use the available monies across divisions. At the central level, respondents from the DOCH said that Treasury does not allocate enough money to the MOH. Furthermore, although the MOH listed IMCI as an essential package in the NHSSP – II, insufficient funds were allocated to the DOCH for child health activities:

“...in Kenya the priority is Maternal and under 5 mortality rates, so really in terms of prioritization as a key area (it) is highly ranked as one of the areas where we should have interventions but in terms of funding...words do not match with actions.” – *DOCH member (4)*

These financial constraints within the MOH have led the DOCH to rely heavily on donors to provide financial resources for Child Survival activities, including IMCI implementation (e.g. in-service training, production and printing of training manuals, etc.):

“...so that like now for us to roll out we require resources for these activities. We have the training, we have the supervision and we had limited resources because initially we could only access resources from WHO, UNICEF and it was like also their support also went somehow diminishing...” – *DOCH member (3)*

Increased donor reliance has, additionally, created a power imbalance. Donors were said to determine what activities they will be involved in, where (geographic location), and for how long, making it difficult for the DOCH to plan coherently. Another DOCH member said that requesting donor support for child health activities has proven to be very difficult, especially if the donor agency has their own agenda:

“...we were there in the (development partner) meeting and asked them (development partners): ‘How come you are not supporting child health activities?’ They said: ‘No.’...they had already come with their mind set.” – *DOCH member (1)*

Coordination of early implementation activities for IMCI was initially undertaken by stakeholders from a range of organisations, including representatives from FBOs, NGOs, medical training institutions (e.g. University of Nairobi), drug procurement agencies (e.g. KEMSA & MEDS) and MOH/ DOCH. At this early stage, stakeholders seemed to have embraced the IMCI concept and had allocated funds for in-service training activities. Some partners, such as CRS and UNICEF, have continued supporting the DOCH by funding training, as well as assisting in the production of modules and recording forms used in training. In addition, some partners like DANIDA, have also agreed to fund the production of IMCI job aids (e.g. chart booklets, wall charts) that are used by health workers at facilities. One DOCH staff member, however, said that she could not recall a single partner that had consistently funded IMCI since the beginning of implementation. Moreover, among the majority of partners, interest in funding IMCI training has decreased markedly over time.

II. Reasons for Reluctance to Fund IMCI training

i High Cost of IMCI training

As noted above, there has been a shift in attitudes and interests of national level stakeholders, which includes both development partners and some key actors within the Ministry. Discussions with district managers and national level respondents suggest that the change in stakeholder attitude is largely due to very high training costs.

To date, the DOCH has consistently followed WHO standards for IMCI case management training. According to WHO standards, a single IMCI training course should be held with at least 24 participants, 2 course directors and 6 facilitators. Training should last 11 days and be held at a residential facility, such as a hotel or training institute. This also includes substantial periods of practical experience in a health facility that is known to have a high case load of under 5s in the out-patient department. Reports from national level respondents and district managers estimate training costs per participant to be between

80,000 to 90,000 Ksh (i.e. just over \$1000); hence, approximately 1.9 million to 2.2 million Ksh (i.e. \$28,787 to \$33,333) is spent for one training of 24 participants⁹:

“It costs around 80,000 shillings to train a health worker in IMCI case management. That is a course of only 2 weeks, so 80,000 and people feel that it is a bit high...” – *DOCH respondent (4)*

“...the major constraint is adequate funding. One training of IMCI takes around 2.2million (KSh) if you have to buy training modules and print them (for) each person to have.” – *Development partner, FBO (1)*

Interestingly, other actors from within the MOH HQ held opposing views regarding funding IMCI training. One respondent who had previously held a senior position within the MOH stated that he was in support of the strategy and insisted that IMCI would be able to effectively reduce childhood morbidity and mortality rates, if were scaled up. Another MOH respondent, however, agreed with some development partner views and said that IMCI training costs were too high and it was largely ineffective in improving management of sick children, saying that he would “not put a penny towards IMCI training”. He also argued that it would make more sense to provide funding to ensure that health facilities are well-equipped (e.g. equipment and drugs) and health workers receive good support supervision, rather than invest in IMCI training.

The high cost of the standard case management training was generally understood by district managers to be one of the main reasons why donors are reluctant to fund training. A manager in Malindi illustrated this point saying:

“...I believe here (in Malindi) at the moment I think there is hardly any training going on and it is because of the cost...” – *District manager (1), Malindi*

High cost of training was usually attributed to a number of factors:

- length of training;
- production of training modules and job aids;
- residential accommodation;
- need for practical training sessions to be held at facilities with high under 5 case loads.

Another possible explanation for low training coverage at the district level could be the lack of incentives for district managers to take initiatives to come up with cheaper training options for centrally funded training because any cost savings do not accrue to the district in question. In addition, the ‘top-down’ nature in which training activities occur has limited the scope for DHMTs to be part of decision-making processes and have relegated them to simply completing tasks which were set and decided at the central level.

ii *Failure to adopt alternative training options:*

The DOCH has begun to consider alternative training measures to increase training coverage. So far, 5 possible options have been proposed:

⁹ Training costs include fees for accommodation, travel, and printing or production costs for training materials.

- shortened training (e.g. reduce to 5 days from 11 days);
- non-residential training;
- OJT;
- computer-based training (CBT);
- pre-service.

The length of training has been questioned by several development partners who have funded IMCI training. Some partners expressed strong views about the WHO standards, saying that 11 days is unnecessarily long and that most health workers should be able to grasp case management skills within a shorter period (ranging from 6 to 9 days), thus substantially reducing costs. Moreover, another concern raised is that dispensaries staffed by 1 health worker are frequently closed for long periods during training, thus depriving communities of medical services for weeks at a time. In the case of IMCI, the 11 day training period is said to be too long for some managers, especially those from mission/ FBOs:

“Here we still have the 11 days ...Some people find it too long, particularly the Mission and the private they cannot release somebody for that period, so there is a whole issue of duration.” – *Development partner, NGO (2)*

Shortened training is currently being considered by the DOCH:

“...we have even thought of reducing the number of days in training (because) mainly it's the expense. The money used for training the health workers is a bit high...but we are trying to get an alternative way of training health workers....” – *DOCH member (2)*

MOH staff, and development partners with past experience as training facilitators, acknowledged that health workers of higher cadres (i.e. clinical officers, doctors etc.) and senior staff could manage with a shorter course:

“...there will be no need to giving a doctor a more heavy one (course) and do not forget the doctor is more trained...” – *Development partner, UN agency (3)*

“...we need that training which is shorter because they (senior staff) are a busy people and another shorter one for one week for the managers...” – *Provincial manager, Nyanza*

DOCH members were generally, however, in support of maintaining the 11 day training for lower cadres (i.e. enrolled community health nurses, registered nurses), arguing that these staff already find the IMCI training course both challenging and tiring:

“...for rural health workers, for them to really get the concept you need the 11 days.” – *DOCH member (1)*

“...two weeks is not long, it is only that there have been complaints here and there...” – *DOCH member (2)*

Furthermore, health workers and some general managers felt that training was already too short; suggesting that the training period should be extended. In Homa Bay, managers said that case management training was good but still noted that training was very demanding:

“IMCI training; it is actually very taxing. And half of it is good. Half of it is hard...” – *District manager (5), Homa Bay*

Similarly, district managers in Malindi felt that the training was very ‘involving’, busy and generally exhausting (long days). One manager used phrases like ‘no time to rest’, and ‘on your toes’, to describe their experience facilitating a training course. In addition, district managers were under the impression that most health workers would have preferred to increase the length of training. A facilitator in Malindi also felt that some health workers might require more time than others:

“...the training I would find sometimes the training can become a bit frustrating...yes, as a trainer. In fact we are going to look at it because sometimes you get slow learners....very slow learners can really put you off because you will spend a lot of time with that one...so if you happen to get...2 of them – slow learners you are in problems!...” – *District manager (6), Malindi*

Health workers from both districts also said that they found the training course to be very challenging, often using words like, ‘intense’ and ‘rigorous’ when they described their experience:

“...it was so tight...to a point you had to keep time...it was like a crash programme...” – *Health worker (trained), Malindi (1_ECN)*

“...it (training) is involving and then it is a difficult course...” – *Health worker (trained), Homa Bay (2_ECN)*

When asked whether they would prefer to shorten or lengthen the training period, the majority of the health workers in both districts said that they would prefer it if the training lasted longer:

“...the training period was too short...there are a lot of things you (cover), so it needs to be at least 4 weeks...” – *Health worker, Homa Bay (3_ECN2)*

“...it (training) was quite demanding and it kept us on our toes but...if they could extend a bit for 3 weeks just to make the participants relax a bit...” – *Health worker (trained), Malindi (7_CO1)*

One particular respondent said that the push to shorten the training period was largely donor driven. In her view, donors are keen to shorten training so as to reduce training costs:

“...funders just want to reduce cost; they even want it to be 3 days!” – *DOCH member (5)*

One important point raised by a DOCH respondent was the need for multiple in-service training activities for health workers at the district level to be consolidated and rationalized across different program areas:

“...the only thing is that you might want to carry out so many trainings, you are not the only program going to the districts so there is a lot of competition for the DHMTs and all that.” – *DOCH member (1)*

It has also been suggested that training costs could be reduced by running in-service training on a non-residential basis. Non-residential training has not yet occurred in Homa Bay; however, the DMOH in Malindi had already held a non-residential course which she said allowed her to increase the number of participants. A national level respondent pointed out that, even with this change, overall training expense

might only be slightly reduced because health workers would still be given an allowance (per diem) that can accrue into a fairly substantial cost, especially if many do not live near the training venue:

“...per diem is not also cheap...if they are from that District then you do not give them that per diem, give them lunch and it becomes cheaper ...but some will start saying, ‘Oh, you know we came from far.’...3000 to 3500 KSH a day for 2 weeks is not cheap.” – *DOCH member (1)*

Another alternative to running residential in-service training would be to increase the use of OJT; however, the general consensus is that OJT has not been very effective in our study districts, although some national level respondents expressed the view that it has potential to be effective. Two development partners from different organisations felt that OJT could reduce overall training costs but might require a longer training period than 11 days. In addition, both respondents said that OJT would require ample support, such as highly skilled mentors and regular support supervision:

“...once you do not provide supportive supervision later on they drop out, the message gets lost...” – *Development partner, Homa Bay NGO (1)*

DOCH members appeared to be optimistic regarding OJT as an alternative training option. One respondent said that the WHO has agreed to fund a pilot for OJT in 2 districts (Kajiado and Embu). The OJT course is expected to run over a 3 month period in both districts. The training course included a 2 to 3 day introduction of IMCI, followed by practical training sessions held at large hospitals for a few weeks. At the end of training, an exam will be given to all participants and certificates will be awarded to those who pass. This respondent expressed the view that OJT would be a much more appropriate training method in districts that are already implementing IMCI because there would be sufficient trained staff at facilities to support those learning IMCI through OJT.

Another DOCH respondent also felt that OJT should be taught over a long period. This respondent proposed that a ‘staggered’ approach should be used during training instead of teaching OJT as a ‘block’¹⁰. She said that this would give the health worker more time to learn and practice case management skills, and also argued that the staggered approach of OJT had been successful in Uganda and, therefore, has potential to work well in Kenya.

CBT is also being explored as an alternative training option. According to DOCH reports, CBT has been piloted in one district (Kajiado). Two groups of health workers were trained using different approaches: the 1st group using CBT and the 2nd using the standard 11 day course. Follow up supervision conducted after training did not find any noticeable difference between the 2 groups, suggesting that CBT is just as effective as 11 day training. The same DOCH respondent also pointed out, however, that although costs for facilitators/ trainers would be greatly reduced with CBT, significant funds would still be required to cover other costs, such as the training venue and acquiring computers. Additional challenges for CBT include computer literacy and the adaptation of learning materials to make them more context-specific.

Pre-service training in IMCI was also discussed as a feasible way to improve training coverage nationwide. Pre-service IMCI training is relatively new in Kenya. The official IMCI syllabus was released in March 2007 so that all medical training institutions could integrate it into their nursing curriculum but ,to date, only 22 out of 56 institutions have done so.

¹⁰ Block training is a term used to describe trainings which are held over a number of consecutive days with no break until the end of the training period

A respondent from the NCK said that institutions have been advised to teach IMCI as part of paediatric training for 12 weeks and not as block training. At the end of training, nursing graduates are supposed to sit their final exam which will also cover IMCI theory. Due to no practice sessions being offered in pre-service, graduates are not expected to be tested on the practical application of IMCI case management skills.

In Homa Bay, the local medical training institution had only recently integrated IMCI into their curriculum for 3rd year nursing students. Despite NCK recommendations, the institute currently teaches IMCI as a 2 week block training course. The respondent in Homa Bay seemed to be optimistic that pre-service training in IMCI would help sensitize health workers to IMCI concepts; however, she was doubtful as to whether graduates would be able to successfully implement IMCI skills in practice without additional orientation and OJT. She explained that practical sessions rarely occur as part of the pre-service training course, therefore limiting the opportunity for students to apply IMCI case management skills.

“...You know like when we are talking about those severe signs and what have, you would want to see students being able to assess...you know look at the patients all through, go through the management and maybe have some practical assessment like in the (in-service) training...” – *Medical training institution respondent, Homa Bay*

Although Malindi does not have a local medical training institution, one health worker reported having received pre-service training elsewhere. He held similar views about pre-service training, saying that he had not received any practical training in case management but was only exposed to IMCI concepts (theory) for 1 year as part of his paediatric training. This view was supported by the majority of DOCH respondents, who felt that pre-service training has not been particularly useful for students currently in training to become medical officers because of the lack of practical training sessions. Another DOCH respondent also said that some medical training institutions have reported a lack of materials (e.g. modules, videos...etc) which are crucial in training. This is said to have affected the overall quality of training. Another DOCH respondent pointed out a different challenge for pre-service training, this being that higher cadres of students (e.g. clinical officers, medical officers) are not encouraged to learn IMCI skills as much as lower cadres (e.g. enrolled community nurses and registered nurses). This respondent suggested that, if more highly-skilled health workers do not embrace the strategy, this might negatively affect implementation of IMCI at the facility level in the long run.

iv *Difficulties in demonstrating impact of IMCI*

Another reason why funders may be unwilling to finance IMCI training is attributed to many national level respondents having the impression that IMCI has not had a noticeable impact in Kenya. This particular issue is said to be very important to partners, especially those who are accustomed to funding vertical programs or health interventions that have easily noticeable and measureable impacts. Respondents from the DOCH have argued that it would be very difficult to measure impact or attribute any improvements in child health to IMCI right now because optimal health worker training coverage (i.e. 60%) has not been reached in Kenya. A DOCH respondent also implied that development partners have been impatient and want to see measureable impacts that can be directly attributed to IMCI before providing the DOCH with additional funding:

“IMCI is expensive. The impact is not going to be there tomorrow, it is a process and once you look at the process indicators they will show that things are moving towards the expectant but some of the donors and even decision-makers want quick results.” – *DOCH member (4)*

It is important to note that some actors within the Ministry agreed with donors regarding the issue of impact. One respondent expressed the view that difficulties in assessing impact might be partially due to the plethora of vertical health programs that are currently being implemented in Kenya. An overlap of efforts to improve child health indicators (e.g. immunization coverage, malaria treatment, etc.) which are also covered under the horizontal approach of IMCI has made it hard to disaggregate impacts of the various health programs: as a result, the DOCH cannot directly attribute improvements in child health to IMCI. In addition, he recalled that implementation of IMCI had occurred before conducting a baseline assessment of health worker practices. He also suggested that irrational drug use might have been easier to measure than broader indicators, such as under 5 mortality, because any changes could be attributed more specifically to IMCI.

v Increased interest in c-IMCI

DOCH members also expressed the view that, ideally, all 3 components of IMCI should be implemented together. According to DOCH respondents, when IMCI was first introduced to Kenya, c-IMCI had been piloted, but with no set guidelines. Lessons learned from the initial pilot showed that there was a need to develop guidelines for c-IMCI, thus delaying implementation of this particular component. Many donors who previously funded f-IMCI training have also begun to pay more attention to the community component, which has been listed as a key intervention activity in the NHSSP-II and AOP2 - 2006/7, under the Community Strategy.

The Community Strategy was developed to improve the health of communities by strengthening their capacity to manage and address health issues at that level, and under 4 key areas: health promotion; disease prevention; care seeking & compliance to treatment & advice; and governance & management of health services. The Community Child Health strategy was developed under the Community Strategy to specifically focus on child needs. C-IMCI was introduced as an intervention for implementation as part of early childhood (under 5s) activities. Whilst implementation of the community strategy has not yet begun, respondents from the MOH and donor agencies appeared to be confident that c-IMCI implementation will positively contribute to certain aspects of the Community Strategy (e.g. health-seeking behaviour). Many respondents at the national level said that c-IMCI would address the preventive aspect of IMCI by targeting the community, and training them to be able to recognize key danger signs so that they can bring their children to health facilities for treatment. For example, a respondent from a locally based FBO said that he felt that c-IMCI would have a much greater impact than f-IMCI because it would reach the community and encourage them to utilize health services. Similarly, another respondent who used to be involved in early IMCI activities also said that c-IMCI would be very useful in informing individual perceptions of disease, thus increasing knowledge of childhood diseases amongst community members.

Development partners are generally said to be very keen to be involved in c-IMCI implementation activities in the coming years:

“...We have AMREF...UNICEF is planning to support us in the implementation of c-IMCI...the European Union (EU) really supported us...also we have Plan International...in Kilifi and they have done a lot as far as community IMCI is concerned and definitely WHO is there with us...” – *DOCH member (3)*

“Yeah, in the last year after the community strategy was developed by the government...is then the guiding framework for implementing community IMCI in Kenya and so it has gotten more attention.” – *Development partner, UN agency (2)*

A respondent from a bilateral agency also noted the growing interest in c-IMCI and mentioned that many NGOs had begun to submit applications requesting funding for c-IMCI implementation activities under Child Survival projects. A respondent from CRS said that he thought c-IMCI would be noticeably cheaper than f-IMCI because it would not require the large amounts of money used to pay for accommodation at one central venue, resulting in a noticeable reduction in overall training costs. Other government and development partner respondents, however, expressed concern that, like f-IMCI, c-IMCI would also require a high level of resources that are not yet available:

“...now the next strategic plan (NHSSP-II) I think there is a lot to do with the community component...we need to strengthen the community...also do a lot of training at the community level so it still requires a lot of resources that goes in training and supervision – *Development partner, facilitator (1)*

“...I believe apart from that hitch of having no resources that may let us down but I believe if like we got adequate resources - resources are never adequate at least something to near to being adequate then we would really achieve...” – *DOCH member (3)*

v *The Low Profile of Child Health*

A final reason raised for reluctance to fund IMCI was the low profile of child health in general, at both national and international levels. Respondents felt that current interest was more focused on HIV/AIDS and malaria, with many donors heavily funding health activities in these two main areas:

“...right now probably they (development partners) have diverted their money to AIDS awareness or malaria case management...” – *District manager (4), Homa Bay*

“...I do not know whether they are doing a lot in IMCI now...but I think their resources are much more – at least 90% on HIV...” – *Development partner, facilitator (1)**

At the national level, this was reflected in the relatively low status and funding of the DOCH within the MOH: the division is recently established and lacks specific budget line for child health from the Treasury.

“In the last meeting we attended the ICC child health there is a concern that within the Government budget there is no budget for Child health... we have a line for AIDS in the Government budget even in the Ministry of Health, now we also have a budget line for Reproductive Health. The next one that we now want to tackle is the budget line for Child Health. You do not get a budget line until you have sensitized Stakeholders, you have a Policy Document, you have set priorities and you have made noise!” – *MOH respondent (1)*

One major issue raised in discussions at the national level was the need for a Child Health policy in Kenya; this would raise the overall profile of child health and make it easier to lobby for funds for implementation of policies, such as IMCI. The general feeling shared amongst Ministerial staff was that the Children’s Act (2001) was not sufficient to raise the profile of children or the importance of child health. As a result the MOH has been working towards formulation of a child health policy for the past few years, and a policy draft is being developed by DOCH, with assistance from agencies like the National Coordinating Agency for Population Development (NCAPD), UNICEF and National Nurses Association of Kenya (NNAK). Once complete, it will be submitted to parliament for further review.

In summary, low training coverage in Kenya reflects inadequate funding at the district and national level, coupled with a general reluctance to fund implementation activities, by both the government and development partners. This reluctance, in turn, is explained by a number of factors like the high cost of training and failure to adopt alternative training options, the difficulties in demonstrating a public health impact, a switch in focus from f-IMCI to c-IMCI, and generally low levels of interest in child health. The final section of this report will take a step back and compare Kenya's experience to that of other developing countries, and explore the deeper, underlying causes of both low training coverage and poor implementation at facility level.

Section VII: Discussion

IMCI effectiveness & implementation

Findings from the Multi Country Evaluation (MCE) study of IMCI effectiveness carried out in 5 countries (Bangladesh, Brazil, Peru, Tanzania and Uganda) from 1998 – 2004 suggested that IMCI was more efficient and less costly than routine care. Health workers who received IMCI case management training in Tanzania, for example, provided a better quality of care than untrained health workers (Schellenberg et al., 2004), and there were notable improvements in classification, diagnoses, treatment and counselling by trained health workers, compared to those who had not received any training. Similarly, in Uganda, it was reported that health workers who had been trained in IMCI consistently provided better care for sick children than untrained health workers (Pariyo et al. 2005). These positive results were not, however, reported by all of the MCE countries. Arifeen et al. (2005) showed that, even though Bangladeshi health providers were trained in IMCI, skills-uptake was not guaranteed, resulting in little or no application of IMCI case management in practice. Similarly, doctors and nurses in Brazil did not show any major difference in the quality of care given to sick children compared to untrained health providers (Amaral et al. 2005). Impact studies conducted in Peru did not look at the effects of IMCI training on health worker behaviour; however, one study showed no significant associations between training coverage and changes in mortality or nutrition indicators (Huicho et al., 2005).

Even where positive impacts were achieved, the MCE findings emphasized that more efforts should be made to ensure better coverage of IMCI, such as availability of sufficient resources to sustain IMCI implementation activities and cover all 3 components of the strategy (Arifeen, S. 2004).

Two major challenges were noted in Kenya: very low training coverage; and low level of implementation at health facilities by trained staff. Here, however, it is important to note that relatively few observations of general health worker practice were conducted at facilities, and interview data could potentially have been affected by the Hawthorne effect or social desirability bias. If this was the case though, both sources of bias would be expected to lead to an artificially positive picture of IMCI implementation, implying that the inadequacies we observed probably reflected a best case scenario. At the facility level, low take up of implementation of the strategy is partly attributed to factors which are specific to IMCI, such as inadequate supply of job aids, lack of IMCI supervision and protocol length. Other constraints to implementation include staff shortages at lower level facilities, infrequent routine supervision that includes case management observations, and frequent drug stock-outs.

One major constraint to low training coverage in both our study districts and across much of Kenya is the lack of financial support for the facility component of the strategy. At the district level, neither DHMT budgets nor revenue raised through user fees are sufficient to cover IMCI training costs. At the central level, allocated GOK funds have never been sufficient to cover IMCI training, leading to a reliance on development partners whose interest in funding this area has waned. Our interviews/investigation showed that this declining interest reflects the high cost of training, difficulties in demonstrating the public health impact of IMCI, increased focus on the community aspect of the strategy, lack of consensus on new or alternative training approaches, such as OJT, and the low national and international profile of child health.

Variations in the implementation experience between study districts were also noted. These include differences in training coverage, health worker adherence to IMCI guidelines, and overall support of the strategy. The major determinant of these differences appeared to be the leadership role of the DMOs, with trained health workers in Malindi demonstrating more knowledge of IMCI case management skills than those observed in Homa Bay, and more district managers expressing support for the strategy.

Equity of IMCI implementation in Kenya can be considered from a number of angles. In terms of districts selected for implementation, coverage has been widespread with the majority of districts in Kenya having at least 1 IMCI trained health worker, and a higher proportion of poorer districts having received the intervention. This reflects the process of district selection, which was dependent on district capacity and the presence of an NGO or development partner. NGOs and donors were more likely to have been already working in poorer districts, leading to a bias towards introducing IMCI in these areas. In addition, our study districts showed that health facilities within districts targeted for IMCI implementation were distributed widely across both districts, and included those in the poorest areas.

Access to health facilities implementing IMCI is another important equity angle. Consideration of access is crucial if IMCI aims to improve health for all children, including those from the poorest communities. Kosimbei (2005) and Bedi (2004) have shown that utilization of primary level health facilities in Kenya is largely determined by socio-economic status, availability of functional road networks, distance and charging of user fees at health facilities. The Household Expenditure & Utilization report (2003) showed that the use of primary care services increased with an increase in wealth index quintiles, suggesting that individuals of higher socio-economic status have a higher propensity for seeking care when they fall ill (MOH, 2003). For example, the percentage of those not seeking treatment when they are sick was much higher amongst the poorest quintile (33%) compared to the richest quintile (15.6%). This may reflect difficulties in paying for health services among poorer groups, who are often found to spend a much higher proportion of their total income on health care in comparison to wealthier groups (Gilson & McIntyre, 2005). In Kenya, this problem is likely to have been compounded by lack of health worker adherence to 10/20 policy. Moreover, failure to develop a systematic exemption scheme at GOK facilities has exacerbated this issue. When poorer groups did seek treatment, however, they were more likely to use public health centres and dispensaries, and these facilities accounted for 35.1% of all provider visits from the poorest quintile, compared with 13.5% of all visits for the richest quintile. This pattern was reversed for public hospital outpatient visits, which accounted for 16.4% of all visits by the poorest quintile compared with 29.3% for the richest (MOH, 2003).

The inability to pay for services would affect the majority of Kenya's population (86%) residing in rural areas where poverty incidence is greatest. The report also covered utilization of outpatient services by province, and Nyanza province was reported as having the highest utilization rate (2.9 per person per year), suggested to be due to the high HIV prevalence rate in the area. Coast province had a slightly lower utilization rate of 2.16 per person per year and the lowest utilization rate of 0.6 was reported in North eastern province. A possible reason for the low level of utilization in this area might be due to poor infrastructure or sparse distribution of health facilities since infrastructure in this part of Kenya is particularly poor, making it difficult to access facilities by public means (MOH, 2003).

In terms of generalizability, research methods applied in data collection and analysis were largely qualitative, with a relatively small quantitative component. Moreover, the data collected at district and facility level were obtained from only 2 districts. Care should therefore be taken in generalizing our findings to the provincial or national scale; however, for a number of reasons our findings are likely to be quite typical of the Kenyan experience. First, both our study districts are very rural and with relatively high poverty incidence and poor local infrastructure, and, as such, are fairly representative of other districts in Kenya. Second, IMCI training coverage indicators are generally very low in Kenya, with only a few districts achieving high coverage; therefore, one can assume that the training coverage indicators in both our study districts are reflective of low training coverage experienced in Kenya in general. Third, we deliberately selected districts which were good and struggling which provided an opportunity for us to capture some variation in our findings.

In addition, national level respondents appeared to be in agreement with what we reported in terms of implementation, suggesting that the district-level experiences were fairly common across the country. This was supported by the findings of the national health facility survey (HFS) conducted by the DOCH in 2006, where 26 districts were selected for inclusion in the survey, covering a total of 50 health facilities, and 289 case management observations were conducted on a mix of both trained and untrained health workers. Results showed generally low levels of implementation at health facilities with at least 1 trained health worker: there was no distinct difference in the number of cases seen by trained or untrained health workers; only 11.1% of sick children were checked for danger signs; and less than half of trained health workers (40.5%) regularly checked nutritional status of the child, all of which reflected poor skills uptake. Other similarities found in our study and the survey include facility constraints to implementation, such as inadequate essential equipment, lack of sufficient IMCI job aids, lack of proper referral services (only 7.7% were correctly identified for referrals), and inadequate supervision, with only 22% of health facilities with trained health workers having at least 1 supervision which included IMCI case management observations (MOH, 2006).

Finally, studies on IMCI implementation in other countries have some similar findings, suggesting that the issues raised by this study can still provide important insights into implementation challenges in similar contexts (Rowe et al., 2001).

Several past studies which examined implementation challenges of IMCI have also highlighted poor health worker compliance, indicating that it is likely to be a generic issue across many different country settings. In a study conducted by Rowe et al. (2001) in Benin, determinants for poor implementation of IMCI by health workers were identified using similar qualitative research approaches (interviews, case management observations). Our study results were surprisingly close to their findings, with health workers reporting almost all of the same reasons for poor implementation, such as poor facility support (job aids, equipment, and drugs), high workloads, short-staffing, and no IMCI-specific supervision. In addition, case management observations findings in Benin and Kenya both reported that the majority of health workers were skipping sections of the guidelines often perceived to be too time-consuming or that they were generally in disagreement with.

Another study conducted in Brazil to assess if consultation time differed between trained and untrained providers showed that trained health workers spent more time per consultation, a difference of approximately 1 min 26 seconds. In addition, the study highlighted other factors related to capacity constraints, such as work load, have potential to influence the time taken by providers to assess a sick child (Adam et al. 2005). It was also pointed out, however, that quality of care should be assessed to determine if better care is maintained and delivered by trained health workers under high or low workloads.

Nsungwa-Sabiitii et al. (2004) reported that health systems and resource constraints similar to those found in Kenya have also affected IMCI implementation in Uganda. For example, difficulties in drug acquisition led to Uganda adopting a 'pull system' to improve drug deliveries to facilities but this has had little effect. In terms of financial support, IMCI was noted as requiring vast amounts of resources and, despite there being several funders, not a lot of money has been raised to support existing or future activities.

Identifying the root causes of poor implementation:

In Kenya, implementation challenges in training coverage, such as high training costs and insufficient funding mechanisms, has resulted in slow roll out of the strategy. In addition, general reluctance to fund training is linked to failure to adopt alternative training options, difficulties in demonstrating public health impact, low level of interest in child health, and a noticeable switch in focus from f-IMCI to c-IMCI. At the facility level, poor adherence to IMCI guidelines in routine clinical practice has been linked to factors specific to the IMCI strategy, such as the length of the protocol, inadequate availability of job aids, and lack of supervision of IMCI case management practices. Other factors which are more recognizable as generic health systems constraints, such as short staffing, inappropriate facility infrastructure, and frequent drug stock-outs have also affected implementation. Finally, health worker perceptions of the strategy or certain aspects of the guidelines have influenced how they choose to implement IMCI as part of their routine practice; for example, protocol length is perceived by health workers to create time constraints when dealing with high workload. These immediate causes of poor implementation are likely to reflect a number of deeper, underlying problems. In this section we suggest potential root causes of poor implementation, drawing on the study data, our own interpretations, and empirical and theoretical literature. The main potential causes identified can be grouped into four categories: the process of policy introduction, the context, the nature of the target behaviours required for IMCI implementation, and the role of power.

i Process of policy introduction:

One underlying reason for slow IMCI roll out in Kenya might be linked to the process of the initial introductory phase. During this stage, it appears that adaptation of the IMCI approach to the Kenya context was very limited: adaptation focused only on ensuring that appropriate drugs and terms were used in the guidelines, and there was no adaptation of the overall approach to training or implementation, which was taken as a blue print from WHO. As a result, it seems that the majority of the constraints we have identified were not identified or addressed, with little discussion centred on addressing cost and more general feasibility issues of implementation. Examples of elements of the strategy which may not be feasible to scale up in Kenya include the 11 day residential training, the highly detailed and lengthy treatment protocol and the proposal for IMCI-specific supervision visits.

In terms of feasibility, implementers failed to fully account for the weak aspects of the health system which have proved to be detrimental to the implementation process, including, for example, short staffing, high workloads, ill-equipped facilities, insufficient supervision of trained staff, and poor rural infrastructure. In addition, resources to alleviate these constraints are generally non-existent, raising the question – can the standard IMCI approach work in settings where the facility supports are so inadequate?

The slow process of developing an integrated tool for supervision or the inability of central level stakeholders to decide on alternative training approaches to increase training coverage, demonstrates the resistance to new ideas to improve IMCI implementation in Kenya. One possible reason for this rigidity is the way in which many health policies are adopted in developing countries: when first introduced, policies like IMCI are largely driven by international stakeholders; and in the initial stages of implementation, multilaterals and bilateral agencies generally control the process, leaving little room for local stakeholders, such as MOH, to suggest how to make policies more suitable. On the other hand, even years after IMCI was officially introduced to Kenya, one could argue that the local stakeholders have made very little progress in recognizing and addressing these major constraints, suggesting that the same rigidity to WHO guidelines has been passed on to key MOH staff. Although bilateral and multilateral actors are now arguing for flexibility, the MOH is the actor most determined to stick to the original WHO

recommendations. In fact, actors within the DOCH have been described as the 'purists' and 'fundamentalists' of the IMCI strategy.

Reluctance of the DOCH to partially abandon WHO training standards might be due to the respect the DOCH holds for internationally devised policies. In addition, the DOCH, a fairly new division within the MOH, may not have enough sway or confidence to alter or create policies which may be better suited to the local context. On the other hand, they may not wish to make any such changes for fear of compromising the quality of the strategy. The result of rigid adherence to IMCI standards appears, however, to have been that very low training coverage has actually been achieved, IMCI is barely covered in facility supervision, and there is widespread non-adherence or even complete disregard for the treatment protocol.

In general, IMCI could be said to be a typical example of a top-down approach to implementation, with the policy set at the central level then communicated to lower levels, such as the provincial, district level and facility level, with minimal adaptation taking place at each level. This model assumes actors at the top have the most power, and actors at other levels follow a chain of command. Debates about the top-down approach highlight the following issues and/or assumptions, making such models of implementation unrealistic (Buse et al., 2005), through:

- ignoring the importance of involvement of non-government actors in decision-making as well as those from lower levels of the health system;
- assuming that all actors are committed, skilled, willing (compliant) and supportive of the policy;
- ignoring the possibility of constraints imposed by external agencies or circumstances that might undermine efforts; and/or
- assuming perfect coordination of implementation activities.

For example and, importantly, the relatively good performance of Malindi district might be attributed to deviation from a top down approach to implementation. The DMO's determination to increase training led to a switch from residential to non-residential training contrary to WHO and MOH recommendations. Such a move appeared to have been contingent on the strong personality, commitment and determination of the DMOH, and clearly shows the potential for local leadership in effective implementation.

Indeed, bottom-up theories of implementation highlight the important influence of various actors (government and non-government) at different levels over implementation. From a bottom-up perspective, power is distributed across actors within a system, including subordinate actors at the periphery. Implementers, like health workers, thus have the potential to influence the way a policy is implemented on the ground (Buse et al. 2005). The success of policy implementation is, moreover, linked to the types of relationships between actors at different levels, with some policies being entirely rejected by implementers at the periphery. For example, this was seen with the withdrawal of user fees in New Zealand due to front-line health workers and members of the public rejecting the policy (Buse et al., 2005). The bottom up perspective, thus, suggests that implementation management should allow for the involvement and interaction of a variety of actors in the implementation process.

The importance of actors in the process of implementation was also noted. Although appreciation of the strategy was expressed by health workers and district managers, the fact that IMCI was not reflected in routine practice raises the question – is the overall medical culture in Kenya averse to adopting IMCI case management guidelines? It would seem that one highly influential group was left out of early planning and implementation, this being doctors, the opinion leaders in the medical field. This particular recommendation was highlighted in the 2001 IMCI/AFRO annual report; countries implementing IMCI

recognized that enormous organisational efforts by key players would be required for long term sustainability of the strategy (WHO/AFRO, 2001). Doctors tend to occupy top managerial posts at lower levels of the health system (e.g. head of DHMTs at district level), as well as most of the senior posts at the central level within the MOH, and are therefore the main decision-makers with regards to health policy; however, they were hardly involved in planning or adaptation of the strategy, with only a select few informing the national IMCI working body. Limited buy-in to the strategy by doctors might have also negatively influenced clinical officer views on IMCI. Clinical officers interviewed in both our study districts appeared to not perceive IMCI as an essential or effective approach to improve health service delivery for their cadres. Instead, they seemed to attach more value to traditional approaches to medicine, for example, favouring stethoscope use over counting respiratory rates with timer.

ii Context:

Changes in priorities at the international level have a clear influence on the availability of funding at the national level; for instance, development partners strongly influence health agendas because of their control of resources. At a ministerial level, this remains particularly forceful in Kenya because there has been little progress on plans to introduce a sector wide approach (SWAp), reflecting concerns over financial management within the government and the wish of some development partners to maintain control over their resources. The MOH therefore has little power to shift sufficient funds into IMCI, even if they wanted to do so. The power of the donors also extends to NGOs, many of whom rely on the same bilateral and multilateral agencies for the majority of their funding, often responding to invitations to tender for pre-set project agendas.

The sense of gradual reduction in financial support for IMCI implementation is not unique to Kenya and this particular implementation challenge was also noted in Uganda where sourcing funds for IMCI has become more difficult over time (Nsungwa-Sabiiti et al. 2004 & Oluwole et al. 2000). As an integrated approach to improving child health, IMCI was strongly advocated in the international public health community in the mid-to-late '90s, but interest seems to have waned. This suggests that there has been a 'mood swing' amongst major decision-makers at the international level which has resulted in a switch from initial heavy interest and support for more comprehensive and integrated (horizontal) programs to more 'vertical' programs (Victora et al. 2004). Examples include the Global Fund for AIDS TB & Malaria (GFATM), Presidential Emergency Plan for AIDS Relief (PEPFAR), United States Presidential Malaria Initiative (USPMI) and Global Alliance for Vaccines and Immunizations (GAVI). Interest in other program areas has led to child health being perceived as a low priority program area on the agenda.

The context of the Kenyan health system also played an important role in IMCI implementation experience. This is clearly seen in the health system constraints to IMCI implementation, such as understaffing, unreliable drug supplies and poor supervision. In Theory, IMCI itself is supposed to tackle these issues through its second component: improving healthcare delivery systems, where they should be highlighted during follow up implementation and addressed. In reality, however, many of these problems are far-reaching and systemic, and cannot possibly be solved under one strategy alone. This raises the question of whether IMCI can be used as a tool to strengthen the health system, or whether it requires a functional health system to operate effectively itself.

It could be argued that a key constraint to IMCI implementation at the district level is Kenya's overly centralized health system. Victora et al. (2004) suggest that IMCI, as a horizontal program, naturally assumes the presence of a strong and well-defined decentralized health system, with adequate capacity at the periphery (district level) to support activities. Although Kenya has a decentralized structure with districts managed by DHMTs, the actual extent of devolution of power to this level is quite limited

because of the top-down culture of implementation and the fact that the vast majority of resources remain controlled from the central level (e.g. all staff, infrastructure, drugs, and access to most donor funding opportunities) (Oyaya & Rifkin, 2003). This has limited district autonomy and decision-making power to plan, conduct and support IMCI activities.

The Tanzanian experience suggests that greater decentralization to district level allows some districts to perform relatively well in IMCI implementation. In Tanzania, greater powers are decentralized to district level than in Kenya and this is supported by higher resources at this level derived from basket funding. Research findings from a case study conducted in 2 districts in Tanzania; Bunda and Tarime, suggests that basket funding can facilitate implementation. For example, Bunda, the better performer, received basket funds in 2001 and managed to achieve much higher training coverage (46%) than Tarime (5%), which received basket funds in 2003/4 (Prosper et al., 2008). Managers in Tanzania have greater freedom to determine the allocation of funds and to prioritize health activities: this resulted in district managers in Bunda achieving good coverage indicators (i.e. numbers trained, numbers of health facilities staffed with at least 1 IMCI health worker) and enhanced district autonomy. Decentralization alone did not, however ensure implementation; in the other study district, Tarime; little or no funding was allocated for IMCI activities within the district and coverage indicators remained poor.

One should not therefore assume that adequate financial support and decentralization would ensure proper implementation within a district. Moreover, misallocation and/or misappropriation of funds have been known to occur in settings which have relatively weak structures for public accountability. Conversely, our interview data suggest that good leadership and ownership of the strategy by district managers (DMOs) can positively affect how IMCI is prioritized and implemented at the district level. The implementation experience in Malindi district clearly highlights this particular point, with many local stakeholders being aware of the DMO's stance on improving child health within her district through proper implementation of IMCI. This further suggests that the success or failure in implementation could also be influenced by the leadership (character, personal drive and management skills) offered by a key individual.

iii Nature of the target behaviours:

The facility component of IMCI specifically aims to improve health worker practice, and relies on good uptake of IMCI case management skills. Victora et al. (2004) argue that strategies like IMCI require close management of health workers. Results from our study have, however, shown that health worker performance has not been assessed regularly as minimal IMCI-focused supervision takes place, partly due to the lack of a supervisory checklist incorporating IMCI. Consequently, IMCI case management observations are almost never conducted, and district managers may not be informed by health workers of the challenges faced at facility level.

Poor information on health worker adherence to protocol is further exacerbated by the information asymmetry which exists between district managers and health workers. District managers can only visit rural health facilities occasionally and, even then may not get a true picture of normal health worker behaviour. Moreover, IMCI is a holistic approach to treatment which focuses on health worker treatment and case management skills; therefore, it is inherently difficult to monitor adherence to protocol using simple monitoring indicators, in contrast to other interventions, such as ITN distribution and vaccinations, where implementation is more easily tracked through routine records. IMCI recording forms which could have filled this gap to some extent have been discarded for practical and cost reasons. The adoption of the HMIS tool in Coast province, which includes a section of IMCI classifications, was intended to improve

monitoring amongst trained and untrained health workers; however, this is yet to be adopted nationwide and it has not guaranteed consistent application of case management skills in Coast.

Another angle to the issue of visibility is that community members are unaware of the added benefits of health workers implementing IMCI. Even the HFC members we interviewed had generally not heard of IMCI, except in a few cases where members were vaguely aware that staff had attended training. This reflects the complexity of case management which would not be easily communicated to the average lay person. As a result, health workers might not feel inclined to adhere to the guidelines because neither clients nor supervisors are equipped with enough information to demand an improvement in the quality of care or application of IMCI skills during consultations. Health workers' influence over the implementation of policies is also demonstrated well here: the lengthy process of using the IMCI approach when seeing a child was reported to be cumbersome by some health workers; as a result, they adopted certain behaviours, such as skipping sections of the protocol, to deal with this pressure, undermining implementation. Such behaviour reflects that outlined in the theory of street level bureaucracy, which suggests that public workers at the front line of service delivery respond to constraints in their working environment by adopting coping mechanisms that allow them better to manage their work and workloads – mechanisms that themselves become policy as implemented (Lipsky, 1980 and Walker & Gilson, 2003). This is likely to be exacerbated in situations where there is information asymmetry and managers are unaware of what is happening at the facility level.

The issue of information asymmetry is a factor influencing relationships between the national and district levels. The DOCH is not able to monitor precisely the level of effort and supervision put into implementing IMCI by district managers and staff. Moreover, many national level stakeholders lack a complete understanding of implementation difficulties happening on the ground. One possible factor explaining the one-sided flow of information is the organisational work culture where information tends to flow mainly in a top-down manner.

Asymmetry of information also affects adherence to exemptions for under 5s at health facilities. The DHMTs are not always aware of charging practices at health facilities and the national level are not always aware of the sanctioning of such charges by some DHMTs.

We have argued that asymmetry of information gives health workers the opportunity to deviate from the protocol but this then begs the question – where health workers have been trained on IMCI why are they choosing to not implement the strategy?

A key reason is likely to be the increased workload that IMCI adherence is perceived to produce. In addition, on top of their daily clinical duties, health workers might have other pressures in the workplace, such as administrative duties, which could explain non-adherence to the guidelines. We can also postulate that health workers feel that there is no clear, added benefit to them in adopting IMCI skills: health workers are awarded certificates at the end of training but there are no tangible benefits to implementation in the form of career progression or remuneration. It is also possible that they are not aware of the clinical implications of skipping parts of the protocol and that these need to be emphasized more thoroughly during training and supervision. For example, what are the consequences for a child with fast breathing if you fail to note this by skipping the counting of the respiration rate? As noted above, failure to adhere to the protocol is unlikely to be noticed by community members and, therefore, health workers will not benefit from greater approval from their clients either. In fact, as noted in section V, they may incur disapproval and face conflict due to the failure to meet expectations for provision of injectable drugs or antibiotics, as well as increased waiting times for clients.

The situation may be similar for district managers, especially those who have not been properly sensitized to the strategy. In some cases, managers may fail to recognize societal benefits of implementing IMCI, resulting in minimal supervision of IMCI implementation at facilities. Moreover, there are no direct incentives to encourage good IMCI performance at the district level.

In addition to the impact on health worker and district manager behaviour, the lack of visibility of IMCI implementation means that routine data are not available on the achievements of IMCI, in process or impact terms. The lack of these data is reported to be one factor leading to declined interest in providing IMCI funding. Collecting it would have required additional studies, which were not put in place, perhaps reflecting a lack of appreciation of the importance of demonstrating impact during the Kenyan expansion phase in order to mobilize national and international resources¹¹.

iv Role of Power in IMCI implementation:

Power is central to every experience of policy implementation yet it is rarely examined in detail. Whereas top down approaches to implementation establish central planners as those with the power to ensure implementation, bottom up perspectives emphasize the distribution of power between actors across the system. More specifically, power is often described as being 'dominating' or 'oppressive', focusing mostly on the effects of coercion, manipulation and control (Sharp et al. 2000). Foucault (1986) pointed out that there is, however, another dimension to the orthodox account of power, namely resistance. This alternative angle on power tends to be overlooked because it involves trivial acts that are carried out to oppose dominating forms of power. Non-decision-making analysis shows how power also takes into account unobservable practices, rather than solely focusing on just the observable (Lukes, 1974, 1977). Therefore, the act of not doing a task which is expected can be a form of resistance. Paddison et al. (2000) go on to explain that power can be both positive and negative, depending on the desired outcome or implication. A positive example of power is self-empowerment through resistance, whereas a negative example of power can be dominance through disciplinary action, such as corporal punishment (Foucault, 1986). Different practices of power, such as acts of domination/ resistance, may therefore result in either positive or negative behaviour.

Through our work, we were able to identify and observe various manifestations of power (domination and resistance) amongst key IMCI stakeholders across and within levels of the health system. For instance, at the facility level, there was a clear tension between trained and untrained health workers. Some untrained health workers were reported to be unsupportive of IMCI, discouraging their colleagues from using the strategy during consultations through peer pressure. In cases where more junior staff are trained, it may be particularly difficult to reject the comments of more senior colleagues, especially given the dominant organisational culture of hierarchy within the health system. Possible explanations for resistance amongst untrained health workers might be general disinterest in IMCI, resulting in poor appreciation for the strategy, and concern about increased workloads and waiting times. In addition, health workers are also aware that there are no direct risks, such as punishment, if they were found to be unsupportive of their colleagues.

The power exercised amongst health workers and district managers reflects both domination and resistance. For example, district managers are aware that organisational hierarchy places them above FLHWs, therefore giving them the official role of telling FLHWs which strategies to implement and how to

¹¹ Data have been collected on health worker performance and system supports through the HFS report (2006). However, this survey can not measure impact of IMCI training as no baseline assessment was conducted and no comparison group of health facilities with no trained health workers was included (MOH, 2006).

organize their work. They also have the power to select FLHWs for training opportunities and to reallocate them to areas within the district. On the other hand, health workers can resist the domination exerted by managers by simple acts of non-adherence to the protocol. Both forms of power may be counter-productive to IMCI implementation. The top-down hierarchical use of power may lead to poor communication of challenges and low motivation which, in turn, leads to little or no problem-solving (a form of non-decision-making), reflecting the lack of policy ownership amongst FLHWs. Non-adherence to IMCI protocol has led to very low levels of implementation in general. Charging under 5s user fees for primary care service, despite 10/20 policy, may be a form of resistance to senior management by FLHWs. This practice has also been facilitated by information asymmetry, coupled with poor visibility by district managers as to what takes place on the ground. Whilst it is likely that most community members are unaware of official exemptions, perceived support from local community members (HFCs) may, additionally, have given health workers a sense of legitimacy for non-adherence to official fee policy. Finally, limited facility autonomy in resource allocation has led to facilities having no capacity to replace essential equipment, such as thermometers, or purchasing recommended drugs during stock-outs. All of these influences may also be underpinned by street level bureaucracy (SLB) behaviour, as health workers respond to their demanding environments by adopting coping mechanisms to manage workloads and challenge domination from above.

Examples of power between DHMTs and DOCH members seem mostly reflective of domination, with the DOCH controlling implementation activities at the district level through its insistence on IMCI standards and control over access to donor money for training. This exercise of power has the potential to result in positive implications, such as maintaining WHO quality standards in policy content and ensuring that national level resources are targeted at the most needy districts. It may also however, lead to unnecessary rigidity and a lack of policy ownership at district level in that alternative approaches to training may not be deemed acceptable. A form of resistance was noted in Malindi where the DMO challenged the WHO (MOH) training standards by switching to non-residential training to reduce costs and increase the number of health workers trained, potentially demonstrating a positive outcome of power. In addition, the DMO openly admitted to not adhering to 10/20 policy on user fees, which has potential negative effects on utilization and access. In both cases, the actions could be seen as positive in that they sought to enable implementation. The ability of the DMO in Malindi to have made a unilateral decision regarding implementation of policy at the district level may also reflect the lack of power the DOCH has to influence career progression of DMOs.

Power struggles between senior staff from the MOH and the DOCH also occur, mostly due to battles over meagre GOK resources allocated to the MOH by Treasury. The DOCH has little influence over how money is allocated within the MOH, partly because it is a relatively new division compared to other divisions which hold higher rank. Despite extreme lobbying for more funds, some members of MOH have doubts over the cost-effectiveness of IMCI, and the DOCH is also not well placed to prevent them from opting to place more focus on the implementation of better supported programs, such as HIV/AIDS, which have more measureable outputs.

The final set of examples of power includes the struggle between donors and DOCH staff in planning and carrying out IMCI implementation activities. Due to the cost of IMCI training and the lack of MOH resources allocated to this area, the DOCH is highly dependent on donor partners for funding. The latter effectively control the speed of IMCI roll out, which is then dependent on interest in child health in general and their preference for horizontal over vertical programs. Development partners, such as WHO and UNICEF, also have a strong influence on technical policy content due to their expertise and status; as a result, they can influence the nature of implementation, for example the type and duration of training. The DOCH has exercised forms of resistance by challenging donor suggestions to reduce the 11 day training

or introduce alternative training approaches, such as OJT. This reflects the DOCH's ultimate control over technical policy content and the need for development partners to maintain norms of international development: governments must be seen to be leading the process of implementation to show they are working in true partnership with the GOK.

Policy recommendations:

Drawing on our results and analysis, we have identified a number of key policy recommendations to improve IMCI implementation and the general quality of child health care services. These are categorized into 3 groups: those specifically related to IMCI policy content and practice; those concerning the broader health care system; and, those that affect the introduction of any new policy.

Recommendations concerning IMCI policy content and practice

Increasing training coverage: Ten years after the adoption of the IMCI policy, training coverage remains very low. If IMCI is intended to be the mainstay of treating children, radical alternatives to scaling up coverage should be considered. Even with pre-service IMCI training, large numbers of existing health personnel in Kenya will remain untrained, highlighting the need for more in-service training. As previously mentioned, financial constraints are a major issue in scaling-up training coverage nationwide. Different training strategies must therefore be considered in the way forward. Stakeholders involved in this decision should exercise practicality, flexibility, and pragmatism in developing innovative alternatives which are cheaper and can allow nationwide scale-up. A general consensus appears to be developing that there is a need to reduce the 11 day training period, as most stakeholders agree that it is currently not feasible or affordable to achieve high training coverage using this approach.

More radical alternatives could also be considered. For example, the current costs of one IMCI training (around 2,000,000 Ksh) would cover the cost of employing 2 additional district level staff for 1-2 years who could move round the health facilities, conducting on-job training and supervision. The pattern of roll out could also be considered, for example, focusing on fewer districts for roll-out in order to reach a critical mass of coverage (e.g. the MOH target of 60%) in these districts, rather than spreading resources more thinly across the country. This may provide the opportunity to collect data on impact in order to build the Kenyan evidence base on IMCI effectiveness. The same focus could also apply at the facility level: all staff could be targeted for training, possibly leading to more positive effects on the work culture within facilities. In order to evaluate all alternatives proposed, a costed 10 year plan should be drafted for each option to assess for feasibility. This could then be openly debated by all stakeholders to determine the way forward.

Improving pre-service training: If high IMCI coverage is to be achieved and sustained, it is essential that IMCI is fully integrated into pre-service training. Although a limited number of interviews touched on this subject, it was clear that major challenges remained in achieving IMCI-trained graduates. This topic therefore merits a thorough investigation and review, covering the pre-service curriculum, coverage and content of training. A number of key issues were raised in our study in relation to this. First IMCI case management should be integrated into the curriculum for all cadres. Second, the current course needs to be revised to include a practical component of training, to allow students time to practice case management skills. The current case management training curriculum offered for pre-service IMCI training focuses mostly on theoretical approaches, offering minimal practical sessions for students. This is counterproductive as students who have received pre-service training would still require in-service

training to acquire the practical skills needed to treat a sick child using the IMCI approach. In addition, steps must be taken to ensure that every medical training institution has the necessary materials for training, such as audio visual aides, training modules and access to a health facility with sufficient case load of under 5s in OPD. Finally, the DOCH reported a similar quality of training outcomes for CBT and standard 11 day in-service training. CBT was also said to reduce facilitator/ trainer costs and should therefore be explored as an option for training students pre-service.

Ensuring success of OJT: OJT has the potential to reduce training costs and facilitate rapid expansion of coverage; however, to achieve this, considerable work will be needed to design a standard and effective approach. Stakeholders involved in the design of the standard approach to OJT should consider some key aspects to ensure proper implementation. Based on recommendations by the DOCH, OJT should only be rolled out to facilities with at least 1 IMCI trained health worker who is very conversant in IMCI. Health workers receiving OJT will then have the necessary support to ensure case management skills uptake. Second, facilities targeted for OJT should have a sufficient number of job aids (chart booklets, wall charts), to allow access for all health workers. Third, district managers need to be brought on board to facilitate implementation of OJT, paying close attention to OJT trainees during supervision, giving them adequate support and encouragement to learn IMCI using this new innovative approach, and endorsing OJT as a credible training method.

Addressing potential implementation challenges early: A forum for discussions covering potential implementation challenges at the facilities can equip health workers with ideas on how to overcome some of these once they return to the facility. This could take place during IMCI training and/ or in regular health worker meetings at the district level. Common constraints to poor implementation, such as improving patient flows, placing ORT corners, ensuring that DOTs is taking place and sharing tasks amongst health workers, could also be discussed. This would encourage health workers to think more broadly about IMCI implementation and take initiatives to overcome some of these challenges.

Improving supportive supervision: Although supervision faces several constraints, most of them financial, it should still be made a priority area for improvement. First, at the national level, an integrated checklist of priority indicators should be finalized, covering all areas of key implementation during routine supervision, including IMCI. This will require that consensus over performance indicators is reached as soon as possible. Second, district managers must recognize the need to include case management observations as part of supervision. As this can be a time-consuming process that risks delaying routine supervision activities, districts should consider conducting case management observations at least once a year for all trained staff. In addition, detailed feedback sessions should be conducted at this time to provide health workers with an opportunity to address any queries they may have about specific aspects of the protocol. This focuses on the 'support supervision' approach to help erode any negative perceptions health workers may have towards managers, the 'system' (bureaucracy), supervision or the actual policy itself, and improve implementation at the facility-level.

Advocacy for child health: Achieving adequate resources for IMCI will require a concerted effort to both raise the profile of child health and endorse the benefits of integrated approaches to improving case management. This can be done by expediting implementation of a national child health policy which will then have potential to raise the profile of child health and make funding a priority. This could be particularly challenging, given the current dominance of 'vertical approaches', and IMCI advocates should highlight key benefits of implementing horizontal programs, such as the potential of achieving long-term and comprehensive effects on health services, the capacity to adjust to changes in disease patterns (Gonzalez, 1965), and the avoidance of unnecessary competition for resources between vertical programmes (Mills, 2005).

Building support for IMCI strategy: Some stakeholders were not involved in the adoption and early implementation of IMCI. Reports highlighted that doctors, in particular, did not play a large role, and this could explain why there is limited support for the strategy in the medical field. It is, therefore, crucial to inform this subgroup of opinion leaders about the clinical evidence in favour of the IMCI approach, and to involve them in decision-making to influence a more positive shift in the medical culture. Local politicians are a second group that should be targeted, and have potential to influence Kenya's policies and funding decisions.

Recommendations concerning broader health systems issues:

User fees & under 5s: Despite implementation of 10/20 policy, charging user-fees for under 5s continues to occur fairly often in primary care facilities. Past studies suggest that there is potential for negative impacts on utilization to result from such cost-sharing (Xu et al., 2005). A study conducted in 2 rural districts in Kenya (Embu and Kisumu) when user-fees were first introduced, indicated a sharp drop in utilization of primary care facilities in both districts, suggesting that user-fees may act as a barrier to utilization for poorer groups (Mwabu et al., 1995). Disregard for 10/20 policy demonstrated by health workers charging user-fees for exempt groups, like under 5s, calls for stricter monitoring of adherence to official policy. In addition, the negative implications of user fees should be explained to health workers, highlighting how detrimental cost-sharing can be for the poorest groups, thus encouraging adherence to 10/20 policy. A waiver system could also be developed to enable better access to hospital services for referral patients, whilst covering transport costs for referred patients to referral facilities might further improve access.

In relation to these actions, one must, however, consider possible implications. Gilson & McIntyre (2005) draw attention to the need for increased funding of the health system to address any negative impacts from removal of user-fees, such as a loss of facility-level revenue, or additional workload due to increased utilization. The DFFs, piloted in Coast province and to be scaled up nationwide, can help to alleviate the pressure on health facilities to raise revenue from user fees; however, as the experience in Malindi demonstrates, this alone will not be sufficient to eliminate inappropriate charging. The MOH should therefore do more to ensure better dissemination of information concerning user-fees to communities, outlining which groups are exempt in order to empower community members.

Improving staffing: Short-staffing in lower level primary care facilities is a major problem in Kenya, particularly in rural areas; and, the unequal distribution of health workers has further compounded the human resource (HR) crisis, increasing staffing challenges. Financial constraints have been a major factor in the hiring freeze which has lasted for over 10 years; however, renewed efforts by the MOH (Chief Nursing Office and HR department) and collaborating partners (the Global Fund, Clinton Foundation and USAID-Capacity project) have resulted in an influx of new hires in rural areas since 2005. Preliminary reports suggest that the new recruitment efforts have been successful in the past year or so, substantially increasing staffing in targeted areas. Nonetheless, more should be done to improve recruitment and retention of staff. This may include the development of rural incentive packages. Whilst financial incentives are an easily recognizable determinant of motivation, a cross-country study conducted in Benin and Kenya showed that non-financial incentives are also important determinants of health worker motivation (Mathauer I. & I Imhoff, 2006). Although health workers in Kenya appeared to place value on remuneration, more value was placed on having a well-functioning health system to enable them to properly perform their duties. In addition, health workers were inclined to being more motivated with small rewards, frequent supervision and positive recognition. Addressing these issues could have an important

impact on adherence to protocol, such as IMCI, in situations of limited supervision. Perhaps introduction of small rewards, coupled with active recognition of health workers that are IMCI compliant, might encourage uptake of IMCI skills in practice.

Improving drug delivery: Drug stock-outs are fairly common in rural health facilities. The shift from the 'push' to 'pull' system was undertaken during efforts to improve drug delivery systems in public facilities, but problems continue to occur. There remains an urgent need for a systematic review of the current pull system and the identification of gaps which can then be addressed to improve the reliability of supplies.

Improving decentralization to district & facility level: Lack of decentralization of the Kenyan health system was argued to have impeded district autonomy and had a negative effect on the capacity to implement IMCI at lower levels. For IMCI to succeed, districts should have strong capacities to support implementation activities at district level. This will require DHMTs to be provided with sufficient budgets to finance district-specific needs, as well as allow them the flexibility of planning and budgeting for what they deem to be priority health activities, including IMCI case management training. Decentralization may also improve the operational capacity at lower administrative levels and increase ownership of implementation activities amongst district level stakeholders.

Points to bear in mind when implementing any new health policy:

The experience of IMCI implementation in Kenya raises a number of key issues to be considered when implementing any new health policy:

- ✓ Careful review of the policy content and context of the health system in which it is to be implemented should be undertaken in the introductory phase. This will determine the feasibility of implementation in a given setting, as well as providing policy-makers with an opportunity to revise various aspects of the policy content to ensure that new policies are designed to work in health systems which are less-than-perfect. In addition, any requirements to strengthen the health system by improving key aspects, such as operational support, must be identified at an early stage. It is also important for policy-makers to be aware that this will require ample time and resources.
- ✓ Involvement of all relevant stakeholders and their specific roles should be discussed and adapted appropriately when implementing a new policy. Key actors should include a mixed pool of policy-makers, managers, trainers and health personnel to support implementation of a new health policy across all levels of the health system. Their expertise and knowledge will help inform adaptation of policy to better suit the local context. In addition, key opinion leaders must be included to ensure that they are in a position to advocate for the new policy.
- ✓ To maintain the interest of donors and high level MOH staff, and, therefore, financial support for new strategies, it is important to develop measureable priority indicators to capture impact of a new health policy/ intervention. This may require investing in additional monitoring and evaluation capacity as part of the implementation process.

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APPENDIX: I

Events	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Health workers were trained in the IMCI case management guidelines in Bungoma and Vihiga. Technical assistance was provided by CDC ¹² .											
The CDC, Kenya-Finland Primary Health Care Programme, MoH prospectively evaluated the level of performance achieved by IMCI trained HW at the end of training (EOT) and the level of performance maintained during the first 3 months post training (MPT) ¹ .											
Follow up health facility survey was conducted by the GOK in Bungoma and Vihiga. This survey included HW who were IMCI trained and those who had not yet been trained. ¹³											
The GOK and USAID initiate the BDMI in January, 1998. One objective was to use IMCI case management guidelines to reduce malaria morbidity and mortality ³ .											
Training of HW on IMCI case management guidelines resumed in Bungoma District under BDMI ³ .											

¹² CDC (1998). "Health worker performance after training in integrated management of childhood illness-Western Province, Kenya, 1996-1997." MMWR Morb Mortal Wkly Rep 47(46): 998-1001.

¹³ Herman, E., E. Desilva, et al. (2003). Assessment of the quality of outpatient management of childhood illness in government and non-government health facilities in Bungoma district, Kenya. April 2002 (draft report).

Events	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Facility level problem solving teams set up and tested in Bungoma and Vihiga. The aims of these teams were to develop, implement and evaluate solutions to the problem of poor compliance with IMCI case management guidelines. This done by BDMI with support from QAP ¹⁴ .											
Kenya adopts the IMCI guidelines and implementation is charged under the ARI/CDD programme ¹⁵ .											
A baseline survey of the care of sick children in non government HF was conducted in Bungoma District ³ . The Government was considering involving NG health facilities in IMCI implementation											
The GOK began IMCI training and regular IMCI supervision of HW in mission and employer sponsored HF in Bungoma District ³											
IMCI included in the NHSSP of 1999-2004 as a high priority package. IMCI was ranked as a high priority intervention due to the high mortality and its cost effectiveness ¹⁶ .											
Kenya adapted the IMCI algorithm in March 2000 ¹⁷											

¹⁴ Tavrow, P., L. Malianga, et al. (2004). Using Problem Solving Teams to Improve Compliance with IMCI guidelines in Kenya. *Operations Research Report*. Published for the U. S Agency for International Development (USAID) by the Quality Assurance Project. Bethesda, Maryland, USA

¹⁵ Ministry of Health [Kenya] (2005). Business Plan for the Division of Child Health: July '05- June'06

¹⁶ Ministry of Health [Kenya] (1999). National Health Sector Strategic Plan:1999-2004.

¹⁷ Adazu, K., K. A. Lindblade, et al. (2005). "Health and Demographic Surveillance in Rural Western Kenya: a Platform for Evaluating Interventions to Reduce Morbidity and Mortality from Infectious Diseases." Am J Trop Med Hyg **73**(6): 1151-1158.

Events	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Rapid Assessment of reasons for sub-optimal performance by IMCI trained HW in identifying and treating severe illnesses in children conducted in Bungoma District. This was conducted in July 2000.											
The Bungoma DHMT began a trial of a package of three interventions to address the factors believed to contribute to poor performance by HW in managing children with severe illness.											
Children's Act 2001 enacted and the Division of Child Health was formed.											
Kenya reported to be in the early implementation phase of IMCI ¹⁸ .											
Kenya participated in a WHO/AFRO regional workshop that resolved to revise and adapt training materials to include the care and management of children with HIV/AIDS in Harare.(2 nd - 23 rd March 2001) ⁸											
Facilitation skills & case management course supported and facilitated by WHO/AFRO. This was done to prepare facilitators to train others on the IMCI guidelines ⁸ .											
Senior health workers were trained on IMCI by the WHO/AFRO											

¹⁸ WHO/AFRO (2001). Annual IMCI/ AFRO Report. Harare.

Events	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Follow-up after training course was conducted. This was to enable the facilitators to assist HW in reinforcing case management skills and solving problems they face in IMCI implementation, collect information on HW and conditions that affect performance. (23 rd April – 4 th May 2001)											
An IMCI Strategic planning meeting is held in Kenya from 23 rd to 27 th July 2001.											
Infant feeding and HIV advocacy meeting was held in 3 countries, including Kenya. Objectives were to develop strategies for implementation of the guidelines (training HW on counselling and replacement feeding) and to orient stakeholders on the ongoing infant feeding activities. Meeting was held from 15 th to 19 th October 2001.											
A survey to assess the performance of IMCI trained health workers in Bungoma District was conducted in both government and non government HF. 23 government and 7 non government facilities were surveyed. The survey was from 4 th April to 19 th April 2002.											
IMCI case management identified as a key intervention in HF and through home management of fever in both the District and National Malaria Business Plans (2003-2007) in the RBM strategy.											
The Business plan for the Division of Child Health (July 2005-June2006) was developed in line with the AOP I.											