Health Policy and Planning, 30, 2015, ii74–ii83
doi: 10.1093/heapol/czv063
Supplement article

OXFORD

Integrated community case management in Malawi: an analysis of innovation and institutional characteristics for policy adoption

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Accepted on 16 June 2015

Abstract

In 2007, Malawi became an early adopter of integrated community case management for childhood illnesses (iCCM), a policy aimed at community-level treatment for malaria, diarrhoea and pneumonia for children below 5 years. Through a retrospective case study, this article explores critical issues in implementation that arose during policy formulation through the lens of the innovation (i.e. iCCM) and of the institutions involved in the policy process. Data analysis is founded on a documentary review and 21 in-depth stakeholder interviews across institutions in Malawi. Findings indicate that the characteristics of iCCM made it a suitable policy to address persistent challenges in child mortality, namely that ill children were not interacting with health workers on a timely basis and consequently were dying in their communities. Further, iCCM was compatible with the Malawian health system due to the ability to build on an existing community health worker cadre of health surveillance assistants (HSAs) and previous experiences with treatment provision at the community level. In terms of institutions, the Ministry of Health (MoH) demonstrated leadership in the overall policy process despite early challenges of co-ordination within the MoH. WHO, United Nations Children's Fund (UNICEF) and implementing organizations played a supportive role in their position as knowledge brokers. Greater challenges were faced in the organizational capacity of the MoH. Regulatory issues around HSA training as well as concerns around supervision and overburdening of HSAs were discussed, though not fully addressed during policy development. Similarly, the financial sustainability of iCCM, including the mechanisms for channelling funding flows, also remains an unresolved issue. This analysis highlights the role of implementation questions during policy development. Despite several outstanding concerns, the compatibility between iCCM as a policy alternative and the local context laid the foundation for Malawi's road to early adoption of iCCM.

Key words: Case management, child health, Malawi, policy analysis, policy process

Key Messages

- Malawi was an early adopter of integrated community case management (iCCM) with a programme that quickly reached scale. Key questions regarding implementation of iCCM informed policy formulation but did not derail it.
- The characteristics of the iCCM were compatible with the existing health infrastructure in Malawi, making it suitable to address persistent child mortality concerns.
- Financial sustainability and health worker overburdening and supervision were critical implementation issues that were identified during policy formulation but not resolved and have the potential to undermine the long-term prospects of iCCM.

Introduction

Overall mortality for children below 5 years in Malawi declined from 234 to 133 per 1000 live births between 1992 and 2004, and infant mortality declined from 134 to 76 during the same period (National Statistics Office and ORC Macro 1994, 2005). Despite this progress, Malawi was not on track to meet the Millennium Development Goal target of reducing mortality in children below 5 years to 81 per 1000 live births. Furthermore, in 2004 only 37% of children below 5 years with symptoms of pneumonia were taken to an appropriate health provider and 61% of children with diarrhoea received oral rehydration salts (Countdown to 2015: Maternal Newborn and Child Survival 2014). To promote access to timely treatment for common conditions affecting child health, Malawi introduced integrated community case management for childhood illnesses and newborn care (iCCM) in 2007, much earlier than other counterparts in the region. This article presents a case study of iCCM policy development in Malawi and explores how antecedent conditions and key implementation questions informed policy development.

Current iCCM policy

In Malawi, iCCM is being implemented by community health workers known as health surveillance assistants (HSAs) in hard-to-reach areas, designated as beyond an 8 km radius from a health facility; it includes the following services:

- Treatment (with zinc and oral rehydration salts) for diarrhoea,
- Treatment (with artemisinin combination therapy) for malaria,
- Treatment (with antibiotics) for childhood pneumonia,
- Treatment of red eye (or conjunctivitis) and
- Diagnosis of neonatal sepsis and referral with an initial antibiotic dose

iCCM first fell under the 5-Year Strategic Plan for Accelerated Child Survival and Development established in 2007, which identifies a holistic, integrated, multi-sectoral approach for delivering integrated and high impact services to all districts (Ministry of Health 2007a). The goal of the strategic plan is to reduce childhood morbidity and mortality by focusing on high-impact interventions for prevention, treatment and for issues affecting social and mental development of children below 5 years within the broader context of the essential health package (EHP), which is intended to be provided free of charge to all Malawians (Ministry of Health 2011). This policy built on the programme for integrated management of childhood illness (IMCI), a strategy for improved delivery of treatment of common childhood illnesses at the facility level (WHO 1997). Due to its linkages to the IMCI programme, the term iCCM is used synonymously with community IMCI. The roll-out of iCCM started in 2009 (see Table 1 for an abbreviated timeline of iCCM policy development).

Implementation of iCCM is co-ordinated by the Ministry of Health (MoH) through the IMCI unit, with support from a number

Table 1. Abbreviated timeline for iCCM policy development

Date	Event	Reference (Document or interview ID)
1995	Start of DRF in Malawi	Masuku 2006.
1998	Adopted the IMCI strategy	Ministry of Health 2006
1999	IMCI introduced and started operating	MLW01-Government official Ministry of Health 2006
	BMHI is launched	Ministry of Health 2007b
2000	Community IMCI baseline survey	Government of Malawi 2000
2004	IMCI health facility survey (IMCI)	UNICEF/WHO/MALAWI Government 2004
2006	Multiple indicator cluster survey	National Statistics Office and UNICEF 2008
	Development of early childhood development strategic framework	Ministry of Health 2007a.
2006–07	Stakeholder meetings with senior ministry officials and other sectors to assess child survival strategy (of which iCCM was a part)	MLW011-Multilateral agency MLW02-Government official
2007	Five year national strategic plan for accelerated child survival and development in malawi: scaling high impact interventions in the context of the EHP 2008–12	Ministry of Health 2007a.
2008	MoH engaged WHO about readiness to allow HSAs to provide community-level treatment but required the adaptation of the facility-level IMCI algorithms for the community	MLW02-Government official
	Global generic guidelines for iCCM adapted for Malawi	MLW011-multilateral agency
	IMCI: manual for HSAs	Ministry of Health 2008
2009	MoH IMCI unit begins roll out of community IMCI (or iCCM)	Fullerton *et al.* 2011

MLW, Malawi; DRF, drug revolving fund; BMHI, Bakili Muluzi Health initiative

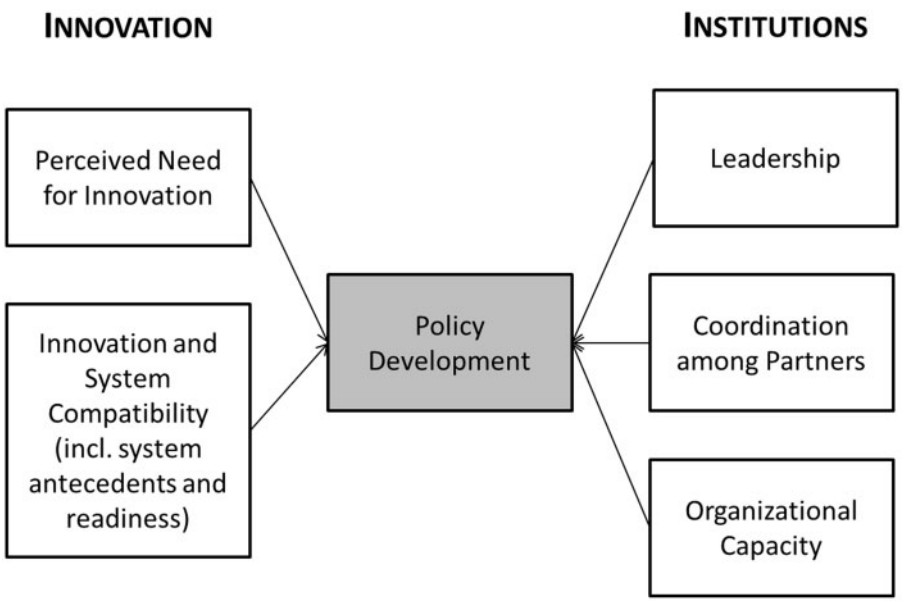

Figure 1. Innovations and institutions role in policy development.

of implementers including WHO, UNICEF and several non-governmental organizations (NGOs). iCCM is being implemented in all districts in Malawi. The initial target was 4000 hard-to-reach villages across the country covering 10% of the population (Fullerton *et al.* 2011). In 2011, it was estimated that there was 76% national coverage of iCCM of target areas; however, implementation varied by district between 40.8 and 100% (Fullerton *et al.* 2011). While the policy had highlighted the need for access to antibiotics for newborns with sepsis in the community, iCCM policy for newborn has developed more slowly and at a later stage than the other components and is being implemented in a few pilot districts. Given the slower policy development for newborns, we do not explore it in this article.

Conceptual framework

Durlak and Dupre (2008) developed a framework to understand effective implementation and the factors that affect that process, but it is focused on a programme perspective rather than a policy one. Others have taken a diffusion of innovation approach to understand how the uptake and spread of programmes takes place in health service delivery organizations (Greenhalgh *et al.* 2004). Within the larger context of policy development frameworks, works like those of Kingdon (2003) and Shiffman (Shiffman 2007, Shiffman and Smith 2007) have focused on how policy issues start getting more attention and opportunities arise for a particular policy option to get discussed and adopted.

Our analysis is rooted in a conceptual framework that builds on and streamlines work from others to explore how the policy development process was influenced by anticipated implementation needs that were raised during policy development (Figure 1). Specifically, we explore how characteristics of the innovation (i.e. iCCM) and the institutions involved influenced this process. The likelihood of an innovation being adopted will depend on whether actors perceive an unmet need that the innovation can address as well as compatibility between the proposed innovation and the system that will be adopting it, which includes both a receptive environment (system readiness) and prior experience with similar or related innovations (system antecedents) (Greenhalgh *et al.* 2004). Institutional factors focus on the actors involved in the policy decision and the relationships between them, namely (1) leadership of one or more actors in support of the innovation, (2) co-ordination among various partners and (3) organizational capacity to implement the innovation, including financing.

Methods

This case study is part of a larger policy analysis in six sub-Saharan African countries, which also included Burkina Faso, Kenya, Mali, Mozambique and Niger, which aimed to understand the development of governmental policies and programmes for iCCM (Bennett *et al.* 2014). The methodological approach included a documentary review and in-depth interviews (IDIs) with key stakeholders in-country, which were triangulated to support analysis and corroborate findings (Yin 2009). Data collection took place between March and August 2012.

The document review included a search of documents from published and grey literature, government policies, guidelines and directives. A document library was created and the documents were then reviewed to draw out issues pertaining to key events relating or leading to the development of iCCM policy.

IDIs were conducted with key informants involved in the national iCCM decision-making process. Initial identification of potential respondents was drawn from the document review. A snowball approach was then used to identify more interviewees by asking respondents for suggestions regarding additional stakeholders who should be interviewed. An interview guide common to all study countries drawing on key concepts from the policy triangle framework (Walt and Gilson 1994) was jointly developed by researchers from the Johns Hopkins School of Public Health in collaboration with country researchers. The interview guide was piloted with a few respondents and then revised to ensure that it was reflective of new issues that emerged during the pilot phase.

The interviews were recorded and transcribed in English. Interviews were coded using qualitative data analysis software QSR NVivo 9. A codebook was developed to assess policy content, process, context and actors and additional codes were added as new

Table 2. Type and number of study respondents

Respondent type	Total number
Government officials	5
NGOs (international and national)	4
Multilateral agencies	4
Donors and bilaterals	4
Other actors (incl. civil society, community based organizations, professional organizations)	4
Total	21

themes emerged from the data. Data analysis brought together evidence from the documentary review and IDIs to triangulate and fully explore findings. Peer briefing activities were conducted among the research team to provide feedback to one another and identify emerging issues that needed further follow-up. A workshop was conducted in Lilongwe in January 2013 to feedback findings to local policymakers and interviewees, which served as an open discussion forum to validate results.

Results

Data sources

A total of 48 documents were reviewed ranging from policy documents, strategic plans, training manuals, published literature, unpublished reports, evaluation, student theses and meeting presentations (see Supplementary data). Twenty-one respondents were interviewed from various organizations (Table 2).

Innovation

Perceived need for innovation

As noted earlier, child survival in Malawi is a persistent problem with demographic and health surveys (DHS) indicating that infant and child mortality rates were declining but still high. The lack of progress on Millenium Development Goals (MDGs) 4 was becoming clear and it was felt that priorities needed to be 'realigned' to address the mortality issue, as noted later.

> We were looking at what is it that contributes to child mortality, so the question was how do we realign or re-arrange priorities; but of particular interest was that globally was going towards CCM. MLW02 Government Official

Several respondents identified the *Lancet* series on child survival (Black *et al*. 2003, Bryce *et al*. 2003, Claeson *et al*. 2003, Jones *et al*. 2003, Lee 2003, Venis 2003, Victora *et al*. 2003) as being a key piece of scientific evidence that advanced policy, in particular because it identified interventions that could be implemented.

> It was a realization that Malawi was implementing child health interventions without any policy so evidence that was used was basically borrowed from the *Lancet* 2003 publication which highlighted the high impact interventions, which are cost effective and would make change with limited resources. MLW02 Government Official

Many sources of evidence were cited during policy development, including large-scale surveys like DHS and Multiple Indicator Cluster Survey, clinical IMCI utilization data, data from the health monitoring information system (HMIS) and a study on rapid diagnostic tests conducted in conjunction between the MoH and the University of Malawi. Some of these are highlighted later.

> Every year this country generates data to UNICEF, what they call State of the Children in the world, and . . . the data we are referring to comes from the reporting system from our districts or from our health facilities . . . the major killers for the under-five population is from HMIS. MLW14 Other

Further, data suggested that that facility IMCI was not reaching all children in need. Surveys conducted in the 2000s showed that most children were dying at home or delaying care seeking for so long that they died immediately after arriving at health facilities (Ministry of Health 2006). The respondents were not consistent in their identification of the surveys; however, it does appear that respondents were referring to the community IMCI baseline survey which was conducted in 2000 (Government of Malawi 2000) and the health facility survey assessing IMCI in 2004 (UNICEF/WHO/Malawi Government 2004).

> I think there was a follow-up survey that was done in 2004 IMCI and in that survey it was discovered that about 50% of deaths among under-fives occurs at home in the village, in the communities so there was need for . . . a curative intervention that has to be near the community or the homes . . . MLW05 Multilateral agency

IMCI was operationalized in 1999 and by 2006 IMCI had been implemented in all districts with various levels of coverage (Ministry of Health 2007a). Given that most curative services were health facility-based, respondents noted that delays in care seeking formed a major rationale for introducing iCCM.

> They had a survey . . . which identified that 52% of the children were dying before seeing the health worker so that's when people started thinking . . . trying to bring the services to the people. And now what we are also observing we are observing that most of the children who come to the hospital they die within twenty hours of first admission which means they come to the hospital late. MLW01 Government Official

Innovation and system compatibility

System readiness. Malawi has a critical shortage of human resource for health (HRH) resulting from high attrition and an inadequate capacity of training institutions to deliver the required numbers of health workers (Palmer 2006). Attrition stems from low salaries, poor working conditions, lack of incentives, migration to the NGO sector within Malawi and international migration and death mainly due to HIV and AIDS (Muula and Maseko 2005, Feeley 2006, MoH and DfID 2010). In 2004, 15 out of 28 districts had <1.5 nurses per facility and ~38% of the health worker posts in MoH and Christian Health Association of Malawi facilities were vacant[1] (Babu Seshu 2006, McCoy *et al*. 2008). To address the HRH crisis, in 2006 the MoH developed a 6-year Emergency Human Resource Programme with support from development partners. It planned to address the crisis by expanding local training of health workers, incentivizing them through recruitment and retention through a salary top-up, and using international doctor volunteers as a stop gap (Palmer2006, MoH and DfID 2010).

Availability and access to health services continues to be a challenge for rural communities: although 85% of the Malawi population live within a 10 km radius of a health centre, only 46% can access health services within a 5 km radius (Ministry of Health 2007b, MOH and DfID 2010) In addition, inequitable distribution favours the urban population where most health workers work (National Statistics Office 2009). HSAs represent the frontline for the delivery of community health services. They were initially

HSAs have minimum two years secondary level education and are formally recruited and salaried by MoH. They undergo 12 weeks of initial training and then go for refresher courses in different topics, as needed. The HSAs are provided with bicycles, drug kits, have further educational opportunities and they receive a monthly salary of $100 (Dedza, 2011).

Aside from iCCM tasks, the responsibilities of an HSA at community level include many different activities including:

- Immunizations
- Child growth monitoring
- Water sanitation
- Disease surveillance
- Health promotion
- Supporting village health committees
- Family planning services, including injectable and oral contraceptive pills and condoms
- TB control activities
- HIV testing and counseling (Fullerton et al., 2011, Richardson F et al., 2009)

HSAs are responsible for almost all of the vaccination under the Expanded Program on Immunization in the rural areas (Katsulukuta, 2010). Their contribution has made it possible for Malawi to virtually eliminate or reduce prevalence of diseases like smallpox, polio, diphtheria, pertussis, tetanus and measles.

Figure 2. HSAs at the community level.

engaged as temporary 'Smallpox Vaccinators' in the 1960s and then a decade later as 'Cholera Assistants' in mid-1970s. When the cholera outbreaks had been managed, their role was reformulated and the MoH maintained the cadre and changed their title to HSAs in 1980 (Figure 2) (Kadzandira and Chilowa 2001, Katsulukuta 2010, Ntopi 2010).

As indicated earlier, the acuteness of the health worker shortage in Malawi had led to task-shifting through the expansion and reinforcement of the existing HSA programme. In 2007, the MoH recruited an additional 5000 HSAs with support from the Global Fund for AIDS, Tuberculosis (TB) and Malaria and the Sector Wide Approach (SWAp), after earlier Global Fund proposals had identified the existing HRH challenges (Drager *et al*. 2006). This additional funding and recruitment was not related to iCCM introduction; however, as a paid cadre of trained Community health workers (CHWs) already targeting hard-to-reach areas, these workers were identified as the ideal vehicle through which to bring iCCM services to the community.

> This iCCM has shown that even those who are not highly skilled if given the knowledge they can be able to do some of these skills. I would say it has helped in terms of task shifting. We have seen a lot of task shifting because of what has worked with these HSAs. MLW013 NGO

HSAs are now taking on increasing roles and responsibilities as a result of task shifting, including iCCM (Kok and Muula 2013).

System antecedents. In addition to the IMCI programme, there had been experiences prior to iCCM with programmes aimed at improving health at the community level, including drug provision at the community level through the drug revolving fund (DRF) and the Bakili Muluzi Health initiative (BMHI) which had worked with HSAs. Introduced in 1995, the DRF was implemented by the MoH and made basic drugs available at the community level as a cost-effective way to improve community access to essential drugs and treatment through community-based volunteers[2] (Masuku 2006, Ministry of Health 2007b). The BMHI was a presidential initiative launched by the president Bakili Muluzi in 1999. Under this initiative, treatment for minor ailments, like red eye and uncomplicated malaria, was provided free by HSAs to children. The BMHI, while it provided lessons for community case management, was a political

directive and a few study respondents felt that it was poorly co-ordinated. Although the presidential initiative on health did not continue after change of government leadership in 2004, these efforts demonstrated that there was a political will to improve health service delivery in Malawi:

> In Malawi before implementing ICCM we had Bakili Muluzi . . . Whereby volunteers were given anti-malaria drugs in the community to treat children with malaria. I would think that must also have created a basis; probably it was seen that malaria was killing a lot of children in the community, so we should have the Bakili Muluzi Health Initiative. MLW011 Multilateral Agency

Institutions

Leadership

Respondents agreed that the process of developing the child survival strategy was led by MoH—primarily the IMCI unit—in a mostly open and consultative way with ample room for discussion. In the end, a draft of the policy was produced by the Child Health Technical Working Group involving MoH officials and development partners and circulated through a series of meetings convened by the MoH's IMCI unit.

Co-ordination among partners

Co-ordination within MoH and across public sector

Despite its leadership role in policy discussions, there were challenges in getting agreement internally within the MoH. A few respondents felt that it took some time for the MoH's different programmes that offer iCCM-related services to agree on what the policy would contain before they could move ahead, as indicated later.

> But the problem was the verticality of the programmes, people clinging to their own small kingdoms and not wanting to give in to each other and everybody was important in their own right because they were funded differently . . . it started at a central level where the vertical programmes became a thorny issue . . . once this was sorted out we agreed to disagree . . . So it was consultative but hiccups were more of people factors, than a process . . . MLW14 Other

The MoH also co-ordinated across the public sector. Because the child survival policy took a broad interpretation of child survival, growth and development, the MoH recognized the need for strategic partnerships and enhanced co-ordination, including reaching out to other ministries, such as Agriculture, Water and Education, partners and NGOs (Ministry of Health 2007a). Further, an aspect of the consultation process that was widely cited by respondents was the inclusion of district and community perspectives. Meetings were held in several districts to get their input on the policy and its implementation potential, though this was not a major policy driver because the basics of the policy had been decided by this point.

> I think there were lots of consultations at different levels including communities; that's why even communities have been able to contribute through the construction of shelters as well as providing accommodation for these HSAs as well as being part of the monitoring system for the drug usage at that level. MLW08 NGO

Co-ordination with and support from development partners. Development partners played a positive, supportive role in iCCM policy development. UNICEF and WHO were singled out for providing both technical assistance and funding, with United States Agency for International Development (USAID) also featured prominently.

> Probably the funders, the printing of materials, dissemination of materials it was UNICEF . . . I would say without even hesitating that UNICEF and WHO, were the major [partners]. They had a big say. For example, UNICEF decided when these materials were going to be disseminated because they had the money, WHO decided when they were going to send us their technical experts because they had the technical expertise. MLW14 Other

The key NGOs that were involved were those who had an interest in iCCM or child survival issues and had programmes running at community level; almost all of these were international NGOs: Save the Children, Plan Malawi, World Vision International and Management Sciences for Health. Although NGO involvement in policy development was limited, these actors brought their experience to bear for iCCM implementation.

A second major role played by development partners is that of knowledge brokers. It appears that much of the international evidence raised in discussions around iCCM policy was introduced by partners, not the MoH itself. This was especially true for evidence about potential interventions and successful experiences outside of Malawi. WHO, international NGOs and UNICEF were explicitly identified as bringing evidence to the policy discussion.

> I think WHO is very powerful and UNICEF . . . but they will get backing from the evidence which they see from the implementing partners, so it's a joint venture. They will start this and they will be looking at how can we push this into the guidelines? How can we push this into policy? MLW10 Bilateral Donor

> it also provides a chance for cross learning . . . I remember during the development process of the protocol we had representatives from WHO which had also supported other countries . . . so they could even refer you to some of those type of countries and how those other countries tackled the problem and how they approached it and what sort of success that was there. MLW08 NGO

Aside from the supportive stance from development partners, the MoH also took proactive steps to engage development partners to address important implementation questions. In 2008, it was determined that, to proceed with iCCM, Malawi needed the clinical IMCI algorithms to be translated for community use. As part of that process, the MoH proactively sought out technical assistance from WHO to help pilot guidelines and tools for iCCM.

> In 2008, we had discussed this with WHO where we told them that as a country we need to move and allow HSAs at community level to provide treatment but what we needed was the use of IMCI algorithms at facility level translated in a simpler way so that HSAs can use them . . . Fortunate enough, there was somebody assigned by WHO to develop some guidelines and tools for CCM and this person asked to come and pilot her instruments in one of the African countries which wanted to do CCM. We jumped on that opportunity through WHO . . . Fortunately, the tools that were brought into the country were what we were looking for so we did an adaptation on our part, reviewed them and came up with our own CCM manuals for Malawi. MLW02 Government Official

Organizational capacity

Three main issues that relate to the MoH's organizational capacity to implement iCCM in the long run were identified during policy development: (1) regulatory issues around training of HSAs, (2) questions about the HSAs role within the broader health system and (3) financial sustainability concerns.

Training of HSAs. One of the contentious issues raised during iCCM policy development was training of HSAs, which raised opposition from professional bodies and concerns among others. Currently, through the different additional trainings that HSA receive, it is estimated that their combined training length is 9 months. Under the current regulatory framework, the medical council cannot regulate health workers who have <1 year of training, so it had proposed extending the basic training of HSAs to 1 year, so that HSAs would be covered by existing health professional regulation. However, the challenge for the MoH has been the availability of resources to adopt the 1-year training model, as noted later.

> These guys [HSAs] are into child health, maternal health, environmental, sanitation and into medicine, they prescribe. So you and I know that it took us four years to just learn the four disciplines of medicine . . . seriously he's got to be a super genius to be good in all these . . . The training is very short, the training period is too short for the kind of work that you are preparing them to do. MLW14 Other

> What the regulatory board had indicated was that maybe the Ministry should consider that for the providers in CCM should be considered to go for a minimum of one year training then the council is ready to certify them at that level. But I think the problem now was the Ministry did not have resources to be able to provide the type training up to one year level that the regulatory board wanted. MLW08 NGO

HSA role in the health system: supervision and overburdening. The MoH's capacity to provide adequate supervision for increasingly overburdened HSAs was concerns raised during policy development. According to the structure of the MoH, HSAs are under the Environmental Health Department reporting lines. This poses a challenge because, while HSAs are involved in providing curative services, they are supervised by environmental health officers who are not trained in case management creating a supervision gap. The MoH has put in mechanisms for supervision for iCCM by having HSAs make periodic visits to a health facility to work under a trained professional, and a mentoring approach to supervision has also been taken where senior HSAs are trained as supervisors (Foretia 2012); however, it is not clear whether these mechanisms are sufficient:

> One other biggest gamble that the system had is that these people are doing clinical work and they have to be visited by clinical people but at the health center there is only one medical assistant or one nurse. So the routine supervision of HSAs is done by environmental staff but these people are not clinical people, that's where has usually been a big gamble. That's why there was that proposition of mentorship that maybe they should be coming to the facility but we are talking of a hard to reach area where even one cannot use a bicycle sometimes, how often could they make such trips . . . MLW08 NGO

Respondents suggested that since the country trains community nurses, who do both environmental and clinical work, it would have been appropriate for these nurses to take over the supervision of HSAs.

An HSA's job description is very comprehensive (Figure 2) but it keeps changing as new health interventions are introduced at the community level; thus, HSAs are more likely to perform more tasks than those outlined in their job descriptions (Kadzandira and Chilowa 2001). Prior to iCCM policy development, there had already been concerns that HSAs were overloaded as they are at the forefront of any issues to do with health in the community (Kadzandira and Chilowa 2001). This raised concerns among respondents on the capacity and capability of the HSAs to adequately perform the tasks that are continually being added to their responsibilities.

> The question that Ministry overlooked, or deliberately chose not to look at . . . was still taking the same people who we are already crying that [there] were few on the ground to give them more work, without relieving them of certain other obligations. It was adding to an already full bag without having to expand this bag to get it bigger to accommodate all else. MLW14 Other

Financial sustainability. Malawi is highly donor dependent for child health with half of child health financing coming from donors at this time (Wright 2007). In terms of the long-term financial sustainability of iCCM, there were two main concerns: the amount of funding and the mechanism for processing those funds, both of which are unreliable.

Respondents indicated that planned funding for iCCM was inadequate and therefore a threat to sustainability of the programme. Although there is some support from discrete funders, most MoH funding is channelled through the SWAp, which entails that all significant funding agencies support a shared, sector-wide policy and strategy where government takes leadership on an agreed programme of work. While the government provides commodities for iCCM, including drugs and supplies, and HSA salaries from the SWAp, external support has played a very big role in iCCM scale-up. A number of partners, including UNICEF, WHO, USAID and Canadian International Development Agency (CIDA), have supported the scale-up of iCCM financially and technically through provision of training, mentorship and supplies. Several respondents noted that once the policy was approved the donor funding started flowing. However, it is unclear how much the role of potential funding played in influencing the development process vs solidifying the policy's plan by providing the resources to implement it.

> I: Ok when you look at the evidence that was available and compare that with the funding for example that was available, how would you look at the influence of each of this?

> R: The good thing is once the Ministry says yes, then the funding from the donors just flow because they were just waiting to hear, what are they going to say, what is going to happen

> I: Which one was more influential?

> R: I think both were there, only that once the government has said yes, the donor comes in with monies. It wasn't difficult but the process to say yes was the one which was taking longer, but once they said yes, the donors were able to mobilize resources and the programme starts. MLW10 Bilateral Donor

Discussion

This article analysed how key questions about the future implementation of iCCM in Malawi influenced the policy development process under broad categories related to its characteristics as an

innovation and the institutions that were involved. Unmet needs for child survival and limited progress with earlier policies, like IMCI, demonstrated a need for iCCM to address childhood mortality but there was also an appealing compatibility between iCCM and the larger system within which it would operate. An existing cadre of HSAs to deliver the intervention coupled with earlier experiences with community-delivered programmes made iCCM a natural fit for Malawi. At the institutional level, the leadership of the MoH across the public sector and with development partners was crucial, despite having to overcome internal struggles for agreement. Further, support from development partners was evidenced through practical technical assistance, such as developing iCCM-specific algorithms, as well as through their role as knowledge brokers.

Two crucial but unresolved issues remain for iCCM implementation. First, regulatory and structural issues related to HSA training, supervision and overburdening have not been fully addressed. In particular, these will continue to be concerns as more interventions are introduced with HSAs as the primary delivery mechanism. These findings echo those from a recent review of the role of HSAs and their experiences with overburdening, training and supervision (Smith *et al*. 2014). An important and related issue that has emerged since the scale-up of iCCM is that of HSA presence at community level. HSAs are expected to continue their normal HSA roles in addition to running the village health clinics and liaising with health facilities, making it difficult for iCCM services to be available at all times. Village clinics often only operate on specific days of the week hindering access to prompt treatment to children, and undermining the overall effort of increasing access at community level.

Second, the long-term financial sustainability of the policy is in question as there is no defined path towards increasing, distributing and maintaining the funds required. Though nothing definitive was decided during policy development, respondents indicated that there were various strategies that the MoH could have adopted to address financial sustainability. For instance, given the competing priorities in the financing of the EHP, some study respondents felt that channelling government funding for iCCM, which is still relatively a new intervention, through SWAp could lead to inadequate funding since it might not get the prioritization required. Therefore additional discrete funding would still be needed to further develop iCCM and integrate it within the system. Respondents' concerns appear to be supported by recent findings indicating that in 2010 SWAp funding was well below need, aid dependency was very high and funding remains insufficient to achieve MDGs (Pearson 2010). Furthermore, the EHP has been underfunded under the SWAp and only 57% of the necessary costs were covered on average (Bowie and Mwase 2011). Another approach under consideration at the time of this study was to direct funding for iCCM through district implementation plans (DIPs). Due to limited funding, prioritization of iCCM at the district level is also a challenge as resource allocation might not be informed by evidence on the needs of a district, and resources allocated do not reflect projected budgets and often are underfunded. Since DIPs are funded through SWAp mechanisms, this would mean that iCCM could be subject to two layers of decision making where prioritization of the strategy is poor.

The diversity of mechanisms through which iCCM is currently funded, including substantial donor support, raise questions about how the MoH can take over and implement the policy in the long run. Furthermore, how iCCM would be prioritized both at the central and district level of the MoH in light of competing priorities is not clear. The recent political crises that have brought about the withdrawal of major funders from Malawi highlight the risky nature of reliance on donor funds for critical interventions (Tran 2011, 2014).

Recent research has highlighted how much local stakeholders value the potential implementability of a new policy in their context almost regardless of its effectiveness in other settings (Woelk *et al*. 2009, Burchett *et al*. 2013). This study provides a detailed view into the process by which the most pressing questions about the future potential of a policy influenced the policy development process. It appears from the Malawian experience that innovation characteristics, including perceived need and compatibility with the health system, set the stage for iCCM to come under consideration. Meanwhile, institutional factors lay the groundwork for the negotiations and decision making. We propose that the former is critical and supportive institutional factors would not be able to overcome a mismatch between the policy and the local context, which requires understanding the health system infrastructure onto which a specific policy would be placed to establish a foundation that lends itself to success. This conclusion supports earlier findings of a similar nature from Nicaragua (George *et al*. 2011).

Limitations

There are several limitations to note for this study. First, despite many attempts, 10 respondents from the MoH were not interviewed. Although key stakeholders involved in the development of iCCM policy from across the MoH were represented, we were unable to secure an interview with representatives from the Malaria office. Second, the child survival policy containing iCCM was developed in 2007, which was 5 years prior to this study's data collection so there may have been issues recalling events accurately. Relatedly, some of the respondents had changed positions from the time that the iCCM policy had been formulated to the time this study was being conducted. Some respondents who had been working with MoH at the time of the policy formulation were now working at other institutions. This created a challenge at times to determine who they were representing when responding to some of the issues, though every attempt was made to clarify intent and recall during the interview.

Conclusions

Unlike some of its peers, Malawi has moved quite fast on iCCM compared with other countries. This can be partially attributed to the MoH's leadership and co-ordination as well as support from partners. However, the compatibility between iCCM and the Malawian health system cannot be underestimated. A bad fit between policy and health system is not a fertile foundation on which to rest a key intervention intended to address the vulnerability of a country's most at-risk citizens. Through this study, Malawi has shown how crucial implementation can be to policy development even when good fit and committed leadership are already in place.

Supplementary data

Supplementary data are available at *HEAPOL* online.

Acknowledgements

The study team thanks all the study respondents for the time and insights they contributed to this project, without which this study would not be possible. We also recognize the input and support of the Malawi IMCI Technical Working Group.

Funding

This study was funded by UNICEF [43114640] and the USAID/TRAction project [FY11-G06-6990]. Both UNICEF and USAID staff advised the study team, but did not substantively affect the study design, instruments or interpretation of data.

Ethics review

The study was reviewed and approved by the National Health Sciences Research Committee in Malawi. The study was also reviewed and exempted by Johns Hopkins School of Public Health's Institutional Review Board.

Conflict of interest statement. None declared.

Notes

1 CHAM facilities provide 37% of health care services in Malawi.

2 It is not very clear when the DRF was discontinued but it seems most likely that it stopped with the fourth National Health Plan 1999–2004 as it is not mentioned in subsequent health plans.

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