Exploring the use and value of modelling and health economics in guiding programme decisions in Malawi

8 – 10 June 2016 – Lilongwe, Malawi

WORKSHOP SUMMARY REPORT

Produced by CHE, University of York

Contents

Executive summary

On the 8 – 10 June 2016 a group of 45 economics and modelling researchers and decision makers from healthcare agencies and the Malawian Government came together in Lilongwe, Malawi to present different perspectives on, and future directions for, how modelling and health economics may be used to inform important decisions facing the Malawian healthcare system.

Main discussion points:

- HIV modelling analyses presented by representatives from Optima, Avenir Health and HIV Synthesis were well received by attendees. There was strong interest in how modelling/economic analysis can inform resource allocation in HIV and other disease areas. Policymakers and Government representatives were keen to better understand how models worked, the assumptions and data incorporated into analyses, and the implications for policymaking, and there was particular support for improving local capacity and ownership.

  There was consensus that modelling needs to reflect constraints in the healthcare system and that uncertainty is inevitable, so results should inform deliberations of all available evidence rather than be prescriptive.

- The framework and tool for the revision of the Essential Healthcare Package of prioritised healthcare interventions, currently being developed by researchers at the Centre for Health Economics (CHE) and the Malawian Ministry of Health, was presented and widely supported by attendees.

  The issues of applying the framework in the real world of the Malawian healthcare system were discussed and considered; these included identifying and then assessing the value of overcoming constraints in the healthcare system, both real (e.g. limited human resources) and financial (e.g. funding silos). The distinction between the technical tools of 'assessment' in the EHP development and 'appraisal', in which all evidence and values are deliberated in the policy formation process, was highlighted. Attendees noted that strong Government commitment is key to ensuring the EHP's full potential is realised.

- An overview was provided by Government representatives of the major health sector reforms currently being undertaken in Malawi: hospital autonomy; service level agreements with the Christian Health Associated of Malawi (CHAM) to expand access; and proposals for a health fund and social health insurance to increase revenue generation. In depth discussion took place about alternative options to pursue these reforms.

  The success of current programmes in improving population health (e.g. notable reductions in infant mortality) was highlighted. Attendees expressed serious concern over the current direction of external donor funding – away from coordination and budget support. Although the need to increase revenues was recognized, attendees cautioned about the adverse

Workshop attendees at the close of Day 1 (8 June 2016). Photo courtesy of CHE

effects of some of the possible means of achieving this (e.g. user fees, fragmented insurance pools).

- Attendees expressed support for closer collaboration between analysts and decision makers in the future. The Honourable Minister for Health, Dr. Peter Kumpalume, highlighted a number of initiatives to strengthen the use of health economics and modelling in the future.

Background

Health Economics & Modelling Workshop – Malawi, June 2016

The Centre for Health Economics (CHE) at the University of York, in collaboration with the Malawian Ministry of Health and the HIV Modelling Consortium, organised a three day workshop in Lilongwe, Malawi in June 2016 to explore the use and value of modelling and health economics in guiding programme decisions in Malawi.

Each day focussed upon a specific topic and corresponding objectives:

- Day 1 (8 June 2016) – HIV modelling and resource allocation
  - Identify the future modelling and economic evaluation needs for the HIV programme in Malawi and explore how these may be met.
  - Review different modelling analyses that have been undertaken to inform resource allocation in Malawi.
  - Support the appropriate use and strengthen capacity for the critique of modelling/economic analyses.
- Day 2 (9 June 2016) – The refinement of the Essential Healthcare Package (EHP)
  - Review the challenges of resource allocation within the Malawian health sector and the place of the EHP within these.
  - Explore experiences to date with the EHP.
  - Present a framework for the redesign and revised version of the EHP under various scenarios, and explore how the EHP may be used in future.
- Day 3 (10 June 2016) – Malawian health reforms: purchasing and financing
  - Review the major health reforms taking place in Malawi and explore the contribution economic analyses could make to their development.
  - Assess experiences with purchasing of and contracting for healthcare provision, and inform their future development.
  - Discuss work to date on healthcare financing reforms and inform their future development.
  - Identify and prioritise further areas of health economic research and explore potential collaborations between workshop partners.

University of York External Engagement Award and Impact Acceleration Account

This workshop was made possible thanks to funding received by the Centre for Health Economics from the University of York through its External Engagement Award and Economic and Social Research Council Impact Acceleration Account. Funding was also gratefully received from the HIV Modelling Consortium.

Acknowledgements

CHE would like to thank everyone who attended the workshop and contributing to the engaging and enlightening discussion sessions. In addition, CHE would specifically like to thank Gerald Manthalu and Dominic Nkhoma at the Ministry of Health, Malawi, and Tim Hallett, Soraya Rusmaully and Ellen McRobie at the HIV Modelling Consortium, for their continued support with the planning, funding and organisation of this event.

Thanks also go to the External Engagement Award and Impact Accelerator Account awarding panels, and in particular to Emma Brown in the University of York Research and Enterprise Department for her advice and help with the funding of this workshop.

Day 1: HIV modelling and resource allocation in Malawi

Opening remarks:

- Hon. Dr. Peter Kumpalume – **Minister for Health**
- Dr. Charles Mwansambo – **Secretary for Health**
- Prof. Mark Sculpher – **Team Leader, Centre for Health Economics, University of York**
- Prof. Tim Hallett – **Director, HIV Modelling Consortium, Imperial College London**

The opening speakers thanked all participants for attending and the three organising institutions for enabling the workshops to take place.

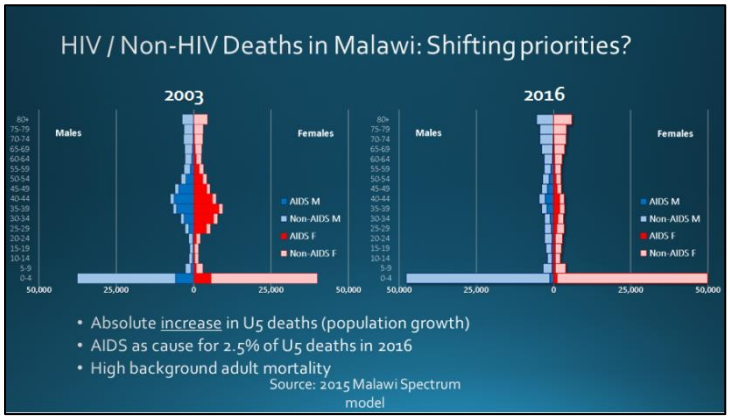
Hon. Dr. Kumpalume highlighted that informing policy decisions using health economics and modelling are current priorities for Malawi, and he values these disciplines highly. It is hoped that capacity can be further built in Malawi to apply these tools.

Presentations:

- HIV policy development and funding – **Andreas Jahn (AJ), Department for HIV & AIDS, Ministry of Health**
- HIV budgeting and resource allocation – **Oliver Mkwamba (OM), National AIDS Commission**
- Achieving maximal health impact with available HIV resources in Malawi using Optima – **Cliff Kerr (CK), Optima**
- HIV policy analysis and impact assessment: perspectives from Avenir Health using the Spectrum suite of policy tools – **Carel Pretorius (CP), Avenir Health**
- Potential for modelling policy options in Malawi using the HIV Synthesis model – **Andrew Phillips (AP), University College London**
- Economic analyses to support HIV and AIDS program decisions in Malawi – **Lonjezo Sithole (LS), National AIDS Commission**

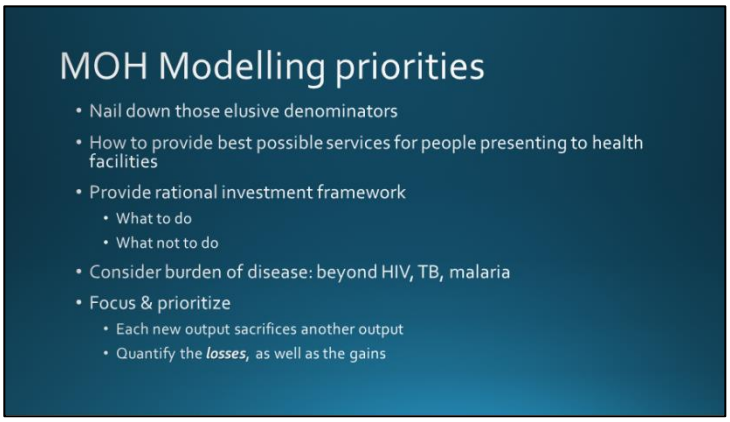
Presentations from the Ministry of Health and National AIDS Commission

Andreas Jahn from the Department for HIV & AIDS led the first discussion of Day 1.



- Argued that the WHO Health System Building Blocks highlight how relative constraints may apply, as they are not flexible and contextual factors are also set in place.

- Explored the constraints facing the Malawi healthcare system, e.g. limited infrastructure and healthcare workforce and a dependency upon external donor funding, and stressed the importance of recognising these in all modelling work and policy development. Modelling was suggested as being useful to help relieve some of these constraints e.g. supporting Malawi in its negotiations with donors on how to allocate funding.



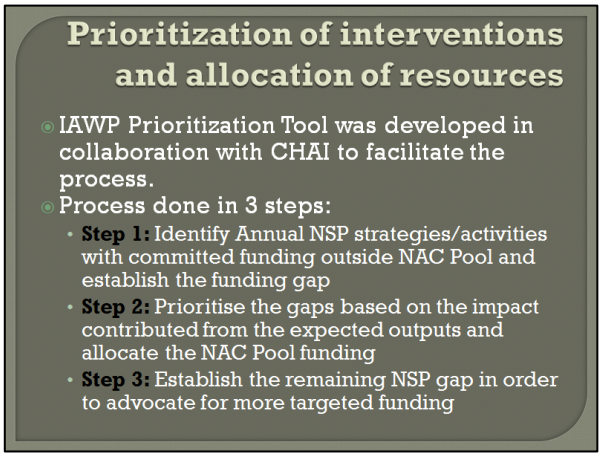
Slides courtesy of Andreas Jahn, Ministry of Health

- Highlighted the imbalance in the Malawian health service resulting from vertical donor funding streams – most obvious in Malawi's sophisticated HIV testing and treatment programme operating out of health centres without basic equipment such as functioning X-ray machines or IV fluids – and stressed the importance of considering these issues in policy development and resource allocation.

- Discussed the apparent rapid decline of HIV among children in Malawi since 2013 and proposed that changes in estimates from models were responsible, which led to inappropriate policy responses (particularly focused on excessive HIV testing of children). Highlighted 'nailing down' denominators in modelling analyses to be a priority.

- Explored what can be learned from both good and poor value for money HIV policies and interventions, including the *Early Infant Diagnosis & Treatment Programme*, the *ACT Scheme* and the *Option B+* programme.

Oliver Mkwamba from the National AIDS Commission (NAC) followed on from AJ to present an overview of the HIV budgeting and resource allocation programmes conducted by NAC in Malawi.



Slides courtesy of Oliver Mkwamba, NAC

- Summarised the role of the NAC, and how it uses the Integrated Annual Work Plan (IAWP) to plan the budgets for implementing activities and interventions approved under the 2015 - 2020 National Strategic Plan (NSP) as well as those used by the NAC to support the implementation of the NSP.

- Explained how the IAWP is used to support Ministry of Health resource mapping and identify funding gaps and areas of the health service which receive little funding, and prioritise interventions for targeted funding from the NAC Pool funding, or from other partners, based upon their impact and expected outcomes.

- Stressed the value of the IAWP as a prioritisation tool which can support the allocation of limited resources more effectively, including avoiding duplication of HIV resource allocation and identifying those interventions which are most critical to receive funding, as well as supporting the mobilisation of resources to reduce funding shortfalls.

Upon conclusion of the afternoon commentary sessions, **Lonjezo Sithole** presented on how modelling and economic analyses could be used to address questions around the impact, trajectory and resource allocation of the HIV epidemic.

- Provided an overview of the macro- and micro-level economic analyses which have been completed to date to estimate the impact and trends of the HIV epidemic.

- Stressed the importance of ensuring resource allocation is efficient across the entire population.

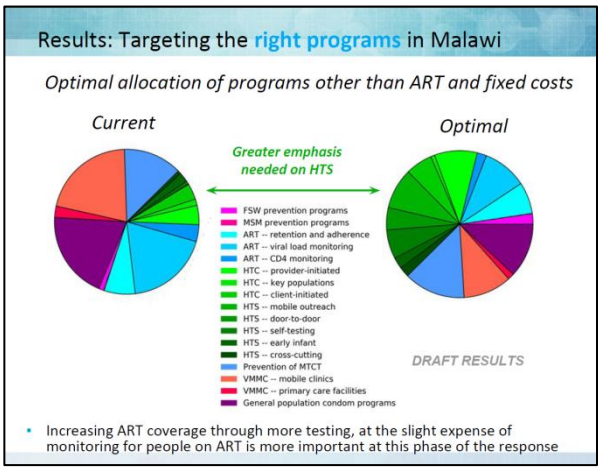
Slides courtesy of Lonjezo Sithole, NAC

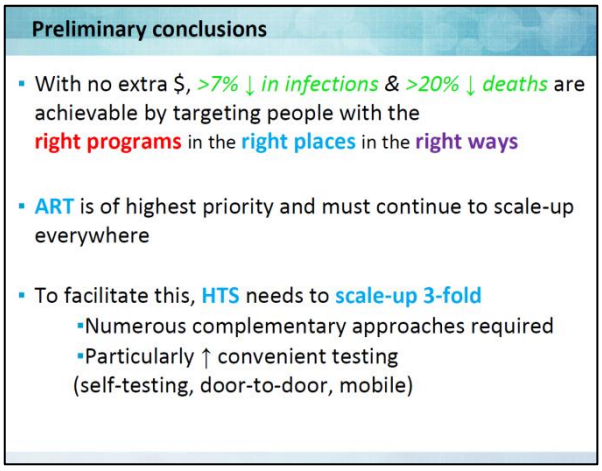
- Described the Goals modelling, Optima modelling and HRH optimisation approaches used to inform resource optimisation analyses and prioritise the most effective HIV interventions to achieve national HIV programme objectives.

- Concluded by summarising the challenges and gaps affecting the HIV and AIDS Programme, including: irregular contact between partners, researchers and government agencies; and inadequate organisational capacity to take on economic analysis.

Presentations from modellers: Optima, Avenir, and HIV Synthesis

An overview of the modelling approaches developed and employed by Optima, Avenir Health and HIV Synthesis were presented by the organisation representatives – **Cliff Kerr**, **Carel Pretorius**, and **Andrew Phillips**.





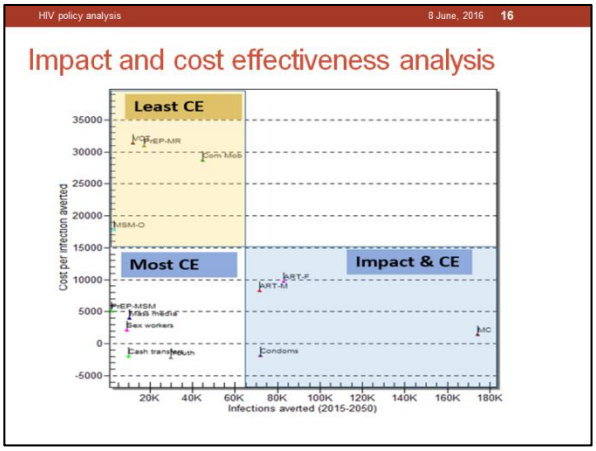
Slides courtesy of Cliff Kerr, Optima

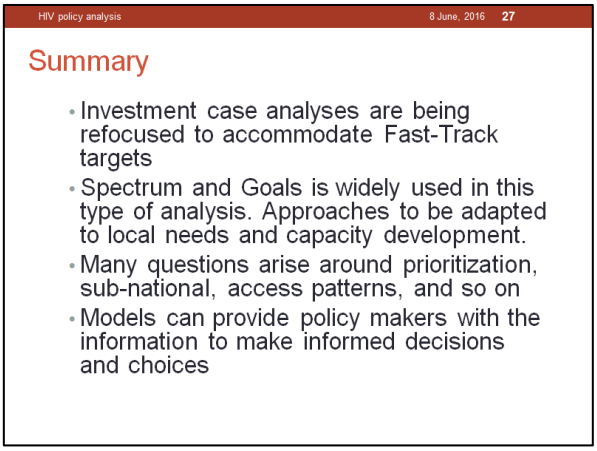
- Provided detailed explanations of how each model, and its corresponding analysis tools, are developed and applied.

- Presented results from their models, in particular those pertaining to a detailed study by Optima into Malawi's HIV response. It was discussed how these findings could be used to inform cost-effectiveness analysis and more effective resource allocation decisions to improve national health outcomes.

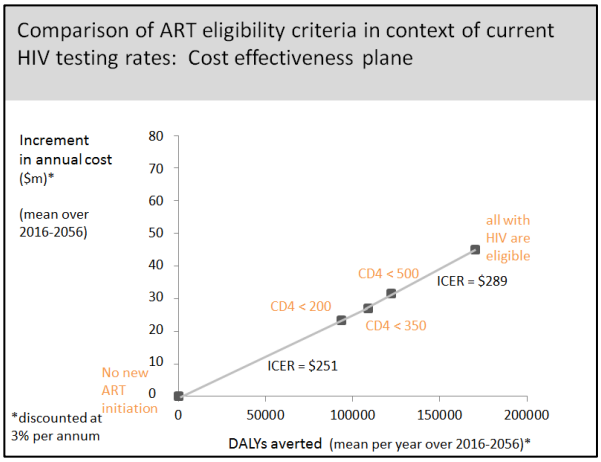
- Highlighted the value of reviewing more than one model and how the models have complementary strengths. Results from models can provide comprehensive insights for policy deliberation into the most effective budgetary planning approaches in HIV and other areas.

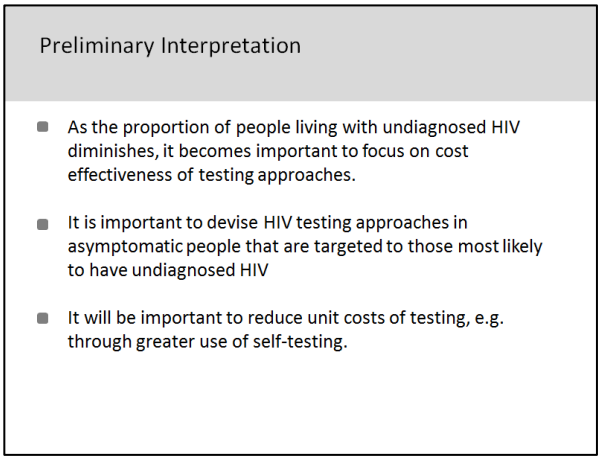
- Sought feedback from attendees on the aspects of the models which could be improved to ensure they take account of constraints on data and local capacity, and fully meet the needs of their intended users.





Slides courtesy of Carel Pretorius, Avenir Health





Slides courtesy of Andrew Phillips, HIV Synthesis, University College London

Day 1 discussions: summary

Attendees raised some brief clarification questions for the modelling experts. Representatives from the Department of HIV & AIDS suggested that the timescales used in some of the models should be reduced from covering the next 10 – 15 years to closer to two – three years which reflects the Ministry of Health planning timescale. However, it was highlighted that consequences from spending decisions in the near term can extend for many years.

It was also debated as to whether the suggestion of separating the HIV programme in Malawi from the main health budget/programme is conceptually suitable and reflects the reality of spending.

Capacity building and the HIV research agenda

The topic of modelling capacity and future research opportunities was frequently raised during the Day 1 open discussion sessions. There was demand among a number of attendees for greater control over models and for building local capacity to understand, develop and adjust models accordingly. In particular, there was some concern that the sophisticated models presented by the modelling organisations in attendance are computational resource intensive and may not be possible for local experts to manage and understand independent of external support.

In addition, there was discussion among the attendees over suggestions that an independent institute devoted to health economics and modelling research should be established. A number of representatives from the Ministry of Health supported the suggestion, arguing that such an institute would enable experts from across Malawi to work together to expand modelling research beyond the

HIV remit on which it is currently primarily focussed, as well as drive demand for the use of health economics and modelling within Government.

Other attendees, however, suggested the Department for Economic Planning should serve this purpose and encourage greater synergy between it and Government Ministries. One attendee suggested that existing local research needs to be disseminated better among stakeholders and decision makers, in a format which is easily understood by a lay audience, in order to generate higher demand for health economics research within Government.

Contextual considerations for modelling

Representatives from the Department of HIV & AIDS raised concerns that the data collected on new HIV+ diagnoses can be skewed by data-collector errors. Examples include providing 'first-time' diagnoses to individuals who have previously been diagnosed as HIV+.

Similarly, one attendee argued that models and estimations must be adjusted to recognise the percentage of immigrants accessing medical care; it was suggested that between 20 – 30% of individuals receiving medical treatment in some districts are non-Malawian.

Reduction of HIV and targeting at-risk groups

Attendees discussed the success of interventions such as voluntary medical male circumcision (VMMC) in combating the HIV epidemic, but reflected upon the importance of effectively targeting those who are most at risk (in the case of VMMC this includes men at the pivotal age of 25 – 39) in an attempt to curtail the epidemic. Similarly, one attendee commented about the consequences of excluding minority groups such as Malawi's LGBT community, and suggested that models should be developed to more accurately reflect key populations.

The long-term impact of successful targeting was discussed. Attendees observed the decline in the new diagnosis yield, and raised concerns over the plateauing of identifying new HIV+ individuals. The group discussed possible solutions and the value of efforts committed towards the 90:90:90 targets.

There were concerns over the connection between HIV reduction and the rise of non-communicable diseases related to older age, and what implications this may have for the future models. One attendee advocated the development of a long-term plan to address these concerns and overcome 'short-terminism'.

Behavioural changes

Examples of possible areas of the Malawi healthcare service which could be made more efficient by changes to operating behaviour were discussed by attendees. These included reducing the 30% of Malawi's funding received from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) that is absorbed by non-pharmaceutical or health commodity related activities such as administration, or ensuring the provision of confirmatory results for everyone who receives an HIV test prior to the initiation of ART treatment.

Political economy considerations

Attendees acknowledged that models and resource allocation recommendations should be developed with an understanding of political realities. Examples provided include the rise of 'philanthrocapitalism' which can impact upon the HIV policy agenda.

Senior representatives from the Ministry of Health also posed the question of whether modelling may be used to ensure the Government caters for the majority of the population who are HIV-, but still continues to support the minority who are HIV+ so as to protect the entire population.

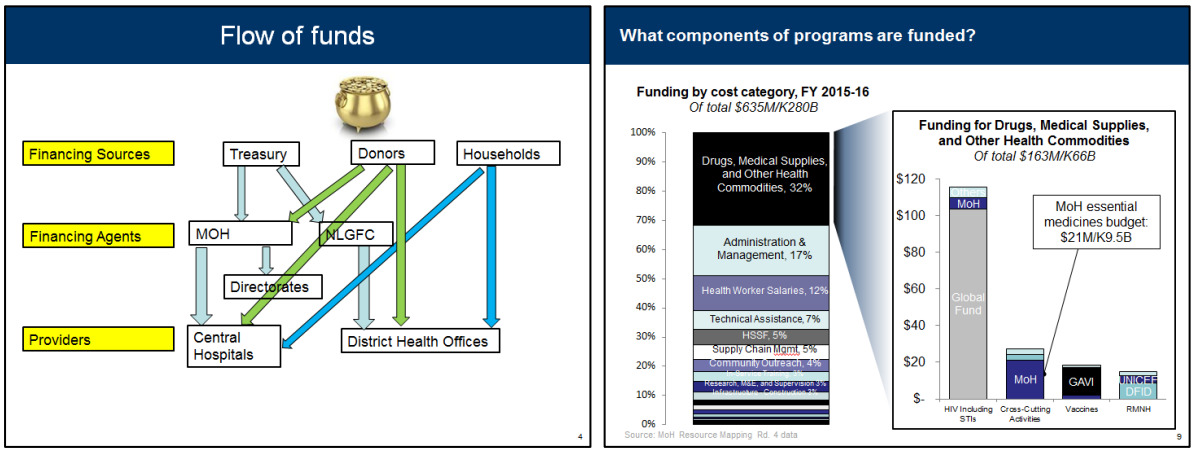
Day 2: Development of the Essential Healthcare Package

Presentations:

- Healthcare budgeting, resource mapping and resource allocation in Malawi – **Gerald Manthalu (GM), Department of Budget Planning, Ministry of Health**
- Informing healthcare decisions: assessing health opportunity costs – **Karl Claxton (KC), University of York**
- Development of a new Essential Healthcare Package for Malawi – **Jessica Ochalek (JO), Centre for Health Economics, University of York**
- Universal Health Coverage (UHC) and health inequality lessons from England – **Miqdad Asaria (MA), Centre for Health Economics, University of York**
- Institutionalising Essential Healthcare Packages – **Mark Sculpher (MS), Centre for Health Economics, University of York**

The Malawi healthcare system

Gerald Manthalu provided an overview of the healthcare system in operation in Malawi, including the budgeted and resource allocation processes, as well as the resource mapping activities.

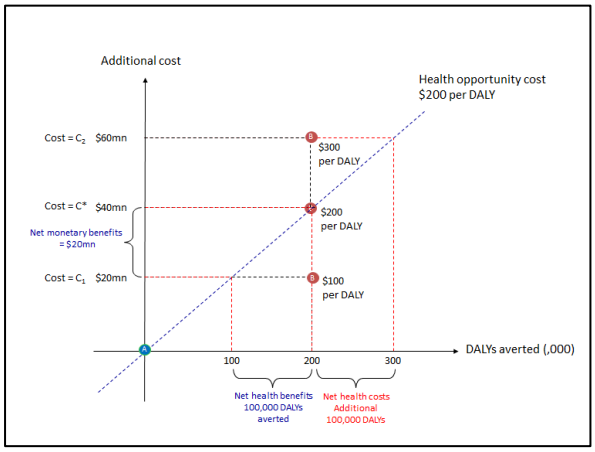


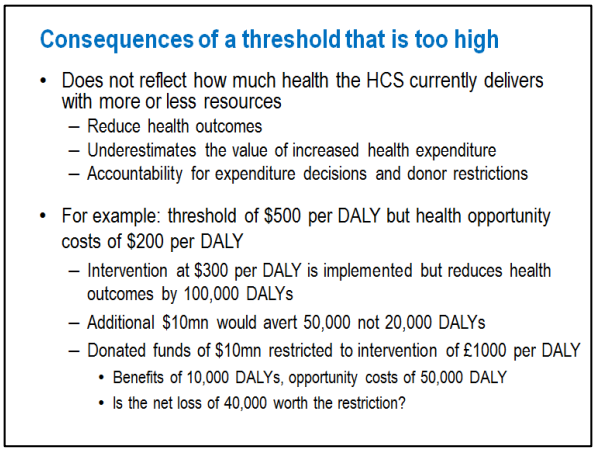
Slides courtesy of Gerald Manthalu, Ministry of Health

- Summarised the structure of the Malawian health care sector, including its financial structure and the relationship between the national and regional health officials in setting standards and budget allocation.
- The sources of Malawi's health sector funding were summarised and GM explored the breakdown of Government funding allocations; it was revealed that 70% of resources come from external donor funding. GM highlighted the problems this causes: fragmentation and duplication of funding efforts; gaps in resources; increased transactions costs; and the disproportionate allocation of funds to specific disease areas.
- Provided an overview of the funding allocated across the districts and the different trends between EHP and non-EHP expenditure. GM concluded by exploring where savings could be made, and identified health worker training and multiple supply chain management systems as two areas for consideration.

Developing the revised Essential Healthcare Package

Karl Claxton opened Session 3 with a presentation summarising the use and value of opportunity costs in cost effectiveness analyses.

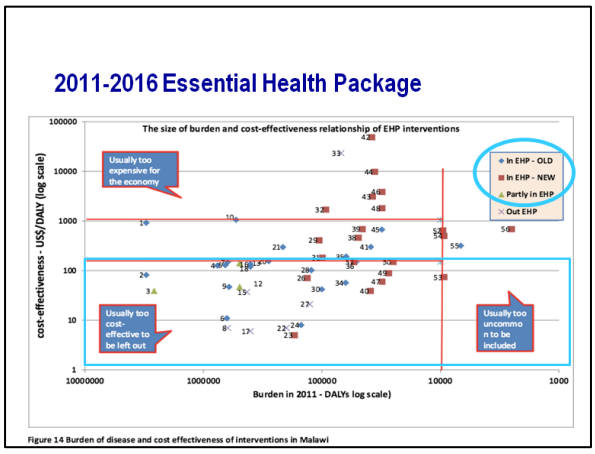


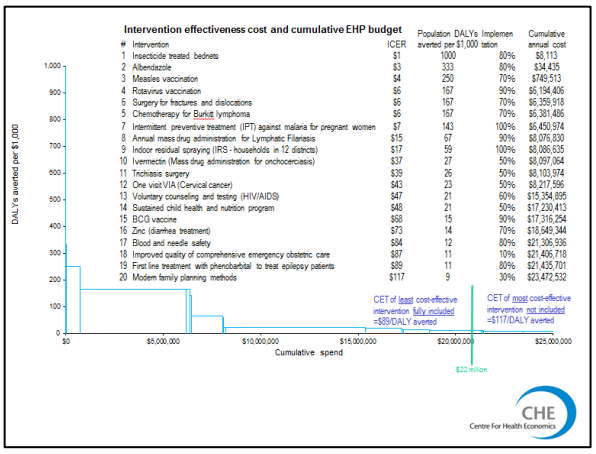


Slides courtesy of Karl Claxton, Centre for Health Economics, University of York

- Provided an overview of why suitably understanding opportunity costs (sometimes represented using cost-effectiveness thresholds) is central for resource allocation, and detailed the value of assessing the net health benefits of individual interventions, rather than focussing upon cost-effectiveness ratios only, and the constraints to realising net health gains, which can support decision makers in their negotiations with donors.
- The net health risks of applying cost-effectiveness thresholds which are set too high were illustrated using hypothetical scenarios. These include underestimating the value or problems that can occur from an increase in health expenditure. KC also used the recent work from the UK on health effects of changes to expenditure and the estimation of the UK cost-effectiveness threshold (conducted by CHE researchers and led by KC), as a case study to support the assessment of opportunity costs in future cost-effectiveness analyses in Malawi.
- Explored how the UK research could be expanded to estimate cost-effectiveness thresholds in low- and middle-income countries (LMICs) and inform resource allocation decisions in Malawi.

Jessica Ochalek concluded Session 3 by presenting a summary of work conducted to date on the revised Essential Healthcare Package (EHP) for 2016 – 2021.





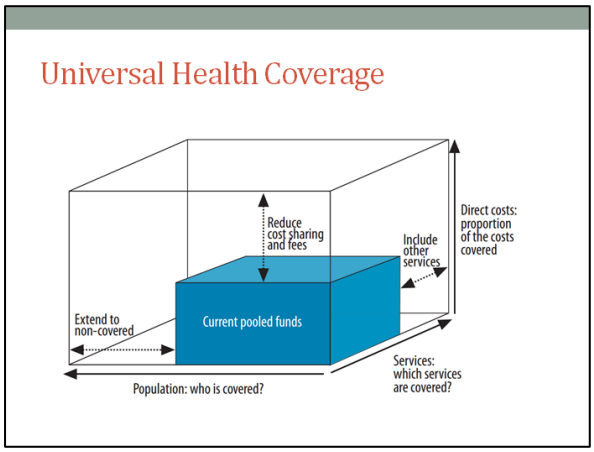
Slides courtesy of Jessica Ochalek, Centre for Health Economics, University of York

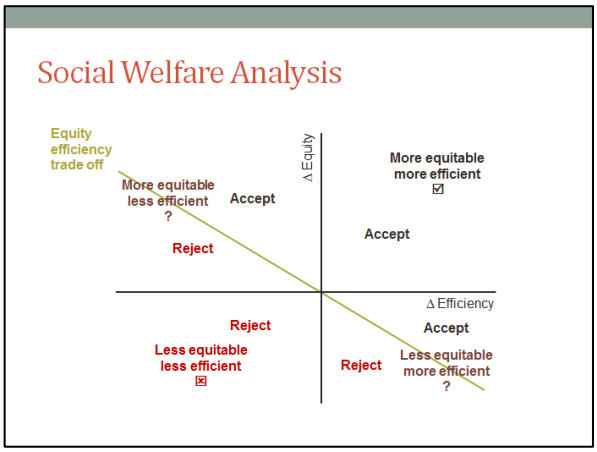
- Delivered an overview of recent work conducted by CHE reviewing the previous EHP (2011 – 2016). This included: illustrating the methods used to assess the impact of promising interventions in the EHP which could not be provided; assessing whether the $150/DALY averted cost-effectiveness threshold was an appropriate 'cut-off point'; and exploring the value of including 'burden of disease' as a criterion in the EHP analysis.

- While JO suggested that it would be beneficial to base the EHP on cost-effectiveness, operationalised through a net benefit framework, in order to generate the most possible health for a given budget, JO also advised against using $150/DALY averted as a threshold as well as including 'burden of disease' as a unique criterion. Instead, JO recommended considering 'burden of disease' alongside other factors, such as equity and political feasibility, when using the EHP for resource allocation decisions, and basing the 'cut-off point' on an estimate of the opportunity cost of spending on health.

- Summarised work to date on the development of a framework tool for determining the EHP; ensuring this tool was user-friendly was highlighted as being a main priority. JO stressed the value of designing the tool to provide information about the opportunity costs of imposing different criteria and constraints in order to better inform decision-making. The user-friendliness of the tool will enable its usage to be flexible to react to financial or contextual changes and allow for other constraints such as human resource shortages to be valuable in terms of their health opportunity cost.

The afternoon sessions were opened by a presentation from **Miqdad Asaria** on equity consideration for the revised EHP.





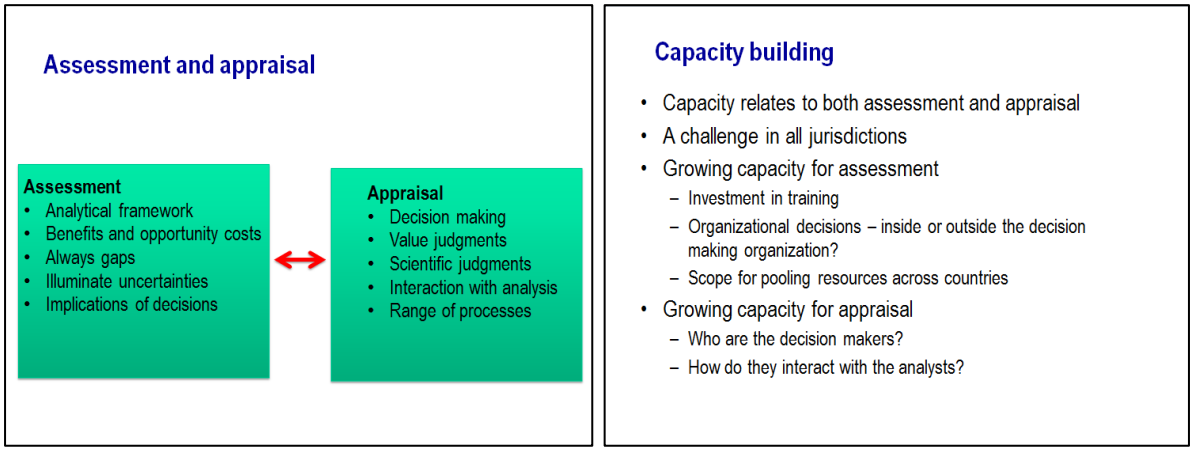
Slides courtesy of Miqdad Asaria, Centre for Health Economics, University of York

- Presented an overview of the Universal Health Coverage (UHC) approach and explored how this may be adapted to prioritise improvements in the distribution of population health and well-being, including concerns related to the healthcare system and financial risk protection.

- Using evidence from the English NHS which indicates that poorer people are more likely to suffer ill-health, MA discussed how healthcare provision should be allocated in accordance with the population's need; targeting those who are most vulnerable. MA also advocated the use of economic methods such as social welfare analysis and distributional cost-effectiveness analysis to minimise health inequality.

- Discussed the role of value judgements and inequality aversion in resource allocation decisions and determining what is considered fair and unfair allocation in Malawi.

Mark Sculpher concluded the Day 2 proceedings with a presentation speculating on how to institutionalise the revised EHP.



Slides courtesy of Mark Sculpher, Centre for Health Economics, University of York

- Summarised the resource allocation assessment and appraisal processes and the role of analysts and decision makers in both. MS stressed the importance of decision makers using the evidence collected during the assessment process to inform their appraisal of healthcare interventions and system strengthening initiatives.
- Emphasised, however, that both processes are not distinct and require interaction between analysts and decision makers at all stages in order to succeed.
- The advantages of a continuous review of the EHP were set out by MS, including: responding to new investment opportunities and evidence of the impact of interventions and systems as they emerge; and informing decisions at the margin.

Day 2 discussions: summary

Attendees raised some technical clarification questions after the presentations by Karl Claxton and Jessica Ochalek, including queries about how imperfections in the healthcare sector and attributes such as financial protection could be considered in the revised Essential Healthcare Package framework tool, and how to adapt the tool to accommodate the healthcare access barriers prevalent in Malawi.

The presenters acknowledged that further research was required in order to understand the value placed upon attributes like financial protection in Malawi, as well as to identify existing access barriers, so as to make appropriate adjustments to the framework tool.

<u>Practical applications of the Essential Healthcare Package to Malawi</u>

There was general agreement among attendees that the framework tool proposed by Jessica Ochalek and Karl Claxton would support Malawi policy makers to negotiate with donors on the commitment of funds. Some queries and concerns over the practical application of the tool and revised Essential Healthcare Package (EHP) were also raised.

The need for the revised EHP to function within the existing budgeting system operating in Malawi was highlighted, and that failure to address the existing provider payment processes could impact upon the success of the EHP implementation.

Existing capacity constraints and how the EHP would take account of these issues were a concern for several attendees, with a number arguing these should be incorporated into the framework tool design. One attendee advocated identifying how to develop a consistent approach to realising the EHP across Malawi prior to its implementation in order to ensure a greater chance of success. An alternative view presented was that the EHP framework will highlight the value of overcoming health system constraints, but these are often very localised so it is unrealistic and likely unhelpful for them to be formally incorporated into the framework.

Institutionalising the Essential Healthcare Package

Mark Sculpher's presentation on the technical methods of 'assessment' from the required judgements and deliberation of 'appraisal' processes, triggered debate over how the EHP should be developed on an ongoing basis as part of the national policy process. Attendees expressed concerns over the existing clinical guideline development process of using existing Government structures as templates, and warned that developing guidelines for specific disease areas could result in inter-agency competition to secure the most funds.

In addition, while there was support for introducing a continuous appraisal process for the EHP and in national budgeting, some attendees were sceptical about the practicalities of such an approach. Despite these concerns, however, there was general agreement that national budget guidelines should encourage careful judgement and transparency in the resource allocation process.

There was discussion among a number of attendees about the decentralisation of resource allocation decisions. It was suggested that the EHP be adjusted to accommodate the health budget assigned by the Ministry of Finance and for district-level decision makers to determine the health interventions at the margin which could be omitted from their regional resource allocation. It was acknowledged, however, that this appraisal process carries political risks for district-level decision makers, and the Ministry of Health representatives were keen to understand how to incentivise regions to undertake this process. Suggestions included utilising the EHP for an additional function; allowing district-level decision makers to apply for additional funds to support interventions which are included in the EHP but which cannot be covered by regional budgets.

Communication of the Essential Healthcare Package

The role of local analysts in resource allocation decisions, as well as how best to communicate the evidence provided by the framework tool, was debated in a number of the day's open discussion sessions.

Several attendees stressed the importance of communicating the EHP in language suitable for a lay audience so that decision makers can fully understand the rationale behind EHP recommendations and engage with the evidence. This type of dissemination was considered by a number of attendees as being a key part of the local analysts' role in Malawi, and the group was in general agreement that analysts were responsible for the EHP assessment process in order to support policy makers in making informed decisions as part of the EHP appraisal process.

There was support among some attendees for utilising the framework tool and data to demonstrate to decision makers the damaging effect of opportunity costs and other inequalities in the Malawi healthcare system, and thus encourage the transfer of the sector's primary focus from notional financial protection (but where interventions in effect remain unavailable), onto achieving maximum health. Attendees expressed hope that these data could be used to bolster the confidence of decision makers to contest donor funding programmes which have unrealistic constraints attached, although it was acknowledge that this would require strong Government advocacy of the EHP in order to succeed.

Impact of donors' changing priorities on the Government budget

Attendees expressed their disappointment in the change to external donors' funding approaches since the Paris Declaration on Aid Effectiveness in 2005, and raised concerns over the resultant 'fragmentation' of donor funding. The reduced focus on budget support initiatives was blamed upon recent corruption scandals and increased pressure on donors to demonstrate where their money is being spent.

Additional concerns were raised over resource management, with one attendee expressing scepticism over the reported annual health expenditure and impact, and warned that inaccurate expense readings and intervention commitments could give a false impression of the health sector's progress.

Attendees from the UK enquired about whether donor funding changes have had an impact upon the share of the Government budget allocated to the health sector. Representatives from the Ministry of Health assured that although there has been a marginal decline in budget owing to the poor economic climate of recent years, the burden from reduced funding has been spread equally across Ministries.

Human resource costs

There was some uncertainty expressed about Malawi's reported spend on health sector personnel. Attendees from the UK believed that 17% was much lower than the expected total spend and queried whether this was evidence of a health sector constraint. Representatives from the Ministry of Health also highlighted how the human resource for health situation in Malawi severely limits the effective delivery of healthcare.

Other attendees suggested that these figures do not represent the full envelope of health sector budget and argued that when this is taken in account, the total spend on personnel increases to closer to 50%. It was noted that this is still lower than most other LMICs however.

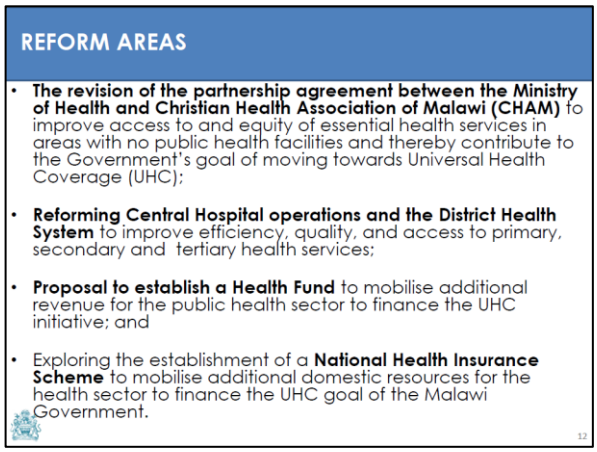
Day 3: Malawian health reforms - purchasing and financing

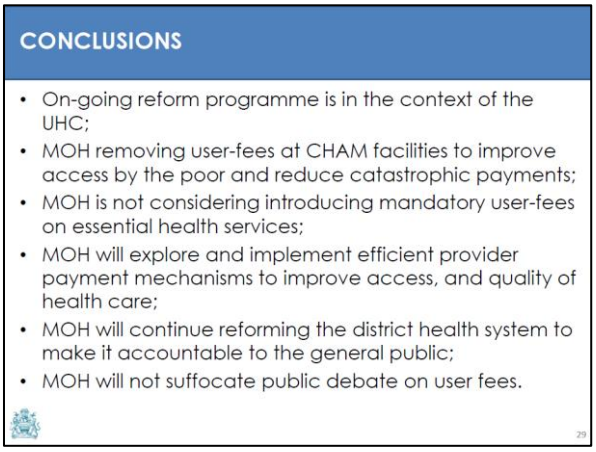
Presentations:

- Overview of health sector reforms and future priorities – **Dominic Nkhoma (DN), Policy Reforms Unit, Ministry of Health**
- Malawian experiences with provider payment mechanisms – **Takondwa Mwase (TM), Abt. Associates Health System Strengthening**
- Social Health Insurance and the Health Fund - **Dominic Nkhoma (DN), Policy Reforms Unit, Ministry of Health**
- Health financing for Universal Health Coverage – **Rob Yates (RY), Chatham House**

Malawian health sector reforms

Dominic Nkhoma summarised the aims of the Government reforms including: improving the health status of the population; and securing financial risk protection and greater public satisfaction in the health system, especially in the wake of recent corruption scandals.





Slides courtesy of Dominic Nkhoma, Ministry of Health

- Provided an overview of the reform process and what has been achieved to date, including the first reforms being introduced, and future plans.
- There was a discussion on the decline in infant mortality rate closer towards the average for Sub-Sahara Africa. DN revealed that there has been a shift in the distribution of infant mortality (IM) from the poorest communities to the wealthiest since 2004 and the introduction of schemes to address the problem. Questions were raised over how to continue to improve the population health without complicating the health system, and concerns were raised about the sustainability of the donor funding used to support IM programmes.
- Summarised the challenges and root causes of these issues, and detailed the reform areas agreed by Government to resolve the problems.

The first morning session was concluded by **Takondwa Mwase**, who presented on Malawi's experiences to date with provider payment mechanisms (PPMs).

- Provided an overview of the effects of PPMs on the behaviour of health workers, and highlighted the trade-offs and benefits of a variety of PPMs which have been trialled in Malawi.

Evidence of Provider Payment Mechanisms and their Effect on Provider Behaviour

PROVIDER PAYMENT MECHANISMS	PREVENT HEALTH PROBLEMS	DELIVER SERVICES (Quantity and Quality)	RESPOND TO LEGITIMATE EXPECTATIONS	CONTAIN COSTS
LINE ITEM BUDGET	+/-	- -	+/-	+++
GLOBAL BUDGET	++	- -	+/-	+++
CAPITATION (with competition)	++	- -	++	++
DIAGNOSTIC RELATED GROUPS (DRGs)	+/-	++	++	++
FEE-FOR-SERVICES	+/-	+++	+++	- -

Slides courtesy of Takondwa Mwase, Abt. Associates Health System Strengthening

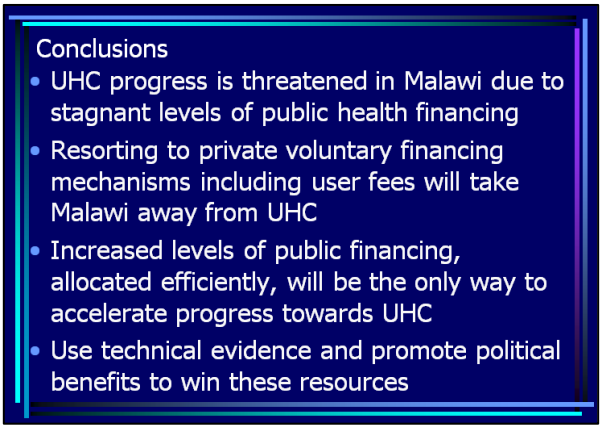
- Highlighted a number of PPM terms, including PBF, P4P, PBI, RBF, and provided examples of Malawi's experiences with these schemes including those with successful outcomes, such as the MOH/SSDI PBI which has seen an improvement in the quality of health services, and areas for improvement to strengthen the systems.

- Advised that PPMs should be considered once decision makers have defined the goals of the health system, and implemented to complement these objectives.

- There was speculation about the future scaling-up of the PPMs currently being trialled.

Health sector financing options

Rob Yates concluded the final session of the day with a presentation exploring Universal Health Coverage (UHC) and the changing global attitude towards user fees as a means to fund UHC.



Slides courtesy of Rob Yates, Chatham House

- Discussed the qualities of UHC and the activities Malawi has already undertaken towards achieving full coverage, including signing-up to the Sustainable Development Goals in 2015.

- An overview of the financial systems which support UHC and those which do not was provided, and RY stressed the importance of state managed cross-subsidies of the poor-sick by the healthy-wealthy.

- Discussed the risks of introducing user fees and proposed that these are ineffective, presenting case studies illustrating this, including: the 200% increase in healthcare utilisation rate in Uganda after the abolition of user fees. RY advocated the use of public funding to support UHC, through tax financing or compulsory social insurance as being more conducive for UHC.

- It was acknowledged, however, that the move towards UHC and health system reforms is political and requires advocacy but can also result in swift political gains.

Day 3 discussions: summary

<u>Thoughts on the proposed health sector reforms</u>

The steep reduction in Malawi's infant mortality rate as a result of on-going healthcare interventions was praised by the group. It was suggested by one attendee that this success may be owed to

Malawi's resistance to implementing user-fees; an approach introduced by a number of low- and middle-income countries with varying success. However, representatives from the Ministry of Health warned that the rate of reduction will be difficult to maintain owing to donor funding being withdrawn as the infant mortality crisis is perceived to have been successfully addressed.

Attendees also welcomed the introduction of behavioural change reforms to tackle issues such as medical supply theft. However, some raised concerns that the proposals manage the effect of these issues rather than prevent them from occurring, and questioned how successful the reforms will be. Representatives from the Ministry of Health assured that the reforms also include preventative measures.

The importance of considering public and preventative health services was also raised by one attendee who expressed concern that these services are often overlooked in the health budget. There was agreement among a number of attendees that there should be a renewed focus upon community based health responses.

Scaling up provider payment pilot schemes

Attendees speculated on the practicalities of scaling up the current pay for performance pilot schemes in operation in selected districts, including: agreeing upon the type and extent of the monitoring required to ensure successful implementation; and defining performance indicators. It was also acknowledged that there is a need to liaise with existing payment partners to explain the rationale for introducing the provider payment mechanism and securing their support of the approach.

However, attendees did raise some practical concerns about the payment schemes (including issues such as local Government capacity and significant transaction costs incurred while implementing the scheme), and stressed the importance of addressing these before the pilot schemes are scaled up.

Representatives from the Ministry of Health assured that the current pilot schemes have included training in how to operate the provider payment programmes so as to support the development of local knowledge. It is anticipated that this knowledge will be cultivated throughout Malawi as the programmes are scaled up, thereby reducing the reliance upon external experts and minimising the transaction costs.

Introducing a National Health Insurance Scheme

Although the motivation behind the introduction of the proposed National Health Insurance Scheme (NHIS) was relatively well received by the majority of attendees, there were a number of concerns raised about the practicalities of implementing the NHIS, most significantly the political implications.

Several attendees warned that 'selling' the NHIS to the public could be challenging as the health service is perceived to be free in Malawi (despite most people paying for treatment) and questions may be raised as to why patients may soon be required to pay out of pocket.

In addition, some attendees questioned how the Ministry of Health would incentivise people eligible to sign up to the 'formal sector' insurance card to sign up to the scheme. Representatives from the Ministry of Health set-out plans for working with the Revenue Office to assign individuals to the relevant insurance brackets.

Several attendees also raised concerns about the risks associated with distinguishing between 'poor' and 'marginally poor' individuals, and warned that people in the poorest bracket of the 'marginal' group may be pushed into poverty as a result. These attendees advocated the Universal Health Coverage approach as a simpler and less administratively burdensome method. The experiences of Rwanda were also highlighted, which operates compulsory contributions but with very low premiums.

Appendix 1: Workshop agenda

DAY 1 (8 JUNE) – HIV MODELLING/ECONOMIC ANALYSES & POLICY FORMULATION

TIME	SESSION	SPEAKERS
08:30	Welcome refreshments	
09:00 – 09:30	**Session 1: Meeting aims and rationale** • Official opening by the Minister for Health • Opening remarks • Review the aims and objectives of the meeting	• Hon. Dr. Peter Kumpalume (*Minister for Health, Malawi*) • Mark Sculpher (*CHE, University of York, UK*) • Gerald Manthalu (*Dept. of Budget Planning, Ministry of Health, Malawi*)

09:30 – 10:30	**Session 2: Current approaches to HIV policy development in Malawi**
	• Presentations from Ministry of Health representatives
	  – HIV policy development and funding
	  – HIV budgeting and resource allocation
	• Open discussion
		Chair: Paul Revill (*CHE, University of York, UK*)
		• Andreas Jahn (*Dept. HIV & AIDS, Ministry of Health, Malawi*)
		• Oliver Mkwamba (*National AIDS Commission, Malawi*)

10:30 – 11:00	Mid-morning refreshment break	
11:00 – 12:45	**Session 3a: Modelling/economic analyses of HIV policy alternatives undertaken in Malawi and internationally** • Overview of the World Bank/OPTIMA allocative efficiency study • Overview of the Avenir Health analyses • Open discussion	Chair: Paul Revill (*CHE, University of York, UK*) • Cliff Kerr (*OPTIMA, Australia*) • Carel Pretorius (*Avenir Health, USA*)
12:45 – 13:45	Lunch	
13:45 – 15:45	**Session 3b: Modelling/economic analyses of HIV policy alternatives undertaken in Malawi and internationally (continued)** • Overview of the HIV Synthesis analyses • Responses and commentaries – Ministry of Health, HIV & AIDS Department	Chair: Paul Revill (*CHE, University of York, UK*) • Andrew Phillips (*University College London, UK*) • Andrew Jahn (*Dept. HIV & AIDS, Ministry of Health, Malawi*)

	– Development partner: UNAIDS – Ministry of Health, Budget Planning Department • Open discussion	• Charles Birungi (*UNAIDS, Malawi*) • Gerald Manthalu (*Dept. of Budget Planning, Ministry of Health, Malawi*)
15:45 - 16:15	Mid-afternoon refreshment break	
16:15 – 17:30	**Session 4: Future research needs and supporting capacity for critiquing and using modelling** • Economic analysis to support HIV and AIDS programme decisions • Supporting capacity for critical use of modelling • Closing words from Chair	Chair: Tim Hallett (*HIV Modelling Consortium, UK*) • Lonjezo Sithole (*National AIDS Commission, Malawi*) • Gerald Manthalu (*Dept. of Budget Planning, Ministry of Health, Malawi*)
17:30	Close	
19:00	Evening reception	

DAY 2 (9 JUNE) – DEVELOPMENT OF THE ESSENTIAL HEALTHCARE PACKAGE

TIME	SESSION	SPEAKERS
08:30	Welcome refreshments	
09:00 – 09:15	**Session 1: Meeting aims and rationale** • Opening remarks and review the aims and objectives of the meeting	• Paul Revill (*CHE, University of York, UK*)
09:15 – 10:15	**Session 2: Resource allocation in the Malawian health sector** • Healthcare budgeting and resource allocation by the Ministry of Health, Malawi • Open discussion	Chair: Paul Revill (*CHE, University of York, UK*) • Gerald Manthalu (*Dept. of Budget Planning, Ministry of Health, Malawi*)
10:15 – 10:45	Mid-morning refreshment break	
10:45 – 12:45	**Session 3a: Framework for the revision of the Essential Healthcare Package** • Resource constraints and opportunity costs • A revision of the Essential Healthcare Package for 2016 onwards • Open discussion	Chair: Takondwa Mwase (*Abt. Associates, Malawi*) • Karl Claxton (*University of York, UK*) • Jessica Ochalek (*CHE, University of York, UK*)

12:45 – 13:45	Lunch	
13:45 – 15:45	**Session 3b: Further considerations for the finalised Essential Healthcare Package** • Other concerns in prioritisation: equity considerations • Responses and commentaries – Ministry of Health, Policy Reforms Unit – Development partner: Clinton Health Access Initiative – University of Malawi • Open discussion	Chair: Milward Tobias (*Vice President's Office, Malawi*) • Miqdad Asaria (*CHE, University of York, UK*) • Dominic Nkhoma (*Policy Reforms Unit, Ministry of Health, Malawi*) • Michelle Ferng(*CHAI, USA/Malawi*) • Spy Munthali (*University of Malawi*)
15:45 - 16:15	Mid-afternoon refreshment break	
16:15 – 17:15	**Session 4: Institutionalising the Essential Healthcare Package for population health benefit** • International experiences in the institutionalisation of Essential Healthcare Packages • Closing words from Chair	Chair: Gerald Manthalu (*Dept. of Budget Planning, Ministry of Health, Malawi*) • Mark Sculpher (*CHE, University of York, UK*)
17:15	Close	

DAY 3 (10 JUNE) – HEALTHCARE PURCHASING AND FINANCING

TIME	SESSION	SPEAKERS
08:30	Welcome refreshments	
09:00 – 10:30	**Session 1: Healthcare reforms: purchasing** • Overview of health sector reforms and future priorities – Hospital autonomy – CHAM service level agreements – The Health Fund – Social health insurance • Malawian experiences with provider payment mechanisms	Chair: Paul Revill (*CHE, University of York, UK*) • Dominic Nkhoma (*Policy Reforms Unit, Ministry of Health, Malawi*) • Takondwa Mwase (*Abt. Associates. Malawi)*
10:30 – 11:00	Mid-morning refreshment break	

11:00 – 12:45	**Session 2: Healthcare financing and review generation** • Social Health Insurance and the Health Fund • International experiences with financing reforms • Open discussion • Closing remarks from the Chair of the Parliamentary Committee for Health	Chair: Paul Revill (*CHE, University of York, UK*) • Dominic Nkhoma (*Policy Reforms Unit, Ministry of Health, Malawi*) • Rob Yates (*Chatham House, UK*) • Hon. Juliana Lunguzi MP (*MP for Dedza East*)
12:45	Close	

Appendix 2: Attendee list

Hon. Dr. Peter Kumpalume	Minster for Health
Dr. Charles Mwansambo	Secretary for Health
Hon. Juliana Lunguzi MP	MP for Dedza East, Chair of Parliamentary Committee for Health
Amy Diallo	UNAIDS, Malawi
Alexandra Rollinger	Centre for Health Economics, University of York, UK
Andreas Jahn	Department of HIV & AIDS, Ministry of Health, Malawi
Andrew Mganga	Department of HIV & AIDS, Ministry of Health, Malawi
Andrew Phillips	HIV Modelling Consortium/University College London, UK
Atamandike Chingwanda	Policy Development Unit, Ministry of Health, Malawi
Bryant Lee	Health Policy +, Palladium Group, USA
Carel Pretorius	Avenir Health, USA
Caroline Ntale	Department of HIV & AIDS, Ministry of Health, Malawi
Cassandra Nemzoff	Clinton Health Access Initiative, USA/Malawi
Charles Birungi	UNAIDS, Malawi
Chimwemwe Mablekisi	National AIDS Commission, Malawi
Cliff Kerr	OPTIMA, Australia
Collins Magalasi	Chief Economic Advisor and Executive Officer to the President
Dominic Nkhoma	Head of Policy, Policy Reforms Unit, Ministry of Health, Malawi
Dorica Chirwa	Department of HIV & AIDS, Ministry of Health, Malawi
Edgar Lungu	UNAIDS, Malawi
Edward Kataika	East, Central and Southern Africa Health Community, Tanzania
Fresier Maseko	College of Medicine, University of Malawi
Gerald Manthalu	Deputy Director, Department of Budget Planning, Ministry of Health
Jessica Ochalek	Centre for Health Economics, University of York, UK
Joseph Mfutso-Bengo	University of Malawi
Karl Claxton	University of York, UK
Katharina Hauck	HIV Modelling Consortium, Imperial College London, UK
Levison Chiwaula	Economics Department, University of Malawi
Lola Osunsanya	Malawi Network of AIDS Service Organisations, Malawi
Lonjezo Sithole	National AIDS Commission, Malawi
Mark Sculpher	Centre for Health Economics, University of York, UK
Martin Kanjadza	Malawi Country Manager, Global Health Corps
Michelle Ferng	Clinton Health Access Initiative, USA/Malawi
Milward Tobias	Chief Economic Advisor to the Vice-President
Miqdad Asaria	Centre for Health Economics, University of York, UK
Newton Chagoma	Clinton Health Access Initiative, USA/Malawi
Oliver Mkwamba	National AIDS Commission, Malawi
Paul Revill	Centre for Health Economics, University of York, UK

Rob Yates	Chatham Houses, UK
Sosten Chilumpha	Abt. Associates, Malawi
Takondwa Mwase	Chief of Party, Abt. Associates Health System Strengthening, Malawi
Tim Hallett	HIV Modelling Consortium, Imperial College London, UK
Winford Masanjala	Economics Department, University of Malawi
Yussuf Edward	Budget Department, Ministry of Finance, Malawi