



**HIV** Modelling  
Consortium

**HIV Modelling Consortium Symposium:  
“A Dialogue Between Program Planners and Model  
Makers”**

**ICASA 2015**

**Committee Room 4, Rainbow Towers Hotel and Conference  
Centre, Harare, Zimbabwe**

**Monday 30 November 2015, 18:30 – 20:30**

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## Objectives of The HIV Modelling Consortium

The HIV Modelling Consortium aims to improve scientific support for decision making through the co-ordination of a wide-range of research activities in mathematical modelling of the HIV epidemic. This project is currently funded by the Bill & Melinda Gates Foundation through a grant to Imperial College London.

The Consortium's key objectives are to:

1. Identify questions that demand mathematical modelling input and identifying new modelling results that may require further validation.
2. Facilitate sharing of information; modelling techniques, data and expertise between research groups.
3. Provide a forum for rigorous review of new mathematical modelling research and tools.
4. Provide funding through sub-contracts to commission research to address those needs.

A Steering Committee of leaders in HIV programme and policy directs the focus of the work of the consortium. Further information on the HIV Modelling Consortium is available in a standard briefing document and information about other work packages undertaken by the HIV Modelling Consortium is available at the website [www.hivmodelling.org](http://www.hivmodelling.org).

## Background

Across global health, model analyses are increasingly being applied to aid decision-making in recognition of the need to optimally allocate resources and to inform sustainable long-term planning. As the applications of models diversify and expand, their impact on global health also grows; and therefore coordination and communication between the individuals developing the models and the consumers of these models (country planners, programmers and regional leads) is essential to improve understanding and ultimately advance the impact and effectiveness of these tools.

This Symposium, organized by The HIV Modelling Consortium, aims to hear directly from programme managers and their experience with the following: (1) UNAIDS Investment Case (2) WHO ART Guidelines (3) Geographical Allocation.

### Overall aim

To foster dialogue between mathematical modellers and country teams, programmers, regional leaders and managers.

## Symposium Summary

The four presentations showed the many ways through which mathematical modelling is currently being used to guide the HIV/AIDS response in countries from informing policy development through to programme evaluation. In regard to geographical allocation, for example, the approach used modelling would first advise which districts to focus on, then to ascertain the appropriate allocation of interventions within each district, and would further be used to inform the programme and for impact evaluation. Representatives from country programmes spoke of the number of models that they are required to familiarise themselves with (e.g. the modes of transmission model, Goals, costing models or those for allocative efficiency etc.), and the complexities in trying to communicate the findings of these to representatives from ministries, particularly in articulating the number and meaning of assumptions and what the implications for uncertainty in estimates means in regard to the programme response. There was much discussion about the need for more data to inform models, in particular as interest in programme responses are targeted to particular geographies or population groups for which data are currently sparse or of varying quality (for example, how to view estimates of subnational cascades where there may be different denominators due to complexities of patient movement and tracing), but

that recognition should be given to how new data alter estimates and what the impact of changing estimates has for a country programme either in communicating to people within districts working in programmes and for relationships with funders in terms of meeting coverage targets. It was clear from the country representatives that this latter point is of particular importance, especially as they are increasingly put in a position where they may have to justify the allocation of resources away from certain regions in favour of fast-tracking others. As such, more guidance in communication of models and impact of their results would be of value.

Therefore in summary there were the following take home considerations for the modellers arising from the discussions:

1. All of the presenters from country programmes laid out a clear interest in having estimates, projections, and strategies that were differentiated or more “granular” with respect to age, geography, population and so on. While this is a direction in which the modelling community are moving towards with estimates and allocation models, it is recognised that there needs to be a forum for discussion around the ‘uncertainty’ in those estimates.
2. Further to point 2, it was clear that the modelling community needs to be far better at communicating uncertainty in the estimates and find better ways for this to be reflected in evaluation of programs. On the issue of estimates or predictions from models changing in response to new data or method; modellers should be better at planning for this, making sure that changes are “within” the uncertainty that was previously reported (so making sure uncertainty we report is a fair reflection), and to ensure all parties understand the strengths and weaknesses of those estimates and projections.
3. The modelling community needs to do more to situate the ‘HIV questions’ alongside the programmatic realities on the ground and the wider context of health systems, and the calls on resources from different disease areas. This is something the HIV Modelling Consortium are conscious of - recent research efforts led by Andrew Phillips and Paul Revill for their contribution to the WHO’s 2015 ARV guidelines encouraged consultations with representatives from ministries of health and other programme implementers in order review outputs and revise the model to be more well-informed of implementation issues. However, more needs to be done and it should be seen as a priority for modellers to work to address this.
4. There is a need to find the balance between models which are quick, easy, tools that inform immediate questions with the longer, more intensive process of reviewing assumptions, validating and checking against all kinds of data, and ensuring understanding and agreement of everything in the model. It appears this is done with varying degrees of success at the moment, and that there should be support in identifying a successful process and build upon that. The HIV MC has tried to do this in the past by including all models in model comparisons, incorporating new models in modelling tools, contributing to normative guidance using different models and reviewing the functionality of modelling tools.

## Next steps

The HIV Modeling Consortium will take these comments to the Steering Committee and discuss how we can work to respond to these issues.

## Symposium Agenda

Time	Session	Speaker(s)
18:00	<b>Welcome drinks and food</b>	N/A
18:30	<b>Welcome and Symposium aims</b> <ul style="list-style-type: none"> <li>Opening remarks and rationale for Symposium</li> </ul>	Tim Hallett
18:45	<b>Experience with UNAIDS Investment Case</b> <ul style="list-style-type: none"> <li>Insight into the process and results from South Africa</li> </ul>	Nonhlanhla Dlamini
19:00	<b>Using modelling to inform and respond to WHO Guidelines</b> <ul style="list-style-type: none"> <li>Using modelling to inform the development of the 2015 ARV Guidelines</li> <li>Experience from Zimbabwe in implementation of WHO Guidelines and modelling questions arising</li> </ul>	Paul Revill & Jeff Eaton Tsitsi Apollo
19:30	<b>Applying geographical allocation approaches to the HIV/AIDS response</b> <ul style="list-style-type: none"> <li>Insight into the process and results from Mozambique</li> <li>Insight into the process and results from Nigeria</li> </ul>	Aleny Couto Michael Kayode Ogungbemi*
20:00	<b>Interactive panel session: Dialogue between program planners and model makers</b> <ul style="list-style-type: none"> <li>Panel members respond to questions arising from presentations and audience.</li> <li>Panel include: Meg Doherty (WHO), Ade Fakoya (GFATM), John Stover (Avenir Health)</li> </ul>	All, chaired by Mead Over

*\*Dr. Michael Kayode Ogungbemi was unfortunately unable to attend at short notice due to visa issues*