

**ESRC Innogen Centre & Open University's  
Innovation, Knowledge and Development  
(IKD) Research Centre**

Technologies for Health System Strengthening

(THeSyS)

Workshop Report

6 & 7 April 2009

Maths, Computing and Technology Faculty  
Development Policy and Practice Group  
The Open University, Milton Keynes

24 April 2009

## **A. ACKNOWLEDGEMENTS**

The workshop organising team, consisting of Joanna Chataway, Lois Muraguri, Rebecca Hanlin, Julius Mugwagwa and Maureen Mackintosh would like to acknowledge the ESRC Innogen Centre, IKD and the OU Research Office for providing the funding for this workshop. For being excellent at taking care of all logistical issues and making sure the various 'pieces' of the workshop came and remained together, special thanks go to Marlene Gordon, Lara Crossland, Jenny Wright and Olivia Acquah. We are indebted to our rapporteurs, Sally Griffiths, Vuyo Mjimba, Mary Upton and Maurice Bolo. Special thanks too to all the resource persons and facilitators, and the delegates for turning a humble-looking programme into an unforgettable experience.

## **B. BACKGROUND**

Product Development Partnerships (PDPs) involved in the development of drugs, vaccines and diagnostics for the health challenges of the world's poorest populations are continuously confronted with difficult decisions and increased funding challenges. The credit crunch and wider alternative choice of financing mechanisms are likely to put further pressure on the partnerships. While PDPs are designed to promote fast product development, there has been criticism from some quarters about their lack of integration with existing health and research systems in developing countries. On top of this a number of PDPs are also up against immense scientific challenges. Some PDPs are having to ask themselves challenging strategic questions. Should they increasingly become funders of basic science or should they build on synergies between product development activities on the ground in developing countries and health systems strengthening? This workshop explored this latter perspective asking fundamental questions about the link between health systems and the activities of PDPs. From this starting point, the aim was to critically assess PDPs by asking the following main questions:

- Do PDPs deliver new organisational arrangements and creative funding mechanisms that are useful not only to PDPs but also health systems strengthening? Do or can PDPs and health systems strengthening actually go hand in hand?
- Is it possible to define and measure success of PDPs in novel ways looking at them as 'social technology' experiments and assessing their contributions as technological and social innovators and brokers?

The broader work behind this workshop is being led by the ESRC Innogen Centre, based at the Open University and University of Edinburgh, IKD and other partners. To stimulate discussion on these issues, a website was set up to host an electronic discussion and serve as a medium for dissemination of information on health systems strengthening and allied issues. The agenda/programme for the workshop is attached as Annex 1.

## **C. ATTENDANCE**

The workshop attracted more than 35 participants representing close to 20 different organisations from 10 different countries. Delegates came from academia, private sector, NGO sector, product development partnerships and related others. Further

details on participants are given in Annexes 2. Prior to the workshop, a website was established to host audio-files and an electronic forum discussing issues related to the workshop objectives. The website, <http://thesys.open.ac.uk/> remains active and had attracted audiences from 44 across countries across the globe at the time of the workshop.

#### **D. CONTEXTUALISING THE HEALTH CHALLENGE**

Three keynote presentations were made to contextualise the health challenge and accompanying responses. The first one was by Prof Miriam Were, a health practitioner and Chair of the Kenya National AIDS Control Council. She emphasised the importance of a holistic approach to strengthening of health delivery systems, starting from household/family level right up to national level. At all these levels, there are important human, physical and financial requirements which have to be availed and linked adequately and sustainably in order for health security to be safeguarded. She ended by noting that for most of the world's poor people, the right to health is still a right denied, and the challenge remains for developers of health technologies and innovations to make sure the results of their endeavours can lead to a realisation of this right.

The presentation by Prof Myles Wickstead, an OU academic, former diplomat and chairman of the Commission for Africa sought to situate the health challenge within the wider context of development. He traced development paradigms from the 1950s to the present, detailing the connections between health and socio-economic, geopolitical and other contextual factors at national, regional and global levels. He emphasised the importance of connections, linkages and networks if successful interventions are to happen. He also warned that with the current global financial crisis, official development assistance may decline, and encouraged countries to take advantage of financing mechanisms such as remittances from migrant workers and the increasing role of the private sector in

supporting health systems. Some developing countries were also experiencing high economic growth rates, which, if accompanied by good governance, peace and security, could spawn national development which would in turn lead to strengthening of health systems. One of his main messages was that 'development cannot be done to someone by outsiders, but only supported'.

Prof Wen Kilama chronicled how an initiative based in the 'south', the Africa Malaria Network Trust, is taking a lead in addressing malaria, one of the major health challenges of Sub-Saharan Africa (SSA) and other parts of the developing world. He alluded to a myriad of challenges ranging from the scientific challenge of pinning down an 'elusive and smart' parasite, staff attrition in partner institutions, intellectual property

#### **Overall workshop objective**

To stimulate analysis and discussion of the links between health innovation and health systems

Specific objectives  
Assessing the contribution of product development partnerships to health systems strengthening

Discussing opportunities for optimising the link between health innovations and health systems

Exploring options for evaluating health innovations

apportioning among partner institutions to how to deal with health insurance issues for the protection of volunteers in vaccine trials. There is a typical case of an endeavour to rally knowledge bodies dispersed across the globe; and this certainly could not be without problems. Continuous capacity development within the Trust and in partner institutions is key, but resources to do this are not always adequately available. Ensuring sincerity and commitment of all stakeholders ranging from biotech companies to the community members is not always easy for various reasons. Sustaining the activities is a key point of concern for the Trust, as well as having institutional capacity and preparedness to engage the wider health system for delivery of the envisaged vaccines.

## E. HEALTH SYSTEMS

### **Gill Walt**

*Technologies are part of the solution, but agency provides the 'glue' that makes health systems work*

Characterising health systems is a challenge that academics and health practitioners alike acknowledge. Admittedly, this difficulty rests more on the diverse nature of what constitutes components of a health system in one given geographical area, when compared with what constitutes a health system in another setting. The fact that there is need for these components to be connected in a synergistic way does not attract much contention as stakeholders realise the need for a

holistic approach to the health challenge. To try and unpack some of the discussions and perspectives around how to develop and sustain effective systems, three presentations were made, looking at impact of financing and partnerships on health systems (Gill Walt); health systems and access to essential medicines in developing countries (Maureen Mackintosh); and the role of the private sector

### **Maureen Mackintosh**

*The retail market for medicines should be abolished in developing countries. It does not serve the interests of the end-users*

### **Anna Marriott**

*It's not necessarily true that the private sector brings efficiency to health systems. Each case needs to be judged on its own merits*

in health delivery in poor countries (Anna Marriott). The presentations all brought out how onerous the challenge of ensuring equitable health delivery is. Many and fluctuating factors come into play, ranging from funding (which invariably is inadequate, particularly in a developing country setting) to governance issues at various levels, to the unavailability of systematic data to measure impact of different functions and interventions on performance of health systems. In addition, because of the varied nature of health systems in different countries and regions, an intervention could have positive impacts in

one setting and negative impacts in another; or different impacts in the same setting in the backdrop of different time frames or different mixes of individual and institutional actors. As such, different coping mechanisms were adopted in different settings to deal with these different constraints to health delivery. This is just a brief overview of the challenges that product development partnerships and health innovations broadly have to contend with.

## F. PRODUCT DEVELOPMENT PARTNERSHIPS

Three presentations were given in this segment which sought to bring out if, how and to what extent product development partnerships were contributing to strengthening of health systems. Presentations on the Malaria Vaccine Initiative (Christian Loucq), the International AIDS Vaccine Initiative (Gavin Bryce) and on partnerships in pharmaceutical development processes (Nicola Dimitri) all amply demonstrated that product development partnerships have emerged as one model for dealing with health challenges, focusing on various levels of the discovery, development and delivery continuum. The partnerships invariably bring together players from industry, academia and public health, all playing prescribed roles in the development and delivery of products to affected populations. Increasingly, the partnerships are borne out of the imperative

### **Christian Loucq**

*We do not necessarily call all our promising leads vaccine candidates, but projects. We are dealing with complex scientific challenges here*

to look beyond the scientific aspects of the disease they are working on, leading to them having to deal with governance and institutional issues as well as community engagement. Enlisting of stakeholders able to deal with these issues, or establishment of relevant institutional arrangements assumes different forms in different contexts and around different diseases as exemplified by the HIV/AIDS and Malaria examples. For partnerships among pharmaceutical companies, it emerged that there is a complex mix of issues that determine how, at what stage and which companies partner, to the extent that while economic indicators could well be favouring certain partnerships, issues around trust,

### **Gavin Bryce**

*Most health systems in developing countries are young, and it's a huge burden having to deal with the HIV/AIDS challenge. I can't imagine how even the UK's NHS would have dealt with similar challenges, say 50 years ago*

### **Nicola Dimitri**

*'Big-Pharma' generally favour investing in the less risky stages of the innovation process, but by and large arriving at such decisions is always a complex process*

control of the science and clarity of arrangements for managing intellectual property among others also had a big impact on decision-making processes. Still, on these different fronts, there were sub-stages and sub-components where certain issues were more contentious, for example the area of adjuvants was said to be a hotbed for intellectual property tensions, when compared to the rest of the vaccine research and development arena. Meanwhile, dealing with impatience among funders and the public waiting for solutions to their problems remains a major challenge to product development partnerships, and they have to remain on the alert for innovative ways of dealing with this. Mae Shieh's overview on issues emerging from these

presentations and discussions summed up the empirical and theoretical questions surrounding product development partnerships and their role in health systems:

- How do the partnerships deal with cross-sectoral issues?
- How can impact at grassroots level be measured, including any adverse impacts at this level and on health systems broadly?
- Is there any cross-fertilisation of ideas between initiatives?
- Communication and transparency – how can these be done more systematically?
- Can there be a clear division of labour among initiatives, from research to delivery of technologies?
- How can initiatives appear not to be pushing technologies?

In the final analysis, all this necessitated the need for macro, meso and micro-level inquiry if conclusive understandings of PDPs and their contribution to health system strengthening were to emerge.

The presentations by all the speakers and detailed notes on the accompanying discussions are available on <http://thesys.open.ac.uk/> and on <http://innogen.blip.tv/>

## **G. SUMMARY OF KEY DISCUSSION POINTS**

Based on these presentations and discussions, workshop participants engaged in plenary discussions with the aim of arriving at some broad understandings on the link between health technologies and strengthening of health systems. The guiding questions for the roundtable and open discussions were the following:

1. Are we moving from isolated PDPs/PDCs to integrated health innovation cycles?
2. Do PDPs deliver new organisational arrangements and creative funding mechanisms that are useful not only to PDPs but also health systems strengthening?
3. Do or can PDPs and health systems strengthening actually go hand in hand?
4. Is it possible to define and measure success of PDPs in novel ways looking at them as 'social technology' experiments and assessing their contributions as technological and social innovators and brokers?

The following points capture some of the responses to these questions:

- Firms are good at some aspects of product development, but they are clearly insufficient to meet global health challenges. There is also need to move beyond the reductive public vs. private sector debate, and to also appreciate that PPPs are at all points on the health delivery value chain and that they act differently at these points.
- Economic and market incentives do not necessarily get systems or partnerships working. There is need for capabilities as well.

- Health technologies are broader than vaccines, drugs and diagnostics. This way we begin to encounter the full breadth of technologies and health systems strengthening.
- While there appears to be conflicts over mechanisms for delivery among different initiatives, there is also need to recognise and leverage the benefits of having these different mechanisms and the potential they have to strengthen health systems. Systems that are excessively connected may not work!
- Effective health planning seems to be a moving target. There are bodies such as the WHO that have developed expertise in health policy and planning, and the onus is on PDPs and health systems to involve such bodies in their activities.
- Taking PDPs as 'social technology' experiments, one of many questions is to understand how they succeed in the face of constraints and complicated contexts in which they operate. Developing a clear understanding of the relationship between health systems and social technologies was said to be important.
- In trying to measure impact of health technologies, it is important to start off with benchmarks and a clear understanding of what a health system is within the context where assessment is happening.
- PDPs are not trying to create their own parallel health systems. This lends support to the importance of seeing what can be borrowed from existing rules, institutions and other arrangements for the PDPs.
- In evaluating impacts of PDPs, it is important not to lose sight of the need to evaluate the wider impacts of biomedical research; and this should all be hinged on key considerations such as the strategic goals of each PDP and research venture.
- Other key issues include assessing additionality between partners, equity considerations, satisfaction perception, and for these and more, both qualitative and quantitative data is necessary
- There is need for a systemic approach in assessing impact of PDPs on health systems; and a framework for ensuring this should factor in issues such as power, capacity transfer, values, assumptions, risks etc, all recognising the wide continuum of actors in a health system.
- PDPs do deliver new organisational arrangements and can contribute to health systems strengthening, as exemplified by the IAVI and MVI cases. However, whether or not there has been a shift from PDPs to integrated health innovation systems is a question that begs further empirical and theoretical inquiry, to the same extent as how to evaluate the impact of PDPs on health system strengthening. Multiple approaches would be handy in doing this, including historical and counterfactual modelling. The next section gives further details.

## H. SUGGESTIONS ON WAY FORWARD

The suggestions on way forward with THeSyS discussions from plenary discussions and from individual submissions made in the final plenary session have been placed in two broad categories; **research/empirical studies** and **communication/information dissemination**. These categorisations present the issues relating to three streams of imperatives agreed on in the final plenary session covering the **what, why** and **how** dimensions of evaluating impact of technologies on health system strengthening:

### 1. Research/Empirical Studies

Issue	What	Why	How
What can be made more explicit about the relationship between health systems strengthening and new social technologies such as PDPs aiming to deliver new drugs and treatments?	Impact studies and research looking at issues of values, politics, power, equity, funding, among others	Impact studies and case studies based on concrete examples would help bring firmer understanding.	Impact studies and case studies?
How does local production of drugs, vaccines etc affect health systems and health equity? (and prices, e.g. of drugs)	Study markets, actors (including policy makers), health priorities and objectives products, processes etc	Understand dynamics of health system strengthening and spread of innovations	Modelling and case studies? (including local studies on who is doing what, how, and why)
Studying the impact of agency on innovation and equity in health	Looking at roles and expectations of principals and agents and impact of various sources surrounding them	Seek close understanding of these interactions	Case studies
Develop a list of possible impacts from PDPs based on existing research to see if this can be used to produce an evaluation framework (e.g. based on IAVI and MVI cases)	Identifying possible elements of evaluation framework (determine also what developing countries would find as useful evaluation criteria)	Developing an understanding of components of a health system and their interaction	Case studies, document reviews
Scope out possible avenues for policy and broader impact of PDPs and counter-factual analysis of impacts of PDPs,	Looking at actors, processes, outcomes, among others	Developing analytical and predictive potentials	Historical modelling or scenario building

## 2. Communication/Information Dissemination

Issue	What	Why	How
Discuss overlapping interests among PDPs involved in vaccine development (e.g. IAVI, MVI, AMANET)	Look at different aspects of their operations, including strategic objectives, practices etc	Understand how synergies at various levels can be built	Workshop? (comparative analysis)
Meetings, discussions or dialogues with/between PDPs, donors, developing country governments and other stakeholders to understand their roles in health systems strengthening	Study roles, contributions, expectations on benefits, IP issues evaluation options, understandings of health systems etc	Develop evidence-based understanding of each stakeholder's interests	Electronic dialogues, roundtable discussions
International seminar series on THEsYS. Think about who else to include in these discussions (e.g. health economists from developing countries)	Facilitating key empirical and theoretical debates – e.g. (what is a health system? Place of PDPs in health systems? Health markets? What knowledges are embodied in physical and social technologies)	Feeding into on-going debates	Stand-alone seminars or piggy-back on allied events at international and regional levels.
Dialogues between individuals or clusters with related research interests	Wide range of issues	Enhancing interaction and information exchange	List-servs, blogs, e-discussion forum

### I. CONCLUSION

The presentations and discussions in the workshop clearly brought out the complexity of the challenge of strengthening health systems, not just for health technologies, but for all the other components of a health system however it is defined. This complexity extends to the realm of how to study and understand the impacts of the contribution of various actors to the health systems, building a case for multifaceted and multi-disciplinary approaches to the quest for grounded understandings on these issues. The ESRC Innogen Centre, IKD and other partners aim to build on the outcomes of this workshop to coordinate research and discussion on pertinent issues surrounding the link between health innovations and health systems.

## ANNEX 1. Workshop Programme

Day 1:	Monday 6 April 2009
0900 – 0925	Registration and coffee
<b>Session 1</b>	<b>Facilitator: James Smith</b> <b>Centre of African Studies/ University of Edinburgh</b>
0925 – 0940	Introductions and workshop objectives
	Introductory remarks
0940 – 0950	Prof Hazel Johnson Head of Development Policy and Practice Group, OU
0950 – 1000	<b>Address by: Prof Miriam Were</b> <b>Chair, Kenya National AIDS Control Council</b>
1000 – 1025	<b>Keynote address 1</b>
	Prof Myles Wickstead – OU How best do we frame health as part of overall development?
1025 – 1040	First overview presentation on OU/Innogen’s health research work Becky Hanlin (Innogen/OU)
<b>1040 – 1100</b>	<b>Coffee/Tea Break</b>
<b>Session 2</b>	<b>Facilitators: Lois Muraguri (Innogen OU)</b> <b>&amp; Luigi Orsenigo (Boconni/IKD)</b>
1100 – 1230	Presentations from key global players in health partnerships
	<b>Session theme</b> <i>Partnerships and product development communities in health innovation: experiences, lessons and perspectives</i>
	1 <i>PDPs in health innovation: MVI experiences, lessons and perspectives – Dr Christian Loucq, PATH</i>
	2 <i>R&amp;D contribution to health systems strengthening</i> <i>Gavin Bryce, IAVI UK Team</i>
	3 <i>On the stage division mechanism in pharmaceuticals development processes</i> <i>Nicola Dimitri, University of Siena, Italy</i>
	4 <i>Discussant response</i>
12.30 – 1300	Discussion
<b>1300 – 1345</b>	<b>Lunch and Welcome Address by:</b> <b>Professor Brigid Heywood – Pro-Vice Chancellor</b>

*Over lunch there will be a posters showcase – please have a look at them and talk to their authors over lunch*

**Session 3**

1345 – 1515

**Facilitator: Joanna Chataway (Innogen, OU)**

Presentations from key global practitioners in the area of health systems

**Session theme:***Health systems approach: empirical and theoretical perspectives, challenges and lessons*1 *Impact of health financing and partnership mechanisms on health systems*  
*Dr Gill Walt, LSHTM*2 *Health systems and access to essential medicines: learning from the Global Fund?*  
*Prof Maureen Mackintosh, OU*3 *Private sector involvement in health care provision in poor countries*  
*Anna Marriott, Oxfam GB*

1515 – 1545

Discussion

**1545 – 1600****Coffee/Tea Break****Session 4**

1600 – 1615

**Facilitator: Maureen Mackintosh (SocSci, OU)**

Highlights from the electronic discussion on THeSyS

1615 – 1715

**Plenary discussion***What is the common ground between PDPs and Health Systems? What are the gaps, and how can they be bridged?*

7.30pm

**Group dinner – The Plough****Day 2:****Tuesday 7 April 2009****Session 5**

0900 – 0930

**Facilitator: Julius Mugwagwa (Innogen, OU)****Keynote address 2***Developing countries and the health innovation challenge; the experiences of a regional network on malaria research – Prof Wen Kilama, AMANET*

Introductions and workshop objectives

0930 – 1010

Second overview presentation on OU's health research work  
Joanna Chataway, Mariana Mazzucato and Luigi Orsenigo

1010 – 1030

Discussion

1030 – 1045

Coffee/Tea Break

**Session 6****Facilitators: Becky Hanlin and Mark Chataway**

1045 – 1215	<p><b>Roundtable discussion:</b>  <i>Consolidating emerging issues and discussion on evaluating health innovations</i></p> <ul style="list-style-type: none"> <li>● Are we moving from isolated PDPs/PDCs to integrated health innovation cycles?</li> <li>● Do PDPs deliver new organisational arrangements and creative funding mechanisms that are useful not only to PDPs but also health systems strengthening?</li> <li>● Do or can PDPs and health systems strengthening actually go hand in hand?</li> <li>● Is it possible to define and measure success of PDPs in novel ways looking at them as ‘social technology’ experiments and assessing their contributions as technological and social innovators and brokers?</li> </ul>
1215 – 1245	<p><b>Keynote address 3</b>  <i>Where do we go from here? – Prof Dave Wield, Innogen, Edinburgh University</i></p>
1245 – 1300	<p><b>Closing discussion session: <i>Moving forward with THeSyS</i></b></p>
1300 – 1400	<p>Lunch and departure</p>
1400 – 1500	<p>Media event</p>

## ANNEX 2. List of Participants

Name	Institutional Affiliation
Adesina Iluyemi	NEPAD Council
Alexandra Fullem	Press and Event Associate MVI
Anna Marriott	Oxfam GB
Basiro Davey	OU Dept of Life Sciences
Becky Hanlin	DPP/Innogen
Christian Loucq	PATH/MVI
Dave Wield	Innogen/Edinburgh
Dinar Kale	DPP/Innogen
Gavin Bryce	IAVI UK – Team Leader
Gill Walt	London SHTM
Hazel Johnson	DPP
James Smith	Innogen
Joanna Chataway	DPP/Innogen
Johannes Waltz	Pfizer
Julius Mugwagwa	DPP/Innogen
Lara Crossland	Innogen/Edinburgh
Lois Muraguri	DPP/Innogen
Louise Walker	University of Warwick
Luigi Orsenigo	Bocconi/IKD
Lysander Menezes	PATH India – Advisor
Mae Shieh	Novartis
Mariana Mazzucato	OU SocSc/IKD
Marion Motari	UNCT/UNU-Merit
Mark Chataway	Health Communications Expert
Marlene Gordon	DPP/Innogen
Mary Upton	DPP/Innogen
Maureen Mackintosh	OU SocSc/IKD
Myles Wickstead	The Open University
Ngoasong Michael Zisuh	University of Nottingham
Nicola Dimitri	University of Siena, Italy
Norman Clark	DPP/Innogen
Rob Parsons	Health Partnerships International
Sharif Ismail	RAND Europe
Stuart Parris	OU/IKD
Wen Kilama	AMANET