Health-y answers to comple#ity: Are we able to move beyond the control panel?

Seminar 2013 - organized by Be-cause health & MMI - 28 November 2013 - Brussels

Providing health care is a complex undertaking. Health systems are not only open systems, constantly changing and interacting with their environment, but in essence social systems in which people play the key roles. The past decade has seen a marked increase in the number of stakeholders in health and of the interactions between them. International policies increasingly recognize this reality. The rising attention to social determinants of health, sector-wide approaches and global networks, just to mention a few, underpins this analysis.

However, in the field of development, there is an enormous gap between theory and practice. Result-based approaches may rightfully demand value for money, but may lead to planning, management and evaluation approaches that ignore the complex dynamics of development and tend to favour the attainment of narrow objectives and demonstration of rapid results. In a complex environment, a classic bureaucratic management style with linear planning and M&E tools will equally be a sub-optimal approach. Complexity, however, does not need to be paralyzing. It just requires adapted planning, management and leadership styles. In its 2008 World Health Report 'Primary Health Care, now more than ever', WHO put forward leadership as one of the corner stones for the development of health systems. This may be leadership at the personal, organizational or societal level. At all levels, leaders need to think and act in terms of complexity. Flexibility, adaptation and organizational learning are the key words. Interconnectivity, networking, information sharing, decentralization and 'learning organizations' are but a few principles of management that allow turning complex situations from a problem into a source of innovation. The Be-cause Health seminar 2013 aimed at sharing different experiences and ideas on complexity in order to better understand and cope with complex environments, particularly in the field of health.

"We can't solve problems by using the same kind of thinking we used when we created them" – Albert Einstein

The approach of the conference

The conference brought together over 300 stakeholders from all over the world, including field level actors, public health specialists, policy makers, programme managers, directors, scholars, technical assistants, NGO representatives, health activists, community actors and representatives from the private sector.

The idea was to tackle the issue of complexity and leadership from a practical angle with a focus on learning. Indeed, how to address complexity in a practical perspective if one is not rooted in the reality of actors? For this seminar, we went for an approach that gave preference to stories from daily practice rather than traditional presentation sessions. Each presenter was asked to tell the story of a complex issue, in which he/she analysed the own situation and context and highlighted systemic issues. In the run up to the seminar, the scientific committee provided individualised coaching that stimulated presenters to take a step back from their day-to-day activities and to draw attention to complexity aspects. Six questions framed this analytical process: What are the complex elements in your context? What were the results of your intervention (positive, negative and unintended effects)? What was attempted to solve the problem? How did you create or seize opportunities to foster positive change? What strategies and/or techniques did you use to deal effectively with complexity? What are key mindsets and competences needed at the level of the individual or the team to deal with complexity?

We introduced a presentation format that aimed for spontaneity, emergence and easy exchange of views. Each 'presentation' started with an interview, which set the scene. This provided an alternative

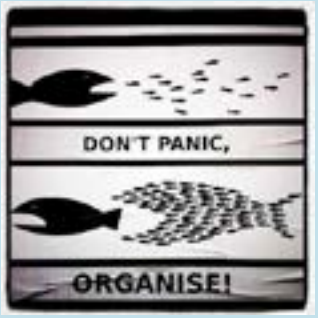
to traditional powerpoint-driven 'teacher-type' presentations and facilitated discussion and interaction with the public.

A story from the field - The story of drugs, their absence and QUAMED

Shortages of medicines are a real and recurring problem in many health systems in low- and middle-income countries, despite renewed attention for pharmaceutical policies, quality control and regulation systems, capacity building and funding. In practice, patients often find their prescribed drugs missing at the hospital or first line facility. Other sources for purchasing drugs exist: private pharmacies flourish around hospitals, but conflicts of interest are never far away and patients have few possibilities to ascertain the quality of the drugs on offer. The end user thus easily becomes entangled in a situation resulting from lack of regulation of fast-moving local and global markets, conflicting interests of purchasers and sellers and corrupted health markets.

This points to two key issues. First, any change that does not take into account the competing economic interests of the actors is likely to fail. Second, asymmetry of information (patients have little accurate information on quality of drugs) is very likely to lead to market failure. This leaves the least informed, i.e. the poorest, in a very vulnerable spot. In response, the QUAMED project developed an innovative way to deal with the complex pharmaceutical landscape in developing countries.

"A lonely sardine will always look appetizing to a shark, but a shoal of sardines is like a whale to its predator." This was the rationale behind QUAMED (www.quamed.org), a network of non-profit organizations aiming at improving the quality of medicines in developing countries. A large group of purchasers of medicines can force suppliers to meet their requirements, and by swimming together and forming a shoal, scattered purchasers reduce the power imbalance.



The first sign of success was when important suppliers started improving their quality assurance system and improving their supply as a response to a QUAMED audit. The problem of information asymmetry was addressed in the same way: no quality market is sustainable if the client is unable to express a well formulated request for quality, to verify the compliance of the provider and to enforce quality requirements if needed. Through QUAMED, purchasers achieved competences and knowledge and thus reduced the asymmetry of information in their relationship with the suppliers.

Dealing with complexity

In the complex area of markets for drugs in developing countries, a pragmatic approach helps. QUAMED found ways to harness the existing market mechanisms to the benefit of purchasers and end users. This was only possible through innovation: in complex situations, testing new solutions and continuous learning is the only way forward. ("Insanity is doing the same thing again and again and expecting different results" – Albert Einstein)

Dealing with the multiple actors (and their relations) involved in this issue, a typical driver of complexity, requires a spirit of openness and collaboration. Sharing information is essential. However, political interests, ideological conflicts and divergent organisational mandates easily clash: the humanitarian vs development rationale, local production vs cheap imports, state regulation vs market mechanisms. Dealing with complexity is dealing with relations and that requires building and maintaining trust.

Engaging with the seminar's participants

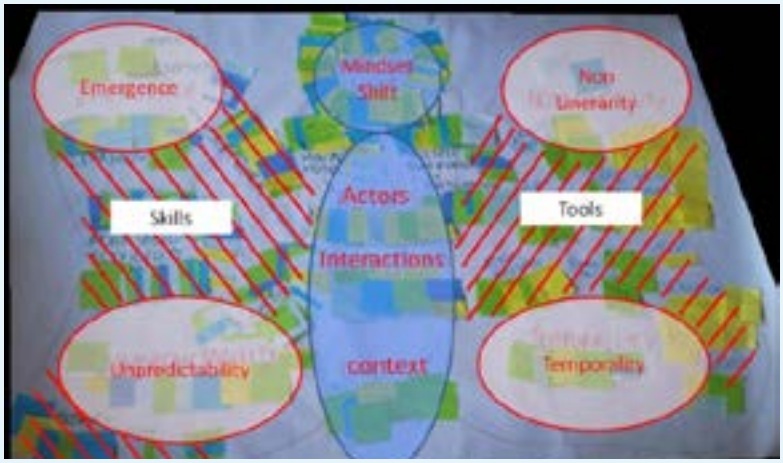
In line with complexity, we used qualitative methods to engage the participants in the evaluation conducted right after the seminar. To go beyond the simple assessment of participant satisfaction, we asked them to fill in post-its with their take-home message (blue), inspiration for action (green) and areas of doubt or where further deepening is needed (yellow).

Two researchers carried out a double reading in three steps to classify keys ideas and define categories. The answers were structured in the form of a butterfly, symbol of change (the flapping of butterfly wings causing a storm).

Results

Post-its related to the need for a mind-set shift, from a linear logic to a systemic logic, were put on the butterfly's head. Its body carried post-its related to the system elements: actors, their interactions and the context. The wings related to complex system properties and successful attitudes in dealing with complexity. More specifically, post-its related to the key concepts of emergence, unpredictability, non-linearity and temporality were put on the extremities of the wings. Skills and attitudes that struck participants as important were put in the middle of the left wing: learning, adaptability/flexibility, networking, modesty, reflexivity, creativity, no inaction, creativity, seize/create opportunities. In the middle of the right wing, post-its related to practical tools can be found: qualitative research, outcome mapping, simulation, modelling, story-telling, social network analysis, action research.

From the picture, three convergence areas clearly appear. The area related to the need of a mind-set shift shows mixed opinions, reflected by the three colours. The audience acknowledged complexity and the relevance of a shift in the way of thinking in dealing with health cooperation projects.



The second condensation area deals with personal attitudes and skills, and more specifically the need of adaptability and flexibility as a successful attitude when dealing with complexity. This is the main 'take-home message' and 'inspiration for action' (majority of blue or green post-its). The need for modesty and the abandonment of the idea of a full understanding or of full control are also mentioned. Many participants stated that complexity doesn't mean inaction.

Finally, the last convergence of opinion is around practical methods and tools. How to deal with complexity is still a concern for many participants, as shown by the predominance of yellow post-its in this area. Some tools were judged to be inspiring (like participation, outcome mapping, story-telling, qualitative methods and action research), but others raised doubts or need clarification, specifically computer simulation, modelling and social network analysis.

Quite unexpectedly, complex systems properties and appropriate attitudes were widely positively supported (green and blue post-its). This may be explained by a selection bias, since participants can be assumed to be already aware of 'complexity'.

Key messages

Three areas of convergence appear. The participants expressed a mixed opinion about the need for a mind-set shift from a linear to a systemic logic. Their doubts were specifically related to concerns about the possibility of mind-set changes in donor administrations. Adaptability/flexibility was often chosen as take-home message and source of inspiration for action. Doubts and questions remain about how to deal with complexity in daily practice, how to plan and how to evaluate for complexity. Theoretical aspects were given little consideration (except unpredictability) either because the public was already aware of the elements or because, as field workers, participants were more looking for practical tools or attitudes.

The evaluation shows that the seminar contributed to introduce, spread and discuss complexity principles and methods among field actors, and this butterfly map can be seen as a guide for further action in a long and iterative process. These questions also confirm the relevance of our focus (practical aspects) and our methodology (storytelling).

Another story from the field

A key feature of complexity is that the agents (individuals) "have the freedom to act in ways that are not always totally predictable" and that their actions are interconnected so that one agent's actions can change the context for other agents (Plsek 2001). This is what this story from a rural health district in the Democratic Republic of Congo is all about. After years of war and neglect, the health district received technical and financial support from an NGO. The health district had a management office (DHMO), that just started working again after the appointment of a doctor, and a hospital belonging to a religious congregation. Soon, however, a conflict between these two parties arose... The doctor was allowed to work in the hospital as a clinician, but he was not welcome in his capacity of health district manager. The conflict arose from a sense of frustration: the sisters who left the area during the war felt dispossessed of their property upon their return, finding the DHMO established in the hospital. The NGO attempted to have a Memorandum of Understanding between the DHMO and the hospital, in order to have the hospital fully integrated into the health district. However, the attempts of two successive NGO coordinators were unsuccessful.

Looking at this problem in retrospect, we note some recurrences. Both sides displayed avoidance strategies, consisting mainly of 'unavailability', for instance refusing or missing appointments. It should be noted that at that time, communication in this rural area was very difficult in the absence of telephone and internet). Although the main protagonists - the head of the congregation (residing in a place lying two days drive away), the head of DHMO and the NGO coordinator - all seemed willing to agree, they did not act upon their intentions. Indeed, they never actually met all together. After two years, there was no solution.

By adopting a complex system perspective, things might have evolved differently… Although each party presented itself as willing to find a solution, the history of the situation actually shows a lack of engagement, both from the DHMO and the hospital. Obviously, other issues were at stake, beyond the simple explanation given. These issues, as well as mental representations of the protagonists, were not thoroughly explored by the NGO coordinator. The recurrence of events should have alerted him/her to consider the existence of underlying issues and the need to explore the stakeholders' mental models.

The model of the health district was used here as a 'norm' and not as a source of inspiration (or conceptual framework) to be locally adapted. By wanting the health district to correspond exactly to the model, the medical coordination missed an opportunity of creativity and innovation to come up with a local original solution adopted by all.

Conclusions

Complexity is increasingly recognised by public health people, and larger, within the development aid community as essential for understanding and intervening in development. Most participants of the seminar are still trying to understand the required way of thinking and to recognise complex systems. Applying complex systems thinking in daily practice - intervening in society and conceiving (health) development interventions – is a major challenge and not a simple 'thing to do'. Indeed, it concerns the development of new mental maps, mastering a complete new jargon and a set of definitions.

On the other hand, systems and systems thinking are here to stay. The seminar revealed that development aid too is suffering from fads and fashions that quickly succeed each other. New ideas are presented as magic bullets, unique solutions to the problems of development aid. However, complex systems thinking is an alternative way of conceiving and analysing reality. It is looking at the world from a different perspective that leads to understanding phenomena differently. Systems thinking should therefore not be regarded as yet another simple strategy for quick results.

The seminar clearly demonstrated the pervasive nature of complexity and the stories focused on phenomena like emergence, unexpected effects, uncertainty and critical incidents. Examples from daily practice showed how complexity thinking can be applied, with nice illustrations from architecture, public health and development. Critical minds demonstrated the difficulties people have in switching from classic analytical thinking to systems thinking.

How analysis can reduce complex realities – an example

One of the participants asked why he needed to complicate life unnecessarily. He was employed in emergency aid and was building refugee camps in war or natural disaster situations. He described how his organisation intervened and how it could provide shelter, safe drinking water and basic health care and vaccination for children in just a few weeks' time. This was a classic example of how people reduce reality through analytical thinking. By isolating some elements from the broader system, relatively easy answers to complicated but not complex realities can be given.

In the example of the refugee camps, shelter, drinking water and food supply and basic health care were seen as the solution to the problem of refugees. The broader picture of complexity was completely ignored: refugee camps are places where people and children suffer from deracination, from anxiety, from violence and rape, where children lack (surely in a first stage) schooling, where the local economy is destabilised, where food markets might collapse, where ethnic violence might start, etc. The underlying root causes of the refugee camp and its long-term consequences are far more complex and extended in time than the answer to the emergency problem, isolated by the pragmatic, analytical mind.

Complex systems thinking is not new, but it has never been widely accepted in Western thinking. The limited results of development aid and the crisis of planning and managing for results may stimulate us to rethink our common approaches to development aid and to find other answers to the question as to why aid effectiveness is low.

Not all important aspects of complex systems could be dealt with during the seminar. We missed out on modelling as a tool to understand complex realities. Modelling is often labelled as dogmatic thinking, because the model is seen as an ideal. Whilst in complexity thinking, models are by definition reductionist representations of complex realities that can help to better understand and share views of the complex realities.

The consequences of complex systems thinking for planning and the resulting obligation to live with uncertainty was also not covered in depth. There was actual resistance within the public when, in a rather anecdotical way, traditional planning (on the basis of log-frames) was criticised. Resistance to complex systems thinking does not emerge as long as theoretical conceptions are explained. But when change is obligatory and it becomes clear that the well-known paths have to be left, resistance does emerge.

Remarkable quotes

- *Complexity is a fact. You do not have to create it; it is already there. You just have to accept complexity and often you discover new things by doing so.*
- *Not everything is complex. For some simple and/or complicated problems, complexity thinking is not required.*
- *Accepting complexity means first of all accepting uncertainty, getting rid of the (false) sense of control we all have and cherish.*
- *Effectively dealing with complexity requires seeing it first, accepting it and then choosing the most appropriate response.*
- *A complexity mind-set is about continuous learning, reflexive thinking, stepping back if need be,…*
- *We need more and complex and visionary leadership (which is something very different from management).*
- *Instead of mechanistic audits, we need evaluations that help understand why things worked, or not, for whom, how and in which conditions.*
- *Some problems are of the 'organized simplicity' kind; others of the 'disorganized complexity' kind; still others of the 'organized complexity' kind. Policy makers do not pay enough attention to the latter situation – unfortunately, many problems in the 21st century will be of this kind, of 'organized complexity'.*
- *We need to go from Newtonian thinking to Darwinian thinking, as the Newtonian model is staggering on the global stage, like a mortally wounded Shakespearean actor.*
- *Problem-driven iterative adaptation is the way to go if you face complex problems.*
- *In a way, you can compare many of the debates on complexity in health systems to 'playing chess', perhaps playing chess on multiple boards. It's about anticipating, seeing how the stakeholders are mapped, thinking ahead, being flexible,…*
- *From 'fail-safe' we need to go to 'safe to fail'.*

A new working group on complexity

This seminar has led to the creation of the Be-cause health working group Addressing Complexity. Although health and more specifically international cooperation has brought it together, this group aims for a multidisciplinary reflection that extends beyond the interests of the health sector.

The aims of this working group are:

- To exchange, share and distribute knowledge on concepts and practical aspects on approaches to complexity;
- To share experience in order to stimulate reflection that takes the elements of complexity into account in different fields (development cooperation, politics, interventions, …)
- To link up with other networks on complexity, outside of the health sector and at the international level.

Interested in joining us?

Curious to know more about the group? Please visit www.be-causehealth.be or contact Anne Fromont, President of the group, at anne.fromont@ulb.ac.be.

Interesting literature

- Ford R. *Complex leadership competency in health care: towards framing a theory of practice*, Health Services Management Research 2009, 22: 101 - 114.
- Hill P. *Understanding global health governance as a complex adaptive system*, Global Public Health: An International Journal for Research, Policy and Practice, 6:6, 593-605.
- Jones H. *Taking responsibility for complexity. How implementation can achieve results in the face of complex problems*, Working Paper 330, ODI.
- Kurtz C., Snowden D. *The new dynamics of strategy: Sense-making in a complex and complicated world*, IBM Systems Journal, 2003, 42 (3).
- Mowles C. *Complex, but not quite complex enough: the turn to the complexity sciences in evaluation scholarship*, Evaluation 2014, 20(2):160-175.
- Plsek PE., Greenhalgh T. *Complexity science: The challenge of complexity in health care,* BMJ 2001, 323: 625-628.
- Ramalingam B. *Aid on the Edge of Chaos. Rethinking International Cooperation in a Complex World*, Oxford University Press, 2013.
- Stacey R., Griffin D., Shaw P. *Complexity and management. Fad or radical challenge to systems thinking?*, London: Routledge; 2000.
- Wong G. *Is complexity just too complex?*, Journal of Clinical Epidemiology 66 (2013) 1199e1201.

All presentations of the seminar can be found on the website of Be-cause health. Please go to www.be-cause health.be/events/annual seminars.