Influencing policy and fast-tracking implementation

Key messages: **Complexity theory and the drivers of change analysis can be used to analyse health systems and drive the development and implementation of policy.**

1. Ensuring policy adoption requires an understanding of the political economy.
2. Making policy choices entails recognition of the health system as a complex system.
3. Complex systems do not respond in a prescribed manner, they require flexibility and adaptability.

The context: using complexity theory to drive policy development

Underpinning our approach to strengthen policy development and fast track implementation is a profound comprehension of complexity theory and the drivers of change analysis, and the links between the two.

Complexity theory has increasingly been advocated as an approach for health policy development and health systems reform[1].

With complexity theory, health systems are seen as open systems in which different components of the health system are interdependent and can influence each other in a non-linear fashion[2]. Non-linearity and the notion of emergent behaviour (ie behaviour of a system that is not a property of any of the components of that system but a result of the interactions of the components) mean that a change in one part of the system can have unpredictable 'ripple effects' in other parts of the system.[3,4]

Another key property of complex systems is the different structure that the system has at different levels and the need for policy makers to be aware of the 'view' from the different levels. Thus, for example, in Nigeria the decision to run supplemental immunisation activities to eradicate polio through door-to-door campaigns over many years (micro-level) has meant that people no longer want to attend regular health services (macro-level), expecting all health services to be delivered to their doorsteps. Thus a focus on the micro-level has impeded change and development at the macro-level.

It is important to ensure that the different structures are understood and incorporated coherently into policy changes so that changes at one level will not impede changes at another level. This is often not fully understood and is critical for those using complexity theory in the health sector.

The complex adaptive systems approach reinforces concepts such as feedback loops (both positive and negative that influence the pace and direction of change); path dependence (processes that have similar starting points can have very dissimilar outcomes resulting from different contexts and histories and different choices at key points); scale-free networks (incorporating focal points – including key powerful people – that can dominate a structure); and phase transitions (when critical 'tipping points' are reached and initiate change).[5]

To a large extent, the notion of complexity theory is linked to the drivers of change (DOC) analysis adopted by DFID[6,7] (Fig 1) which has influenced development and implementation of the health system reform work in Nigeria.[9,10,11] The DOC approach conceptualises three interacting components operating within any system and influencing change within that system.

Fig 1: Conceptual model for understanding drivers of change (DOC)

Three interacting components can influence change within the system.

Source: DFID (2004)[8]

The DOC analysis and approach is essentially one of politics and power and the mechanisms through which that power is transacted within society and the health system.[12,13] The DOC approach spawned the political economy assessments at federal and state level in Nigeria[14] which led to a deeper understanding of the structural features, the power relations, the institutions (particularly the informal rules) and the agents operating in the health sector. The political economy assessments assisted in evaluating different policy options and identifying levers to advocate for different policy options. This is very similar to the approach advocated by complexity theorists.[15,16]

Both complexity theory and the DOC/political economy approach see the health system as a whole system. Any new policy development needs to understand the context for the potential change. This context requires a deep and ongoing understanding of the structures, institutions and agents operating within the whole system. However, complexity theory requires a further understanding of the changes that a new policy will bring (especially a deeper appreciation of the non-linearity, the likely emergent behaviour and the 'view' of the different structures at different levels of the proposed policy change). Only then, and in an ongoing fashion, as the context and the whole system is dynamic, can policy be developed and implemented.

The response: complexity theory in practise

PRRINN-MNCH has supported many new policy initiatives since 2008 and ensured that most of them have been fast-tracked. In this technical brief, some of these initiatives will be described in the context of complexity theory. Seven key components are used to analyse the PRRINN-MNCH approach in each initiative. These include:

Non-linearity (action/behaviour that does not flow in a straight line)

Emergent behaviour (behaviour as a result of the interactions of the components of a system)

Different level views (understanding interaction between different levels)

Positive and negative feedback loops (influence changes)

Path dependence (key bifurcation choices affect outcomes)

Scale-free networks (hubs aligned with powerful people)

Phase transitions (tipping points)

Not all the components apply in equal measure to each policy initiative.

1. Bringing PHC under one roof (PHCUOR)

This policy initiative spearheaded by the National PHC Development Agency (NPHCDA) is designed to overcome the fragmentation of the PHC system. Previously provision of services, financial and human resources and the supervision of PHC services was dispersed among many different role players. The PHCUOR policy was approved by the National Council of Health in 2011 and has since been implemented in at least 23 states.

Non-linearity (action/behaviour that does not flow in a straight line) States adopted the PHCUOR because they saw it as a way to access funds proposed in the draft health bill and not necessarily because they were convinced of the merits.

Different level views (understanding interaction between different levels) The policy influences the power relations between state and LGA levels and between politicians and health administrators. Significant care was taken to ensure full understanding of all stakeholders and in creating a system that was largely a win-win for all.

Positive and negative feedback loops (influence changes) Jigawa's strong showing with improved immunisation coverage in the 2010 NICS (national immunisation cluster survey) influenced other states to adopt the PHCUOR policy.

Path dependence (key bifurcation choices affect outcomes) Jigawa chose to bring both PHC and SHC (secondary health care) under one roof, while Yobe and Zamfara only chose PHC.

Scale-free networks (not uniform but have hubs aligned with powerful people) Early adoption of PHCUOR by the Health Reform Foundation of Nigeria (HERFON) Board led to adoption by the NPHCDA – the chair of the HERFON board was also the chair of the NPHCDA board.

Phase transitions (tipping points) Adoption of PHCUOR in 2011 by the NCH was the tipping point for the adoption of the policy by the states.

2. Community responses to obstetric care emergencies – standing permission, emergency transport schemes (ETS), blood donor groups and saving schemes

Obstetric care emergencies are complicated by delays in making decisions to seek care (first delay), delays in accessing care (second delay) and delays in providing care (third delay). Many of the delays occur within the community and various strategies have been adopted to address the delays. These include pregnant women obtaining standing permission to seek care when necessary (addresses first delay), emergency transport and saving schemes (addresses second delay) and blood donor groups (addresses third delay).

Non-linearity (action/behaviour that does not flow in a straight line) Communities have taken it upon themselves to inform neighbouring

communities which have adopted the same approaches.

Emergent behaviour (behaviour as a result of the interactions of the components of a system) ETS drivers have waived their charges in many cases and also guide pregnant women through the health system and wait for them in case they are needed to transfer them to higher levels of care.

Positive and negative feedback loops (influence changes) ETS drivers are rewarded by getting to the front of the queue at motor parks which has helped them provide the ETS.

Scale-free networks (not uniform but have hubs aligned with powerful people) The inclusion of the National Union of Road Transport Workers (NURTW) has meant that the emergency response strategies have been widely adopted across the different states in Nigeria.

3. Adopting the DHIS2 (District Health Information System)

In 2002, PATHS1 (Partnership for Transforming Health Systems) introduced the DHIS1.4 to Nigeria. This was adopted by the FMoH (Federal Ministry of Health) as the database for the national HMIS (health management information system). DHIS1.4 is not web-based. In the middle of 2013, HISP-Nigeria (Health Information Systems Project) convinced the FMoH to adopt the web-based version, DHIS2.

Emergent behaviour (behaviour as a result of the interactions of the components of a system) A key component of the introduction of the DHIS1.4 was the development of a local support company (HISP-Nigeria). This was the body that drove the introduction of the DHIS2 against the considered opinion of the parent HISP company.

Positive and negative feedback loops (influence changes) Availability of state data in real time to all stakeholders in Nigeria through the DHIS2 has led to significant improvement in data collection. States have also become more aware of their data and questioned the quality of the data on the system.

Scale-free networks (not uniform but have hubs aligned with powerful people) The key director in the FMoH was always fully integrated into efforts to strengthen the routine HMIS through the DHIS. His exposure to the piloting of the DHIS2 in one state assisted in accepting the conversion to DHIS2 across the country.

Phase transitions (tipping points) The results of the piloting of the DHIS2 and the strong relationship between HISP-Nigeria and the FMoH director convinced the team to push for the adoption of the DHIS2 across the country.

4. Introducing pooled funds

Funding for PHC services has always been a significant problem in Nigeria. Zamfara state piloted the introduction of a basket fund that was used to support PHC immunisation services. Funds were sourced from state, local government and development partners. The basket fund was slowly expanded to cover all PHC services and served as a model that is being adopted by other states.

As a result of the development of the Gunduma or district system in Jigawa state, a pooled fund was created by the state government to service both PHC and SHC services. This is currently being expanded into a sector wide approach (SWAp) initiative.

Non-linearity (action/behaviour that does not flow in a straight line) The credibility that PRRINN-MNCH has developed through working on financial systems for sustainable drug supply systems (SDSS) and the GAVI fund strengthened the work on the pooled funds. PRRINN-MNCH also became the go-to group when financial systems were needed for the health component of the SURE-P fund.

Emergent behaviour (behaviour as a result of the interactions of the components of a system) Developing robust financial systems for health funds allowed states to access other funds eg the MDG fund.

Positive and negative feedback loops (influence changes) Tight financial control systems developed to ensure funds were spent according to plans and properly accounted for, ensured greater faith in the basket fund system. This helped the expansion to cover the whole PHC system in Zamfara and other states.

Path dependence (key bifurcation choices affect outcomes) Adoption of the Gunduma or district system led to a pooled fund in Jigawa for PHC and SHC, while the other states have adopted a basket fund for PHC only.

Scale-free networks (not uniform but have hubs aligned with powerful people) Initial work with key leaders in the NPHCDA on the GAVI fund ensured exposure of the basket fund to other significant stakeholders (eg Gates Foundation, WHO). This led to endorsement by these bodies and the NCH of the pooled or basket fund approach in Nigeria.

Phase transitions (tipping points) The endorsement of the basket fund by GAVI (Global Alliance for Vaccines and Immunisation) and the Gates Foundation has ensured that other states have introduced basket or pooled funds.

Conclusions

As illustrated by the examples, PRRINN-MNCH's deep understanding of the political economy of Northern Nigeria and of health as a complex system has allowed the team to punch well above its weight. The programme has seen a number of policy initiatives adopted at national level and implemented across other states. In addition, it has assisted federal-level structures in implementing key strategies in the states that PRRINN-MNCH is supporting.

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PRRINN-MNCH

Partnership for Reviving Routine Immunisation in Northern Nigeria; Maternal Newborn and Child Health Initiative

The PRRINN-MNCH programme works with federal, state and local governments and local communities to improve the quality and availability of maternal, newborn and child health services.

www.prrinn-mnch.org

Email: info@prrinn-mnch.org

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