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HIV/AIDS challenging Health Systems in Resource Poor Settings

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Summary

During early spring we were given the task to draft a background paper on HIV/AIDS and health systems. Due to time constraints this must be seen as a preliminary draft meant to identify problem areas and challenges but also to clarify the different functions of the health system. This should serve as a base for the discussions during the workshop.

All authors, with AME as principal investigator, are involved in a multi-country research project called ARVMAC (Effects of antiretrovirals for HIV on African Health Systems, Maternal and Child Health) funded by the EU. The ARVMAC project is exploring the consequences of scaling-up antiretroviral treatment (ART) on maternal and child health (MCH) outcomes related to the Millennium Development Goals (MDGs) 4 and 5, and on African health systems by analysing health policy, services and outcomes in 3 demographic surveillance systems in Tanzania, Burkina Faso and Uganda (ARVMAC, 2007). Preliminary observations indicate that ART increases workload and the health worker:patient ratio has decreased further affecting quality and access to MCH. Procurement systems for drugs, supplies and reagents are insufficient risking interruptions in HIV testing, PMTCT and ART.

Brief Description Abbreviations

<table>
<thead>
<tr>
<th>ART</th>
<th>Antiretroviral Therapy</th>
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<tr>
<td>ARV</td>
<td>Antiretroviral</td>
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<td>HRH</td>
<td>Human Resources for Health</td>
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<td>LMIC</td>
<td>Low- and Middle-income country</td>
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<td>MCH</td>
<td>Mother and Child Health</td>
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<td>NCPI</td>
<td>National Composite Policy Index</td>
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<td>PLWHA</td>
<td>People Living with HIV/AIDS</td>
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<td>PMTCT</td>
<td>Prevention of Mother to Child transmission of HIV</td>
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<td>SWAp</td>
<td>Sector Wide Approach</td>
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<td>UNGASS</td>
<td>United Nations General Assembly Special Session on HIV/AIDS</td>
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**Background**

The rapid scale-up of anti-retroviral treatment (ART) is an unprecedented health intervention both in terms of funding, in many low- and middle-income countries (LMIC) the size of the entire health budget, and in terms of its duration. With this complex life-long treatment come risks not only of treatment failure, but also of drug resistance development, unwanted side effects as well as potential benefits and opportunity costs for weak health systems. The WHO “3 by 5” roll-out reached less than half or around 1.2-1.3 million people instead of the 3 million thought to receive ART in low- and middle-income countries (LMIC) by the end of 2005 (WHO and UNAIDS, 2006). Health system weaknesses and their lack of absorptive capacity have been identified as major bottlenecks for further rapid scale-up of ART (McCoy et al., 2005, Schneider et al., 2006). Van Damme et al call for more attention to three challenges: (1) the growing caseload of people to be maintained on ART in the long term; (2) the shortage of human resources for health; (3) the lack of context-specific ART delivery models (Van Damme et al., 2008, Van Damme et al., 2006).

Global efforts to improve health conditions in poor countries have embraced two different strategies in recent decades, one focusing on health systems (horizontal approaches), and the other on specific diseases (vertical approaches). The interaction between of these two strategies has shaped where we stand today (Reich et al., 2008). The potentially destructive polarisation between vertical and horizontal financing of health services in low-and middle-income countries has been discussed for decades (Uplekar and Raviglione, 2007). Instead a “diagonal approach” has been suggested, where explicit intervention priorities are used to drive the required improvements into the health system (Frenk, 2006).

In the majority of Sub-Saharan African (SSA) countries affected by the HIV epidemic, the health systems are poorly developed and overburdened (WHO, 2005b). At the same time, the important role of health systems as vehicles for health care interventions and poverty reduction is increasingly being recognized again (Freedman et al., 2005) (WHO, 2004b). Much of policy analysis preceding new health initiatives has wrongly focused on the content and neglected the actors involved, the processes contingent on implementing change and the context within which the health policy is developed (Walt and Gilson, 1994). Partly as a consequence of this, the health impact of basic interventions which could have substantial effects on maternal and child health (MCH), like the Integrated Management of Childhood Illness (IMCI), (Armstrong Schellenberg et al., 2004, Jones et al., 2003) or interventions to promote sexual and reproductive health and rights (Freedman et al., 2005), has been limited and suffered from low coverage.

Many LMIC have acquired more technology and expanded spending in recent years without these increased resources necessarily leading to adequate or effective health care services. In response, bilateral and multilateral donors are increasingly calling for more system-oriented approaches — e.g., the UK’s International Health Partnership, the World Bank’s Healthy Development strategy, Canada’s Catalytic Initiative to Save a Million Lives, and Norway’s Global Business Plan for Maternal, Newborn and Child Health. In short, consensus is growing about the need for greater global action on health systems to restore an appropriate balance between system strengthening and disease-specific actions (Reich et al., 2008), representing a new phase in global health policy.
Health Systems

Attempts have been made to define and clarify the health system and its functions. The 2000 World Development Report on improving health systems’ performance was a ground breaking event (WHO, 2000) and already five years later it was linked to MCH (WHO, 2005a). Health systems with the same level of resources can achieve very different results. Variation in efficiency is related to the way a health system carries out four core functions: service delivery (provision); financing; resource generation and stewardship (fig 1). To understand this relationship, greater understanding is required about a range of mediating factors and the context in which the system operates. There has been considerable debate about what these mediating factors are and how they can be measured (WHO, 2001). Furthermore, health systems should contribute to a number of socially desirable goals, which they achieve to a greater or lesser extent. Three goals are defined in the WHO framework (WHO, 2001): improving the health of the population they serve (Health); responding to people’s non-medical expectations (Responsiveness); providing financial protection against the costs of ill health (Fair contribution).

Below we discuss HIV/Aids in the context of the four core functions of the health system.

**Stewardship**

The governance and management of the health system includes policies, laws and regulations and monitoring and evaluation.

- Policies for improving the health system to accommodate responses to the HIV/Aids epidemic exist in most countries. However, it is less clear how the policies are followed and what effects they have. As part of the UNGASS country reports the countries are advised to report the National Composite Policy Index (NCPI), designed to assess progress in the development and implementation of national Aids policies and strategies. The NCPI is divided into two parts: Part A is to be administered to government officials and covers strategic plans, political support, prevention, treatment, care and support, monitoring and evaluation. Part B is to be administered to representatives from nongovernmental organizations, bilateral agencies, and UN organizations. It covers
human rights, civil society involvement, prevention and treatment, care and support (UNAIDS, 2007).

- Which laws and regulations are in place? The regulatory capacity is usually weak in LMIC and the health care systems are increasingly pluralistic with a mix of formal and informal private and public providers (Van Damme et al., 2008). Large numbers of vertical programmes are implemented in countries to control the HIV epidemic. However, the ethical aspects of these programmes are rarely discussed.

- Monitoring & Evaluation (M&E) of health system including e.g. Antiretrovirals (ARV) coverage and MCH/Prevention of mother to child transmission (PMTCT). A recent study from Malawi found that mortality data was not even collected, indicating that M&Es systems are extremely poor.

Several district officials have reported an introduction of programmes and policies without the districts themselves having a say in the formation of these. Ongoing studies in Uganda, Tanzania and Burkina Faso (ARVMAC, 2007) have seen indications of poor stewardship at district level. If stewardship is already poor and districts are bypassed when new strategies are decided upon, how does this effect the implementation of strategies to improve the HIV epidemic?

**Financing**

As with other health system functions, the financing policy should promote the overall goals of health, responsiveness and financial fairness. Important aspects include:

- Access to and affordability of health care. Affordability and access to antiretrovirals (ARVs) has improved tremendously during the past few years (see below). However, in already overburdened health systems this increased access to ARVs and introduction of programmes to distribute them could potentially have a large impact on other health services with large proportions of the resources being channelled to HIV and Aids related activities. Ongoing studies are examining how the rapid scale-up of ART affects other health care services in such settings, including MCH (ARVMAC, 2007).

- What is being financed, and how? Many of the new programmes financed are vertical, often bypassing districts and thus minimising their possibility to control what and how to introduce. The SWAp model, seen as an important approach to enhancing aid effectiveness and partly a solution to this problem, has not proven as effective as was hoped for (Chansa et al., 2008). The costs of first line ART have decreased dramatically, not least due to production of generic ARVs. In additions several global health initiatives have taken responsibility for this cost, at least for the time being. A major issue is thus sustainability. Also it is unclear how high out of pocket payments for patients are. Unresolved costs are transport costs as well as opportunity costs (e.g. unofficial user fees). Furthermore, with inevitable resistance development, second and thirds line regimens must sooner or later be introduced, multiplying he current costs or risking treatment failures.
Resource generation

Resources are both human and technical, including:

- Staff (Human Resources for Health, HRH) people in the right place, well trained and with the right skill mix, what do they “produce”?
- Facilities, equipment and diagnostics that are well located, accredited and with necessary investments in physical infrastructure; and
- Products and drugs that are safe, accessible and appropriately used.

Wise investment in resources (whether they comprise people, knowledge or physical resources such as facilities, equipment and medical products) will improve health service performance. Resources also include people in universities and other educational institutions, and research centres that produce specific technologies such as pharmaceutical products and medical devices (WHO Europe, 2007).

“With funding in place who will do the job and how?” (Kober and Van Damme, 2004). Two of the main challenges for health systems in LMIC according to Van Damme et al (Van Damme et al., 2006, Van Damme et al., 2008) fall under human resources: (1) the growing caseload of people to be maintained on ART in the long term and (2) the shortage of human resources for health (HRH).

The shortage of HRH depends on a number of factors, e.g. too few HRH being trained, internal brain drain (HRH flow away from the populations most in need, working with better paid research projects instead of in clinical work), external brain drain, staff dying of Aids. The joint learning initiative estimates the global shortage of health workers of all categories at more than 4 million and that Sub-Saharan Africa would need to triple its current workforce to come close to reaching the Millennium Development Goals (Chen et al., 2004).

Solutions to HRH shortage: The joint learning initiative suggest strengthening sustainable health systems, mobilising to combat health emergencies, and building the knowledge base (Chen et al., 2004). Another frequently stressed solution is task shifting (WHO, 2004a, Van Damme et al., 2008). Although this strategy has now been recommended by the WHO as a method of strengthening and expanding the health workforce to rapidly increase access to HIV and other health services (WHO, 2007), it has not been well evaluated. Médecins sans Frontières (MSF) has used the strategy successfully but still stresses that it should not be seen as the sole solution for the human-resources challenges facing sub-Saharan Africa. Rather, it must be part of an overall strategy that includes measures to increase, retain, and sustain health staff (Philips et al., 2008). It should also be seen in relation to the increasing demands on specialist physicians in high income countries.

Clearly, another necessity is a well functioning drug supply chain covering selection and provision even in remote areas. Challenging issues include development of new HAART to maintain treatment efficacy and avoid drug resistance. Another major challenge is ART for children.
Service Delivery

Health systems must not only provide services in an effective and efficient way but also make them accessible to those who need them (WHO Europe, 2007). The third of the health system challenges according to Van Damme et al is the lack of context-specific ART delivery models (Van Damme et al., 2008). Some formal health sector activities have succeeded in remaining relatively efficient and under control of regulatory and steering institutions (e.g. TB control programmes, sleeping sickness programmes). This is likely explained by: (1) exclusiveness, (2) trustworthiness and (3) affordability (Van Damme et al., 2008).

- Involvement of the community is essential for success of health system interventions. The role of community health workers was recently reviewed by Haines et al (Haines et al., 2007). Given the challenges, especially in Africa, as a result of political or natural crisis, structural adjustment, health sector reform, HIV/Aids, as well as the loss of professionals, consideration of a renewed role for community health workers is relevant and timely (Sanders et al., 2005). Community health workers have been shown instrumental in delivery of malaria care as part of the home management of febrile children (Eriksen et al., 2008, Nsungwa-Sabiiti et al., 2007, Kouyaté et al., 2008). Although community health workers are not a panacea for weak health systems, the evidence base, despite limitations, does suggest they can have an important role in increasing coverage of essential interventions for child survival and other health priorities (Haines et al., 2007). The system of community health workers might be much more challenging for HIV/Aids related care, not only due to stigma within the community and the complexity of the treatment but also due to the chronic nature of the treatment, meaning experiences from previous interventions like e.g. malaria treatment cannot automatically be applied. Home-visits for ART by community health workers (often a neighbour) might not be easily accepted by PLWHA.

- The health system should find the right balance between prevention and treatment (Achmat and Simcock, 2007). Also important is the health care chain from primary, including community care and health centres, to tertiary hospitals and when needed functional referral systems.

- Public-private mix/partnerships become particularly important with ART where patients need life-long follow-up. Patients frequently receive ART from several different clinics and because different actors have little collaboration, this makes the system inefficient.
As described above, the health system is complex with several different functions related to HIV/Aids. In health systems the relationship between the different parts is as important as the separate parts (Plsek and Greenhalgh, 2001, Plsek and Wilson, 2001). The health system is also context specific. This results in a number of major challenges. The following points are some suggestions for improving the health system in its response to the HIV/Aids epidemic:

- Community support and counselling
- Human Resources for Health needs to be strengthened
- Strengthened National and Regional coordination of health care services to ensure appropriate focus of activities
- Monitoring and Evaluation needs to be much improved to be able to evaluate the strategies introduced
- Donor coordination for effective and sustainable interventions

Questions for further discussion include:

- How should a weak health system in resource poor settings handle scale-up of ART?
- What are the health system consequences of vertical vs. horizontal approaches of ART programmes?
- What are the ethics of the prevention-treatment balance?
References:


