HIV and noncommunicable diseases: a case for health system building

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Purpose of review
Many low- and middle-income countries face a double burden of disease from infectious diseases such as HIV/AIDS and noncommunicable diseases (NCDs) such as diabetes, stroke and cancers. The health systems in such countries are weak and are severely challenged by the weight of a double burden of disease. The aim of this review is to examine current calls for a coordinated global response to HIV and NCDs and make a case for health system building in resource-constrained settings.

Recent findings
The main argument in favour of a coordinated approach is that HIV and NCDs share many similarities that make them ideal candidates for a coordinated approach. Therefore, there is no need to reinvent the wheel, as experiences with HIV programmes can be leveraged to NCD programmes, and vice versa. Critics, however, worry that coordinated approaches could among other things adversely affect the gains of HIV programmes.

Summary
Going forward, the overall benefit of a coordinated approach will be that health systems could be strengthened in a sustainable manner. However, such approaches must carefully weigh the benefits against risks to existing structures and must consider all the relevant stakeholders in their implementation.

Keywords
AIDS, health system strengthening, HIV, noncommunicable diseases

INTRODUCTION
An increasing number of countries, mostly low income and middle income, are facing a double burden of infectious and noncommunicable diseases (NCDs) [1,2]. On one hand, the health systems in such countries continue to be placed under enormous strain by the huge burden of infectious disease such as HIV/AIDS, tuberculosis (TB) and malaria [3]. On the other hand, such countries are also experiencing a rapid upsurge in the levels of NCDs such as stroke and cancer, as well as their risk factors including hypertension, diabetes, obesity, tobacco use, excessive alcohol consumption, inadequate physical activity and unhealthy diet [4]. This upsurge in NCDs is believed to be driven largely by rapid urbanization and the consequent adoption of unhealthy lifestyles, as well as increased life expectancy (the risk of NCD increases with age) in many low and middle-income countries [2]. Unfortunately, the health systems in such countries are simply incapable of adequately dealing with an increased burden of disease in their current state because they are mostly attuned to providing episodic care for acute conditions, given their historical disease patterns and resource limitations [5].

It is not all bad news, however. With regard to HIV/AIDS – the leading infectious disease globally – the world appears to be turning a corner in the fight to defeat the epidemic. For instance, HIV incidence has declined in 33 countries, 22 of them in sub-Saharan Africa [6]. This success can be largely attributed to the global response to the epidemic, including the launch of UNAIDS in 1996, the targeting of HIV/AIDS as one of the Millennium Development Goals (MDGs) in 2000, the launch of the Global Fund to fight AIDS, TB and Malaria in 2002 and the
There are significant overlaps between HIV infection and noncommunicable diseases

A number of recent publications make the case that there are significant similarities between HIV infection and NCDs [7**,10**]. First, they point to evidence that shows that many low and middle-income countries with a high burden of HIV also have ‘burgeoning epidemics’ of NCDs. For instance, three-fourths of all AIDS-related deaths globally occurred in low- and middle-income countries where an estimated 80% of NCD-related deaths also occurred. Further, these studies point out that, at a biological level, there are inter-linkages between HIV and NCDs. On one hand, people living with HIV (PLHIV) are at an increased risk of NCDs such as diabetes and certain types of cancers. This increased risk may either be directly related to HIV infection itself or the side effects associated with the medication used to treat the infection. Indirectly, due to the availability of life-prolonging treatment, PLHIV are living longer and hence becoming more at a risk to NCD similar to the uninfected population. Moreover, some of the opportunistic infections associated with HIV infection are themselves NCDs such as cervical cancer and lymphomas, among others. Finally, HIV and NCD are similarly chronic diseases, that is diseases of insidious onset, long duration and slow progression. Therefore, to a large extent, chronic treatment and care programmes for HIV and NCD would usually involve the same elements such as promotion of healthy behaviour, long-term adherence to treatment, regular follow-up, to mention a few. Given these similarities, a coordinated approach is imperative.
approach to dealing with both HIV and NCDs makes a whole lot of sense. Indeed, the WHO and UNAIDS have recently signed what is being termed as a historic ‘letter of agreement’ signifying their commitment to integrate NCD and HIV programmes in low- and middle-income countries. Both agencies will aim to ‘maximize synergistic strategies’ in an integrated HIV and NCD response [11].

**There is no need to reinvent the wheel**

The global response to the HIV epidemic over the past two decades has been phenomenal to say the least; there are declines in both the rate of new HIV infections and AIDS-related deaths. Also, unprecedented funding has been mobilized for HIV programmes. As a result, HIV/AIDS programmes have become the first large-scale chronic care programme implemented in low- and middle-income countries to date. Against this backdrop, and taking into consideration the overlaps and similarities between HIV and NCD, a strong case has been made for the leveraging of HIV programmes for NCD programmes [12**,13**,14**]. Lessons learnt from HIV programmes could very well shorten the learning curve for NCD prevention and control [15*].

Specifically, the HIV/AIDS experience can guide the linking of detection, prevention, treatment and integration of behavioural and biomedical approaches that are similarly applicable to NCD [15*]. Some HIV programme approaches that can be reviewed and adapted by NCD programmes include but are not limited to peer educator programmes, family-focused care, defaulter tracing initiatives, support for adherence and retention, multidisciplinary teams, task shifting and sharing, demand creation for services, community engagement, tools (registers, charts, forms and medical records) and systems (monitoring and evaluation, improving quality, supply chain and procurement, referring people and processing specimen) [12**,14**]. Demand creation for services and community engagement are two shining examples of lessons that can be learned from the HIV experience [12**]. With regard to demand creation, the extent to which PLHIV and civil society have championed the expansion and implementation of HIV programmes, and access to services, remains unprecedented [16]. Community engagement, although not novel to HIV programmes, has been crucial to their success. This is because HIV programmes recognize that support for a lifelong treatment of a chronic disease such as HIV is more effective if provided at the community level [12**]. Hence, HIV programmes typically engage community-based resources in the continuum of care from hospital to home [17]. Overall, therefore, HIV programmes provide hands-on experience in the scale-up of chronic care to millions of people on the basis of their successes in resources mobilization, garnering of political will, engagement of civil society and establishment of human rights framework for HIV/AIDS victims [5*].

The reverse is also true to some extent. That is, lessons learnt from NCD programmes can also be applied to HIV. For example, chronic care models usually used for NCDs are being applied in the care of HIV/AIDS in resource-constrained countries. In Zambia, ‘expert patients’ or PLHIV were trained to provide adherence and supportive counselling in response to a shortage of health professionals [18]. The concept of ‘expert patients’ has been applied for many years in developed countries as part of Chronic Disease Self-Management Programmes [18]. Overall, there is a strong case to be made for HIV and NCD programmes to learn and leverage from each other and explore avenues for coordinated approaches that could very well maximize limited resources without compromising on effectiveness.

**How health systems could benefit from a coordinated approach**

In its 2006 Framework for Action, Director-General of the WHO, Margaret Chan, describes the strategic importance of health systems strengthening as being ‘absolute’ [19]. Her comments echo the increasing recognition of the key role of health systems strengthening in improving health outcomes. In fact, it is widely accepted that it will be impossible for countries and their development partners to achieve national and international goals – especially the MDGs – without greater and more effective investment in health systems and services. Similarly, it will be difficult to sustain the achievements in the fight against HIV or make sustainable progress in preventing an NCD epidemic if health systems are ignored, especially in low- and middle-income countries where existing systems are weak [19].

Proponents of a coordinated approach to HIV and NCD prevention and control argue that low- and middle-income countries need to have strong and dynamic health systems that can respond effectively to any changes in the epidemiological pattern of diseases whether infectious or noncommunicable [10**]. They contend that countries can no longer afford to treat diseases in ‘silos’ or ‘turn by turn’ [7**,10**]. A model that is health-centred rather than disease-centred is crucial, as it is the only truly sustainable way to go. This they say calls for innovative approaches to expand the capacity of health systems, particularly in low- and middle-income
countries to address multiple health challenges. Such approaches must capitalize on existing resources and capabilities by leveraging, for example, HIV resources, experience and models for the management of NCDs, and vice versa.

Specifically, the successes of the HIV programmes can be characterized by their focus on key building blocks of the health system, specifically, technologies and products viz-a-viz supply chain management of drugs, health information systems (data management) and on the health workforce [12**,20**]. This so-called vertical approach adopted by HIV programmes has been criticized for aggravating weak health systems by diverting resources from ‘horizontal’ or more comprehensive approaches. However, critics must consider the glowing achievements of HIV/AIDS programmes in terms of meeting their goals, as well as the circumstances under which they were conceived; HIV was declared by political leaders of the world to be an emergency that required out-of-the-box measures. Moreover, there is a school of thought [21–23] that proposes a very sensible approach that aims to ‘bridge the traditional divide between the vertical approach, which focus on technical interventions for specific disease priorities and the horizontal approach, aimed at strengthening the overall structure and functions of the health system but without a clear sense of priorities’ [22]. This school of thought proposes ‘a diagonal approach, whereby explicit intervention priorities are used to drive improvements of the health system’ [22].

A diagonal approach touches the core of making a case for health system building through a coordinated approach to HIV and NCDs. For instance, existing intervention priorities of HIV/AIDS programmes can be drawn upon to re-energize and re-align the health system for chronic care for NCDs. A case in point is a pilot study [24] in Cambodia that demonstrated the effectiveness of a ‘chronic disease clinic’ that integrated services for HIV, diabetes and hypertension. Such a coordinated or integrated approach ensures that resources are shared and maximized, bringing an overall improvement to the health system.

CONCLUSION

There appears to be a strong case for a coordinated or ‘diagonal’ approach to HIV and NCD prevention and control. Such an approach will provide a path to a win–win situation if implemented with the overall aim of building health systems, especially in resource-constrained settings. This is not to say that vertical programmes will not be required in such settings to develop context-specific models of care and generate evidence for appropriate NCD interventions [20**]. Generating evidence is very important, as wealthier nations are cautious about making long-term commitments to NCD prevention and control in low and middle-income countries partly due to the uncertainty about what interventions should be prioritized [20**]. However, the case has been made that a coordinated approach will ensure that lessons learnt from existing programmes, either HIV or NCD-based, can be shared and cross-pollinated where applicable.

There are concerns that attempts to coordinate HIV and NCD programmes could undermine existing programmes by diluting their effectiveness so to say. Such concerns, if left unaddressed, could lead to antagonism of coordination efforts [25**]. Therefore, it is important to recognize the interests of key stakeholders [7**]. Moreover, context is crucial. There is no one-size-fits-all approach to coordination of HIV and NCD programmes. For instance, a point of care integration approach as found in the chronic care clinics in Cambodia may be appropriate in some contexts. Whereas in other contexts, it might be more appropriate to apply upstream coordination involving, for example, unified approaches to the development of treatment and care guidelines, and monitoring and evaluation, to mention a few [14**]. What is important, according to the 2011 UNAIDS Report on Chronic Care for HIV and NCD, is to ‘ensure that lessons are shared, systems are harmonized and efficiency is recognized’. Finally, any coordinated approach must be careful not to antagonize parallel global health efforts to strengthen health systems in resource-constrained settings. Therefore, health planners and policymakers together with their development partners should carefully weigh the potential benefits and risks of any such coordinated approaches.

Acknowledgements

None.

Conflicts of interest

There are no conflicts of interest.

REFERENCES AND RECOMMENDED READING

Papers of particular interest, published within the annual period of review, have been highlighted as:

- of special interest
- of outstanding interest

Additional references related to this topic can also be found in the Current World Literature section in this issue (pp. 81–82).


This study demonstrates that older PLHIV are also more likely to have other NCDs, including hypertension, diabetes, cancers, to mention a few. And, as populations in low-income countries age, enhanced chronic care systems such as those developed for HIV will be required to optimize their health and wellbeing. Thus, the authors propose that the lessons and resources learned from HIV programmes can also be leveraged to support the increasing numbers of non-HIV infected individuals with NCD who are in need of ongoing chronic care.


In this study, the authors highlight the common determinants of infectious and NCD. They then describe how links between infectious and NCDs should be used to spur the development of coordinated programmes to prevent and treat both.


In this study, the author describes HIV/AIDS programmes as probably the largest chronic care programme ever implemented in most low- and middle-income countries. The author argues that HIV programmes involve the same elements of management of NCDs, and that given these similarities, the models, tools and approaches developed in the implementation of HIV programmes could be adapted to address NCDs.


The authors make the case that lessons learned from the scale-up of HIV programmes can be leveraged to strengthen health systems using chronic diseases as an entry point. Specifically, tools and approaches developed for HIV/AIDS programmes such as service delivery models, M&E strategies, to mention a few can be adapted for other chronic conditions and as components of comprehensive preventive and primary care services.


The authors argue that the scaling up of HIV services in low-income countries has created the first large-scale continuity care programme in such settings. These programmes, they say, have developed resources that might be used to support initiatives for the prevention and control of NCDs.


This UNAIDS report presents similarities in the epidemiology of HIV and NCD, respectively, as well as the similarities in approaches for the management of both conditions. The report provides examples of lessons learned from HIV programmes that can be leveraged for NCDs, and makes a case for point of care and/or upstream integration of HIV and NCD services.


This study describes historical landmark events in the global HIV response and how these could provide lessons that can be applied to NCDs. The authors suggest that though the challenges for a global NCD response are many, the experience from HIV shows that solutions are feasible.


In this study, the authors draw parallels between the ongoing political debates about NCDs and those that took place at the onset of the HIV epidemic. They suggest that the successes of the rapid scale-up of HIV programmes could not have occurred without activism and the high-level support of political leaders. Similar high-level support is needed for NCDs, but the challenge will be in ensuring that any political commitment translates into sustainable programmes that outline political tenures.


The author highlights some of the challenges of integrating other health services into HIV care and advises that relevant stakeholders must carefully weigh the merits and demerits of any integration efforts before embarking upon them.