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Cluster 3: Population and Health

Healthcare Systems in Sub-Saharan Africa: Focusing on community-based delivery (CBD) of health services and the development of local research institutes

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ABSTRACT

There exists a continuously growing health care gap between Africa and the rest of the world. Sub-Saharan Africa (SSA) accounts for 11% of the world's population and bears 24% of the global disease burden. A total pipeline of up to \$25-\$30 billion is scheduled to be invested to address the need for healthcare assets such as hospitals, clinics and warehouse distribution in SSA. There have been major strides to alleviate the disease burden on the population of those affected as well as improve patient care. These have been limited to a number of Sub-Saharan African countries and therefore need to be implemented more widely within the region. Most importantly, more efficient strides need to be made towards investing in research institutes within the local community as well as the development of medical devices, products and services. Promoting community-based delivery (CBD) of medication, health services and social work in tandem with the pre-existing healthcare system will go a long way to increasing access to health facilities. The need for revising and implementing policies is for the greater gain of the public. There are high stakes involved including a very high level of commitment from various parties, but this is not insurmountable.

KEYWORDS: *Research institutes, Sub-Saharan Africa (SSA), Community-based delivery (CBD), health services, medication*

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HEALTHCARE SYSTEMS IN SUB-SAHARAN AFRICA

There exists a continuously growing health care gap between Africa and the rest of the world. Sub-Saharan Africa (SSA) accounts for 11% of the world's population and bears 24% of the global disease burden. However, this percentage of the world accounts for less than 1% of the global health expenditure. Over the last decade, as part of a healthcare improvement regime, a significant amount of financial aid worth over \$8 billion has been allocated to SSA. The rural inhabitants succumb to and are victims of poor health care facilities, personnel and access to medication.^{1,2,3} The most recent and biggest Ebola outbreak in West Africa highlights the loop holes and failures of the healthcare systems in Sub Saharan Africa. While countries like Mali, Nigeria and Senegal successfully contained the disease; other countries like Guinea, Liberia and Sierra Leone relied heavily on foreign help. The eminent need for capacity building and capacity enablement are highlighted alongside the one-sided benefit of international aid for economic development of research collaboration to the donor rather than the recipient.¹⁰

Despite the financial influx of capital from the international community, only a few countries in Sub-Saharan Africa are able to provide the minimum healthcare as defined by the World Health Organization (WHO) to be within the range of \$34-\$40 per person³. Estimates suggest that over the next decade, a total pipeline of up to \$25-\$30 billion is scheduled to be invested to address the need for healthcare assets such as hospitals, clinics and warehouse distribution in SSA.¹

The Joint United Nations Program on HIV/Acquired Immune Deficiency Syndrome (UNAIDS) 2013 report depicts the HIV epidemic in Ghana to be a generalized epidemic with a prevalence of more than 1%. The HIV prevalence in Ghana is not generalized but varies with geographic regions, age and gender. Highest prevalence was recorded within 35-39 year age group with 43% prevalence in males and 57% in females. The following regions; Greater Accra, Western, Volta, Northern, Upper East and Upper West recorded the highest increase of prevalence in 2012. In the Northern region for example, service providers revealed an increase in young (15-30 years) nubile female head porters. The health facilities see a noticeable increase in these ladies with advanced HIV infection and subsequently dying from AIDS related complications.¹²

Having spent a month working with Society for Women Living with AIDS in Africa (SWAA) in partnership with UNAIDS, I had the opportunity to visit 3 socio-economically deprived regions of Ghana. We visited some health facilities in rural areas of WA, Tamale and Bolgatanga all in the Northern region. The healthcare system in Ghana requires the patients to visit the Anti-retroviral Drugs (ARV) Center monthly for their ARV and a GHC5.00 surcharge. A recurring problem highlighted was the lengthy journey times in order to access treatment at the ARV centres in addition to the surcharge. On average, the closest ARV centres in these regions were over 5km away from their residences, which was a financial burden in terms of transport costs. This lack of remote access was identified as a leading cause of the increase in HIV-related morbidity and mortality especially among

the women in the region. In addition to this, there was a lack of HIV testing commodities and a shortage of staff thus longer waiting periods for monitoring of CD4 counts. A lack thereof of viral load testing equipment and reagents as part of quality ARV service delivery was raised. As a result, critical steps must be taken to properly address this malaise.

WHO outlined the key components of a functional health system; they include the following: improving individual's health, defending the population from factors of a threat to national health, protecting against financial consequences of ill health, providing equitable access to people centered care and involving people in the decision-making process affecting their health and healthcare system.⁴ Access to essential medical products and technologies is essential to a national health system as well as ensuring the health delivery systems are reliable and convenient.

Findings from research conducted by the International Finance Corporation – with help from McKinsey & Co – on the main problems in Africa's healthcare system and possible solutions highlighted 5 imperative solutions, namely¹:

- 1- Developing mechanisms for creating and enforcing quality standards for health services and medical product manufacturing and distribution.
- 2- Including as many of the population in risk pooling programs.
- 3- Channeling a proportion of public and donor funds through the private sector.
- 4- Enacting local regulations that are more encouraging of the private health care sector.
- 5- Improving access to capital, including by increasing the ability of local financial institutions to support private healthcare enterprises.

This short brief and communication focuses on the first point for the various reasons; the medical product manufacturing and distribution has potential to be most profitable in the SSA, albeit not being exploited sufficiently. Across SSA, local pharmacies play a major role in subsidizing the hospitals and clinics' financial income; for example there is a Kenyan outpatient clinic with up to 70% of its profit originating from their pharma department.¹ Nigeria is a prime example whereby monopolies strive with one leading pharmaceutical manufacturer supplies to over 100 outsourced distributors out of a possible 724 medical licensed distributors. This highlights the market domination by a handful of companies and the need for development and diversification, as dependency on one source is risky.

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This lays emphasis on the need to improve and innovate medical product manufacturing and distribution of medication as well as healthcare services.

A general concept that eventually coined the term community-based delivery (CBD) has shown success in various countries with different applications. The focus within this context is placed on the healthcare workers deployed by the government or non-governmental organizations (NGO) to deliver services to the community. This has addressed a major shortage of human resources within low and middle-income countries and improved the quality of the healthcare system. The deliveries of insecticide-treated nets in Kenya and preventive malaria treatment in Southern Malawi are a few examples where CBD has been a success. In community-based sites in Kenya, there was an increase in bed net ownership from 21% to 61.1%. In Southern Malawi, preventative malaria treatment coverage increased from 41.5% to 81.9%.^{5,6} The results from this study showed a general increase in effectiveness of this delivery approach.

Innovative technologies and approaches will further effectuate the delivery of healthcare reforms. Bangladesh is reputed for being one of the first few developing countries to implement innovative technologies, policies and approaches towards improving their healthcare system. There has been a surging increase in government partnerships with local NGOs and institutional research to foster the development of innovative technologies, which are beneficial to the specific population. These techniques have seen the development of oral rehydration solutions and designing community-based family planning programs.⁸

South Africa is looked upon as a hub for life sciences innovation in SSA. It finances, encourages and fosters the development of its innovation industry revolving around existing research capabilities. The government funded and fostered the development of telemedicine in Tsilitwa, a suburb in the Eastern Cape of South Africa. The nearest hospital to Tsilitwa is 10 miles away with no connecting roads. South Africa's Center for Scientific and Industrial Research equipped Tsilitwa's health centres with the necessary equipment to allow live feed and communication between the nurses at the clinic and doctors in the hospital. This clinic attends to about 10,000 patients monthly and has no doctors physically present. This demonstrates that technological innovation will go a long way in bolstering the healthcare system across the given population based on the common ills identified. This should thus result in higher attendance rates for patients, speed of patient dispatch by having the appropriate number of doctors on-site. In addition, the positive feedback loop this system creates extends far beyond the creation of the technologies but also education and job opportunities. On a larger scale, by creating a robust healthcare system characterised by sophisticated technology platforms, the population should progressively become self-sustainable with little or no reliance on foreign aid. An estimated \$1 billion allocated towards pharmaceutical production¹ in SSA has over 70% concentrated in South Africa alone. Nigeria, Ghana and Kenya represent about 20% of this continental fund.

Swipha, located in Nigeria could be used as a case study as a leading generics manufacturer with potential and room for growth. Bio24 is another example in Senegal of a growing diagnostic laboratory with services in high demand to health providers, research centers and the general public. The system offers opportunities to the population for novel approaches and solutions towards local health challenges.

While the evolving technology development increases, there is a vital need for government policies to be instated or reinforced to allow for the translation of the changes to be observed by and among the general public. This creates a strategy for the implications into human resources, pharmaceuticals, and technology infrastructure and service delivery placing relevant guidelines, plans and targets for subsequent implementation. Africa's pharmaceutical industry rose from \$4.7 billion in 2003 to \$20.8 billion in 2013 and expected to climb to \$3.3 trillion by 2020. The cumulative growth is a product of 10 countries (Algeria, Egypt, Kenya, Ivory Coast, Libya, Morocco, Nigeria, South Africa, Sudan and Tunisia) out of the 54.¹¹ This highlights the need for expansion and creation in the other 44 countries.

Taking into account the estimates projected for the next decade of investment into healthcare systems in Sub-Saharan Africa, creating research institutions for technological development and innovative delivery approaches, as a venture for investment, is absolutely vital. This takes CBD a step further by not only delivering services to the inhabitants but also creating an environment and providing a platform for social education, fostering innovation of technologies, ideas and novel approaches whereby the community at large can contribute to the development of a more sustainable healthcare system and alleviate dependency on foreign aid. The lack of on-going research detracts potential scientists in the diaspora from returning to their country of origin to pursue their careers as there is a feeling of reaching a "final ceiling" with no room for further progression. The lack of incentives further result in brain drain in Sub-Saharan Africa with only 3% of healthcare professionals and experts deployed to rural regions.^{1,8}

The Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement supported by the Doha declaration reiterated; "it does not prevent members from taking measures to protect public health." UNAIDS executive director, Michel Sidibé stated, "countries should not trade away the public health of their people for other trade gains."⁹ This places a call on governments of SSA countries to take advantage of this agreement and invest in the local manufacture of essential drugs and encourage CBD. This entails interdisciplinary cooperation between different sectors including policy makers, research scientists, healthcare training personnel and economists directing the flow of funds into each project. There are high stakes involved including very high level of commitment from various parties but this is not insurmountable. It is imperative that local governments in partnership with local NGOs and enthusiastic investors jointly address the issue of community-based delivery services. Investments in essential medical products and technological research and development in local communities

should be encouraged both financially as well as via widespread education as this creates a social village.

Endnotes:

¹ The Business of Health in Africa, International Finance Corporation (with McKinsey), 2008 - www.unido.org

² From an article on "Matter of high interest; assessing how loans are reported as development aid. – www.globalpolicy.org

³ The World Health Report 2008: http://www.who.int/whr/2008/whr08_en.pdf

⁴ Key components of a well-functioning health system www.who.int/healthsystems

⁵ Mysamboza KP et al: Community-based distribution of sulfadoxine-pyrimethamine for intermittent preventive treatment of malaria during pregnancy

⁶ Wacira DG et al: Delivery of insecticide-treated net services through employer and community-based approaches in Kenya

⁷ El Arifeen S et al: Community-based approaches and partnerships: innovations in health-service delivery in Bangladesh (volume 382, pg 26, 2013)

⁸ The Health worker crisis: An analysis of the issues and main international responses

⁹ Trade agreements should not hinder efforts towards universal access to HIV prevention, treatment, care and support – www.unaids.org

¹⁰ Oyewale Tomori: Will Africa's future epidemic ride on forgotten lessons from the Ebola epidemic?

¹¹ Insights into pharmaceuticals and medical products Africa: A continent of Opportunity for pharma and patients. McKinsey & Company, April 2015

¹² Marjolein Dieleman et al: Improving health worker performance in search of promising practices. – www.who.int