



**Exploring the role of public-private partnerships in health systems strengthening:  
Experiences from Southern Africa**

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**EXECUTIVE SUMMARY**

The Brief draws from a Scinnovent Centre commissioned study as part of the African Science Granting Councils Initiative (SGCI) Theme 3. The study sought to explore and understand the role PPPs could play as viable technological catch-up vehicles and investment financing mechanisms to build a competitive African health sector that is interlinked with a vibrant local pharmaceutical industry complex, capable of supplying drugs, vaccines and other health products that assure health inclusion and social security. The Brief draws from co-produced primary and secondary qualitative and quantitative evidence from five southern African countries, namely Botswana, Namibia, South Africa, Zambia and Zimbabwe to highlight and examine examples, opportunities, successes, failures of and lessons from PPPs in health-industry innovation and health system financing. We identified and analysed various configurations of PPPs, including non-conventional PPPs with two or more partners drawn from non-governmental organisations (NGOs), donor agencies, industry, and other for-profit and non-profit enterprises, academia and social enterprises. The non-conventional and usually time-limited PPPs link up with governments to strategically address specific maladies and intra-system challenges, as specific mechanisms for achieving better, more responsive and resilient health systems. This study speaks broadly to the roles of PPPs in addressing global health inequity through market adjustment, the importance of embeddedness of local pharmaceutical suppliers with poor populations in low-middle income countries to drive overall health (social) inclusion. It also unpacks an array of context-specific social, economic, political, geographic, and epidemiological factors which cannot be successfully examined if the lens is not anchored on the sub-regional, regional and global political economies. The study expanded literature for the southern African region which hitherto disproportionately focused on public-private engagement in South Africa, with very little known about the other countries, outside of Zimbabwe and Mozambique, in which narratives on the health-industry complex from the perspectives of pharmaceutical manufacturing have only been recently captured

**INTRODUCTION**

Many African health markets are trapped in a vicious cycle and perennial disconnect amongst potential supply, demand and investments dynamics that could concomitantly support local pharmaceutical technological upgrading whilst at the same time improving social inclusion, healthcare access and ultimately local health security. As of 2019, Africa has: more than 50% of all health expenses paid out of pocket; more than 80% of the global burden of non-communicable diseases; more than 15% of the world's population; 47% of the global burden of communicable diseases; yet has less than 2% of global health expenditure (PAF, 2019). To compound this and the current burden for the health sector, the African continent will in the next few decades enter multiple transition phases that impact health security. These include demographic and disease transitions as populations age and as infectious diseases begin to be overshadowed by non-communicable diseases, in addition to the impact of chronic infections on non-communicable diseases. All these changes will occur as industrial transitions and rural urban migration accelerate.

As a (semi-) public good, the healthcare and the allied industry complex requires government intervention through policy and practice. However, many African countries face challenges with especially limited state financial and technical capabilities as well as commensurate institutions. The current **health-industry complex** (by which we mean the infrastructures, linkages, synergies and

*capabilities in place to manufacture, supply and deliver health products to the health system*) is not geared to adequately address current and more importantly emerging African health challenges. The supply of medicines through manufacturing, procurement and distribution capabilities, and their dispensing to patients in health facilities of different forms, is presently not matching demand, and will only get more constrained with the challenges ushered in by multiple transitions. In response, African countries will to accelerate local production of drugs, vaccines and other health technologies to cater for emerging and long-term health challenges, which requires new and innovative business and funding models that engender competitiveness and social inclusion. There is growing global evidence on the role and influence of public-private partnerships (PPPs) as a mechanism for availing the financing, capabilities and business models necessary for a health-industry complex that is good for socio-economic development.

- **Purpose of this Brief**

The nexus between health and industrialization is under-studied in Africa and other most developing countries (Mackintosh et al, 2018). There is scant empirical research on how industrial change (or industrial development) can aid (transform) public health, particularly in terms of reducing the costs of local manufacturing of medicines and medical equipment. This Policy Brief focuses on providing new empirical data and evidence on how PPPs can play roles in the delivery of health and industrial policies and programmes for health and well-being. The Brief draws from a study commissioned by the Scinnovent Centre as part of the African Science Granting Councils Initiative (SGCI), which sought to explore and understand the role that PPPs could play as viable technological catch-up vehicles and investment financing mechanisms for building a competitive African health sector that is interlinked with a vibrant pharmaceutical industry complex, capable of supplying drugs, vaccines and other health products that assure health inclusion and social security. In particular, this Brief draws from co-produced primary and secondary qualitative and quantitative evidence from five southern African countries, namely Botswana, Namibia, South Africa, Zambia and Zimbabwe to highlight and examine examples, opportunities, successes, failures of and lessons from PPPs in health-industry innovation and health system financing.

- **Health in Southern Africa**

The five study countries are all members of the Southern African Development Community (SADC). The region's estimated 337.1 million inhabitants (2017 estimate) face high morbidity and mortality rates, low nutrition status, poor healthcare infrastructure and services and poor living conditions as major challenges. The region has for the past three decades faced a challenging and persistent HIV/AIDS pandemic, and it is not surprising that the pandemic permeates influences most factors of development in the region. The SADC region accounts for one-third of all people living with HIV and AIDS worldwide; while eight SADC Member States are among those countries with the highest rates of tuberculosis; and 75% of the SADC population is at risk of contracting malaria. It is estimated that the loss of productivity attributable to tuberculosis is up to 7% of gross domestic product (GDP) for some countries, while the HIV/AIDS challenge depressed the GDP of most Sub-Saharan African countries by up to 20% in the decade 2001 to 2010 (WHO, 2013).

The health care systems of the five study countries, are continuously in need of strengthening due to challenges embedded in or transcending the systems (Mugwagwa, Banda and Chinyadza, 2017). The countries are all facing a number of similar challenges with respect to health delivery, presenting both objective and subjective reasons for inclusion in the study informing this Brief.

- **Pharmaceuticals**

The African pharmaceutical market is thought to be around USD 40 – 60 billion annually by 2020, however most of these pharmaceutical products are imported with local manufacture accounting with local production accounting for 10 to 30% depending on the country. For local production, active

pharmaceutical ingredients (APIs) and excipients are imported and the bulk of activities are on generic drugs reformulation activities. Biologicals are a very small component of the equation given that activity in vaccine and biologicals manufacture is limited to a few countries (South Africa, Senegal, Tunisia and Egypt) in most instances. Clearly the current trajectory will not provide the health security goals espoused in the African Union's the Africa We Want proposal; and new and innovative organisational setups are required to develop and upgrade the pharmaceutical sector to be able to meet the needs of the continent now and more than fifty years into the future. The SADC region has demonstrated an awareness to this challenge and realised that use of appropriate pharmaceuticals is central to disease treatment and prevention, and that access to affordable, safe, and quality-assured medicines is uneven in Southern Africa. A number of challenges work singly or collectively to impede access, and these range from lack of adequate production capabilities, inefficient supply chains, an uncoordinated regulatory terrain, to lack of standardised legislation for pharmaceutical usage and disparate treatments for diseases.

Among the five case study countries, there is a challenge of high cost of medicines due to factors related to, among others, logistical challenges, diminishing capacities of local pharmaceutical manufacturers, leading to reliance on imported medicines, particularly for Botswana, Namibia, Zambia and Zimbabwe (Mugwagwa, 2019). South Africa has accumulated industrial capabilities (or potential) for manufacturing medicines and a wide range of medical technologies. Its pharmaceutical industry is relatively well established when compared to the other SADC countries. Zimbabwe's pharmaceutical manufacturing capabilities have shrunk considerably in the last two decades due to skills and capital flights in the backdrop of economic and political challenges (Banda, 2016).

## **APPROACHES**

Our original idea of the health-industry complex covered the relationship between pharmaceutical industry and the public health sector and the synergistic relationships that can be capitalised for innovation, industry development and health security simultaneously. In this Brief, we are cognisant of the arguments surrounding PPPs, and we focus on the positive that they can deliver in clearly difficult circumstances where solely public or private investment may not yield much when the funding magnitude, risks inherent and the gestation as well as policy terrain are taken into consideration.

Our study assessed the dynamics of PPPs as a viable financing mechanism for investment in the pharmaceutical sector (drugs and vaccines) that leads to better social inclusion in health (medicines access, affordability and security) through the health and industrialisation complex. The study was guided by a number of interrelated objectives, questions and envisaged outputs.

## **FINDINGS AND IMPLICATIONS**

Despite an increase in research investigating the roles of PPPs globally and elsewhere in Africa, there is limited understanding on the distribution and make up of health PPPs in Southern African countries. To contribute towards filling this gap, we obtained empirical evidence from five countries Botswana, Namibia, South Africa, Zambia and Zimbabwe and explored potential avenues on how health PPPs can be more broadly deployed to leverage private sector resources and expertise to drive government goals of optimising the efficiency and cost-effectiveness of the PPP model in health service delivery. Southern African countries, previously viewed as the epicentre of HIV/AIDS are an important source of insights, experiences and lessons for global health researchers and policymakers on the role of PPPs in building competitive health-industry complexes in the study countries and other LMICs.

**The policy environment is ready**

This study established that while the core provision of healthcare services is primarily viewed as the responsibility of governments, policymakers increasingly recognise that in these evolving health contexts, private actors' capital and expertise are a central driver for improving both cost-efficiency and overall health system effectiveness, through enhanced access to services and the introduction of innovative technologies and service delivery modes. In the last two decades, in all the study countries, governments have taken a centre stage in attaining and sustaining the appropriate balance between public and private sector resources both for financing and managing health services. PPPs have thus been viewed as a viable mechanism for ensuring optimal deployment of scarce resources to advance public health goals, across the dimensions of equity, access, cost-effectiveness and quality of healthcare provision. PPPs in healthcare have been mechanisms for governments to leverage private sector resources and expertise to deliver public health objectives whilst balancing and maximising private sector's strengths in rapid decision making, better skills base, flexible human resource practices and quick resource acquisition and appropriation..

### **Shared language and understanding**

This study also established that across the target countries, there is no consensual definition for PPPs nor is the terminology necessarily universally applicable, as other authors have also noted. The authors were in agreement with the dominant notion underpinning PPPs which is about '*... working arrangements based on a mutual commitment (over and above that implied in any contract) between a public-sector organisation with any organisation outside of the public sector (Bovard, 2004)*'. This broad conceptualisation allowed the study informing this Brief to capture different configurations associated with the PPP model recognising that PPP actors cut across a range of sectors and roles including, pharmaceutical manufacturing, policy design, implementation, activism, procurement and supply chain and policy monitoring and evaluation (see Table 1).

### **Key drivers and success factors**

Policymakers and governments have to contend with the complexity and uncertainty of global health challenges burdened by economic constraints and difficult geographies. Consequently the key drivers for PPPs established by this study include, but are not limited to the following:

1. PPPs are better placed to address market deficiencies, through risk sharing, across multiple stakeholders and projects. This is relevant in contexts of emerging technologies and innovations where associated 'high technical risks' may be viewed by traditional funders as outweighing the visible economic benefits
2. PPPs aid economies of scale, particularly of procurement, service provision but also research and development and manufacturing
3. PPPs can be 'system integrators' where knowledge and ideas are leveraged across sectors, for instance across industry, academia and government as seen in PPPs in health financing, access to antiretroviral (ARV) drugs for HIV, and market access for diagnostics and treatments for care for HIV, TB and Malaria

**Table 1. Southern African examples of PPPs in the health-industry complex**

Country	Selected health PPP examples
Zimbabwe	<ul style="list-style-type: none"> <li>• Government and local pharma partnership in manufacturing of ARVs (Gov. of Zimbabwe-NATPHARM-Varichem)</li> <li>• International agency, government and local pharma partnership for procurement of essential medicines (European Union-Gov. of Zimbabwe-NATPHARM-local manufacturers)</li> <li>• Government, non-profit and private sector partnerships in health service delivery (Gov. of Zimbabwe-private hospitals and mission hospitals)</li> <li>• Public-private co-location health delivery models (e.g. private wards in public hospitals such as Parirenyatwa Hospital)</li> </ul>
South Africa	<ul style="list-style-type: none"> <li>• Public-private co-location in clinical care management Universitas and Pelanomi Hospital in Free State Province; Humansdorp District Hospitals in the Eastern Cape Province</li> <li>• Public-private asset financing and maintenance and management partnership, e.g. The Inkosi Albert Luthuli Central Hospital in KwaZulu Natal Province</li> <li>• Public-private equity partnership, e.g. National State Vaccine Initiative led by the Dept. of Health</li> <li>• Public-private equity partnership for vaccine and sera manufacture, e.g. Biovac Institute and Govt. of South Africa</li> </ul>
Botswana	<ul style="list-style-type: none"> <li>• Public-private research and innovation generation partnership, e.g. Botswana Harvard HIV/AIDS vaccine partnership between Botswana Government and Harvard University</li> <li>• Public-private infrastructure design and development partnership, e.g. BOTUSA project (Botswana Ministry of Health, the US centre for disease control and the Global AIDS programme) on Prevention of Mother to child transmission (PMTCT) now integrated into national HIV programme.</li> <li>• Public-private partnership for research into and manufacture of vaccines for livestock, e.g. Botswana Vaccine Institute, a partnership between a private Livestock Pharma Company (Merial – Sanofi) and Govt. of Botswana</li> </ul>
Namibia	<ul style="list-style-type: none"> <li>• Public-private partnership in research and innovation generation, e.g. Equip Health and Ministry of Health for an experimental clinical trial on pre-exposure prophylaxis (PrEP) using Gilead’s Truvada</li> <li>• Public-private partnership in infrastructure design and development between ACHAP and Ministry of Health for infrastructural development of clinics and HIV health-facilities</li> <li>• Public-private partnership in health service delivery, e.g. diagnostics access and screening services partnership between Pharmaccess, MOHSS, NABCOA and Namibia Institute of Pathology</li> </ul>
Zambia	<ul style="list-style-type: none"> <li>• Public-private partnership in research and innovation generation, e.g. Global Alliance for Vaccines initiative (GAVI) partnership with Ministry of Health to drive the roll out of the pneumococcal vaccine</li> <li>• Public-private partnerships in infrastructure design and development, e.g. construction of supply chain and distribution regional hubs in Chipata, Mpika, Mansa, and Choma, a partnership</li> </ul>

	<p>between Medical Stores Limited (supported by Global Fund, USAID and European Union).</p> <ul style="list-style-type: none"> <li>• Public-non-profit partnerships in training, diagnostics, preventative, curative and palliative services, e.g. partnership between Churches Health Association of Zambia (CHAZ) and the Govt. of Zambia</li> </ul>
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**Summary table from data in Mugwagwa and Banda (2019), where further details and examples can be found.**

As exemplified above, this study established the presence of various configurations of PPPs. These include partnerships partners drawn from non-governmental organisations (NGOs), donor agencies, industry, and other for-profit and non-profit enterprises, academia and social enterprises which link with governments to address specific maladies, intra-system issues, as a route to achieving better and a more responsive and resilient health system. This study speaks broadly to the roles of PPPs in addressing global health inequity through market adjustment, connection of pharmaceutical suppliers with poor populations in low-middle income countries to drive overall health (social) inclusion, unpacking an array of context-specific social, economic, political, geographic, and epidemiological factors which cannot be successfully examined if the lens is not anchored on the sub-regional, regional and global political economies. The study has thus expanded literature for the southern African region which hitherto disproportionately focused on public-private engagement in South Africa, with very little known about the other countries, outside of Zimbabwe and Mozambique, in which narratives on the health-industry complex from the perspectives of pharmaceutical manufacturing have only been recently captured (Mackintosh et al., 2016).

## CONCLUSIONS

### **a) PPPs are prevalent and present innovative financing mechanisms which drive social inclusion.**

The case studies presented showcased how the potential avenues for advancing government's efficiency in health spending, deploying and leveraging the private sector (profit and non-profit) resources and human resources and skills, the effectiveness of private and public-sector engagements, can be maximised.

### **b) The peculiar contextual realities of PPPs remain markedly under-researched.**

This study established that PPPs in health are distinct from typical infrastructure projects for a few key reasons. Apart from the transient and predominantly philanthropy driven nature of PPPs in some of the study countries, this study also established cases where health PPPs do not fit into the conventional models of PPPs (e.g. BOT or BOOT), yet still being within the conventional reasons why PPPs are initiated, e.g. to fill gaps in supply. We have also seen in the cases some PPPs whose motivations go beyond this in their design and/or in their operations. What stands out for health PPPs is that primarily, private revenue contribution is usually low, and as a result, these projects require a large and ongoing payment from the government. In addition, the ongoing expenses of operating a hospital or other medical facility represent the vast majority of project costs, as opposed to a typical infrastructure project in which capital expenditures (capex) are the main cost element. Thus, there must be money and other resources for the project post-construction phase.

### **c) Factors limiting the effectiveness of governance, incentive and policy frameworks**

This paper established the existence of different mechanisms for governing and incentivising PPPs.

We established and recommend continuous recognition of the fact that governments assume multiple roles as regulators, facilitators, funders of innovation and as well as investors in PPPs. These multiple roles could be leveraged for identification and deployment of much needed political champions for PPPs in the study countries.

Further, we noted the catalytic role that PPPs play, and how they serve as sources of collateral capacities for new partnerships and for other sectors of the economy. Successful PPPs such as Biovac in South Africa have shown ability to collaborate with both private and philanthropic actors in pursuing technology transfer and technological learning. The government as in the case of Biovac can, through departments such as Department for Science and Technology, act as both brokers and integrators actively supporting the creation of an innovation ecosystem in the local production of pharmaceuticals. Such pervasive impact and potential should be harnessed for structuring incentive structures and governance mechanisms which are responsive and able to enhance the relevance and contributions of PPPs to health system strengthening.

## **RECOMMENDATIONS**

We recommend continuous appraisal and documentation of the role and contributions of different actors to PPPs, for example, how government can support local pharmaceutical production through:

- Innovative procurement by assuring markets for products;
- Public funding of research in universities and institutes de-risks the early stages of innovation and technology development.
- Invest in capabilities and resources for coordination in order for the broad range of benefits from partnerships to be realised.

Whilst the argument underpinning the need for metrics is self-evident, it is perhaps more prudent to ask how the technological, intellectual, industrial, and research-driven insights drawn from the PPP model can be effectively mobilised to tackle current and future health demands. In so doing, important contributions will be made towards nuanced context-specific narratives, rather than predominantly quantitative ideological argumentations critiquing the PPP model in health delivery.

We recommend a Partnership Impact Index which SGCI and SADC could develop to offer annual awards for impactful partnerships in some of the pressing and persistent health challenge areas, eg. HIV/AIDS. This could also potentially include a proactive dimension identifying, nurturing and rewarding innovative partnerships that are helping countries to cope with NCDs. A related idea would be the development of partnership/partner relevance indexes which would be deployed to assess the relevance and salience of partnerships/partners.

## **REFERENCES**

Mugwagwa Julius and Banda Geoffrey (2020). Health and Industrialisation: Exploring the role of Public-Private Partnerships in Building Competitive Health-Industry Complexes in Southern Africa, SGCI Commissioned Study Report.