Rethinking health sector procurement as developmental linkages in East Africa

Maureen Mackintosh[a,*], Paula Tibandebage[b,1], Mercy Karimi Njeru[c], Joan Kariuki Kungu[d], Caroline Israel[b,2], Phares G.M. Mujinja[e]

[a] *The Open University, Walton Hall, Milton Keynes, MK7 6AA, UK*
[b] *REPOA, 157 Mgombani Street, Regent Estate, P.O. Box 33223, Dar es Salaam, Tanzania*
[c] *Kenya Medical Research Institute (KEMRI), Mbagathi Rd., P.O. Box 54840, Nairobi, Kenya*
[d] *African Centre for Technology Studies (ACTS), Gigiri Court 49, P.O. Box 45917-00100, Nairobi, Kenya*
[e] *Muhimbili University of Health and Allied Sciences, United Nations Road, P.O.Box 65001, Dar es Salaam, Tanzania*

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ABSTRACT

Health care forms a large economic sector in all countries, and procurement of medicines and other essential commodities necessarily creates economic linkages between a country's health sector and local and international industrial development. These procurement processes may be positive or negative in their effects on populations' access to appropriate treatment and on local industrial development, yet procurement in low and middle income countries (LMICs) remains under-studied: generally analysed, when addressed at all, as a public sector technical and organisational challenge rather than a social and economic element of health system governance shaping its links to the wider economy. This article uses fieldwork in Tanzania and Kenya in 2012–15 to analyse procurement of essential medicines and supplies as a governance process for the health system and its industrial links, drawing on aspects of global value chain theory. We describe procurement work processes as experienced by front line staff in public, faith-based and private sectors, linking these experiences to wholesale funding sources and purchasing practices, and examining their implications for medicines access and for local industrial development within these East African countries. We show that in a context of poor access to reliable medicines, extensive reliance on private medicines purchase, and increasing globalisation of procurement systems, domestic linkages between health and industrial sectors have been weakened, especially in Tanzania. We argue in consequence for a more developmental perspective on health sector procurement design, including closer policy attention to strengthening vertical and horizontal relational working within local health-industry value chains, in the interests of both wider access to treatment and improved industrial development in Africa.

1. Introduction

Despite a huge increase in development aid for health and a major improvement in access to treatment for HIV/AIDS and TB, access to essential medicines remains a crisis in Sub-Saharan Africa (WHO, 2011). Regular stock-outs in public sector facilities, and reliance on out-of-pocket purchase of medicines, continue to exclude low income populations from reliable access to essential medicines (Bigdeli et al., 2014; WHO, 2011; Ewen et al., 2017).

Donors' large scale international procurement of medicines aims to reduce prices and assure quality through pre-qualification of suppliers, international tendering, and pooled procurement processes (Global Fund, 2012; P4i initiative http://www.theglobalfund.org/en/p4i/). An acknowledged side-effect has been the by-passing of local procurement bodies or their reduction to logistics contractors, with, for some policy actors, the explicit objective of bypassing procurement corruption at national level (Huff-Rousselle, 2012).

There is however a long-standing theme in the literature that better local procurement processes are needed to improve access to medicines (Wang'Ombe and Mwabu, 1987; Waako et al., 2009; Wiedenmayer et al., 2015). International programmes including USAID/JSI DELIVER (http://deliver.jsi.com/dhome/), SIAPS (http://siapsprogram.org/),

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and People that Deliver (http://www.peoplethatdeliver.org/) focus particularly on supporting local skills improvement in procurement. Using evidence from primary research on supply chains and industrial suppliers in Tanzania and Kenya, we argue here for an approach to procurement analysis and policy, employing aspects of global value chain (GVC) theory, that can that can identify and respond to the embeddedness of procurement processes in the governance of local health systems and their links to the wider local economy. We aim to contribute to research literature on health system strengthening including potential benefits in Africa of strengthening local industrial linkages (Sidibé et al., 2014; Massard da Fonseca, 2017).

Throughout this article, "procurement" is defined in a broad sense, to encompass the whole set of processes for ordering and purchasing at facility and shop level, for wholesale purchasing, and for distribution of manufactured commodities to public, faith-based and private health facilities, and to shops. This definition is in line with the usage of our interviewees.

2. Methods

This article presents evidence from a study of procurement of medicines and supplies in Tanzania and Kenya, and of related manufacturing-health sector linkages (see Acknowledgements). In a first stage (2012–13), a convergent mixed methods design (Ozawa and Pongpirul, 2013) used qualitative in-depth interviews to explore procurement processes and experience, in 42 health facilities, pharmacies and drug shops in Tanzania, and 55 in Kenya, alongside quantitative data capture of availability and source of a set of tracer essential medicines, supplies and equipment. The tracer commodities (listed in web-based supplementary material), similar but not identical in each country, were selected following advice from national clinical and regulatory experts, and encompass a range of essential generic medicines and basic medical equipment and supplies, laboratory supplies and other basics such as bed sheets and cleaning materials.

Table 1 shows interview distribution by sector. (The Accredited Drug Dispensing Outlets, ADDOs, are Tanzania's regulated drug shops). All tables and quotations are from authors' fieldwork unless otherwise indicated.

Facilities were purposively selected from public, faith-based/NGO and private sectors, spread geographically across four districts (Tanzania) or counties (Kenya). Locations were chosen to represent a wide range of geographical area, incomes, infrastructure and health outcomes. In Kenya they included two contrasting areas of Nairobi (one high-income, to capture supply chains to private sector facilities), and two rural counties, one on the coast and one in the Rift Valley bordering Tanzania. In Tanzania they included two urban districts, one in Dar es Salaam and one in Arusha region, plus two rural districts, one on the coast, and one towards the Kenyan border to capture cross-border supply chains. In all, 79 semi-structured interviews were conducted in Tanzania and 81 in Kenya, covering sources and procurement

Table 1
Facilities and shops in which interviews conducted, number by sector and country.

Type of facility/shop	Tanzania			Kenya		
	Public	FBO/NGO	Private	Public	FBO/NGO	Private
Hospital	4	2	1	3	3	6
Health centre/clinic	6	2		7	3	4
Dispensary	8	3	6	4	4	
Pharmacy			3			13
Drug shop/ADDO			7			8
Total	18	7	17	14	10	31

Note: FBO/NGO = Faith-based and non-governmental organisation ownership. Private = privately owned for-profit.

processes, supply gaps and opinions on local *versus* imported supplies, for medicines, medical supplies and equipment, laboratory supplies and basics such as bed nets, sheets and cleaning materials. In Kenya these interviews were carried out before the decentralisation of public sector procurement to counties (KEMSA nd).

In a second stage in 2013–14, 15 interviews were conducted in Tanzania and 14 in Kenya with wholesalers, procurement agents, regulators, government officials and manufacturing associations. In Tanzania 11, and in Kenya 12, locally based manufacturers of medicines, medical and other supplies, and of inputs such as packaging, were also interviewed, on business history and strategy, production organisation and technology, domestic and export market access, experience of health sector procurement, and business challenges and constraints.

Quantitative data were analysed using Stata. Qualitative interviews, both transcribed recordings and verbatim notes, were entered into NVivo for coding and exploration of concepts and arguments. Data from different sources were triangulated, and interpretations discussed by the authors.

Ethical clearance was obtained from the Open University Human Research Ethics Committee in the UK, the Kenyatta National Hospital Ethical Review Board in Kenya, and the National Institute for Medical Research Ethics Review Committee in Tanzania. All participants had consented to the research, having been assured that participation was voluntary and that their anonymity would be preserved in published research findings.

3. Analysing procurement: a value chain governance framework

Current frameworks of analysis of health care procurement in Sub-Saharan Africa (SSA) are strongly influenced by linear supply-chain models of 'delivery' of medicines and other supplies from manufacturer to end-user. Yadav (2015) and Yadav et al. (2011) frame supply chains as technical logistical processes whereby products flow from manufacturers (the 'international' level) via warehousing, storage and transport, to clinics, health workers and drug shops (Yadav et al., 2011: 4). Reverse flows of information from effective 'quantification' at local level, and appropriate financing, are required for efficient supply and delivery. While problems arising from lack of competitive pressure are identified (Yadav, 2015), recommendations emphasise consolidation and simplification of linear supply chains (see also Huff-Rousselle, 2012).

This supply chain management focus on logistics and quantification is a strength. However, 'mapping' of SSA supply chains has demonstrated their complexity. "Spaghetti"-like patterns of overlapping and multiplying supply chains have been largely driven by donors' independent procurement for vertical programmes in public and NGO sectors (Yadav et al., 2011:6, MoHSW, 2008: 23 http://www.who.int/medicines/areas/coordination/tanzania_mapping_supply.pdf; KEMSA Task Force, 2008: 28 http://pdf.usaid.gov/pdf_docs/Pnadn474.pdf). This complexity operates alongside (poorly documented) private sector importing, wholesaling and retailing of at least half of medicines consumed in Tanzania and Kenya (MSD 2013; MoMS & MPHS 2010).

While 'deliver' frameworks focus on logistics, health system-based frameworks tend to overlook procurement. Analysis of medicines in health systems has so far paid little attention to procurement processes (e.g. Bigdeli et al., 2014). People-centred health systems analyses similarly tend to omit procurement activity (e.g. Abimola et al., 2014) despite recognising the necessarily polycentric nature of health care governance.

We analyse procurement in this article as a governance process for health systems and their industrial linkages, drawing on aspects of GVC theory. Sourcing of medicines and health sector supplies for East Africa is largely international, despite a long-standing local pharmaceutical industry (Banda et al., 2016). GVC analysis directs attention to links between demand, purchasing and production networks, and interconnections between power relations, market structures, labour