Supply Chain Optimisation in Africa’s Private Sector

Reducing the Price to Patient

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Sub-Saharan Africa, despite having the highest burden from disease on a per capita basis, and some of the lowest average incomes, continues to have some of the highest branded drug prices in the world. Branded drugs are bought primarily through the private sector and this is where multinational drugmakers are also becoming increasingly focussed as interest in the African commercial opportunity grows. Prices are high not because drug companies charge more for their products in Africa, in many cases they charge significantly less, though lower volumes and risk of non-payment is a contributor to final price, but because distribution is often a larger component of cost for the private payer (almost always the patient) than in other regions. This report uses primary and secondary market research as well as key stakeholder interviews to examine the reasons behind the high prices while giving some insight as to what companies can do to help change the paradigm.

Outdated and inefficient distribution practices are holding back access to medicines across Africa in both public and private sectors. While drugmakers may be able to accelerate the development of the latter, the public / NGO sector largely remains outside of the industry’s remit, though there is room for greater co-operation on distribution with stakeholders here.

Inefficient distribution, be it at the distribution or retail level, directly affects the bottom line of drugmakers operating in Africa by limiting potential revenues directly through a lack of availability and indirectly through high prices. Those companies that see the long term potential of the continent will recognise the importance of having an appropriate strategy here and will emerge as the short-to-medium term winners. In tackling distribution, companies will ensure lower branded drug prices for patients, drive up volume sales, improve health outcomes in non-essential drug areas, increase revenues and profits in Africa and remain competitive with local and Asian branded generics.
Preface

As the African private sector transitions from a niche revenue stream to an area of strategic importance for multinational pharmaceutical companies selling branded medicines, so too does the need to address distribution in the sub-continent. The challenges for refining or building an effective distribution strategy are formidable. Solving this problem will mean lower branded drug prices for patients, higher volume sales, better data and sales visibility and a more profitable and economically sustainable business in Africa.

IMS Health has conducted a study combining IMS intelligence with secondary research and primary interviews with the pharmaceutical industry, international and African organizations. The study explores critical questions that companies are asking in entering or optimizing their presence in Africa: Why is finding the best model strategically important? Where are the major opportunities for creating efficiencies? And what will it take to be successful in this fast-evolving region?

Much of the work in this report builds upon the findings of the last, published in December 2012. If you would like to read that report please follow this link – www.imshealth.com/emerging/africaripe. Alternatively there is a short synopsis of the key messages and analytics in the Appendix.

To understand the future of African pharmaceutical distribution, and Africa as a whole, it is important to first understand the industry’s history and how it affects the present. The beginning of this paper focuses on describing the past and current pharmaceutical distribution environment before it goes on to look at what strategies drugmakers can employ to reduce the price to patient. To gain a full understanding of African distribution the authors of this report would strongly recommend reading the full document, it is however also possible to skip ahead to page 23 - How to optimise monitoring, promotion and dispensing of medicines in the private supply chain.

Case Study

Merck Serono succeeded in reducing the average price to patient by 44% across six product lines in both the branded Rx and OTC sectors by changing distribution strategy. In return the company saw a 300% increase in sales in a single year. Whether the increase in sales was predominantly a result of growing the market for branded medicines or a case of patients or retailers switching brands is unknown, but the sales increase remains true regardless. The “Merck Serono Model” will be explored later in this paper along with other strategies to lower the price to patient and drive volumes of branded drugs across Africa.

REFERENCES:
**Africa’s distribution landscape**

The journey of a medicine from the drug manufacturer to the patient, the supply chain, is not controlled by drug manufacturers in mature and emerging pharmaceutical markets. Instead, regulated wholesalers and importers specialise in the rapid, reliable and secure movement of prescription medicines to hospitals and to retail pharmacies, again bound by regulation ensuring only approved channels dispense.

At a bare minimum, for a wholesaler or importer to function effectively it must have sufficient capacity and reach to transport products, the customers to generate demand, adherence to compliance standards (for example cold chain requirements), a catalogue of products registered in the market and have the credit to purchase drugs from the manufacturer.

Furthermore, a well designed and well managed distribution system should also:

- Maintain a constant supply of medicines
- Keep medicines in good condition through the distribution process
- Minimize medicines losses caused by spoilage and expiry
- Maintain accurate inventory records
- Rationalise medicines storage points
- Use available transportation resources as efficiently and effectively as possible
- Reduce theft and fraud
- Provide information for forecasting medicine needs
- Incorporate a quality assurance program

Though enormous variation exists at a country, city and sector level, and one should always be wary of generalisation when talking about a continent as large as Africa, most sub-Saharan African countries, perhaps excluding the private distribution sector in French West Africa, lack a truly comprehensive, reliable and cost effective supply chain.

**A brief history of pharmaceutical distribution in Sub-Saharan Africa**

Though the same forces will not have been at play in every African market in exactly the same way, the following represents a brief account of the most important events in the evolution of pharmaceutical distribution in Africa that informs the current situation.

Following European colonialism, when healthcare systems were first put in place across Africa, came independence. Many of Africa’s newly appointed health ministers based public drug distribution on the Central Medical Store (CMS) model, thought to have been popularised by the USSR, a model that is both administratively and physically centralized.

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**REFERENCES:**


The beginning of Africa’s rise to become a serious economic power is thought by some to have begun when the Iron Curtain fell. Following the dissolution of the communist superpower the pace of transition to free market capitalism and the transition to democracy accelerated across Africa. From this the continent began to emerge economically and the size and ability of the middle and upper classes to pay for branded pharmaceuticals began to increase. The steady increase in the demand and prices for hard commodities such as oil and metals, particularly demand from China, and the reduction of the communicable disease burden by international aid agencies were also important driving forces.

Around the same time as Africa first began to emerge economically the pandemics of HIV/AIDS, TB and Malaria caught the international community’s attention. The donor and NGO response by organisations such as the Global Fund, DIFID, PEPFAR, and UNAIDS was to provide countries with free or subsidised essential medicines aimed at the key communicable disease targets of HIV/ AIDS, malaria and TB. Funding for these programs grew extremely rapidly and prevented many millions of deaths but also had some unintended consequences.

Donor drugs were bought almost entirely from foreign suppliers; mostly Indian, European and American, not from local drug manufactures that lacked WHO prequalification, a quality assurance measure created for only a select number of essential medicines. The resulting legacy of import reliance isn’t entirely bad, rather a function of globalisation, though it has limited the economic benefits of donor funds on the continent and may have slowed the development of local industry. In 2013 there were only three drugmakers in sub-Saharan Africa with WHO prequalification.

In addition the NGOs and donors, because they wanted maximum transparency, elected to set up their own distribution channels or to run their products through the public distribution systems. Private drug distributors thus elected to focus on lower volume non-essential drug list areas. This was necessary at the time due to a lack of large scale private distributors with the scale to operate in Africa, that being said NGOs / donors are now re-evaluating this assumption and trying alternative models.

Local private distributors, as well as not being able to access much of the high volume section of the market, have also been inhibited from direct geographic competition and consolidation into larger, more efficient organisations by geographic exclusivity agreements with multinational pharmaceutical companies that were typically forged 30-40 years ago when Africa was of less strategic importance. These agreements were necessary as single agent partners did more than just distribution but also handled regulatory affairs, sales force training, marketing, compliance and pharmacovigilance for their MNC partner. In turn this has made changing distribution partner difficult and prevented consolidation. The additional functions and areas of specialisation in different distributors does also complicate the pure commercial case of making distribution as efficient as possible to lower the price to patient and drive volumes.

All of these factors, as well as some non-industry specific challenges such as a high cost of credit and poor infrastructure, have conspired to produce a situation where multi-source essential generic medicines are relatively affordable. However, many MNC’s brands in the private sector, in both essential and chronic areas, are more expensive to the patient in Africa than almost anywhere else in the world. According to HAI, in price terms African original brand prices come second only to Latin America.

REFERENCES:
9 Berman J. Success in Africa. CEO insights from a continent on the rise; n.d..
According to the WHO and Health Action international (HAI), who have conducted the vast majority of publically available and comparable pharmaceutical price studies globally, median OOP consumer prices of a basket of 50 medicines in high volume therapy areas were on average 20.9 times higher than the International Reference Price (IRP) for original brands in Africa. For this analysis the baseline IRP was often assumed to be the lowest global procurement price for the generic product. This doesn’t reflect actual original brand purchase price but does allow for a common denominator.\(^{11}\)

In the limited number of low- and middle-income countries for which the HAI collected data, private sector wholesale mark-ups range from 2% to 380%, whereas retail mark-ups range from 10% to 552%. These analyses vary in age and coverage and are predominantly collected between 2001-2011. While this is not optimal we have been able to access more recent price studies that corroborate a similar story around components of price, which are discussed later.

As a result of these historical factors, distribution in Sub-Saharan Africa suffers from an imbalance between consolidation and multiplicity. This results in a highly fragmented supply chain, a lack of incentive for modernisation and entrepreneurship, high overheads for distributors and retailers (who typically blame the other for the high price to patient) and ultimately high drug prices for patients that limit sales in the price elastic sections of the market.

**FIGURE 1: AFRICA HAS SOME OF THE HIGHEST ORIGINAL BRAND PRICES RELATIVE TO OTHER LOW INCOME REGIONS**

![Graph showing price ratios](http://www.haiweb.org/medicineprices/)


**REFERENCES:**

The importance of consolidation

Across both the private, donor and public distribution sectors efficient distribution favours consolidation and vertical integration at a national or even trading block level. Larger logistics companies are able to achieve greater efficiencies in stock management, purchasing power, shipping, storage and logistics resulting in lower overheads. In most developed markets the majority of pharmaceutical distribution is handled privately by a few large players and this helps to keep the market both competitive and efficient, but smaller distributors are still used in some countries in an efficient manner. At a regional level, a smaller distributor supplying all the pharmaceutical needs to a discrete geographic region is another form of consolidated supply. A regional player may be more efficient than three larger companies’ vehicles visiting the same pharmacy, depending on the volume of product being moved and the size of the region.

The benefits of multiplicity

Multiplicity is when multiple agents distribute to the same geographic area. Multiplicity is important in distribution to ensure competition and to provide security of supply. While vertical integration and mergers can lower distribution costs, at their most extreme they can also lead to the creation of monopolies which hinders innovation. If sub-national data was available it would allow for demand forecasting, stock visibility and reduce stock outs. In turn this would lower the need for multiplicity, but the data required is currently not systematically collected or analysed.

Each drugmaker initially set up to work with its own exclusive agent rather than multiple companies all using the same importer / wholesaler for fear of a conflict of interest. Thus, even in the private sector, which would usually consolidate naturally, in pharmaceutical distribution you arrive at a fragmented market with a multitude of silo’d brand importers that are unable to compete freely on price and where it can be difficult for companies to move between partners to encourage more investment and competition.

The described situation in the private sector means it is often the patient who ends up footing the bill for this inefficiency. A system of multiple original brand distribution systems working in parallel is a large part of the reason that in the private original brand space, manufacturer sale price often accounts for less than 50% of the final patient price, which compares very unfavourably to developed markets and even other emerging markets, such as Sri Lanka.

REFERENCES:
The overabundance of major importers and distributors fragments the market. In the case of Tanzania and Côte d’Ivoire both markets have a private sector of roughly the same size, but while the latter has 3 key importers the former has around 14, thus these companies are unable to achieve the necessary economies of scale.

However, it is also the lack of retailer choice that often keeps patients trapped into paying high prices as they suffer from being captive customers. A lack of consumer choice means that in many countries the private clinics, where many of the higher value specialist medicines are likely to be sold, all have extremely high mark-ups. Without strategies to encourage retailers to lower the price to patient and grow volumes, the final price to patient will remain prohibitively high and it is the best import and wholesale partners who are able to address this, though some will require geographic exclusivity to engage in these activities.

REFERENCES:
The key price components of the private sector distribution cycle

**KEY PRICE COMPONENTS IN AFRICA**

**Manufacturer sale price (MSP):** As discussed in the original white paper - Africa: A Ripe Opportunity - to date, three types of pharmaceutical industry players have a track record of success, defined as sustainable revenue-generating business operations: innovative multinational companies (MNCs), Indian and Chinese pharmaceutical companies, and a limited number of local manufacturers mostly, but not exclusively, in Northern and South Africa.

In theory large scale local manufacturing in Sub-Saharan Africa, similar to that seen in India and China, could effectively lower drug prices and distribution costs while meeting quality standards. In reality there are a large number of factors holding this back including no active pharmaceutical ingredient (API) production on the continent, irregular and expensive utility costs, a lack of qualified talent, international pricing competition and a lack of external investment. The WHO is working with local manufacturers to change this and the African Union’s pharmaceutical industry development plan with UNIDO is also looking to help grow the continent’s pharmaceutical self sufficiency.

**Customs, Insurance, Freight (CIF) and taxation charges:** At the point of entry into a country there is a customs inspection as well as a transport cost of either shipping or flying a container full of pharmaceuticals into the country and tax is often applied. In some markets, typically those with a significant local manufacturing industry, there is taxation of APIs and pharmaceuticals as they enter or VAT added (though VAT should be reclaimable for pharmaceuticals, in reality it often isn’t). The reason for this is to generate revenue for the government, and in some cases provide a pricing advantage to local companies. In reality this type of protectionism makes little difference and import taxes are regressive and hurt patients. The WHO has made considerable effort to change this to help lower prices. **Tax and CIF charges typically add 5-15% to the ex-manufacture price, depending on the country.**

**Importer mark-up:** The importer’s role is to purchase pharmaceuticals for a market and receive delivery. Some will have warehousing capacity and many run a vertically integrated wholesale business. When a pharmaceutical company doesn’t have a direct presence in the form of a local office, and often when they do, the drugmaker will typically distribute their products through a single agent model with market exclusivity. Importers have a very high cost of credit and a slow product and payment cycle, often as long as 10 months in the case of an importer with an integrated wholesale business, between purchase from the manufacturer and payment from the retailer. Most importers order containers of drugs at large time intervals to reduce transport costs rather than have smaller, more regular, deliveries. These containers are expensive and usually must be bought on credit with a letter of credit from a bank (costing 2% of the order value) and while having to borrow money at a typical borrowing rate between 18-24% per annum. **An importer on average adds a mark-up of 25%-30% when selling onto a wholesaler.**

**Wholesaler mark-up:** The logistical step of moving the products from the importer to the retailer or to other Sub-Wholesalers is handled by wholesalers. These organisations often also supply a sales force to sell the product to prescribers. Because so many importers operate a vertically integrated wholesale business, in effect many wholesalers have market exclusivity for certain branded drugs.

REFERENCES:

16 According to one primary interviewee though secondary sources vary.
17 Based on primary interviews.
Wholesalers are important in the market as they maintain a large number of smaller relationships with hospitals, clinics, pharmacies and are able to extend credit facilities to these players to provide much needed liquidity and importantly leverage with the retailer. **Wholesaler mark-ups are highly variable but typically range between 25-50%**. In some markets wholesale mark-ups are fixed but this can lead to some unintended consequences that will be explored later.

**Sub-Wholesalers**: Because distribution in Africa is so fragmented no single wholesaler covers every private retail outlet in a market though some do specialise into certain geographies or therapy areas. Thus, wholesalers often sell onto multiple sub-wholesalers to ensure greater coverage and to more rapidly shift their stock in order to be able to have the cash flow to order more. This step is problematic within the private market, as multiple distributors will each add their own mark-ups, causing prices to snowball. Furthermore, at the stage when products leave the main wholesaler or importer, the parent pharmaceutical company has lost all compliance, marketing and pricing visibility on their product. Depending on the number of Sub-Wholesalers that products travel through the mark-up can rapidly escalate but an assumption of 25% per additional middle man is reasonable.

**Retailers**: The retailer is the final step in the distribution chain before a drug reaches the patient and can include clinics, registered or un-registered pharmacies and hospitals. Mark-ups at this level tend to be the highest in the entire chain as the total value and volume of pharmaceuticals sold is relatively low and overheads remain high. The largest overheads are transport (if the retailer collects their own products), staffing, rent, refrigeration (assuming the pharmacy has this) and credit. Low levels of liquidity and cash flow makes retailers reluctant to stock higher value products, for fear that if they don’t sell their exposure will be much higher. A retailer with little capital or credit will typically choose to stock generics, if just to fill the shelves, despite there being the demand for branded medicines. Typically wholesaler mark-ups increase the more rural the setting but retailer mark-ups reduce in the poorer less urbanised areas as affordability and overheads go down. **According to primary interview sources retail mark-ups can be between 25-500% for original branded medicines but mostly operate around 50-80% in a free pricing environment.**

**SAB Miller quote**: Local wholesalers play a key role in passing credit down to retailers as they can often loan to individuals who otherwise would never pass a conventional credit checks.

While it may be tempting to write off high mark-ups as a form of profiteering the reality is that most of the distributors in this chain have high fixed overheads, a lack of supply chain training, inadequate technology for ordering and they move relatively small volumes due to a lack of consolidation. Furthermore, infrastructure in Africa is less developed on average than other regions, though in cities where much of the private branded opportunity is focussed this is less likely to be the limiting factor. Both distributors and retailers blame each other for the high final prices. If given the choice to pass on lower prices to patients or maximise margin many can be expected to act in their own interest, possibly at the expense of higher volumes, which is why drugmakers must also have strategies to ensure that lower sell in prices to retailers reach the patient.

Now Africa is increasingly viewed as a business opportunity, not simply an aid destination, it is up to the stakeholders to create the conditions, either by lowering the cost of credit or encouraging innovation in distribution or looking to control retailer mark-ups for original brands and branded generics, to allow distributors to modernise, consolidate and compete.
Mark-ups themselves are not necessarily the issue; the metric that is more informative is profit per pack and volumes. If wholesalers or retailers volume declines their fixed costs are not going to change and mark-up will increase to remain profitable, thus a function of volume multiplied by profit per pack is a better metric for measuring a partner’s profitability.

The situation described in Figure 4 may sound relatively simple, but because of the fragmented network of importers, wholesalers, sub-wholesalers, clinics, hospitals, official and unofficial pharmacies the market flow diagram in actuality looks far more complicated. Zambia, for example, has around 20 foreign manufacturers supplying the private market, 4 small local manufacturers, 15 importers, 60 wholesalers and 1500 registered retail outlets and many other unofficial ‘market pharmacies’. This represents a huge amount of fragmentation for a market of only US$225 million in 2013 and a private market considerably smaller still.

**Regional differences** It’s always dangerous to make generalisations in Africa; however, there are some distribution trends at a regional level that stem from cultural and historic ties.
Southern Africa

Southern Africa’s pharmaceutical sector often takes its lead from South Africa on issues of regulation and market structure. Much of the private sector already uses a pre-wholesaler distribution model. There is a possibility these markets could begin to legislate for Single Exit Prices in the same way as South Africa, though this system is shown to have downsides. The South Africa SEP system may be problematic in sub-Saharan Africa due to the impact of currency effects on API and import prices, which can make product lines unprofitable very quickly in a region where currency risk is high.

An exception to this situation is Angola, where products are almost exclusively bought from Portugal in a pre-import pre-wholesale model. According to client interviews, Angola has some of the highest private sector mark-ups in Africa; where these mark-ups come from is unclear.

Eastern Africa

The private sector in East Africa currently mostly operates on a single agent distributor model. There are some companies making an effort to consolidate the market and try new distribution models. New models include a pre-wholesaler distribution model in areas of price elasticity and direct to patient distribution in high value specialist areas such as oncology.

West and Central non-Francophone Africa

Currently probably the least developed region of Africa in terms of distribution systems development. However, this could change rapidly given the market consolidation efforts by players such as Imperial Health Sciences (IHS), which purchased two of the largest wholesalers in Nigeria, WWCVL and MDS in 2014 and 2013 respectively.
French West Africa

French West Africa healthcare is structured in the French healthcare model. Private sector distribution is typically handled by a small number of large private players operating on fixed mark-ups who aggregate and store products from a large number of suppliers in France before regularly shipping or flying them over to Africa, a pre-import pre-wholesale model.

Most French West African markets legislate and enforce maximum price mark-ups for private distributors and retailers. French West Africa also has a shared currency that is benchmarked against the Euro for ease of trade and currency stability, which also reduces the risks associated with operating in these markets and by proxy reduces the price to patient. Although these markets are not large, compared to some of the Anglophone markets and the real GDP growth in the region is lower than other regions of Africa. These markets still represent a relatively low risk opportunity for branded drugmakers.

The French system has some problems of its own, mostly derived from a lack of pricing competition in the market (distributors tend to compete on service rather than price) and little flexibility in the mark-ups, but it functions better than the equivalent private supply chains across the rest of Africa in terms of final price to patient.

Differences in Government and Donor distribution

Donors and governments tend to purchase essential generic medicines from the WHO and national essential drug lists (EDLs). Procurement typically takes place at the national level; most stock enters distribution through a centrally located warehouse in the capital city; and a public-sector entity implements (or at least oversees) distribution.

While mark-ups have an impact on the public and donor side, these tend to be smaller, as these organisations are not making a profit on their service. Challenges in public sector distribution are similar to those of the private sector but also have more challenges around systems management – procurement, product selection, tendering and demand forecasting. The Bamako Initiative (BI) revolving drug fund has been shown to be effective in Africa to decentralise decision making, raise availability and encourage rational prescription.

There are signs that the management of the CMSs, or public distribution generally, is increasingly going to be outsourced to private companies. In Botswana and Ethiopia the management of the public CMS is being handled by private companies with P&L objectives. In South Africa there is also a trend towards greater private involvement in distribution with The Partnership for Supply Chain Management (PFSCM) soon to pilot a ‘direct to retailer’ distribution model that uses improved data visibility as a key differentiator.

Partnerships do exist with large private distributors such as PEPFAR working with IHS. NGOs working with private distributors has helped give large logistics companies the reach within Africa to begin to consolidate the market and improve private distribution efficiency.
Large multinational pharmaceutical companies find working with the public / NGO / donor sector difficult for a number of reasons, thus only a few large MNCs actually bid on national drug tenders, despite there being significant revenues here.

- Margins tend to be small in the essential drug list space and favour generics players, though quality and other services can be important.
- Often tenders are for multiple lines and the MNC may not have all the required products, thus is unable to bid. These types of tenders are mostly won by brokers who aggregate product lines and ship from Europe.
- Tenders often are not long enough, a six month tender may simply not be worth the effort of applying, while a two year tender may be.
- Risk of non-payment or slow payment is high in the public sector.

Additionally, there is little visibility on tenders and contract conditions, though BroadReach Healthcare, a partner of IMS in Africa, has done work in shedding light on these tenders and has created consulting offerings around this. The main findings from this work are that the public tender market is growing, that it will continue to play an increasingly important role in driving prescribing habits in Africa today, and that there are revenue opportunities for MNCs. BroadReach Healthcare has collected tender data across many of the key countries in Africa to help MNCs identify potential opportunities for their products in specific markets and to understand the general trends across different therapeutic categories. This data is particularly relevant to Non-Communicable Diseases such as diabetes, cancer, and cardiovascular disease which continue to grow exponentially across the African continent.

Low price products combined with brand awareness is how GSK has been able to seize market share across Africa, though their pricing strategy is extremely aggressive and probably will not be emulated by most drugmakers.
The problem of drug affordability in Africa

Data, Distribution and Patient Affordability / Pricing were named as three of the top challenges in Africa, according to a survey of executives conducted by IMS Health. As discussed above distribution directly affects affordability in private branded OOP spend and a lack of data generated by the various distribution systems is also a key reason for drug stock outs, lack of availability and indirectly higher prices.

As stated in IMS’s previous paper, the opportunity for different products is dependent on the income levels and can be segmented in both the private, public, NGO and donor sectors. Though Africa’s rising middle class is thought to currently account to 34% of the continent’s inhabitants their income distribution, willingness to pay for healthcare and current price to patient will differ by geography. The presence of some small private insurance schemes further complicates the demand map. Without knowing the income and affordability composition of a geography it becomes hard to understand price elasticity but precedent shows the market to be elastic, adhering to the basic rule of demand being a function of price.

That being said, some African pharmacists report that patients feel high prices are a reflection of quality and they don’t trust cheaper products, an argument against passing on lower prices. To truly succeed in Africa it is crucial to also have strategies to educate patients and retailers about pricing and where possible reduce the retailer’s costs. The African consumer is looking for value, one well-branded and marketed product is likely to outperform another in the same therapy area that is double the price, be it foreign or locally manufactured. Over time growing brand awareness should reduce the dependence on high prices as a mark of quality, it should not remain sustainable for retailers to maintain the attitude that lower prices for original brands will restrict sales, but investments need to be made to ensure this pulls through. Low price products combined with brand awareness is how GSK has been able to seize market share across Africa, though their pricing strategy is extremely aggressive and probably will not be emulated by most drugmakers.

The African consumer is believed by some to be one of the most brand conscious in the world. How true this is remains open to debate but undoubtedly in terms of generic usage evolution the continent remains in the mindset that brands equate to quality and demand is also likely to correlate to the perception of quality.

Companies need to understand that in African consumerism, perception of quality is a function of both context and price. In South Africa a study showed that given free HIV / AIDS medicines by the government, many patients preferred to buy their own believing the free medicines to be of lower quality. In a study by the AMFM the organisation found that across the markets where they subsidized the price of artemether-lumefantrine the cheaper version was consistently viewed as less effective than the unsubsidized version of the same brand. In French West Africa some pharmacies are split in two with original brands on one side of the store and the same company’s branded generic on the other, thus allowing for a dual pricing strategy.

REFERENCES:
20 African Development Bank (2012) Africa in 50 Years’ Time: The Road Towards Inclusive Growth
23 Berman J. Success in Africa. CEO insights from a continent on the rise; n.d.
All of these examples make the point that both price and context is important and who sells your medicines and where will be an important strategic elements in the private market.

Because of Africa’s fragmented distribution system, the MSP can contribute as little as 8% to the final price of the drug. From both primary interviews of current or former multinational pharmaceutical executives, price studies and secondary research, IMS Health believes that, in much of Anglophone Africa, a US$1 MSP typically becomes US$3 by the time it reached the patient. Likewise US$100 becomes US$300, though in reality mark-ups fall slightly as product price increases. In Africa currently many companies provide medicines in smaller packet sizes because of the issue of affordability, but if lack of affordability is in part a function of expensive distribution are there alternatives to differential pricing to lower the price to patient?

**FIGURE 5: FRAGMENTED, UNCOMPETITIVE DISTRIBUTION INCREASES PRICE TO PATIENT, REDUCING ABILITY TO PAY AND VOLUMES**

Looking at cost breakdown rarely is MSP over 50% of the price to patient

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<td>Manufacturer’s price: 12%</td>
<td>33%</td>
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<tr>
<td>Import Tariff: 18%</td>
<td>44%</td>
<td>47%</td>
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<td>Local company repackaging: 9%</td>
<td>8%</td>
<td>9%</td>
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<td>Wholesaler gross margin: 7%</td>
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<td>Retail gross margin: 70%</td>
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<td>Manufacturer’s price: 10%</td>
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<td>Import Tariff: 26%</td>
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<td>Wholesaler gross margin: 12%</td>
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<tr>
<td>Retail gross margin: 64%</td>
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Source: Differential Pricing for Pharmaceuticals; HAI / WHO; a major multinational NGO; a private distributor *Hypothetical and not including sub-distribution

**REFERENCES:**


Case study Uganda antimalarials

A case study on anti-malarial drug prices was conducted by the Medicines for Malaria Venture in 2007, with a following study into the cost of antimalarials by the AMFm in 2013.\textsuperscript{27,28} From IMS Health’s qualitative interviews we are confident that the problems both describe remain relevant and are almost ubiquitous across the Anglophone private markets of sub-Saharan Africa, regardless of whether the AMFm has been successful in reducing the price to patient further since the initial findings published in 2013.

Uganda’s ~30 Importers of antimalarials can add between 20-70% to the CIF (landed price). Single source (originator) products have the highest mark-ups and multisource (generic) products the lowest. This is an example of the difference in mark-up with and without competitors.

Figure 6: Differential Pricing Alone May not Be Enough to Lower Prices Sufficiently as Found by the AMFM

- Despite the AMFm selling ACT therapies into seven test markets at just US$0.15, in all markets bar Ghana the price to patient significantly exceeded the US$0.45 expected retail price.
- Single source (originator) products have the highest mark-ups and multisource (generic) products the lowest.
- Credit is the main cost outside the operational costs (logistics, storage etc...)

<table>
<thead>
<tr>
<th>Product</th>
<th>Proportion manufacturers price of final patient price</th>
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<tbody>
<tr>
<td>ACT - Pharmacy, Kampala</td>
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<td>ACT - NGO / Mission Kampala</td>
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<tr>
<td>Artemisinin monotherapy injection - pharmacy Soroti</td>
<td></td>
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<tr>
<td>ACT - Private clinic, Kampala</td>
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<td>Sulphadoxine - Pyri (imported) pharmacy Kampala</td>
<td></td>
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<tr>
<td>Chloroquine (local), drug shop, Kamwenge</td>
<td></td>
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<tr>
<td>Artemisinin monotherapy injection - drug shop, Soroti</td>
<td></td>
</tr>
<tr>
<td>Sulphadoxine - Pyri (local) private clinic, Kampala</td>
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</tbody>
</table>

Source: Understanding the Antimalarials Market: Uganda 2007 – an overview of the supply side

References:
The main importation costs outside of operational costs (logistics, storage etc...) include;

- A letter of credit (2%);
- Foreign currency transaction fees;
- A 25-30% APR borrowing rate;
- A “margin” for currency devaluation;
- And a NDA verification fee: 2% of Freight On Board (FOB) price.

The MSP often makes a relatively small contribution (as little as 8%) to the final patient price when compared to the sum of mark-ups made further down the supply chain.

In Uganda, wholesalers and retailers sometimes trade among themselves, adding complexity and cost. Average wholesaler mark-ups in the Ugandan anti-malarial market were between 2-30%.

The main overheads for wholesalers to distributing medicines, outside the conventional operational costs, include;

- Stock management (some private wholesalers call their retail outlets as often as 6 times a day to check stock levels);
- A 25-30% APR borrowing rate;
- Instability of supply;
- Storage;
- And stock expiration.

Interestingly in most cases the retailer was the primary cause for the high mark-up, particularly in private clinics, with mark-ups as high as 900%.

“For an imported product: overall mark-ups were found to be typically 150-250% in retail pharmacies; 120-200% in drug shops; and 280-375% in private clinics.”

While importers and wholesalers are adding significant levels of cost in Uganda it is often the retailer that is the key cost component and credit comes up as a key cost at each level. The market is also imperfect in that people often do not shop around and at a retail level there is often a lack of competition, particularly in the private clinic sector.

The MMV’s study concludes that there is a need to better understand retailers and what motivates them to stock and sell a particular product. Equally there is a need to improve understanding of how products are priced at retail outlets and how to influence price at this level. The AMFm goes further to look at strategies to impact the retailer but this will be covered later in the paper.
Price Elasticity

Differential pricing at the level of the MSP can reduce all of the subsequent mark-ups incrementally. However, if the reduction in price fails to reach the patient, and the cost of private distribution is high, there is an opportunity to effectively lower the price to patient while maintaining margin by investing in improving distribution. Though falling margins may seem to squeeze importers, wholesalers and retailers, they can be compensated with reduced input costs and increased volumes.

There is a lack of publically available price / demand elasticity studies for branded drugs in Africa. However, there are examples of the impact of changing away from a single agent distributor. The best case study comes from Merck Serono in Kenya who worked with IHS to reduce the price to patient. By changing its distribution strategy, the company was able to reduce the price to patient across a range of 6 lines of Rx and OTC products by between 44-55% and saw an increase in volume sales of 300% in the first and second years after making the change. In addition the original distributor saw its sales double over the same time period, thus increasing its profitability as well. Much of the price reduction was brought around by both fewer middle men and lower credit costs as drugs were held in-country while still technically owned by the original manufacturer, effectively removing the need for credit to be given to the importer through the shipping and storage phase of distribution.

Better distribution drives volumes through lower prices and greater availability, a win for all stakeholders, including distributors. An important question that does still need answering however is whether lower prices grow the total branded market or whether they just incentivise the retailer or patient to move away from alternative products.

**FIGURE 7: IS DEMAND FOR MEDICINES PRICE ELASTIC?**

The Merck Serono model is a single example and the model used to achieve these changes, will not necessarily be applicable to every market or product. The degree of market elasticity will depend on the the country, the therapy area and the price point (ultra commodity generics and high value medicines such as modern oncologics will probably be less price elastic).

Companies with strong local presence, such as Sanofi and GSK, are likely to have a good idea of the real price to patient and level of elasticity. However, beyond these players, most interviewees for this paper were of the opinion that they did not believe multinationals had visibility on the final price of branded drugs to patients. Before a drugmaker decides to change existing distribution strategy for the largely out-of-pocket African private sector this is the one question they need to be able to answer, “How much does my brand really cost?” and where is that cost coming from?

**The impact of stock outs on the price to patient**

Due to inefficiencies in the public and private distribution systems across Africa, and a lack of funding, modern ordering systems and technical expertise around procurement, government run clinic, pharmacies and hospital experience a particularly high level of stock-outs with median drug availability of essential medicines as low as 40% offer a basket of 50 basic medicines. This rises for generics in the private sector to a median of 55% availability, with, in the case of this particular study, especially low availability of original brands. Availability of originator brands was low across the regions bar the Eastern Mediterranean region but only Africa and Latin America have an issue with high prices.

Availability tends to be higher in the private retail pharmacy sector but prices are often much higher. In the event of a public sector stock-out it is often the patient, unless the clinic has control over its own budget, who fills these gaps by purchasing from the private sector.

One company that is active in trying to address this is Vodacom, a subsidiary of Vodaphone with a division devoted to mHealth. Working in conjunction with the Ministry of Health of Tanzania, Novartis, MMV and other stakeholders the collaboration devised a system to allow stock ordering of anti-malarials by clinics using SMS messaging. The company then improved the system to allow nearby clinics with stock to replenish those that were running low. Taking this a step further with basic feature phones in South Africa, Vodacom has been working on mobile stock management systems that use the phone’s camera as a bar code scanner to track pharmaceutical stock levels. This level of sub-national stock management could be exactly what is required to take better control of the public and possibly private supply chain across the continent.

Private pharmaceutical wholesalers have generally been better at maintaining stock levels because it is in their direct interest to maintain available stock. However, to achieve this they mostly use older technologies. An example of how stock is managed in the private sector comes from Kenya, where a wholesaler’s call centre made as many as 6 phone calls a day to each of its retail outlets to check stock levels. This is not the most efficient system but it does work to maintain availability.
**Working together for a common goal**

The WHO states that medicines account for 20–60% of health spending in low- and middle-income countries, compared with 18% in countries of the Organisation for Economic Co-operation and Development. Up to 90% of the population in developing countries purchase medicines through out-of-pocket payments, making medicines the largest family expenditure item after food. As a result, medicines, particularly those with higher costs, may be unaffordable for large sections of the global population, and are a major burden on government budgets. The Millennium Development Goals includes the target: "In cooperation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries."

NGOs and donors have, for the past few decades, focussed much of their attention in reaching this target by focussing heavily on promoting generic efficiency and encouraging pharmaceutical companies to adopt differential pricing. While undoubtedly these are important areas, there are also benefits in strengthening the private sector beyond the issue of price. It also fails to acknowledge the genuine preference of consumers for branded pharmaceuticals, the reasons that they choose to buy them and the need for security of supply in non-EDL areas, particularly for chronic disease medicines.
NGOs and donors very understandably still push for the rational use of generic medicines over brands. Distribution is an area where the two sides need to have a conversation about possible areas of co-operation, without the historical baggage of an often fractious relationship, to ensure more affordable drugs for patients. Private firms may even be able to shoulder some of the distribution costs for the public sector, or visa versa, provided the distribution costs remain lower than existing alternatives, a donor/ NGO piggy back model that takes advantage of existing networks.

A study of global malaria treatment found that up to 60% of malaria medications are delivered in the private sector.31 NGO patient affordability schemes such as the AMFm scheme for affordable malaria medicine made significant inroads in terms of lowering the price to patient by subsidising ACT through the private distribution system. The pilot was a success in that it significantly lowered average prices and made ACT treatment the first choice anti-malarial in the pilot markets. However, the AMFm still found that in most cases the drugs retailed for significantly more than the recommended sale price. In Uganda, the worst performing market out of eight in the Phase I study, prices were between 400-600% higher than the AMFm would have liked. This could be evidence that a differential pricing or patient affordability scheme may not lower price to patient enough without private distribution also being addressed.

REFERENCES:
How to optimise monitoring, promotion and dispensing of medicines in the private supply chain

There have been a large number of issues presented up until now that reflect the tough realities of distributing drugs in Africa. To recap, the key challenges keeping the cost of drugs high in the sub-Saharan African private sector can broadly be split into three main buckets:

- Little investment or motivation to modernise distribution
  - Exclusivity agreements prevent direct geographic competition for single source imports
  - The high cost of credit makes modernisation difficult
  - The blurring of the line between distribution and commercial functions such as sales and regulatory affairs makes changing distribution partners difficult
  - Volumes in the private branded segment remain relatively low, in part due to high prices

- A lack of consolidation in the supply chain
  - Fragmented distribution networks requires the use of sub-distributors to cover the market
  - Irregular delivery of products due to lack of importation consolidation
  - Lack of pan-African private distribution which might address the elevated costs of distribution across 52 countries

- High distribution overheads relative to other regions
  - The cost of credit and slow credit cycles affects the final price of drugs
  - Poor infrastructure and lack of consolidated ordering in the final mile increases transport costs
  - Lower branded drug volumes increases average mark-up

Low investment frequently stems from an inability or lack of incentive to compete or innovate, a consequence of historical exclusivity agreements with importers, low volumes and a lack of alternative sources of medicines at a retail level. This lack of modernisation in turn reduces consolidation which keeps overheads high. Drugmakers require strategies to tackle all three issues.

Better support for existing distribution partners

Importers, wholesalers and retailers, for the most part, add mark-ups that reflects their costs and a return on their investment. Some of these existing larger players like Laborex and Phillips are already be engaging in entrepreneurial initiatives to lower the final price to patient and grow volumes. Not all partners require direct intervention, some will be better than others but without visibility on price to patient it is impossible to know. However, regardless of the partner, without competition from multiplicity there is a danger of complacency, in this case monitoring price to patient going forwards is probably necessary. Managing a change in distribution strategy will require appealing to the self interest of partners to encourage lower final price. To persuade an importer, wholesaler or retailer to lower its exit price, a drugmaker must either lower its initial MSP, reduce costs for the partner, or introduce initiatives that will increase volumes to maintain profitability. Finally, a drugmaker needs to put measures in place to ensure that savings reach the patient.
Lowering the MSP would involve either differential pricing or a dual brand strategy. While GlaxoSmithKline and Sanofi have led in these two areas respectively and shown these approaches to be successful, there is often not the appetite in many other large multinational companies to follow suit for fear of parallel trading and reference pricing. Also as shown earlier in the example of the AMFm in Uganda differential prices do not always fully reach the patient.

Increasing volumes can be a product of lowering prices but it can also be achieved by ensuring fewer stock outs and a wider distribution reach, reducing the need for sub-wholesalers. Multinational companies have options to help their partners such as investing in training, paying for an increased frequency of deliveries, better credit facilities or even loans to expand warehousing facilities, logistics capabilities or to enact modernisation, ordering and stock management solutions in particular seem to be in need of improvement.

Reducing cost for distributors and retailers is where multinational pharmaceutical companies can have a cost effective impact.

If the pharmaceutical industry wants to lower costs for distributors it will need to take on some risk, be it in stock holding in country, loans, foreign currency exposure or credit terms. To mitigate these risks may cost money, but as the Merck Serono model shows it can be worth it from an ROI perspective for the increase in sales.

Many companies will have been doing business with a partner in Africa for the past 20 years, so there is a long enough history here for more favourable credit conditions to be in place. Many multinationals provide products on credit with a 30-60 day payment period common, despite a typical payment cycle for an importer / wholesaler being up to 10 months from ordering through shipping to stock holding then awaiting payment from retailers. If a distributor is only ordering a container of drugs every quarter then that may be a reflection of their credit cycle. Extending payment conditions may reduce the need for sub-wholesalers, making it possible for wholesalers to cover a larger part of the market themselves. Alternatively if mobile banking could be used to speed up payment from retailer to wholesaler it too could speed up the payment cycle reducing the impact of credit.

If a company is willing to offer its products on credit to its import / wholesale partner, how can they ensure that these savings are passed down the value chain to the patient? One way to achieve this is to link cost saving initiatives to higher volume expectations or a fixed exit price agreement. Wholesalers could be incentivised according to price to patient at the retailer level or engage in other strategies to lower price to patient. Ultimately the threat of another wholesaler taking business from them is probably the most powerful motivator, which is why removing geographic exclusivity for some can be effective but this more commercially minded approach does ignore the other functions that a distribution partner may be doing in the market. Another way is to invest in education and outreach programs on disease to drive up volumes to compensate stakeholders in the supply chain for a fall in margin.

"According to a report to the G20 by the consulting firm Roland Berger, the cost of capital in Africa assumes a rate of nonperforming loans of 15%, when it is actually 8%... This misperception of risk alone means excess costs of up US$9bn annually." 32
IMS has identified seven different distribution models available to multinationals in Sub-Saharan Africa; single agent distribution, multi-agent distribution, pre-wholesale, pre-import / pre-wholesale, direct to retailer distribution, direct to patient distribution and a public / NGO / donor piggy back model. Each has their own strengths and weaknesses.

Although the exclusive single agent distribution model doesn’t always incentivise innovation in the supply chain and can increase the number of middle men, its big advantages are that the model is low risk financially and easier to manage or support additional functions like sales than a multi-partner model. Furthermore, if the greater proportion of price to patient is coming from high retailer mark-ups and not from mark-ups at the wholesale level, a single agent may be better placed to reduce retailer mark-ups. The big question is how does the final price to patient break down for your company’s brands?

Case Study
Phillips Pharmaceuticals limited in partnership with MSD and BMS through their HIV access initiative, implemented an access model to distribute antiretroviral drugs in Kenya by forging agreements with treatment centers / private sector hospitals to ensure their mark ups are capped not to exceed 10% so as to ensure the patient benefits from these initiatives. This initiative improved the uptake of ARV through this benefit access chain.

Changing the distribution model
If a company’s existing partner cannot deliver volume growth in line with expectations, is unable or unwilling to modernise or is too reliant on sub-wholealers then it may be time to change partner or change the distribution model away from an exclusive relationship. This may however require regaining control of the company’s dossier, which isn’t always easy. If the existing import partner refuses or fails to see the advantage of having a new model it can leave the manufacturer with few options. One approach would be to close that partner out of all new regulatory submissions, or to re-register the portfolio. Neither of these is an ideal outcome for anyone but may be necessary.

In the single agent distributor model the importer / wholesaler takes almost all of the financial risk, though drugmakers have a reputational and legal exposure.

REFERENCES:
Essential Questions to ask a potential distribution partner

1. What number of storage levels are in your system?
2. Where is storage located?
3. What level of the system are decisions about ordering made?
4. What is the re-supply interval?
5. Do you deliver or do your partners collect?
6. What are the key forms of transportation at the different levels?
7. How much stock will be held at each level of the system?
8. How are your routes calculated for maximum feasibility and economy?
9. What are your operating costs at each level, is it worth contracting if there is a weakness at one level of the chain?
10. Will you adhere to a set of predetermined standard operating procedures for the operation of the warehouse?
11. What is your data collection system?
12. Can you recruit, support or train my salesforce?
13. Can you handle regulatory submissions?
14. What is your geographical reach beyond this country?
15. What initiatives have you undertaken with retailers to lower the price to patient?
16. Do you have any geographic or therapeutic areas of specialty?

Multi Agent Distribution

In this model a drugmaker licences multiple importers to purchase its product directly to encourage entrepreneurship and competitive dynamics. Each partner makes its own order and this is imported and distributed. It is difficult to manage a large number of business relationships so it is sensible to impose a maximum number of partners. The advantages are that the company sells to many at the same price removing the need for middle men, there is less need for sub-wholesalers and so visibility of the supply chain increases as a result.

The problems in this model are that each wholesaler / importer now has to import separately, increasing the shipping costs of getting drugs to the market. This model was piloted by a top 10 MNC in Nigeria but it was abandoned when it was found that unhealthy completion, as supply suddenly massively exceeded demand, was making selling drugs in the country unprofitable for wholesalers and excess medicines were being traded across borders and out of the country. Ways to compensate for this to prevent unhealthy competition include segmenting the market by territories or imposing quotas but these measures undermine the purpose of having multiple partners.

SAB Miller quote: When using secondary distributors, one of Africa’s largest alcohol manufacturers SAB Miller does not universally encourage geographic exclusivity. This can help SAB to stimulate entrepreneurship while encouraging its immediate partners to focus on SAB Miller products, highlighting the benefits the portfolio can bring to their business.
Post-import Pre-wholesale distribution model

The post-import pre-wholesaler distribution model works by having a single import partner who provides warehousing facilities in country. The importer then doesn’t own the drugs at this stage and doesn’t sell the product on itself but allows the manufacturer to negotiate directly with multiple wholesalers, and allows them to purchase smaller volumes, such as two weeks of drugs rather than three months, reducing the burden of credit and shortening the credit cycle.

Major challenges in the model include getting the retailer to pass on saving to the patient and managing relationships with competing distributors while ensuring that competition between them remains healthy. This will require careful negotiation and possibly some of the strategies discussed later to reduce retailer mark-ups.

Lastly there are additional risks associated with holding stock in country and doing business with more parties. Repatriating currency will incur costs and there is also an increased chance of non-payment with multiple partners.

Pre-Import / Pre-Wholesale Model

The Pre-import, pre-wholesale model of distribution is the one most commonly applied in the Francophone and Lusophone markets. In effect there are no exclusivity agreements between pharmaceutical companies and importers and all importers are able to purchase and aggregate a full range of products in Europe, before moving them into the country. Stock is held in Europe and moved in regular shipments as there is enough stock to fill containers on a regular basis. Apparently in the French markets it is typical to hold between 3-4 months of stock in country and the rest is held in Europe.

Smaller wholesalers can exist to carry products within specific regions or to serve niches. In Francophone Africa the system works well as the size of the total market allows for regular deliveries though the fixed mark-ups give little reason to compete on price. However, in Angola the model fails to deliver the same low prices to patient, possibly due to the smaller market size or lack of price regulations.

This model has similar advantages and disadvantages to the aforementioned Pre-Wholesaler model. It would be effective in reducing prices across much of Eastern, Central and West Africa, assuming that volumes could be large enough to justify the multiple levels of storage. It is regarded by some as a superior model to the Post-import Pre-Wholesale model that holds stock in the country, as holding stock in country means holding it in the local currency and taking on greater risk of theft and expiration. However, the model requires drugmakers to co-operate and sign up to a smaller number of import partners to ensure sufficiently regular refilling of stock. It also requires drugmakers to have their own salesforce in market as wholesalers will not have exclusivity deals.
**Self Distribution**

Manufacturers can decide to handle their own distribution though a courier or other logistics solution. This approach is inefficient if the manufacturer must deliver to lots of locations across a large geography. However, if a company was targeting only the only 2-3 oncology clinics in the two or three largest cities in a market they may find that the price they can charge the clinic, even taking into account the cost of the courier, is significantly less than the moving drugs through conventional distribution channels. This may be especially true for products that require a secure cold chain as distributors tend to charge a premium for transport of products at a fixed temperature and the company could have better visibility of transport conditions.

Where this model experiences problems is in managing relations with retailers. Many wholesalers provide products on credit, so for branded medicines it is likely that drugmakers are going to need to engage in similar behaviours. Furthermore, if the drugmaker had been relying on its distribution partner’s sales force to push the product it will have to take on this responsibility itself. Ultimately this approach will only work with particular specialist products and therapy areas and only for specific markets. The model is apparently gaining in popularity for specialist products in East Africa, with products being couriered up from South Africa.

**FIGURE 9: THE ‘RIGHT’ DISTRIBUTION MODEL IS CRITICAL; THERE ISN’T A ONE SIZE FITS ALL MARKETS SOLUTION**
Who controls the salesforce, regulatory affairs, HR and pharmacovigilance?

The question of who controls the auxillary functions often performed by a single agent distribution partner is one that may trouble executives looking to change their distribution model. However, if a company is serious about doing business in Africa it really should have its own presence on the ground, even if it doesn't have a dedicated office. Some wholesalers still provide a syndicated or dedicated sales force and if a company isn't prepared to invest in having their own, this arrangement with a single agent may still suit them best. However, maintaining the link between the sales, regulatory, commercial and distribution elements may not be the best way to approach distribution in Africa. Ideally companies should want distribution operations to consolidate with other companies while other functions to remain separate. The line between where your commercial partner ends and the supply chain begins is blurred in Africa and may be preventing the most commercially pragmatic decisions.

Attitudes towards doing business on the continent though are changing rapidly. Some companies that use to offer a syndicated or dedicated remote salesforce in Africa have now moved away from this business and into providing training for reps and finance / HR support. This is because they don't see the market maintaining the demand for syndicated sales forces. Ultimately the question of which parts of your model you want to outsource and which to bring inhouse is a question of corporate commitment and appetite for risk to change the existing model. Most private distributors will now allow companies to chose from a range of functions and there is flexibility in catering the different offerings to best suit your model.

Could data be the great leveller?

The one thing that is really missing across all of the sub-Saharan African markets to make appropriate decisions around distribution in both private and public sectors is data. At both a national and sub-national level there is a void of price, volume and demand data. In order to address this lack of data IMS has been building out its audits in sub-Saharan Africa. Starting with Zambia and Botswana but also expanding in the coming years to Kenya, Uganda, Tanzania, Ghana, Ethiopia and Nigeria.

One technology that could result in a step change in data collection is mobile phones. If a system like SMS for Life could be expanded across disease areas it would enable sub-national data collection on a scale never before seen in Africa. The vast majority of ordering in Africa is still done with paper systems and call centres. A mobile phone based stock management solution could bypass the need for computer based solutions and maximise the opportunity in the same way as mobile banking has across Africa. Overnight distributors would be able to see where their products were needed and where their stock was currently sitting.

Vodacom isn't the only player with an offering in this space. LINKS, an Android, web-based system is an evolution of a digital information collection system that was first piloted on personal digital assistants (PDAs). The open source project Open Data Kit (ODK) allows the collection of a wide range of data using only the internal components of smartphone devices, such as the built-in GPS and the camera that can be used as a barcode scanner. In theory, better data visibility of products in the supply chain could also be a method to tackle counterfeit and substandard medicines by increasing accountability.

Furthermore, if cloud based ordering systems could be rolled out across Africa, it might be possible to do direct to patient delivery. This remains a more remote possibility given the current levels of development in Africa. That said, mail order distribution of pharmaceuticals is a major segment of the US market, and historically was driven by the lack of infrastructure in rural areas.
**What can MNCs do to improve the supply chain in the public, NGO and donor space**

Despite there being identifiable problems with NGO/donor and public pharmaceutical supply chains, these are not directly controlled by drugmakers and interference here is unlikely to be viewed as impartial. There is little a multinational drugmaker can influence in this area, beyond lobbying, unless there are specific disease areas and projects that governments need direct help with that would also have commercial relevance. This is an area already well served by logistics consultants and academics funded by NGOs but if multinationals get more involved in servicing public tenders they may be more able to demand a seat at this table.

That being said there are some companies, such as Sanofi, are working with governments to help improve affairs by funding training on stock management and work with the central purchasing staff. One of the approaches was simply to run seminars to explain the parts and requirements of the supply chain. Even simple steps like this can improve understanding and outcomes.

**Improving distribution as a tactic to tackle counterfeit drugs**

Though reports vary in the level to which it is an issue, most people can agree that Africa has a significant problem with counterfeit drugs. The two biggest ways that counterfeit and substandard pharmaceuticals enter the supply chain is high prices that force patients and suppliers to buy from elsewhere, and stock outs when patients are desperate.

Both of these entry points could be reduced in size by improving distribution efficiency and providing product visibility throughout the supply chain. Companies would be able to track where drugs leave or enter the supply chain by their absence at the next level of distribution and could increase accountability. In addition if a technology like this was combined with a mobile authentication service, similar to mPedigree or Sproxil, it could further increase the anti-counterfeit potency.

**How to influence the retailer?**

As previously stated in the example of antimalarials in Uganda and ARVs in Kenya, reducing the price to patient by addressing distribution will only succeed if retailers pass on lower prices. Retailers will not pass on proportional price cuts if it impacts their profitability and may be purchasing and prescribing brands preferentially based on mark-up per pack, as the smaller pharmacist may only have the credit to stock one brand or generic per therapy area.

In Africa, the pharmacist is often the key decision maker in prescribing, rather than the doctor as many products are bought OTC without prescription. Incentivising pharmacists while keeping prices down is key. Ideas suggested by the MMV in Uganda included;

- Encourage investment in initiatives to achieve economies of scale in uptake, to achieve lower consumer prices and higher volume of product sold.
- Improve understanding of ‘reasonable’ margins required to cover standard business costs.
- Consider ways of increasing public awareness on recommended price levels (i.e., ‘what the price should be’) for different pharmaceutical products, while respecting national price liberalisation policies.
The final suggestion around public awareness of price point was used in the AMFm’s project to lower the price of ACT therapy in Kenya. Public awareness campaigning made it difficult for pharmacists to inflate prices. Printing drug prices onto each pack may have a similar impact but there is also a risk here of putting off pharmacists from purchasing your product. There are other methods that have been used to lower retailer prices, which one is most appropriate will have to be evaluated on a case-by-case basis. As discussed earlier, if the retailer is the key contributor to final price a single agent model may be better suited to enact the following measures to achieve a reduction in price at this level, as efforts to grow volumes may be considered too high risk without geographic exclusivity. Key initiatives that Wholesalers may be able undertake with their clients include:

- More favourable credit conditions for retailers on the condition of lower prices and higher volumes, the cost of credit is a major factor for retailers and greater liquidity in the system will help branded medicine sales.
- Hold more stock in market or even regionally to reduce credit requirements for wholesalers, allow retailers to buy directly if possible.
- Incentives for wholesalers or retailers based on the price to patient. Reward distribution partners according to final price of product to bed in higher volume, lower price mentality.
- Patient education programs on disease and disease management to drive volumes.
- Providing a more efficient ordering system to better maintain availability and help drive up volumes.
- Encouraging vertical integration from import to wholesale to retail, ownership of the retailer would improve compliance to price point.
- Creating buying groups of pharmacies, encouraging pharmacies in the same area to co-operate and bulk order together, lowering distribution costs and prices for all.
- As in French West Africa, government legislated price mark-ups can reduce price to patient but can also be ignored and circumvented. There is an option to lobby for this but it will be unpopular with distribution partners.
- Creating agreements with health insurance schemes to lock the price of a brand product to volumes sold.
- Fixing fees for distributors to create a single exit price. Create a consignment arrangement on the basis of holding and distribution costs.
- Check stock levels manually, there are cases of members of a Salesforce taking control over ordering for the pharmacist by actually visiting and doing stock counts, though this seems extremely inefficient.

In Uganda and Tanzania, rural outlets, in comparison with urban outlets, reported that they more frequently purchase from pharmacies. These pharmacies, in turn, are supplied directly by drug wholesalers. While this study did not evaluate the complete supply chain of each outlet, this finding suggests that efforts to include outlet types such as drug shops and patent medicine stores in the primary distribution strategy may also help to increase access and affordability.

In the long term public awareness is going to be important, not only for price but also to build brand awareness and break the perception that price equates directly with quality. In fact it has actually been shown that in general counterfeit drugs are priced at a similar level to real drugs, though on average substandard products are around 13-18% cheaper. 33

REFERENCES:
How to choose the optimal approach?

The first questions a company looking to evaluate its distribution strategy in sub-Saharan Africa needs to answer are. How much does my product really cost? Where is that final price coming from? What is my current level of reach in the market? Typically retailers blame wholesalers for high prices and visa versa, so an independent study here is essential to understand availability in private clinics and pharmacies and the final price to patient.

Drugmakers also ideally need to know who their main customers are and what can they afford? Primary market research on patients and healthcare professionals is not currently widespread but is going to become increasingly important going forward.

Once this is understood and an opportunity has been identified a company can focus on optimising distribution. Existing partners are likely to have a good understanding of your business and ideally should be taken along with any transition.

Initial steps that a multinational drugmaker must take to address the issue of distribution include;

- Group your markets according to current distribution model
- Conduct price studies to understand the price to patient and cost components of products through the supply chain
- Prioritise the markets where you want to reduce the price to patient
- Review existing distribution relationships, if possible work with your existing partner to make improvements
- If necessary change to a model that best suits your portfolio and the level of affordability in the market
- Customise which of the additional functions necessary for you business you want to outsource and which you want to move in house. If necessary separate distribution from other functions.

Lastly it will not be enough to simply evaluate each market once and move on. Going forward there should be systems in place to monitor the final price to patient, possibly to incentivise wholesalers and create an understanding of price demand elasticity in the market. Lastly learnings should be passed within the organisation for other regions or therapy areas.

There is a real paucity of secondary sources on the private distribution sector in Sub-Saharan Africa. However, from qualitative interviews, case studies and existing price studies is seems clear that there is a real opportunity here for drugmakers to grow sales, improve reliability and security of supply and improve affordability to out of pocket patients. To do this companies must be willing to invest in better understanding their own operations and be committed to taking a more direct involvement in ensuring efficient distribution.

The single agent with market exclusivity distribution model has worked in the past due to the relatively small size of the private market. However, if your business believes that Africa will emerge as an important future destination for pharmaceutical manufacturers, so too must you believe that low risk distribution strategies are unlikely to remain the norm indefinitely. In the future when the African opportunity has grow in size and competition increases it is unlikely that distribution will continue to be challenging as a small number of pioneering firms will lead the way to lower final prices, but these same companies will also be the best set up to capitalise on the future African opportunity.
Appendix

Below is a synopsis of the most important take home messages from Africa: A ripe opportunity - Understanding the pharmaceutical market opportunity and developing sustainable business models in Africa

Africa is a Macroeconomic opportunity

By 2017, pharmaceutical spending in Africa is expected to reach US$31 billion. This value is driven by a 9.6% compound annual growth rate (CAGR) through 2017, second only to Asia Pacific (13.8%) and ahead of Latin America (6.1%) and the CIS countries (9.5%) during this period.34 Spurred by a convergence of demographic changes, increased wealth and healthcare investment, and rising demand for drugs to treat chronic diseases, this market potentially represents a US$43 billion opportunity by 2020. The pharmaceutical growth is a reflection of economic strength accompanied by increasing healthcare spending. Sub-Saharan Africa (SSA), excluding South Africa, is notable in this regard and is forecast to account for 42% of total African pharmaceutical sales by 2020.

FIGURE 10: AFRICA’S PAST AND FORECAST ECONOMIC GROWTH DRIVES A $31BN OPPORTUNITY BY 2017, AND $43BN BY 2020

Over the next 5 years, growth opportunities will continue to move away from traditional markets

2013-2017: Global Markets Dynamics

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<tbody>
<tr>
<td>Americas</td>
<td>$375-405bn</td>
<td>1-4%</td>
</tr>
<tr>
<td>Western Europe</td>
<td>$194-214bn</td>
<td>(-1)-2%</td>
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<tr>
<td>Central &amp; East Europe</td>
<td>$65-75bn</td>
<td>4-7%</td>
</tr>
<tr>
<td>Europe</td>
<td>$1,150-1,210bn</td>
<td>3-6%</td>
</tr>
<tr>
<td>Latin America &amp; Carrib.</td>
<td>$99-109bn</td>
<td>6-9%</td>
</tr>
<tr>
<td>Middle East</td>
<td>$194-214bn</td>
<td>6-9%</td>
</tr>
<tr>
<td>Africa</td>
<td>$26-36bn</td>
<td>9-12%</td>
</tr>
<tr>
<td>Japan</td>
<td>$1,01-1,11bn</td>
<td>2-5%</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>$245-275bn</td>
<td>12-15%</td>
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2017 US$ Sales and LCS CAGR 2012-2017

Source: IMS Market Prognosis, Sep 2013; Western Europe includes EU5 and rest of Western Europe. Vodacom - IMS Health - April 2014 workshop.

REFERENCES:

Opportunity can be segmented at a regional, country, city and even district level

Optimal regional strategy development means assessing linguistic, cultural and trade-related attributes. Commonalities across these attributes drive benefits, such as easier transport and movement of goods and people. For example, French West Africa is mainly Francophone with eight former French colonial territories. French West Africa also has a shared currency that is benchmarked against the Euro for ease of trade and currency stability. Northern African countries are predominantly Arabic-speaking and Muslim while Southern and Eastern African countries are mostly English-speaking. The existence of trading blocs, such as the East African Community (EAC), Economic Community of West African States (ECOWAS), the Southern African Development Community (SADC) and the Common Market for Eastern & Southern Africa/East African Community (COMESA), offer an increasingly attractive market opportunity characterized by a common currency, the removal of trade tariffs or a move towards harmonized medicine registration processes.

At the country level, there are four established markets in Northern and Southern Africa which together represent more than half of 2011 pharmaceutical sales in the continent: South Africa, Egypt, Algeria and Morocco. Additionally, there are several rising economies in SSA with strong historic and forecasted pharmaceutical market growth. Among these are Nigeria, Kenya, Tanzania, Ghana, Kenya, Uganda, Zambia, Ethiopia, Mozambique, Angola and Botswana, which stand out due to market size, growth and long term opportunity.

Another fundamental macro change in the African continent drives even more precise pinpointing of the location of opportunity: urbanisation. It is estimated that by 2030, the urban population of Sub-Saharan Africa will overtake that of India in 2035 and China in 2050, with significant wealth concentration and superior indicators of human development compared to rural regions. For example, in Nigeria, Lagos contributed 8% of Nigeria’s overall GDP in 2011. A similar trend is apparent in Morocco, where Casablanca accounts for nearly 10% of the country’s GDP, and in Uganda, where the capital and largest city Kampala represents about 12% of the country’s GDP. According to research on 25 African cities from the Economist Intelligence Unit, citizens in cities have incomes on average 94.4% higher, per capita, than their countrymen as a whole.

REFERENCES:
The most successful companies operate through a structure that emphasises decentralised decision making

Pharmaceutical companies may choose to retain decision-making power centrally or delegate all or some elements to the regional or local level. A decentralized decision-making structure is most illustrative of long-term commitment to the continent. However, examples exist across the spectrum.

Successful decentralized decision-making structures are human resource intensive and as such work best with a hybrid talent pool that combines the expertise of both foreign and local staff. Increased accountability at the local level is important to drive a sense of ownership. This fosters innovation in markets that require a flexible approach on the ground and creates the basis for sustainable business operations.

Some companies have made a conscious decision not to invest heavily in Africa based on their strategic priorities and portfolio, and for them this may well be the correct decision. For those that are committed to Africa, however, the degree of engagement can hampered by a lack of corporate willpower and commitment.
Portfolio selection must reflect the different segments of the market

One of the challenges of African country markets is understanding not only where the opportunities lie, but what success constitutes within different market segments, and how to achieve that success.

Until relatively recently, many multi-nationals saw the principal African opportunity driven by the purchase of drugs for a small group of communicable diseases, dominated by HIV, TB and malaria, by governments and NGOs. In this market they competed with local and international providers of low cost generics, companies which also dominated the secondary state-purchased opportunity in drugs for non communicable diseases. Increasing individual wealth, and accelerating chronic/aging disease burdens have opened out further market segments- for privately funded primary care and even for specialist drugs. Given slowness and uncertainty in the progress of state provision in even the wealthiest and most stable of African nations, the growth of the private sector presents a less well understood, but more immediate opportunity.

In this multi-segment market, two dynamics in Africa influence portfolio success. Firstly, whether a company offers products for which there is strong demand and the opportunity to optimize for volume/price trade-offs whether in the public- or privately funded markets. The second, for the private market, leveraging the powerful brand loyalty and awareness of African consumers. Safety is a primary concern, given the high profile penetration of counterfeit and substandard medicines. Patients, where they can afford it, actively seek quality products and are brand conscious.

To identify the appropriate product portfolio for specific countries, companies must understand how their portfolio aligns with the various customer segments in a market in terms of need, affordability, and access. In the privately funded market, affordability and access are often poorly understood, but vital to successful realisation of the opportunity. As this paper discusses, affordability and access to medicines are heavily influenced by distribution strategy.

Overcoming barriers in the path to market and path-to-patient is what separates the best companies.

Companies must seek sustainable business by assessing the existing capabilities across the path to market and path to patient.

Weak regulatory mechanisms and prevalent poverty are the primary drivers of these hurdles and are more pronounced in Africa relative to other parts of the world. It is crucial to assess which hurdles in the path restrict accessibility and affordability for patients.

Technological developments, especially mobile technologies, and economic growth are spawning many new ways to overcome hurdles on the path to market. All are contingent on rapport-building, local stakeholder buy-in and trust.

One of the biggest hurdles in the path to patient is distribution. This paper focuses specifically on the issue of distribution, as it is the area that most pharmaceutical companies can rapidly make cost efficient investments to drive up their sales and profitability in Africa while increasing patient affordability.
FIGURE 12: SUCCESS IS ULTIMATELY DRIVEN BY A COMPANY’S ABILITY TO OVERCOME HURDLES IN THE PATHS TO MARKET AND PATIENT

**Path to Market**
- Registration process
- Pricing & reimbursement
- Distribution
- Marketing & sales
- Post-launch pharmacovigilance

**Path to Patient**
- Patient Awareness
- Healthcare Access
- Diagnosis
- Treatment

**Variation in development exists between public and private markets**

**Limited variation between public and private markets**

Variation in development exists between public and private markets

Limited variation between public and private markets
IMS Health in Africa

We are actively engaged with governments, non-governmental organizations (NGOs) and private sector stakeholders to support evidence-based decision making and advance healthcare in Africa. Our global healthcare expertise uniquely positions us to help clients unlock this opportunity and support stakeholder decisions in a range of areas — from access to medicines and care, to market measurement and investment decisions.

IMS Health is investing to expand its presence in Africa, in particular sub-Saharan nations. We are now present in Kenya and are focussed on launching new offerings to serve healthcare clients in East Africa and French West Africa in 2014, and are investing to expand into other sub-Saharan nations in 2015/16.

We also work closely with the Life Sciences division of BroadReach Healthcare, where a strategic alliance allows both organisations to deliver comprehensive advisory and commercial effectiveness solutions for life sciences organizations operating in Africa.

For further insights into our Healthcare Growth markets activity visit www.imshealth.com/pharmerging/africa
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