CONCEPT NOTE

Leveraging Private Sector Retail Networks to Reach the “Last Mile” of Public Sector Health Provision
12 July 2012 Version 2

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“People say, it can’t work. But what if it can?”
Market Entrepreneur, Lusaka

“You can get any product or service to anywhere in the world if you can create and sustain a demand for it and make it profitable to fulfil that demand.”
Simon Berry, ColaLife

Overview
The commodity distribution chain which includes such products as Coca-Cola, cooking oil and talk-time gets its market penetration from independent micro-retailers and entrepreneurs who carry these commodities the last mile into rural villages (the ‘secondary supply chain’). ColaLife, a UK registered charity, is presently at the beginning stages of the ColaLife Operational Trial in Zambia (COTZ). This pilot is testing the feasibility of utilizing these existing rural retail supply chain networks. This is being done in partnership with Ministry of Health and Zambia’s main Coca-Cola bottler, SABMiller, to create access to innovative diarrhoea treatment kits (ORS, Zinc, soap) at the community level, supported by Vouchers and mobile phone payments and tracking. The COTZ project aims to assess whether rural private sector retailers can be an effective means of distributing these essential medicines to remote rural communities in Zambia.

Leveraging the private sector to support public sector health provision has been on the public health policy agenda for many years. It is currently a major focus on the global development agenda and Zambia is often highlighted in case studies of public-private partnerships for health, due to its innovative contracting relationships with private and quasi-private sector partners. In particular, Zambia has served as a benchmark country in both the piloting and implementation of public-private models of supply chain management.

Whilst the current COTZ project will investigate only an over-the-counter sales model through small rural shops, this concept note asks: Could a similar system be developed, to support the delivery of basic essential medicines to primary levels of the public health system as well? In particular, we note that one sector does not have to fulfil every role; we could usefully separate roles and responsibilities, across the public and private sectors, and across large and very small players, to exploit the strengths and skills of all. For example:

<table>
<thead>
<tr>
<th>Role</th>
<th>Example</th>
<th>Health expertise required</th>
<th>Comments/Limiting factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure provision</td>
<td>Building health centres/posts; district medical stores etc</td>
<td>Medium/High</td>
<td>Public Health responsibility to establish and maintain</td>
</tr>
<tr>
<td>Patient or customer services</td>
<td>Consultation, testing, diagnosis, treatment, sale or dispensing of products</td>
<td>Very High</td>
<td>Zambia has under 100 retail pharmacies; ability to pay privately in rural populations is low; training requirements for health service delivery is high</td>
</tr>
<tr>
<td>Supply &amp; distribution (non-cold chain)</td>
<td>Carrying supplies from district to rural areas</td>
<td>Low</td>
<td>Accreditation of private sector carriers, ‘para-skilling’ and innovative tracking and payments may offer new opportunities.</td>
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</tbody>
</table>
**Background and Rationale**

Zambia’s National Health Strategic Plan 2011–2015 has as its mission the provision of “equitable access to cost effective, quality health services as close to the family as possible.” The plan states the Government of Zambia’s commitment to a number of key principles, including Primary Health Care (PHC), equity, affordability, cost-effectiveness, decentralization and partnerships in order to facilitate its citizens’ access to basic health services, including essential drugs and supplies. The Ministry of Health (MoH) endorses the exploration of creative alternative financing and supply chain logistics systems in order to meet these objectives.

The Health Service Delivery structure in Zambia is organized as a pyramid to ensure continuum of care. Community-based care by Community Health Workers (CHWs) feeds into Primary Health Centers (H Cs), and then on to Secondary and Tertiary Hospitals, the catchment areas for each determined by population. Filling the gaps between the community and the Health Center in remote rural areas are Health Posts (HPs). It is part of the Zambia National Health Strategic Plan (2011–2015) to establish more HPs in rural areas to improve access for rural communities. HPs will be staffed by a new cohort of Health Assistants, just being trained. These will represent the first line of service for many in rural Zambia and will stock a range of non-cold chain essential medicines. The HPs will not generally have refrigeration facilities. The Government of Zambia has recognized their importance by committing in January 2012 to build 650 new HPs throughout Zambia.

In order for HPs to provide health services to remote rural communities, they will require re-stocking. While Medical Stores Ltd (MSL) has succeeded in strengthening the medicines supply chain to the District level, serious bottlenecks exist at District Medical Stores, as Districts struggle to mobilize sufficient transport and fuel to deliver medicines and medical supplies to HCs, HPs and CHWs. Creative solutions are required to address the “last mile” between community and primary health facilities. While the large medical supply needs of HCs may require strengthened public sector supply chain logistics, utilizing private sector distribution networks to deliver kits – particularly containing over the counter and non-cold chain medicines - to HPs and CHWs may be one way of addressing sub-district/sub- HC supply chain bottlenecks. In the model envisaged below, selected wholesalers and rural retailers would not sell or supply drugs, but would act as agents for storage, collection and transport. The advent of mobile phones – even in rural areas of Zambia – for tracking and micro-payments, is a key enabling factor. The importance of harnessing new technologies in support of health services is recognized in the Zambia National Health Strategic Plan.

**Proposal**

Using a model similar to that proposed under the COTZ project, a cadre of rural retailers in communities with HPs (or MoH-recognized CHWs, i.e. those under the supervision of a HC) could be identified and registered as essential medicines supply chain partners. Additionally, wholesalers in District Capitals could also be identified and certified by the MoH/PRA as having the capacity to store essential medicines and act as a hub for pick up of public sector supplies by rural retailers. Wholesalers who stock Coca-Cola could be tested in the first instance, because they are generally required by SABMiller to adhere to high standards of storage and inventory management, they are also present in the majority of Districts and their location is well known by retailers. Both rural retailers and wholesalers could be trained in appropriate supply chain management of medicines (eg storage, expiry dating, tracking). Both wholesalers and retailers could be identified by a special sign/brand as specified by the MoH to demonstrate their certification to participate in the logistics network. Rural retailers would all be assigned a mobile bank account, once accepted into the programme.
The supply chain might work as follows:

**Step 1: The order** (optional - it may be that one kit is sent per month with no order)
The order would most likely originate with the HP (or CHW) notifying the HC overseeing its activities of a need for medicines or medical supplies. (These supplies would likely come in the form of existing kits and/or sealed boxes of replenishment items).

**Step 2: Onward communication of order to DMS** (optional - as above)
The HC utilizes its normal means of notifying the District Medical Stores of a need for medicines and medical supplies.

**Step 3: DMS to MSL**
District Medical Stores makes its normal District medical supply order from MSL. It may be considered necessary to ‘flag’ all HP/CHW kits, to identify the originating HP (or CHW). Alternatively all kits could be standard and pick-up frequency controlled by DMS and/or HCs/HPs.

**Step 4: MSL makes its normal delivery to the District**
Instead of dropping CHW or HP kits at the District Medical Stores, MSL drops all HP or CHW kits/boxes at the participating, certified Wholesaler.

**Step 5: Storage at the Wholesaler**
The certified Wholesaler holds these on behalf of the certified retailer, sending an SMS to both the retailer’s and HP worker’s (or CHW’s) phones that the delivery has arrived.

**Step 6: Retailer/HP liaison**
The retailer will most likely alert the HP (or CHW) when he or she is going to make the pick up. This does not have to be straight-away, but can be part of a normal trip by the certified retailer to the wholesaler to restock.

**Step 7: Collection by the retailer/release by the Wholesaler**
The retailer travels to the wholesaler to pick up the HP or CHW kits and “signs” for them. Sign off would involve mobile phone technology. The Wholesaler passing over the kit would enter into his/her mobile phone:
- their wholesaler ‘PIN” number
- a number that is unique to the kit itself
- the PIN number of the collecting retailer.

This process would serve as an electronic notification that the “last mile” supply chain for this particular kit has been “opened” and would also trigger a payment to the wholesaler for their role in providing safe storage and inventory control.

**Step 8: The retailer then delivers the kit/boxes to the HP in his or her area; or holds them for pick up at their store**

**Step 9: The HP (or CHW) collecting the kit/box will hand over a voucher (see below). When the retailer enters the voucher number, together with the voucher PIN number and the Kit number in his/her mobile phone, this will trigger:**
- a payment to the retailer’s mobile account/mobile banking account
- an electronic notification that the supply chain for this particular kit or item has been “closed”, together with date and any other information required – for example the receiving HP/CHW.

**Payments**
The private sector’s ability to service the “last mile” is motivated and driven by profit. For this proposal to work the process must be profitable for the rural retailers and wholesalers involved. The system should not expect any ‘favourites’ from the participating retailers and wholesalers. To be sustainable in the long term (and be replicable beyond an initial trial) the system must simply be profitable for the wholesalers and retailers involved. The fee the retailer is paid should be related to the level of profit the retailer would expect to make on a similar weight/volume of any other commodity carried. The financing should come from the MoH budgets for distribution of essential medicines.
There are two types of payment that would need to be made:

1. Payments to registered commodity wholesalers
   Registered wholesalers would submit monthly invoices to the appropriate point in the MoH system based on the number of HP kits collected by retailers in the month. This invoice would be paid in the usual way.

2. Payments to registered retailers
   Payments at community level need to be traceable, easy to monitor, easy to fulfil and secure – eliminating the use of cash. A mobile phone voucher system can offer all of these. The COTZ trial is already testing a voucher system. This builds on voucher systems already used in Zambia for other programmes including the World Food Programme. Only registered retailers using their registered phone can redeem vouchers.

Proposed voucher system
The voucher system would be subject to a full functional specification, but might work as follows:

1. Vouchers would be printed and distributed to the District Health Office (DHO). To maintain security, these vouchers are not activated. DHOs will be trained in how to activate the vouchers.
2. Vouchers will be activated as required, when they need to be distributed to the Health Assistants (HAS) managing the health posts. The DHO will be able to control the timing and frequency of voucher distribution, with forward planning to meet projected ordering needs (e.g. for the next quarter).
3. When the HA collects a HP kit from his or her registered retailer, he or she will hand a voucher to the retailer
4. The retailer will scratch the voucher to reveal the voucher PIN number. Using his or her phone, the registered retailer will submit the voucher number and the voucher’s PIN number, together with the Kit/Box number. He or she will then receive payment on their mobile phone for successfully carrying and passing over the Kit/Box.

Through capturing data from mobile phones and vouchers, accountability mechanisms can be built in at all levels in the system and furthermore this data would be available in real time to health managers through a secure website. This would ensure that, for example:

a) Kits/boxes are only sent according to quantities and budgets defined by the District
b) They cannot be over-ordered (i.e. that an HP or CHW could not obtain more kits a year than is already allocated them via District budgets)
c) Payments cannot be repeatedly made to retailers – only on exchange of a Kit for a voucher
d) Retailers can only get paid through the electronic, SMS-based “opening” and “closing” of their journey to and from the community, and on successful pick-up of the item
e) Opened or damaged kits/boxes are not accepted for full payment by the HC/CHW (e.g. a ‘damaged item code’ is offered instead of handing over the full voucher, with reduced payment given)
f) Anomalies in the system are obvious, through transaction monitoring, and will result in loss of accreditation for any retailer, wholesaler not complying.

Benefits
For the community
The availability of medical supplies at the community-level will, ideally, mean that some patients can be treated in the community and thus avoid travelling to the HC. This would relieve the indirect and opportunity costs associated patients’ travelling for care. It would also hopefully improve health outcomes of patients who live far from the HC and for whom long travel time might mean the difference between life and death.

For the public health system
The availability of medical supplies at the community level would create more efficient systems of referral, removing a bottleneck of patients at the HC and, in turn, removing a burden of service delivery from HC
workers. It may also remove the strain on HC medical stores, because now some of those medicines would be available at lower levels of the health system. It could potentially improve the morale of HP workers or CHWs who would now be able to carry out their work with the proper medicines and supplies. Once pilots have tested feasibility of distribution routes out other services might be considered: for example, return trips where the retailer takes test kits (eg point of care diagnostics) test into the wholesaler, for forward delivery to Health Centres, might also be considered.

For the retailers and wholesalers

The proposed system recognizes that the rural private retail network achieves its sustainability and its coverage because rural retailers are able to make small margins of profit along the way. The retailers could ‘piggy-back’ medical supply delivery onto their normal supply run to and from the wholesaler. They would receive a small payment for agreeing to make this additional delivery to the HP or CHW. Uniquely, this role as an ‘agent’ would not impact on a small retailer’s cash flow, which is often very limited, constraining his or her ability to make his business profitable xi.

For the economy

The proposed system spends money within Zambia and within the target communities themselves. A proportion of this money will be re-spent locally and improve the prosperity of the community as a whole.

Costs

A cost-effectiveness study would have to be done to estimate whether this system would add costs to Districts; that is, would costs associated with District delivery of such goods (transport costs, fuel costs) be less than costs associated with making marginal transfer of goods/opportunity cost payments to rural retailers? It would also have to be determined whether or not more efficient delivery of kits and medical supplies to the community level would ultimately lead to increased consumption of those supplies and, in turn, increased costs (although possibly better health outcomes).

Conclusion

Zambia has already been the site of a number of innovative supply chain initiatives. These efforts have attempted to expedite medicine and medical supply delivery to the District-level, improve stock management at the HC-level, and increase the availability of basic essential medicines at the level of private sector retailers. This concept note suggests that greater synergy can be achieved between public sector facilities and the private sector supply chain. Private sector retailers could be important stakeholders in the access to essential medicines by remote rural populations in Zambia.

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1 COTZ is a partnership with Zambia’s Ministry of Health, ColaLife, a UK charity, UNICEF Zambia, Medical Stores Ltd, SABMiller and Keepers Zambia Foundation. It is funded by DFID, Johnson & Johnson Corporate Citizenship Trust and COMESA.
2 Both ORS and Zinc are approved as over the counter medicines in Zambia – on the PRA’s General Sales list.
5 Besides MSL’s contractual relationship with Crown Agents, other innovative supply chain pilots include the National Essential Drugs Pilot Logistics System (a partnership between multiple public and private stakeholders, including MoH, MSL, USAID/DELIVER and others), the Zambia Access to ACTs Initiative (a partnership between the MoH, World Bank, MSH, and Malaria Consortium) and, as mentioned before, ColaLife Operational Trial (a partnership between MoH, MSL, ColaLife, UNICEF, Keepers Zambia Foundation and RuralNet).
7 Ibid. p.x.
8 Ibid. p.xi.
11 Initial anecdotal findings under the COTZ project indicate that typically, a small retailer may purchase K150,000 to K400,000 worth of goods at a wholesaler, during a trip that may cost K25,000 to K40,000.