

15.232 Business Model Innovation for Global Health

A Preliminary Assessment of ColaLife

October 2013



Executive Summary:

How can ColaLife scale the distribution of diarrhea treatment kits?

ColaLife is a **nonprofit** that aims to leverage private sector **distribution networks** to deliver diarrhea treatment kits to remote areas in Africa

- **Situation**: Diarrhea accounts for 11% of deaths in children under five but only 39% of affected children have access to life-saving ORS treatment
- **Complication**: Infrastructure and health systems constraints make it challenging to reach the end-user
- **Question**: How can ColaLife scale its distribution?
- **Analysis**: Interview with Simon Berry, Founder and CEO; secondary research
- **Recommendations**: To increase utilization rates, ColaLife should a) **build consumer awareness**, and b) **increase incentives for retailers** in the short term; in the long term, ColaLife should c) **grow the number of distribution channels**, and d) **explore direct-sales models** to increase penetration rates in hard to reach areas

Context: Gaps in Diarrhea Treatment Delivery

Drug Manufacturer

- 75% of diarrhea deaths can be prevented by ORS and zinc supplements
- Manufacturers cannot deliver ORS to remote areas, or assure safety due to counterfeit and altered medications

Distribution Gap

- Public and private health care facilities in severely-affected countries are often not able to provide consistent and affordable supply of ORS and zinc supplements
- **Existing distribution is inadequate**
 - **Distance** – remote areas lack access to medicines, especially during rainy season when treatment is most needed
 - **High Cost** – Transportation accounts for ~40% of treatment costs
 - **Stock-Outs** – Medicine availability is 38% at public facilities and 60% at private facilities.

End User (mothers)

- Mothers lack affordable and reliable access to ORS, and often do not know how to mix ORS for proper dose
- Children risk increased mortality from preventable diarrhea

Goal: Reduce child mortality through alliances

Mission

Build **novel partnerships** to alleviate poverty and **improve health** in the developing world through **innovation**

Goals & Activities

- **Reduce child mortality** from simple causes, such as **dehydration from diarrhea**
- Promote **“unlikely alliances”** to **provide access** to affordable, essential drugs
 - By opening up private sector supply chains for ‘social products’ such as oral rehydration salts and zinc supplements
 - Currently conducting pilot in Zambia, copying Coca-Cola’s business model
 - ★ **“DESIGN a desirable product”**: easy to use Anti-Diarrhea Kits (Kit Yamoyo)
 - ★ **“MARKET like mad”**: facilitate demand/use of kits through social marketing
 - ★ **“DISTRIBUTE profitably”**: same distribution channel as a bottle of Coke

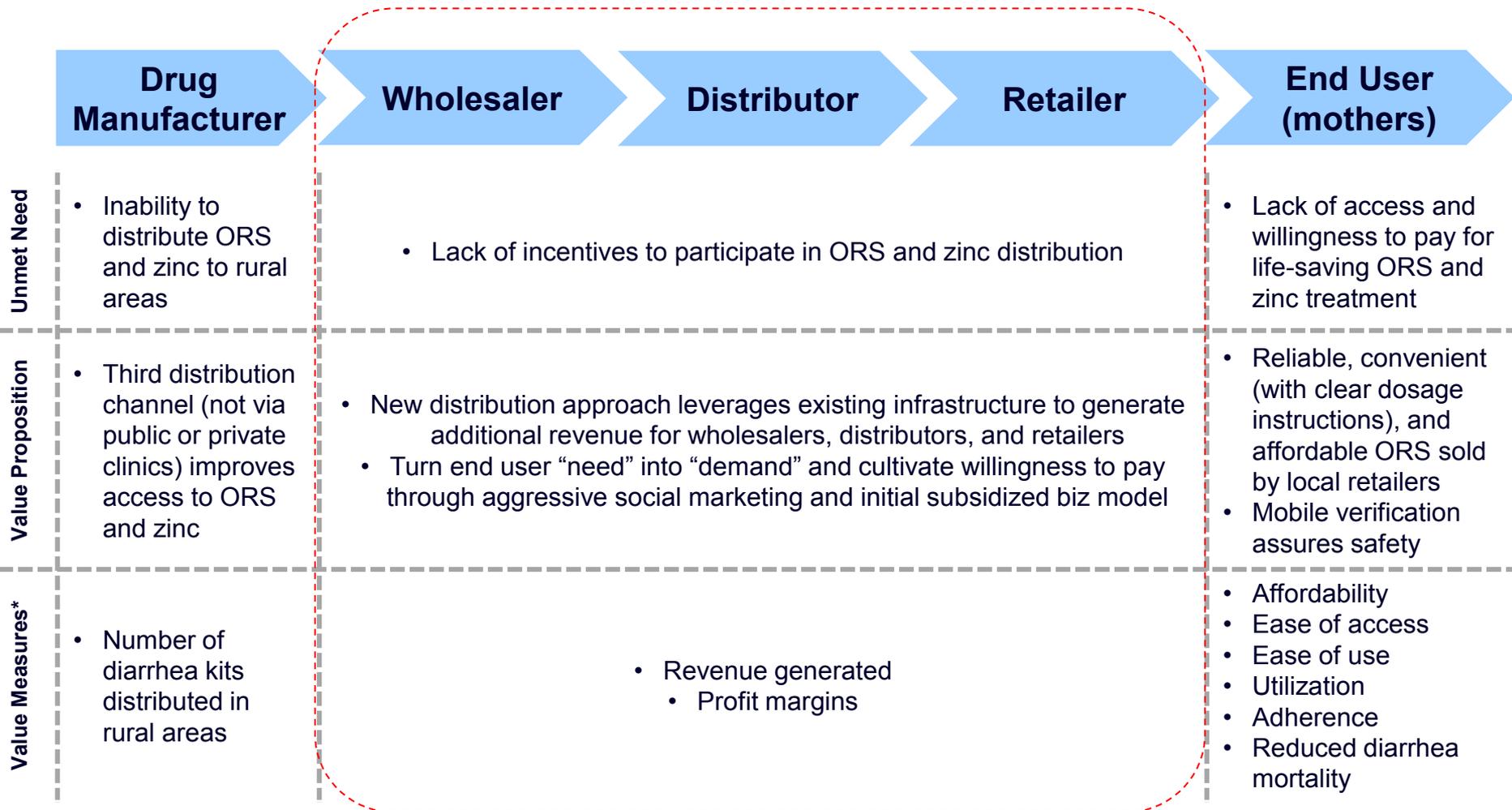
Target consumers

- Mothers/care-givers of children with diarrhea in two remote districts in Zambia
 - Sold 24,565 kits during 12-month trial (90% of the kits have been purchased with vouchers and 10% with cash)

Images and components of The ColaLife Anti-Diarrhoea Kit removed due to copyright restrictions. See the [ColaLife](#) website for information.

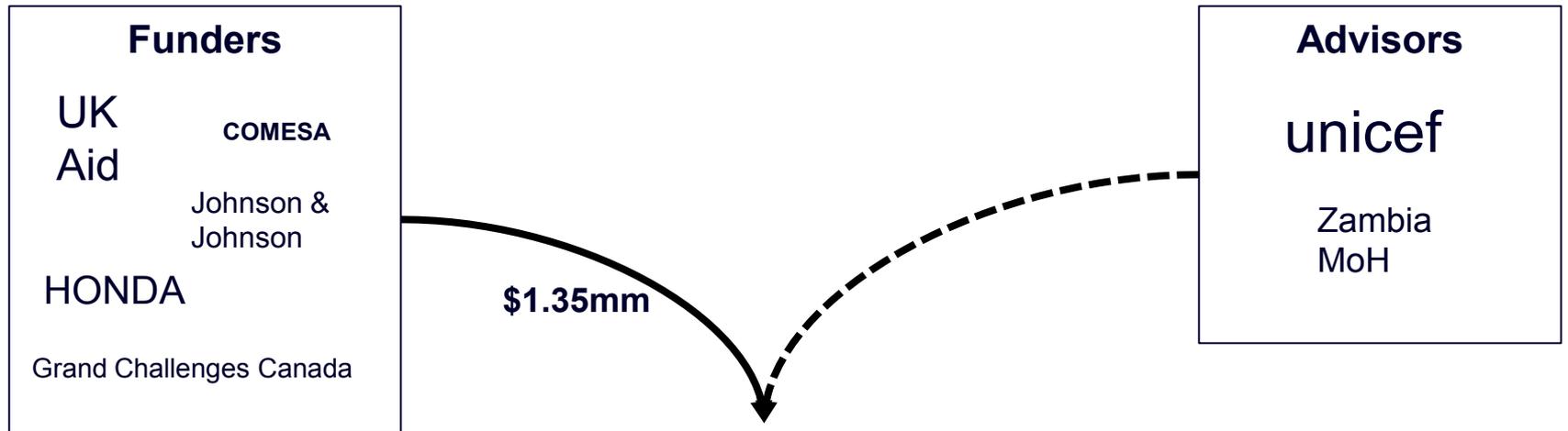
Strategy: A New Distribution Channel

- ColaLife leverages Coca-Cola's network to distribute ORS Kits to Remote Areas



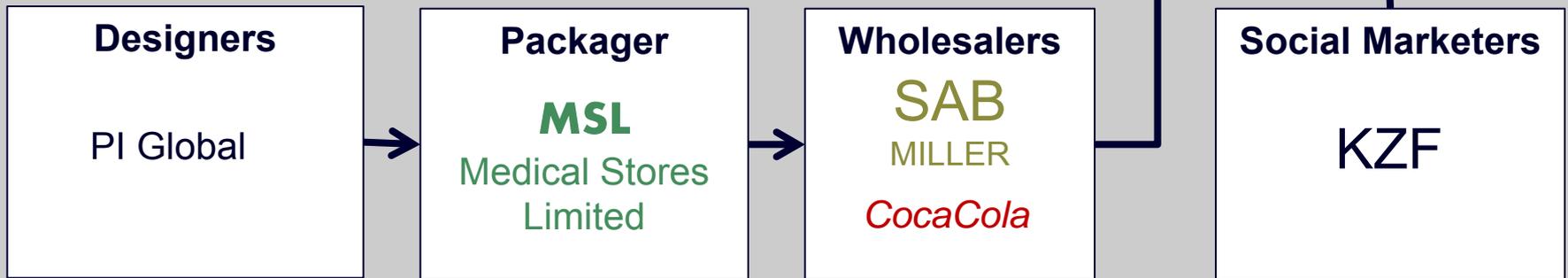
* ColaLife tracks the number of AidPods assembled, distributed, and sold (vouchers or cash), as well as ORS/zinc utilization level (see next page)

Operations: Lean non-profit managing partners



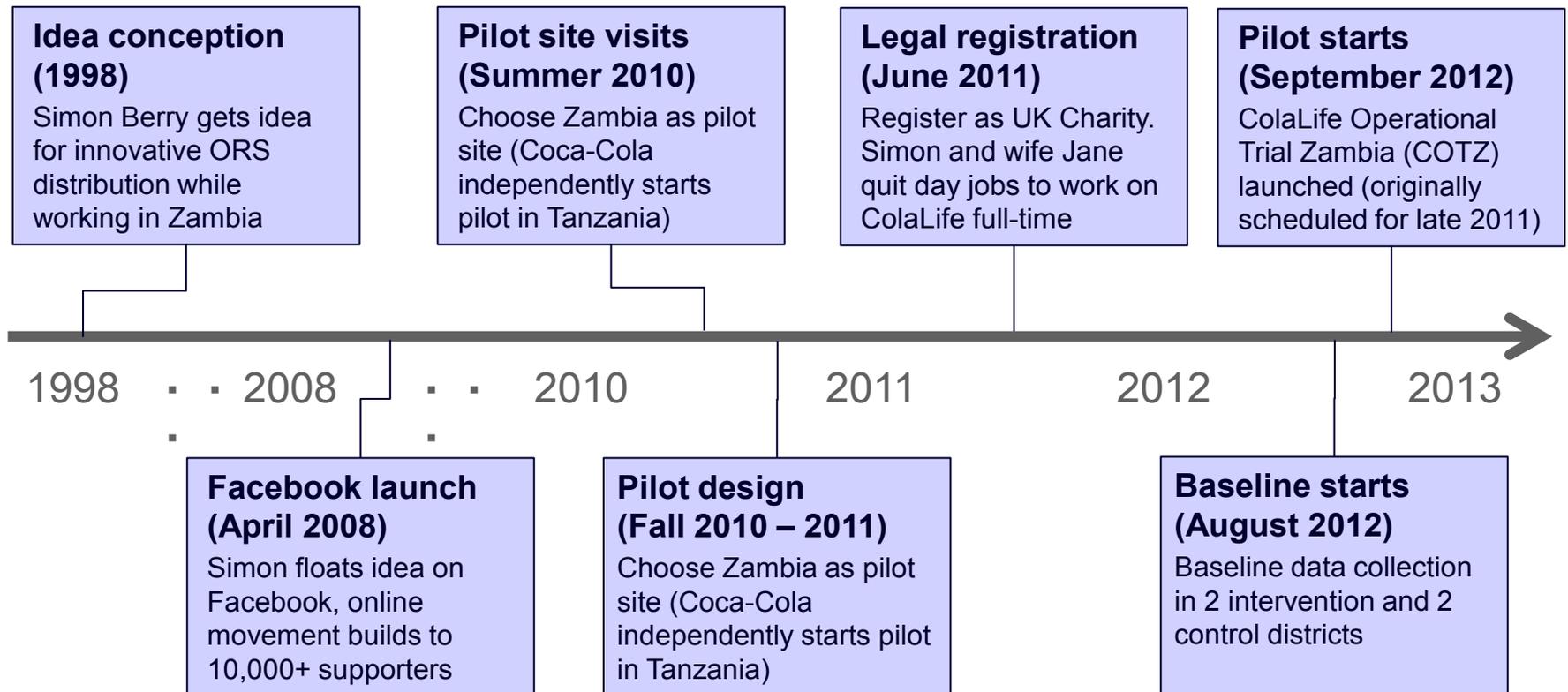
colalife

building unlikely alliance to save children's lives



Team of 3 and volunteers at ColaLife manage entire process

History: Idea conception to pilot



Sources: ColaLife website. Accessed September 28, 2013. <http://www.colalife.org>; ColaLife Trial Plan.

Value Measures

Key Outputs and Outcomes	Associated Metric	Current ColaLife Measure?
Coverage	Number of anti-diarrhea kits delivered	
Utilization level	Proportion of children with diarrhea who used ORS and zinc	
Adherence	Proportion of children receiving the kit who have completed the 10 day course of drugs	
Child Mortality	In the areas where ColaLife operates, diarrhea-related deaths, per 100,000 children under 5 years of age	

- Currently, ColaLife is conducting an evaluation in 4 districts (2 target and 2 control), covering 625 households and 45 retailers in each district
- While the trial includes a baseline, midline (at 6 months), and final (at 12 months) survey, it is limited to tracking **outputs** and **intermediate outcomes**
- To measure its real **impact**, ColaLife would need to track its progress on additional **outcomes** (in particular, child mortality rates attributable to diarrhea)

Core Strengths and Capabilities

Unique role in global health

- Ability to fill a strategic gap in the global public health arena, by bringing together multiple key stakeholders to tackle diarrhea-related child mortality
- Innovative approach to leverage market forces

Replicable, low-cost solution¹

- Lean organization, low overhead
- Leveraging existing infrastructure for distribution

Local ownership

- Local determination of what is needed and how it should be distributed (e.g., retailers decide whether to distribute free, at cost, or with positive profit margins)
- Grassroots empowerment

¹ We discuss issues of long-term sustainability further in this deck

Key Challenges and Implications for Success



Focus of our recommendations
(next page)*

Challenges

Implications

1

- Operations require **subsidies** (revenue sources cannot cover fixed and portions of variable costs)

- ColaLife's **financial sustainability** is unproven, which also means **scaling** will be a challenge

2

- ColaLife **no longer able to use Coke boxes** for ORS distribution

- **Distribution to retailers is harder** than originally conceived → need new low-cost and easy ways of getting ORS to retailers

3

- **Low awareness** about ColaLife's services among target consumers

- Lack of "pull" from end consumers means that **demand is low**, which reduces quantity sold and has implications for revenues

4

- ColaLife unable to guarantee that end consumers use products the way they are supposed to be used (e.g., duration, dosage)

- **Product effectiveness is compromised**, lowering outcomes and hurting ColaLife's reputation
- **Demand is low** (if customers reduce dosage to save money)

Recommendations and Expected Impact

Recommendations

Potential Next Steps

1

1. **Increase revenues** to improve ColaLife's profitability
 - Explore opportunities for **revenue-generation via advertising**
 - Analyze impact of vouchers on **end-user willingness to pay** to identify optimal pricing

- **Contact telecommunications, consumer product, & fin. services companies** to explore marketing opportunities to subsidize kit costs
- **Engage consumer insights firm to assess optimal price** level to maximize demand & profits for retailers

2

2. **Expand distribution and reduce costs** to drive profitability
 - Identify **new potential distribution partners** (beyond Coca-Cola) and **consider no-cost/low-cost ways of leveraging their distribution networks directly** (e.g., similar to using space in Coke boxes)

- **Research additional distribution channels** to augment product delivery (e.g., telecom booths, banks, schools)
- **Recruit volunteers to evaluate successful direct sales models** (e.g., Avon, L'Oreal Matrix, Natura) to identify lessons and distribution strategies

3

3. **Improve consumer awareness of ColaLife's products**
 - **Engage end-users** in sales process in 1 of 2 ways:
 - Direct sale (e.g., Avon model)
 - Info distribution (e.g., leaflets)
 - **Engage healthcare workers** in awareness-building

- **Convene roundtable for Zambian MoH, NGOs, and media** to develop strategies to build product awareness

Vision for the Future

Maintain

easy-to-use packaging and MNC distribution partnerships



Expand

demand through education and supply through micro-distribution



Achieve

scale to reduce child mortality from diarrhea



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Vision for the Future

Maintain

easy-to-use packaging and MNC distribution partnerships



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- ✓ **Maintain easy-to-use packaging** that provides proper dose for one child and a container for mixing the ORS solution
- ✓ **Maintain and expand distribution partnerships** with MNCs, including SABMiller, Coca-Cola, and others

Expand

demand through education and supply through micro-distribution



- ✓ **Increase consumer awareness** by partnering with media and mobile carriers
- ✓ **Increase incentives for retailers** by generating additional revenue from advertising in Yamoyo kits
- ✓ **Expand number of distribution channels** (e.g., retailers, clinics, telecommunications) to increase access to Kits Yamoyo
- ✓ **Explore direct-sales models** (e.g., Avon, Natura, L'Oreal Matrix), where possible, to increase penetration in hard-to-reach areas

Achieve

scale to reduce child mortality from diarrhea



- ✓ **Increase utilization rate in covered areas**
 - Endline survey shows current utilization is 48%
- ✓ **Contribute to reducing U5MR from diarrhea in covered areas**
 - Diarrhoea accounts for 11% of global deaths among children under 5 years old (2010)¹
 - In Zambia, under five mortality rate is 83/1,000 (2011). MDG target is 64/1,000 by 2015²

Appendix: Sources

ColaLife blog. Last accessed September 28, 2013. <http://www.colalife.org/2013/08/22/final-survey-kicks-off-feelings-of-slight-relief/>.

ColaLife Trial Plan. Executive Summary and Main sections, July 2011 version. Shared by Simon over email on September 17, 2013.

ColaLife website. Last accessed September 28, 2013. <http://www.colalife.org>, <http://www.colalife.org/aims/>, <http://www.colalife.org/impact/>.

Day, Peter. “ColaLife: Turning profits into healthy babies.” July 2013. <http://www.bbc.co.uk/news/magazine-23348408>.

Kayte, Leon. “ColaLife Uses Crates of Coke to Save Lives in Africa.” October 2012. <http://www.triplepundit.com/2012/10/colalife-crates-coke-africa-save-lives/>.

Maly, Tim. “ColaLife rides Coke’s distribution to deliver essential medicine to remote villages.” March 2013. <http://www.wired.co.uk/news/archive/2013-03/28/colalife>.

Berry, Simon. Interview by Kate Fedosova, Yuko Hirose, Darya Nachinkina, Sharon Lee-Quick, and Leeann To. Interview via Skype. October 7, 2013.

UNICEF. *Levels and Trends in Child Mortality: Report 2012*. New York: 2012. <http://www.unicef.org.uk/Documents/UNICEF%20Child%20mortality%20report%202012.pdf>.

UNICEF. “Pneumonia and Diarrhea” report. June 2012. http://www.unicef.org/media/files/UNICEF_P_D_complete_0604.pdf.

Viney, Mark. “Making Medicine as Ubiquitous as Coca-Cola in Rural Africa.” August 2013. http://www.slate.com/articles/health_and_science/new_scientist/2013/08/colalife_simon_berry_is_trying_to_make_medicine_as_ubiquitous_as_coca_col.html.

WHO, “Children: Reducing Mortality” Factsheet. September 2012. <http://www.who.int/mediacentre/factsheets/fs178/en/>.

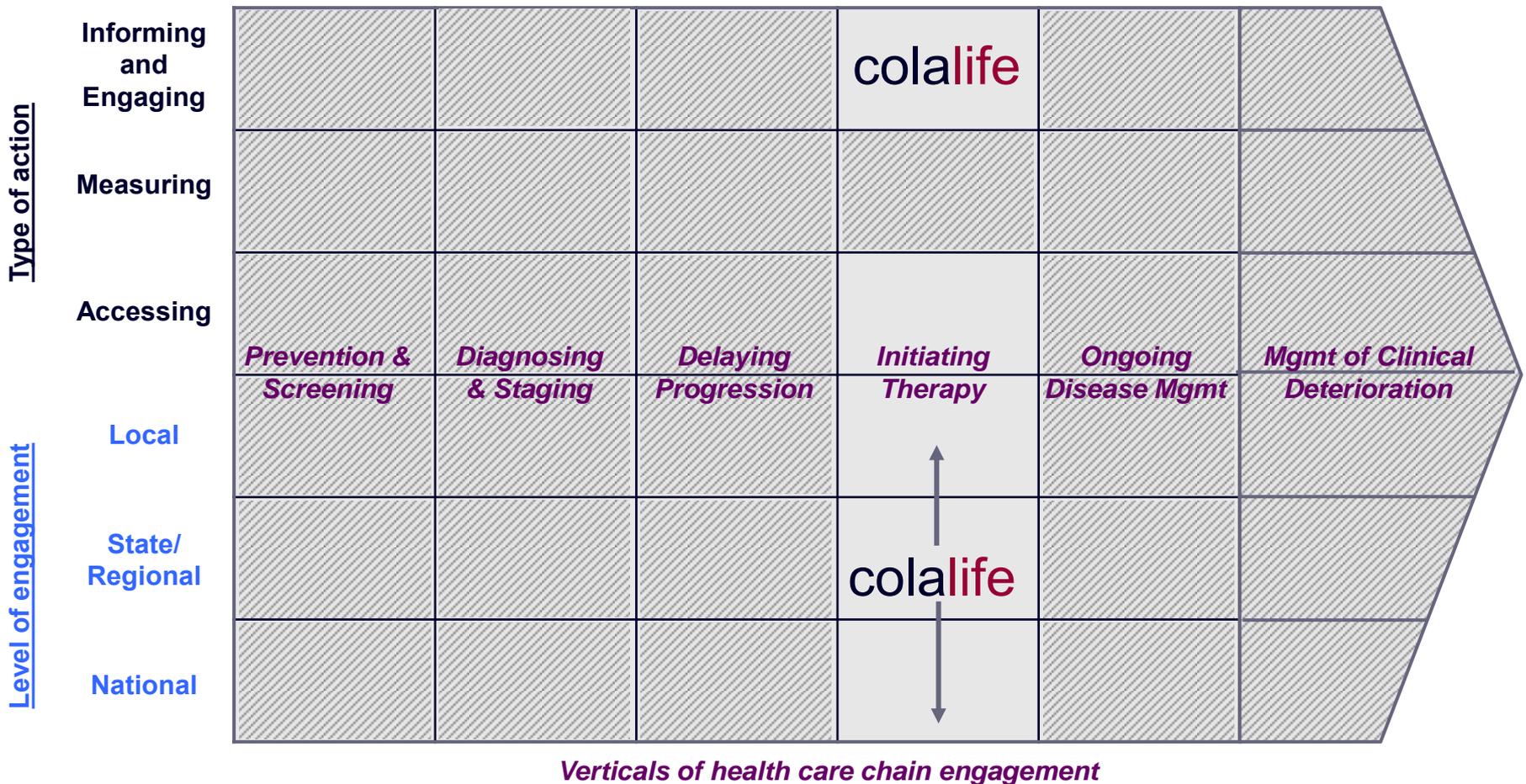
Appendix: ColaLife Business Model

Visual diagram of ColaLife business model removed due to copyright restrictions. See the [ColaLife](http://www.colalife.org) website for information.

Appendix: Diarrhea Care Delivery Value Chain

ColaLife focuses on the *Initiating Therapy* vertical of health care delivery chain, by:

- 1) Engaging and informing its supply chain partners and end users
- 2) Providing an end-to-end distribution solution for life-saving diarrhea drugs



Appendix: Under Five Mortality Rate

Under five mortality rate in Zambia is 83 deaths per 1,000 live births; this rate is 19 deaths higher than MDG target for 2015

Country or territory	Under-five mortality rate (USMR) (deaths per 1,000 live births)									Millennium Development Goal target for 2015	Annual rate of reduction (ARR) (percent) 1990–2011		
	1990			2000			2011				ARR	Lower bound	Upper bound
	USMR	Lower bound	Upper bound	USMR	Lower bound	Upper bound	USMR	Lower bound	Upper bound				
Thailand	35	32	39	19	17	22	12	8	17	12	5.0	3.3	7.0
The former Yugoslav Republic of Macedonia	38	34	40	16	16	18	10	8	12	13	6.5	5.4	7.1
Timor-Leste	180	164	199	109	100	121	54	46	72	60	5.7	4.2	6.7
Togo	147	138	161	128	116	147	110	92	139	49	1.4	0.4	2.1
Tonga	25	22	29	20	16	25	15	11	22	8	2.2	1.1	3.8
Trinidad and Tobago	37	33	44	32	27	41	28	21	39	12	1.4	0.4	2.3
Tunisia	51	42	57	30	25	34	16	13	20	17	5.5	4.5	6.4
Turkey ^a	72	66	76	35	31	39	15	12	20	24	7.4	5.9	8.6
Turkmenistan	94	86	103	71	62	86	53	41	74	31	2.8	1.3	3.8
Tuvalu	58	51	64	43	38	48	30	24	40	19	3.1	1.4	4.4
Uganda	178	168	188	141	129	146	90	84	105	59	3.3	2.4	3.6
Ukraine	19	18	22	19	17	20	10	9	12	7	3.1	2.2	4.2
United Arab Emirates	22	21	25	12	12	13	7	6	7	7	5.8	5.5	6.8
United Kingdom	9	9	10	7	6	7	5	5	6	3	2.8	2.3	3.1
United Republic of Tanzania	158	148	164	126	115	129	68	62	81	53	4.0	3.1	4.4
United States	11	11	12	9	8	9	8	7	8	4	2.0	1.6	2.3
Uruguay	23	22	25	17	16	18	10	9	12	8	3.8	3.3	4.4
Uzbekistan	75	70	85	61	54	73	49	38	66	25	2.1	0.7	3.5
Vanuatu	39	34	45	23	20	29	13	10	18	13	5.1	3.9	6.0
Venezuela (Bolivarian Republic of)	31	29	34	22	21	24	15	14	16	10	3.4	2.9	4.0
Viet Nam	50	44	55	34	31	37	22	20	24	17	4.0	3.2	4.7
Yemen	126	116	136	99	85	110	77	58	92	42	2.4	1.5	3.6
Zambia	193	175	195	154	142	167	83	76	110	64	4.0	2.4	4.3
Zimbabwe	79	75	86	106	97	115	67	53	74	26	0.8	0.3	2.1

Source: UNICEF. *Levels and Trends in Child Mortality: Report 2012*. UNICEF. New York: 2012. http://www.unicef.org/Do_cuments/UNICEF%20Child%20mortality%20report%202012.pdf. Accessed September 27, 2013.

Appendix: Questions for Further Exploration

Partners

- What **role is Coca-Cola playing now**, since Kit Yamoyos* are no longer bundled with bottles? To what extent does ColaLife leverage Coca-Cola's distribution network (vs. just the local relationships)?
- Is there room to expand other corporate or public partnerships?

Pricing and demand

- **Pricing and Demand** (with implications for **sustainability**):
 - Right now, the price of Kit Yamoyos (\$1) is fully subsidized by vouchers provided to the end user (despite ColaLife's end-user marketing efforts, it still appears to be a push model – not a pull model).
 - Without these vouchers, does the **price of the Kit Yamoyo** align with the customer's willingness/ability to pay?
 - What level of education/marketing (of the end-user) is required to shift this into a pull model for the end-user?
 - Also, if prices have to be lowered, will ColaLife be able to provide **profit for distributors** at every level of the supply chain?

Sustainability

- **Financial sustainability**: How can ColaLife achieve financial sustainability with regard to its central operations (assuming prices cannot cover indirect operating costs)?

Product use

- **Product Use** – End-user compliance/adherence appears to be an issue (in order to be effective, drugs need to be taken daily for 10 days), how can ColaLife improve **compliance**?

Appendix: Cola Road Trailer

The Cola Road Trailer

<http://vimeo.com/61315023>

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