

Identifying Replicable Healthcare Delivery Models with Significant Social Benefit

Research and Analysis for GlaxoSmithKline by
The International Centre for Social Franchising

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Dan Berelowitz, Jackie Horn,
Andy Thornton, Ira Leeds, David Wong

Contact: dan@the-icsf.org
+44 (0) 20 7193 4454
www.the-icsf.org



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Authors

Dan Berelowitz – CEO, ICSF
Jackie Horn – Project Director
Ira Leeds – Consultant
Andy Thornton – Consultant
David Wong – Consultant

Public Report

Editor – Andy Thornton,
AfriKids Squared

Foreword

Duncan Learmouth,
*Senior Vice President,
Developing Countries & Market Access,
GSK*

GSK's DCMA unit was created in August 2010 with the specific objective to increase access to medicines in the 48 least developed countries in the world. Our approach is a careful blend of the social and commercial: we reinvest 20% of profit straight back into the communities we work in, have a price cap to make medicines more affordable and measure our success through volume, and not just profit.

GSK, and specifically our unit, is regularly approached by organisations seeking support to scale up and replicate healthcare projects and we are open to working with a range of partners, from social business to NGOs. But the challenge has always been how to identify highly replicable projects with true growth potential; for example, One Family Health, who we are working with to replicate across Rwanda. That is why we decided to work with the International Centre for Social Franchising to do a global search to identify the most replicable models.

The findings from this research are of benefit to the many commercial and social organisations working in and funding this space and in the spirit of co-operation and collaboration that underlies the aims of the DCMA unit, we are sharing the research in the hope that this will play a small part in broadening access to healthcare and make medicines available to those who need them most.

<http://www.developingcountriesunit.gsk.com>

Foreword

Dan Berelowitz,
Chief Executive, ICSF

One of the shortcomings of organisations across private, public and social sectors is their willingness to reinvent the wheel. Time and money are poured into developing new programmes to meet a commercial and social need when so often this work has already been done and can simply be copied or adapted.

This is why I am proud to be working with GSK to take a close look at what works when delivering healthcare innovation with social benefit and how proven ventures can be replicated across the world. Whether you work in the healthcare sector or beyond, the insights that this research revealed will help you to create more value, both social and commercial, in your organisation.

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This section gives further detail on the research methodology developed by the ICSF for the project.

Executive Summary

GlaxoSmithKline (GSK) has a long-standing reputation for excellence and innovation within the global pharmaceutical industry. Not only has GSK been a leader in traditional pharmaceutical markets, but CEO Sir Andrew Witty clearly acknowledges that the future growth of the firm and the industry lies more with increasing emerging market customer bases and sales rather than continued reliance on “blockbuster” drugs.

The Developing Countries and Market Access (DCMA) team’s mandate is to grow the size of GSK’s customer base in the 50 poorest countries in the world. Currently, these types of markets have less than 5% market penetration by Western pharmaceutical companies, presenting large opportunities for social impact as well as sales and revenue growth.

This report was commissioned by GSK’s DCMA team with the objective to identify and evaluate innovative healthcare delivery models for the Base of Pyramid (BoP) that have the potential for significant social benefit and long term commercial returns. The report also provides an overview of the healthcare innovation ecosystem in developing markets together with insight into customer behaviour, brands, supply chains and what kinds of investments need to be made to create impactful, scalable, sustainable healthcare delivery programs.

At the outset we expected to find a wide diversity of healthcare delivery innovation across the world, a high demand for investment to support

replication and a prevalence of models targeting the BoP. In fact, what we found was numerous early stage or obviously non-scalable programs and that the high quality programs are already well funded by an increasingly competitive investment community. Whilst there are many programs targeting the BoP, the BoP itself needs to be considered in multiple sub-segments and that the focus for commercial programs tends to be the strong emerging middle class.

“Three-and-a-half years ago, we set out to fundamentally change GSK to create a different type of company, delivering sustainable financial performance and providing shared value to patients, consumers and governments.”

– Andrew Witty, CEO, GSK
(GSK, Corporate Responsibility Report 2011)

However, there are significant opportunities and enthusiasm amongst a number of developed programs for strategic partnerships with large pharmaceutical companies and other large-scale commercial organisations in order to drive scale, profitability and impact.

Looking forward, the report suggests that pharmaceutical companies should review the needs of potential partners against their own competencies to successfully engage with and develop healthcare delivery models. The report also suggests that pharmaceutical companies should take action to establish themselves as a first-rate strategic partner in BoP healthcare delivery so as to get rapid access to the best emerging opportunities. Finally the report highlights the potential for strategic partnerships with actors in the healthcare delivery ecosystem and other corporate entities with applicable skill sets, e.g. the mobile telecoms sector.

The public version of this report has been created as part of the charitable objectives of the ICSF to act as a catalyst for scaling successful social impact projects. GSK also recognises the value of sharing thought leadership with the sector and seeks to become a partner of choice for innovative healthcare delivery projects.

The broad findings of the report are relevant beyond healthcare; similarly, the methodology could be adapted to other sectors.



Photo credit AfriKids.org

Section 1

The Pharmaceutical Industry and Access to Medicines

In this section we seek to summarise some of the broader market forces impacting the pharmaceutical industry. This is intended to give context to the findings of this report for the pharmaceutical industry and demonstrates the significant social and economic opportunities that ICSF perceives in collaboration between innovative healthcare delivery models and established pharmaceutical companies.

Pharmaceutical companies' business models have been under threat by a number of exogenous factors. Pressure has arisen from a diverse set of market phenomena that include pricing pressure from public sector buyers, increased competition from emerging market drug manufacturers (e.g. India's "branded generics"), and misalignment between product portfolios and current demographic demands.¹ For the last two decades – culminating in McKinsey's description of 2000 - 2010 as the "decade of doubt"² – one of the most scrutinized and worrisome threats has been the decreasing returns associated with increased research and development (R&D) spending while not meeting adequate revenue creation from these R&D activities. While pharmaceutical company returns still remain above the average for Fortune 500 companies, the variance and downward trajectory of industry returns has also brought shareholder pressure for change.

Many industry experts have argued that previous business models focused on blockbuster drug development are not adequately matched to the current pressures affecting the industry.³ These trends have caused a sea change in the industry with a shift from R&D-focused product growth to business model development. In other words, rather than companies trying to squeeze out marginal improvements on return through traditional R&D activities, pharmaceutical giants diversified out of R&D-only business models to reduce the dependency of commercial success on novel drug development.

Ernst & Young has described early stages of this transition as a step-wise progression from blockbuster driven growth ("Pharma 1.0") to a model based on single-product firm acquisition and product category diversification strategies ("Pharma 2.0").⁴ Examples of this phenomenon include the acquisition sprees of pharmaceutical firms in the 1990s (e.g. the 1995 merger of Glaxo and Wellcome to form Glaxo Wellcome and the 1996 merger of Ciba-Geigy and Sandoz to form Novartis) and the parallel organizational structures emphasizing equal-weight accorded to high-volume, low-margin complementary businesses like consumer healthcare (e.g. nonprescription pharmaceuticals, personal hygiene products).

¹ Luce CB, Jaggi G. 2010. Progressions: Pharma 3.0. Ernst & Young.

² McKinsey & Co. 2012. Restoring value to biopharmaceutical R&D. McKinsey Quarterly. August

³ McKinsey & Co. 2012. Pharma manufacturing for a new era. McKinsey Quarterly. August

⁴ Luce C.B, Jaggi G. 2010. Progressions: Pharma 3.0. Ernst & Young.



This activity has continued in more recent years with AstraZeneca and Pfizer both attributing productivity gains to new strategic alliances and reorganizing business units.⁵

In recent years, this focus on innovative business models as a growth driver has intensified. McKinsey has recommended that pharmaceutical companies to develop “new paradigm” solutions that create significant value by employing previously untried sales and development strategies.⁶ Ernst & Young’s so-called “Pharma 3.0” is a business model development strategy that downplays the product-oriented traditional business models of the past and emphasizes the need to shape a business model around a “health outcomes ecosystem.”⁷

5 Barton C.L. 2008. Innovative strategies and models for R&D success: the evolving networked pharma company. Business Insights.

6 McKinsey & Co. 2012. Restoring value to biopharmaceutical R&D. McKinsey Quarterly. August.

7 Luce C.B, Giovannetti GT. 2010. Progressions: Pharma 3.0. Ernst & Young

The underlying assumption of “Pharma 3.0” is that a pharmaceutical company cannot remain a product-oriented manufacturer to survive and must begin to understand its customers’ needs in a more holistic and dynamic way. Ernst & Young sees a convergence of the healthcare industry where it will become insufficient to consider a patient’s pharmaceutical needs in isolation. Instead, a business must consider the desired health outcome and develop a unified business model that employs healthcare resources to deliver on it. This most recent stage of pharmaceutical industry evolution has only recently been described, but the degree to which pharmaceutical companies are engaging with industry experts to reshape how they do business has been unprecedented. Ultimately, every pharmaceutical company will need to consider how the trends outlined above will impact their business and how they will most effectively engage in a “Pharma 3.0” world.

Section 2

Project Objectives and Approach

This section provides a high-level summary of the objectives and approach of the project; including an overview of the research methods used. A more detailed discussion of the research methodology can be found in Section 4.

Project Objectives

The overall objective of this project was to identify Base of the Pyramid (BoP) and last mile delivery models with commercial potential that offer significant social benefit and which could be replicated in GSK's DCMA markets.

The specific objectives were to:

- Create a database of relevant BoP healthcare initiatives using

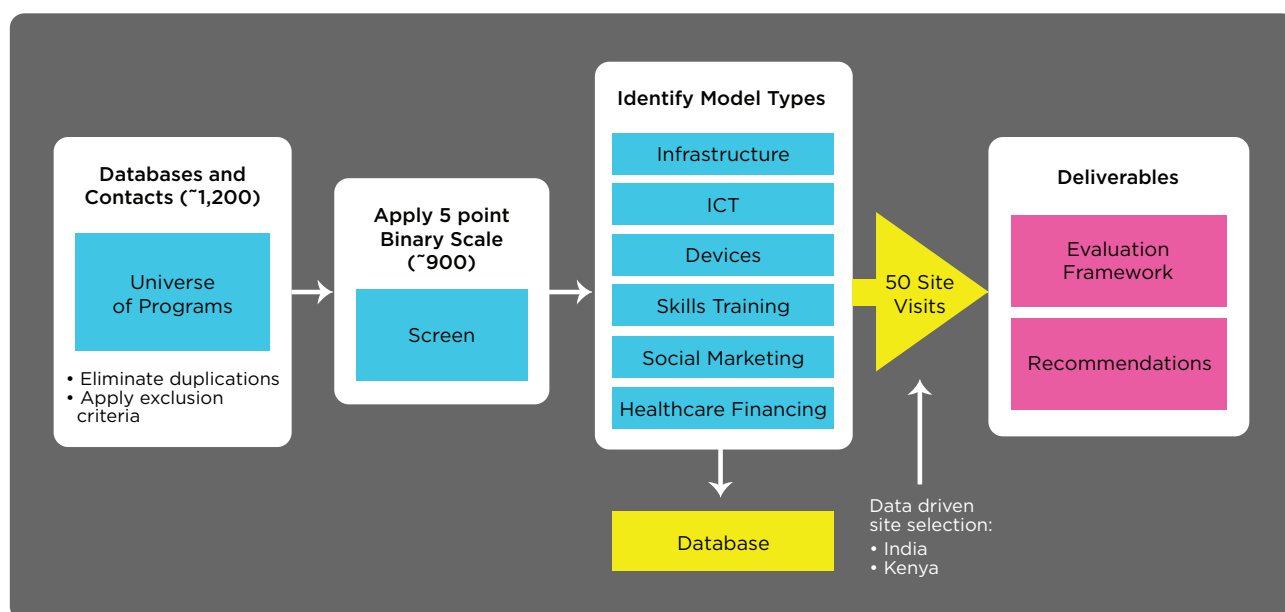
publicly available information and by leveraging ICSF and the project team's network and knowledge

- Identify criteria for evaluating the initiatives that are identified including: the potential for replication, alignment with GSK objectives etc.
- Identify a shortlist of potential projects to be evaluated in detail through field visits and the generation of in-depth case studies which consider the potential for and mechanisms whereby, each project or aspects thereof could be replicated
- Identify recommendations for specific actions that GSK can take together with potential next steps - including identifying potential projects of long-term benefit to GSK

Project Approach

Figure 1, below, provides an overview of the approach the team took.

Figure 1: Overview of methodology for screening and evaluating healthcare delivery programs



This is the principal section of the report and explores the consolidated, thematic findings of the ICSF's research. Findings are divided into two parts; the first are findings that relate to all the healthcare models visited, and the second part documents findings that are specific to certain healthcare delivery model types. The findings are used to suggest strategic opportunities for organisations that are seeking to engage with developing market innovations.

The ICSF identified 'themes' which are universally applicable across all the programs that were identified. In some cases these 'themes' may appear obvious but many of the programs we saw had not identified or addressed them.

Cross-model themes

- The importance of **User Value**.
- BoP markets around the world are different - **Context Matters**.
- **Segmentation** - there are different opportunities within sub segments of the BoP as well as with the emerging middle class.
- **Investability** - there are not that many novel programs, with clear revenue streams, that don't already have sufficient capital. Programs with a good track record are being actively courted by both commercial and social impact investors.
- **First Mover Competition** - numerous pharma companies are already investing in or implementing their own BoP market access initiatives.

- **Varying Quality** - there is a larger than expected variation in quality amongst the programs. Typically this variability is to do with "financial sustainability."
- **Market Building** - there are opportunities to **create, grow, and market health ecosystems**.
- **The Myth of Scalability** - Simple things are not easier to scale. Scalable success can be linked to simplicity but simplicity is rarely the most important consideration. Context and operational issues are far more important.

User Value

Poor people will pay for appropriately priced healthcare but they must value the benefit. There is no doubt that markets for healthcare do exist at the BoP and that there is real profit potential. However, although low-income consumers are willing to pay, they are hypersensitive to the value proposition and pricing for healthcare products and services. If a product is undervalued by consumers or even marginally over-priced, demand can quickly dissipate.

Therefore, understanding the perceived value of a product or service is critical for uptake in these markets. For example, micro insurance programs such as MicroEnsure⁸ and

⁸ MicroEnsure is the world's largest insurance platform explicitly dedicated to serving low-income consumers. MicroEnsure acts as an insurance broker, rather than insurance company, finding insurance providers and willing customers to enter into policies together. The insurance industry is made up of front office, risk carriers, and back office operations. MicroEnsure and its partners can occupy each of

Uplift Mutuals⁹, aware of the difficulty of pushing traditional insurance products to groups of consumers that do not see a value in paying a premium and potentially receiving nothing in return, have designed and marketed products in a manner more likely to be perceived as “valuable.”

Price sensitivity can be as important as perceived value. There will be a critical price where customers can afford the goods and perceive it to be good quality.

We found that the most successful programs are ones which have considered both their customers’ understanding of the benefits they are offering and their ability to afford the items.

Context Matters

BoP markets around the world are different; there is no silver bullet or magic program – context matters and programs need to be localised. Although there was no expectation

these operational niches depending on local conditions (e.g., MicroEnsure carries risk as an underwriter only in contexts where it is favorable to do so; otherwise it engages a local partner). The company is known for its adaptability where it creates country specific models to reflect consumer needs and operational capabilities. <http://www.microensure.com/index.asp>

9 Uplift Mutual - Indian Mutual Insurer. At the time of service, all expenses are out of pocket. Every claim is put to the community to decide if it is appropriate. This reduces the moral hazard of inflated claims as it is the community’s money and the community has a say over every reimbursement. By building resources and knowledge about the health services and protocols one should follow, members become educated about the cost of their health care as they know they will have to defend their decisions to the community claims board (e.g. getting medicines / supplies from the service provider is known to be more expensive than from trusted pharmacies). Members also understand the value of the health fund and how the money flows and are happy to pay the additional premium for the services Uplift provides.

that we would identify universally applicable programs, we found that the importance of contextual factors, that make one geography/market different from another, were larger than expected. Offerings and operations need to be customized to suit local market needs.

For example, Nokia Life considers **local culture** when working with content providers to ensure that health messages are appropriate e.g. by tailoring pregnancy and early child care information to account for regional attitudes to breastfeeding.

Local variation in **regulatory regimes** can also be an obstacle for replication, for example:

- Programs relying on para skilling are appropriate in Kenya where this is common practice. India, however, has stricter rules.
- Neurosynaptics¹⁰ is having difficulty entering the large Brazilian market with its ReMeDi-MADU remote diagnostic kit and data acquisition

10 *Neurosynaptic Communications’ ReMeDi-MADU* is a remote diagnostic kit and data acquisition unit. Pilot programs have demonstrated that ~75% of patient cases can be dealt with via the kit’s virtual consultation facility (with 25% requiring a referral to a medical centre). The unit is a textbook-sized computer peripheral that receives input signals from proprietary medical probes that are processed and then fed into proprietary software on a laptop. The vital sign feed (temperature, pulse, oxygen saturation, blood pressure, and ECG) is combined with a proprietary compressed video feed that is then transmitted to a doctor sitting in one of India’s major population centres (e.g. Delhi, Mumbai or Pune). The self-contained system is unique in that it is the only product available in the world that is able to provide the quantity of monitoring data over an internet connection as low as 32 kbps. This key characteristic has allowed its system to be implemented in India’s most remote areas include Andhara Pradesh and Bihar. A second version of the diagnostic unit now exists that allows for a smart phone with Bluetooth to replace the previously required laptop.

unit, due to the government's requirements for local clinical trials for the device.

- In Ghana, the government currently provides healthcare insurance and the Indian state of Andhra Pradesh intends to do so meaning that there are/will be opportunities in these regions that are not readily available in others.

Demographic variations, including life expectancy, population aging, mortality rates, and/or burdens of disease, mean that programs which are applicable in one region may not be immediately appropriate for other regions. Population density, the rural urban split, and education levels are also relevant. Mobile clinics like Smile on Wheels¹¹ can only be effective where large clusters of villages allow them to plan journeys with minimum travel time per person reached.

Health infrastructure is another important factor - the large number of public healthcare facilities and doctors in India means that there are opportunities for insurance, retail pharmacies and telemedicine solutions that may not be immediately applicable in other developing countries.

Similarly, **technology and other infrastructure** such as roads and transportation need to be considered. Mobile phone penetration has reached 70% in Kenya which is facilitating numerous mHealth initiatives.

¹¹ *Smile on Wheels* is attempting to bring primary health care at the community level for marginalised groups via ambulances and mobile clinics; it is focused on serving the “true” BoP. http://smilefoundationindia.org/smile_on_wheels.htm

Segmentation

Almost every program visited mentioned serving the BoP as a primary goal but many also emphasised that there are different opportunities within sub segments of the BoP as well as with the emerging middle class. Successful programs are those with a deep understanding of the customer segments and sub segments they seek to serve.

Dial - 104¹², an Indian health advice call centre, is government funded and serviced by retired doctors or recent pharmacology graduates and targets those with the least access and least funds. In contrast, a similar but for profit service, MeraDoctor¹³, sells subscriptions to consumers for a service deploying fully licensed physicians.

Investability

There appears to be a **dearth of investable projects** that don't already have sufficient capital. Programs with a good track record are being actively courted by both commercial and social impact investors.

¹² <http://www.thehindu.com/news/cities/bangalore/article3528991.ece>

¹³ MeraDoctor has been operational for 1.5 years; rural people can call fully licensed doctors for medical advice with a focus on primary care. They pay 150 INR, for up to 6 people to use the service with unlimited calls for 3 months. Users can call from any phone as long as they have the original phone that registered with the service and a pin number. Sales are done in villages, at shops accustomed to selling phone credits. Calls are routed to the doctors via in-house routing technology and they log into the system to complete the consultation. Any doctor that receives a call from a patient can see what the previous advice/diagnosis was. The system is hosted by MeraDoctor and available via computer, PDA, and tablets. The doctors can be located anywhere (although a dedicated space is available) with the only requirement that the doctor truly dedicates that time. <http://meradoctor.com>

Industry experts such as Impact Investment Partners, Acumen, and Gray Ghost Ventures believe there is too much money chasing too few potential BoP healthcare opportunities. Gray Ghost has reduced the effort it puts in to locating new healthcare ventures believing that few projects exist that are able to provide appropriate returns. The limited number of investable projects and the flood of investment capital chasing socially impactful health projects present a number of challenges:

- Many different actors (impact investors, venture capitalists, other large pharmaceutical companies) are looking to make investments based on the same or similar criteria i.e. scalable, income generating and unique.
- Both impact investors and venture capitalists already have significant networks in place for identifying and evaluating potential investments.

The intense competition in the space suggests that investment partnership strategies could be a good potential way forward. The impact investing players are likely to welcome a large corporate partner as a funder and collaborator with an emphasis on collaboration with the investee.

First Mover Competition

Numerous pharma companies are already investing in or implementing their own BoP market access initiatives. The team did not specifically set out to research competitor activity in this space, but came across a number of examples where pharma companies had already invested in programs that we spoke to and plenty of evidence of their activity in this space.

- Novartis's Arogya Parivar program¹⁴ which combines education with sales efforts was often cited to us as an example of how to innovatively build markets in a socially responsible manner. Novartis claims that it broke even within 30 months.
- Eli Lilly has adopted a "Pharma 3.0 approach" where they are actively engaging each part of the diabetes value chain from education and diagnosis through treatment.

Varying Quality

There is a large **variation in quality** amongst the programs. We expected, especially given the large number of programs originally identified, to find variability in their quality. The field visits underlined this and highlighted the fact that this variability is typically to do with "financial sustainability". We found that programs described in public sources as financially sustainable, often had little or no revenue from a sustainable source i.e. they were reliant on grants or charitable investment.

Some programs that in the original desk-based assessment had scored 5 on our binary scale thereby indicating a high fit program, were reas-

¹⁴ *Arogya Parivar*, which is funded by Novartis, uses a 1 plus 1 education model whereby a Health Educator is trained in general health principles and educates their respective groups of villages (organised into cells) on topics as diverse as water, sanitation, and diseases with a purely social goal of creating faith in medicine. They have a fixed route and timetable with heavy accountability and monitoring to ensure they are visiting villages as planned. An accompanying "supervisor" then educates doctors and service providers and assesses the area's needs (be it an insurance program, physical clinic, better skilled providers, health camps, supplies etc.) and seeks to partner and build up capacity as needed. In practice, there is more interaction with the community than the providers although both groups are targeted. <http://www.novartis.com/corporate-responsibility/access-to-healthcare/our-key-initiatives/social-business.shtml>

sessed as 2s or 3s after being visited (see Section 4 for further details). This highlights not only the degree of variability, but also the difficulty and subtlety involved in identifying quality distinctions when limited to desk research. For example, Smile on Wheels' interpretation of being sustainable is that once they receive a large grant for the start-up costs of their mobile vans and begin operations, they are confident they will have such a positive impact on the community that they will become sustained by ongoing donations from local area patrons.

By contrast, Care Hospitals'/Byrraju Foundation¹⁵, which offers primary care to the base of the BoP, has moved from being 90% funded by grants to the current situation where 60% of income needs to come from grants. It is on target to be 100% self-sustaining and to be in a position to generate profits within the next two years.

Market Building

There are opportunities to **create, grow, and market a health ecosystem**. Healthcare is a complex web of interactions between professionals, facilities, supporting technology, and so on. Given the different program goals and models that exist it is no surprise that the current delivery of healthcare to the BoP has multiple gaps. Our field visits highlighted that the importance and success of one program in an area is very often dependent upon the activities of other programs. For example, offering additional outlets for the sale

¹⁵ Care Hospitals (Byrraju Foundation). Sole example of rural primary care claiming to have the potential to become 100% sustainable without government intervention www.byrrajufoundation.org/ / www.carehospitals.com/crhm

medicines is useful only to the extent that the population can afford these purchases. Aligning infrastructure programs with micro insurance schemes therefore becomes very important.

Myth of Scalability

Simple things are not easier to scale.

A popular approach within the BoP is to pare down products / services in a way that is simple and affordable to create a “no frills” model. Scalable success can be linked to simplicity but we found that amongst the factors of excellence, simplicity is rarely the most important. The context within which a program operates and how well it is operationalised is far more important.

The success of Narayana Hrudaya-laya heart hospitals¹⁶, a highly specialised hospital chain, is not in its simplistic design but rather in the numerous operational decisions that have been made to drive down costs and improve efficiency. Neurosynaptics' ReMeDi device can send more data over a lower bandwidth than any other telecom device in the market but the technology is anything but simple. Simple things can be scalable but simplicity is not necessarily a condition for replicability.

¹⁶ Narayana Hrudayalaya (NH) is India's largest cardiac hospital that has used a “Walmart” approach to procurement and consumer engagement to provide high-quality medical care to the entire income spectrum of the population. Currently 14 hospitals in 11 cities are managed under the NH brand (orthopedics, cancer care, and ophthalmology). NH uses telemedicine, with a network of 100 Indian and 50 African (mostly Tanzania and Burundi) referral centers, to drive business to its tertiary care hospitals. Patients are income rated when they are accepted as patients and are given a scaled pricing scheme prior to admission. NH credits its success to heavy negotiation, standardised volume and cutting out intermediates in the value chain. NH also aggressively tracks costs and income with automated daily reports to managers.

Model Specific Themes

The following model types were found during the research.

Model Type	Description	Example Programmes
Information and Communication Technology (ICT)	<ul style="list-style-type: none"> leveraging mHealth healthcare administration (electronic medical records, inventory, supply chain enhancement) harnessing Big Data for public health needs 	SMS for Life (Tanzania) Using mobile technology to manage stock outs and access to antimalarials
Skill Training	<ul style="list-style-type: none"> improving the capacity of health workers via training as compared to additional hardware “para skilling” 	Primary Healthcare Nursing Promotion Program (Guatemala) Virtual nursing training program to increase number of nurses in rural areas
Devices and Equipment	<ul style="list-style-type: none"> providing diagnostic and therapeutic apparatuses 	BD's Reagent Rental Agreement (Mozambique) “Rental” of reagents smooths out cost to allow public clinics to budget more easily
Infrastructure	<ul style="list-style-type: none"> addressing the accessibility of healthcare facilities establishing or improving facilities from kiosks to speciality hospitals developing travel alternatives that bring patients to facilities or bring the facilities to patients 	AyurVAID (India) Pairing low-cost Ayurvedic medicine with traditional Western medicine
Financing	<ul style="list-style-type: none"> helping individuals afford healthcare through micro insurance or voucher-based prepayment plans 	Bupa's Swasthya Pratham (India) Retooling Bupa Max's traditional model to reach low-income consumers
Social Marketing	<ul style="list-style-type: none"> educating a group of people about specific diseases and health concerns triggering behaviour change through mass market incentives and awareness building 	Arogya World Health Diabetes (India) Targeting the classroom and workplace as focal points for healthy living messages

Social Marketing

Social marketing campaigns are often the most straightforward models but rarely have big monetary payoffs.

With the possible exception of building clinics, social marketing is one of the most traditional methods to improve health outcomes for a population. But:

- **To be successful messages need to be delivered by a trusted source**
- programs like HALO¹⁷ and SSP rely on village health workers to spread health awareness, and only employ people from the villages in which they will operate in order to overcome language and other cultural barriers.
- **It is difficult to monitor impact**
- raising disease awareness and trying to influence behaviour change (to seek healthcare) is hard to measure. Even if a program were successful at raising awareness, it is difficult to monitor the social return versus cost as it is difficult to isolate the measurement of effect. Novartis circumvents this issue by ascribing all sales increases in a region to the activities of their Arogya Parivar health educators. This is not a robust measurement methodology but they are able to measure impact directionally if not precisely.
- Social marketing campaigns **tend to involve NGOs**, who tend to have trusted networks in communities.
- **Once established such programs can be used to deliver additional content.**

¹⁷ HALO targets underserved communities, primarily in the Maharashtra state, by training Village Health Workers (called Bharat Vaidyas) who are often linked to self help groups in their areas started for other purposes. The cost of consultation is reduced to close to the standard bus fare. The health workers receive a 50% uplift on anything they administer (OTC and low risk medication). HALO provides training and diagnostic tools e.g. flow charts of questions.

Infrastructure

Infrastructure investment takes time and requires a careful balance between case mix and volume targets.

Infrastructure programs vary significantly in their scale and clinical scope, and can involve a spectrum of personnel from medical specialists to community health workers in settings as diverse as tertiary hospitals through to rural kiosks. For the purposes of this report, this category also includes retail pharmacies and travel related to services.

- **Segmentation is critical**
- **Capital intensive / time horizon**
- **Implementation dependent**
- **Specialty choice (volume versus capital expenditure)**

Well-performing programs have aligned their cost structure and value propositions. Smile on Wheels' mobile clinic vans are going to have limited functionality and equipment since they target the lowest segments of the BoP who are not paying for the service. At the other end of the spectrum, NationWide¹⁸ can offer a highly personalized primary care service (with corresponding high cost structure) because their target market is in the middle income brackets. LifeSpring Hospitals¹⁹ low-pricing strategy requires a high volume of patients and operational efficiency with a low cost structure achieved by partnering with government for access to cheap land.

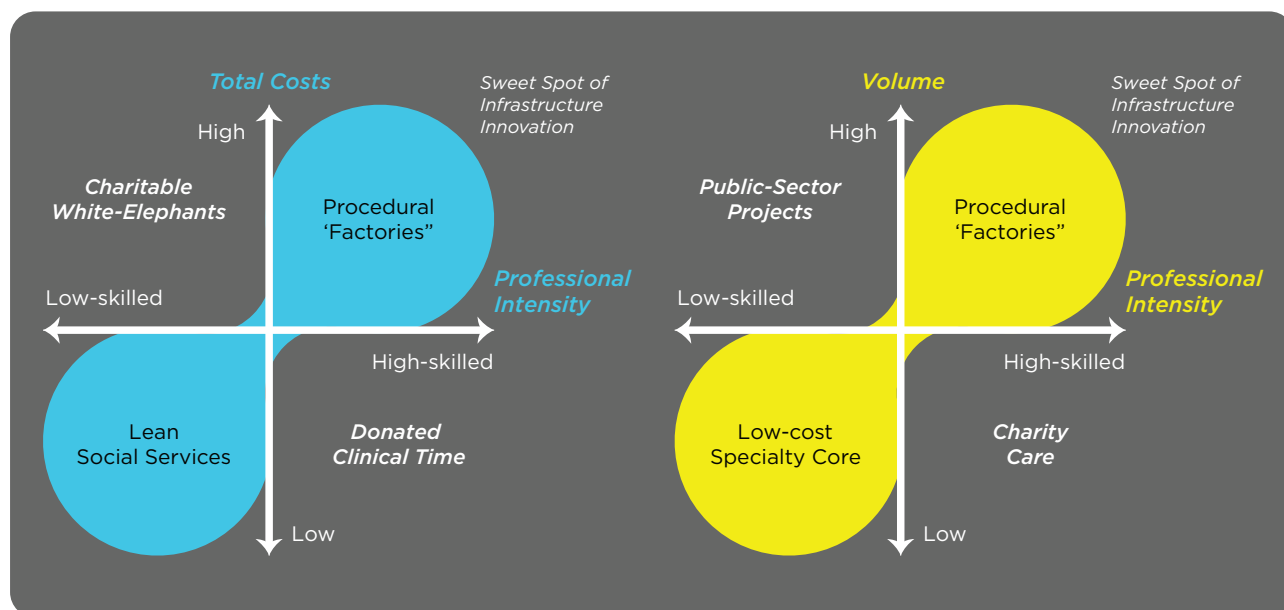
¹⁸ NationWide is a franchise network of primary care clinics in Bangalore (3 "hub" walk-in locations and 12 contract clinics with local agencies or corporations). It differentiates itself by offering 24x7 physician cover (via cloud-based EMR), home visits, and exceptional customer service. It is able to demand a price premium from subscribers and walk-in patients because it uses a selective admissions system for providers (only 1 in 10 make it through) and then rewards providers with a portion of the extra profits via performance based pay.

¹⁹ <http://www.lifespring.in/>

For capital-intensive programs like hospitals, issues like start up and working capital, payback periods, and fixed versus variable costs all need to be considered. In addition, the time horizon is understandably longer as set-up time can be significant. Potentially, this longer time horizon for financial returns can offer opportunities for funding and investment from atypical funders like GSK since traditional capital sources tend to require shorter payoff periods.

The tradeoffs for infrastructure projects are summarized in Figure 2 below. The “sweet spots” indicate where infrastructure programs should position themselves to avoid a high skills/low revenue model that can only be delivered by “non-recoverable investment” such as charitable giving, public sector funding and NGOs.

Figure 2: Infrastructure innovation “sweet spots”



Skills Training

Skills training provides limited opportunities for commercial relationships because of its historical association with pure NGOs and the public sector. There were very few financially sustainable skills training programs found - this space tends to be dominated by NGOs and public sector initiatives.

- **Limited effect in isolation**
Dependent on the local infrastructure and regulatory environment.

- **Heavily regulated**
Conflict of interest between medical professionals and para skilling. For example, physicians’ associations in India were considered by some interviewees to be one of the greatest impediments to being able to train nurse anaesthetists in order to cut down anaesthesia care costs; interviewees felt that this barrier existed to protect members’ interests and job prospects.
- **Measuring impact is difficult**

Devices

Although devices are potentially highly lucrative, finding early stage projects in need of funding can be difficult.

- **Limited number of underfunded programs**
- **Creative design and usability critical**
- **Total purchase price does not equate with being able to monetise**

During the field visits we found it difficult to identify programs developing or selling devices for patient use. This is likely due to the classic obstacles facing anyone trying to serve the BoP where limited customer wealth reduces the prices that a patient can bear and therefore that a provider can charge. However, business models have been emerging that take a lease or shared services approach. The equipment is provided free of charge with a pay-per-use model so that providers do not have to make a large capital expenditure but can tie expenses to the point of sale instead.

Besides understanding to whom the device needs to be marketed, a critical theme when looking at devices is the design simplicity. Embrace²⁰ has chosen to shape their heating element in the shape of a SIM card so that users know which way the heating element goes into the chamber. The idea of simplicity in the user experience is critical not only to minimise the consumer education required, but also, to reduce the need for extensive post-purchase training. Forus²¹ ophthalmology screening device has only a joystick and a single button and gives a binary output: “Normal” or “Needs to see a doctor.”

²⁰ *Embrace*. Award-winning company that has developed a low cost infant warmer for developing countries.

²¹ *Forus*. Portable, non-invasive, non-mydratic, eye screening device that can detect 5 major eye ailments – cataract, glaucoma, diabetic retina and cornea problems.

Healthcare Financing

Micro insurance and other healthcare financing for underserved populations have commercial promise but the opportunities for traditional companies are less obvious than in other segments.

Once healthcare infrastructure begins to improve, healthcare financing becomes a critical component in meeting the needs of the BoP. Educating both the providers and policy holders is a critical success factor. Uplift Mutual attributes their success to the way in which they have educated their consumer base as one of the barriers had been customers’ reluctance to pay for premiums for something they might not use. Uplift has overcome this by creating a fund that is only drawn upon by the contributors themselves; if there are no claims, the money remains in the fund. Paired with this “lossless” feature, any reimbursement from the fund must be approved by the community creating a conscientious consumer. MicroEnsure has learned that the most successful way to build their customer base is by incorporating purchases into consumers’ daily behaviours. In Ghana customers purchase MicroEnsure’s product at the same time that they buy mobile phone top-ups.

- **Challenges of managing an entire delivery ecosystem: patients, providers and suppliers.** We heard many anecdotes about levels of fraud within the Indian health-care space such as false claims or inflated list prices for services when customers answer yes to the question, “Are you paying for this with insurance?” Uplift counters this by conducting a detailed

manual review of each claim to keep providers honest and transparent. MicroEnsure takes a more scalable approach by leveraging technology to verify certain aspects of claims. When a MicroEnsure policyholder files a claim for inpatient pay compensation via text messaging, the firm checks the policyholder's mobile phone connectivity to ensure the current tower registration is consistent with the hospital that the patient reports they are at.

- **Need for user education and to normalize the role of insurance**
- **Scale-dependent**
- **Unclear role for pharmaceutical industry.** Providers and insurance schemes do appear eager to work with pharmaceutical partners primarily for negotiating supply and pricing but also for more advanced value-add activities like merging claims, outcomes data, and clinical trials to improve procurement and supply chain activities. Such opportunities need to be explored in depth by interested parties to confirm their potential.

Information and Communication Technology

Technology can help innovative programs leapfrog traditional health-care delivery mechanisms but these are often the most vulnerable to change.

The ICT category is the least mature. Whilst there are plenty of “me toos” we did identify a strong tendency for iterative experimentation.

- **Challenging to measure impact assessment**
- **Me-too phenomenon**
- **Network effects**
- **Scale-dependent**

It is the combination of technology

with other factors that yields the greatest results. Microsoft Research in partnership with Operation Asha²² has had success in improving the efficacy and outcomes of TB Direct Observation Treatment (DOT). Leveraging biometric data and a medical record platform, Operation Asha has seen improvements in the detection rate and default rate of their TB patients. However, Operation Asha cautioned against a “myth of technology” as the answer to scalable solutions. It claims that it is the combination of Operation Asha's established network and their human capacity to implement their program, along with government mandated funding, that the technology was able to improve upon.

Recommendations

We have identified a series of recommendations based on the desk and field research. These are applicable not only to the pharmaceutical industry but to all other sectors interested in engaging with the BoP and emerging middle class in emerging markets.

²² *Operation Asha.* Because the treatment protocol for TB involves patients sticking to the regimen for 6+ months and patients see visible improvements after just one month of treatment, many patients do not complete the regimen. This can result in Multiple Drug Resistant (MDR) TB which is much more costly to treat (\$5,000 /case versus \$130 for basic TB). The WHO has recommended that all TB treatments be delivered under a Directly Observed Therapy Short Course (DOTS) model which involves distribution centers manually maintaining records on who has received treatments. Follow-up for those missing their dosage is severely limited and the prevalence of TB remains stubbornly high. Operation ASHA sets up non-descript centres (due to the social stigma of the disease) and mobile units and uses biometric scanning and electronic medical health records to automate the process of tracking who has received their medicines and who has not. <http://www.opasha.org>

Short Term

Consider the most promising programs encountered in more detail and approach them on a collaborative basis.

Many of the programs we spoke to reported having been approached by potential corporate partners who had what can be described as formal transactional interactions with them with limited if any follow-up. This left the programs wondering how to re-engage and work with them. To be successful, a corporate seeking to build partnerships needs to:

- Take a holistic approach
- See the partnership as long-term open-ended relationships
- Be iterative and try different things
- Be collaborative rather than transactional

Develop a knowledge management system.

Innovative healthcare delivery models for the BoP and emerging middle class in emerging markets is a dynamic and constantly evolving space. Time and resources need to be put in to maintaining an information pipeline of innovative health delivery models. Similarly, corporations need a defined mechanism for keeping track of local initiatives that may come to the attention of field level-based operating company personnel.

Medium Term

Implement a framework for evaluating programs. Corporations need to be able to rapidly assess and shortlist innovative healthcare models that they encounter.

Define mechanisms for identifying new programs. As well as being able to evaluate programs that proactively

approach the organisation, corporations should consider ways in which to identify and engage with early stage innovative projects in an increasingly competitive space.

Methods to achieve this include:

- **developing an in-house innovation hub**; this could be an internal team who spends a substantial portion of time specifically dedicated to new business development through varied means such as directing external investments, cross-unit collaboration, knowledge-brokering, and monitoring and evaluation
- **using external consultants to conduct periodic innovation reviews**
- encouraging an **open innovation model** where partners can recommend new models for a finder's fee
- **challenge competitions** such as encouraging country-based staff to identify and screen projects in their locality
- **public engagement through social media and outreach** – communicate interest in innovative initiatives through traditional and modern media
- **competitions** – partner with academic institutions or other innovation catalysts to operate business plan competitions and other idea generation methods

Longer Term

Pharmaceutical companies' overall long-term strategies need to combine ways to identify and evaluate programs with a clear understanding of the types of projects they want to engage with and how. In the medium to long term

this will require an internal assessment of an individual company's capabilities and resources to understand the types of programs that they want to work with. Given that the market for these types of programs is still quite nascent, it could be argued that companies should experiment widely for now.

There are some strategic options that a company can consider:

- **Geographic Focus** – multiple programs meeting a broad range of needs in a specific geography
- **Replicable Program Focus** – limited number of programs with a strong universal appeal
- **Disease Focus** – limited programs focused on specific content
- **Value Chain Ownership** – holistic engagement with e.g. a disease-specific value chain
- **Second Mover** – follow competitors in to newly developed areas

While companies may be able to string together a series of market access successes without taking a long-term strategic view, a more structured approach building a dynamic position will serve companies well in what appears to be the next great growth opportunity for the pharmaceutical industry.

Implications of findings and recommendations beyond the pharmaceutical industry

The ICSF is committed to scaling social impact projects across all industries; this research has identified a number of findings and associated recommendations that the ICSF feels have interesting cross-industry applications.

Firstly the problem described in Section 1, of stagnating developed markets and a clear perception of value to be derived from emerging markets, is relevant to numerous industries. Equally the challenge of discovering, building and replicating innovation will be shared by many large corporations looking to engage in developing markets. The internal investment conditions within these markets are also comparable; the impact investing and traditional investing actors interviewed in this research described a surfeit of capital in many industries, from agriculture to clean tech. It is likely therefore that organisations will need to look outside traditional investment techniques towards the kind of engaged partnerships advocated by this research to present themselves as attractive partners. Equally, in competitive markets for corporate engagement, companies will need to carefully consider how they develop an assessment methodology for screening innovative models alongside a pipeline methodology and ecosystem engagement approach that will ensure that they can access innovations rapidly and ahead of their competition.

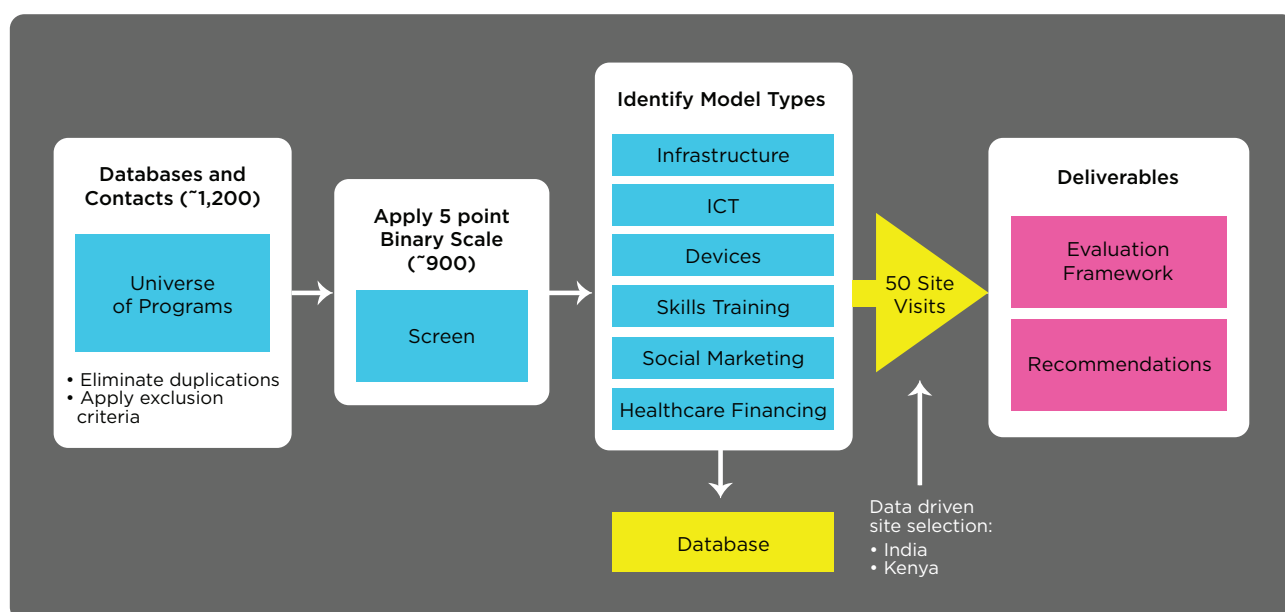
Section 4

Project Methodology

This section gives further detail on the research methodology developed by the ICSF for the project. This approach, creating a “universe” of

relevant programs, screening them for relevance and type followed by more detailed research in the field can be applied across all sectors.

Figure 3: Overview of methodology for screening and evaluating healthcare delivery programs



In order to create a “universe” of relevant healthcare programs and initiatives the team reviewed existing public data sources including:

- **The Centre for Health Market Innovations (CHMI)** - database which provides comprehensive, up-to-date information about innovative programs; it holds details on innovative health enterprises, and nonprofit organisations.
www.healthmarketinnovations.org
- **GSMA database (mHealth focus)** - Mobile phone industry association which maintains a database of mHealth initiatives www.gsma.com/connectedliving/mhealth
- **Micro insurance Network** promotes the development and delivery of effective insurance services for low-income people.
www.microinsurancenetwork.org
- **ANDE Network** is a global network of organizations that invest money and expertise to propel entrepreneurship in emerging markets.
www.aspeninstitute.org/policy-work/aspen-network-development-entrepreneurs/about-ande
- **UnLtd India** is a “launch pad for social entrepreneurs”; finding, funding and supporting exceptional individuals whose ideas, passion and entrepreneurial skills can bring about long-term solutions to India’s social problems.



www.unltdindia.org/

- **Ashoka Healthcare Fellows** – social entrepreneurs. www.ashoka.org/about
- **UCSF top 50 (SF4Health)** – SF4Health is an interactive clearing-house for information on social franchising www.sf4health.org/about/about-sf4health
- **Impact Investors** - Impact investments aim to solve social or environmental challenges while generating financial returns, which can range from producing a return of principal capital to offering market-rate or even market-beating financial returns. Global Impact Investing Network definition. www.thegiin.org/cgi-bin/iowa/investing/index.html
- 1. **IIP** - www.impactinvestmentpartners.com
- 2. **Unitus** - www.unitusimpact.com
- 3. **LGT** - www.lgt-capital-partners.com
- 4. **Bamboo Finance** - www.bamboofinance.com

Database Review

The approximately 1600 entries in the CHMI database together with the details of programs from other sources were reduced to 1200 by eliminating duplicates and database quirks.

The 1200 were reduced to 900 by applying the following exclusion criteria (identified through discussion with GSK) so that the programs most relevant to

GSK's business goals could be identified.

Database Exclusion Criteria:

- No longer active
- Purely a State/Government initiative
- Dentistry
- HIV/AIDS
- Nutrition
- Rehabilitative Care
- HIV/AIDS and Rehab Care
- HIV/AIDS and Nutrition

5-Point Binary Scale

The approximately 900 entries remaining in the database after the exclusion criteria had been applied were screened using a 5-point binary scale. This was necessarily a rapid review, and for the majority of projects meant assessing them based on the approximately 500-word publicly available information. To achieve this, a member of the team made a judgment as to whether the program fulfilled the screening criteria for each of the 5 points on the scale. If an individual team member was unsure of the evaluation other member(s) of the team would confer until a consensus score could be reached.

Table 2 on the next page describes the binary scale and the rationale for each

Table 2: 5 - Point Binary Scale

Screening Criteria	Evaluation Questions
Replicability potential to radically increase number of locations or beneficiaries	<p>Relative to similar programs, does the program currently operate on a large scale with evidence such as a large client base, substantial turnover, or large geographic area covered?</p> <p>Is there an obvious unit of replication in the program model such as a modular IT platform or franchisable storefront?</p> <p>Is there at least some evidence of interest and ability to rapidly increase number of clients served and/or locations?</p>
Pharma/Vaccine-related potential to increase the sale or distribution of GSK products	<p>Is there an obvious link between the program evaluated and pharmaceuticals or vaccines?</p> <p>Would further implementation of this program increase the sale or distribution of pharmaceuticals or vaccines?</p>
Investment Time Horizon potential for successful implementation within 5 years or less	<p>Can the program be successfully implemented / replicated in 5 years or less?</p> <p>Can proceeding from pilot projects to full-scale operations be achieved in a similar timeframe?</p> <p>Does the revenue model have the potential to evolve over the next 5 years to convincing financial self-sufficiency?</p>
Financial Sustainability clear, consistent revenue stream compatible with cost structure	<p>Does the program have a clear business model with a revenue stream that suggests eventual financial self-sufficiency?</p> <p>If not directly self-sufficient, will the program positively affect pharmaceutical and vaccine sales in such a manner that would produce outperforming returns that could be funneled back into the sales-generating program?</p>
Innovative provides a novel approach to healthcare delivery	<p>Is the program sufficiently novel in its approach to the problem(s) it is trying to address?</p> <p>Is the program just one of the many “me-toos” following on prior success without adaptation?</p>

All programs scoring 4 or more out of 5 were flagged for further analysis. The team was therefore able to identify which programs would warrant qualitative analysis via a site visit.

Identifying Model Types

From the universe of programs, 6 model types were identified. These are listed in Table 3, below.

Table 3: Model Type Descriptions

Model Type	Description	Example Programs
Information and Communication Technology (ICT)	<p>Leveraging mHealth</p> <p>Healthcare administration (electronic medical records, inventory, supply chain enhancement)</p> <p>Harnessing Big Data for public health needs</p>	<p>SMS for Life (Tanzania) Using mobile technology to manage stock outs and access to anti-malarials http://malaria.novartis.com/innovation/sms-for-life/index.shtml</p>
Skill Training	Improving the capacity of health workers via training as compared to additional hardware “para skilling”	<p>Promotion Program (Guatemala) Virtual nursing training program to increase number of nurses in rural areas. http://mhealth.vodafone.com/solutions/access_to_medicine/training_and_awareness/</p>
Devices and Equipment	Providing diagnostic and therapeutic apparatus	<p>BD’s Reagent Rental Agreement (Mozambique) “Rental” of reagents smoothes out cost to allow public clinics to budget more easily http://healthmarketinnovations.org/program/reagent-rental-agreements-diagnostic-services</p>
Infrastructure	Making healthcare facilities more accessible establishing or improving facilities from kiosks to specialty hospitals developing travel alternatives that bring patients to facilities or bring the facilities to patients	<p>AyurVAID (Bangalore, India) Pairing low-cost Ayurvedic medicine with traditional Western medicine http://ayurvaid.com/</p>
Financing	Helping individuals afford healthcare through micro insurance or voucher-based prepayment plans	<p>Bupa’s Swasthya Pratham (New Delhi, India) Retooling Bupa Max’s traditional model to reach low-income consumers http://www.maxbupa.com/health-insurance/rural-social/swasthya-pratham-policy.aspx</p>
Social Marketing	<p>Educating a group of people about specific diseases and/or health concerns</p> <p>Triggering behaviour change through mass market incentives and awareness-building</p>	<p>Arogya World Health Diabetes (India) Targeting the classroom and workplace as focal points for healthy living messages http://www.arogyaworld.org/</p>

Each of the 913 programs that were assessed against the binary scale was also allocated to one or more of the “model types”. Table 4, below, illustrates the initial distribution of the binary scores.

Table 4: Distribution of binary scores across included program universe

5-Point Binary Score	Count of Programs	% of Programs
5	134	15%
4	199	22%
3	160	18%
2	170	19%
1	176	19%
0	74	7%
Total	913	100%

Table 5 illustrates for programs that scored 4 or more on the binary scale, how the model types are distributed.

Table 5: Distribution of model types for programs rated > 4 (333 programs)

Model Type	Count of Programs*	% of Programs
Infrastructure	211	38%
ICT	128	23%
Healthcare Financing	106	19%
Social Marketing	58	11%
Skills Training	30	5%
Devices	19	4%
Total	552	100%

**Count of programs does not equal 333 due to some programs being categorized under multiple model types*

Identifying Field Visits

The team then had the challenge of deciding how to identify potential projects to be evaluated in detail in a three week program of field visits.

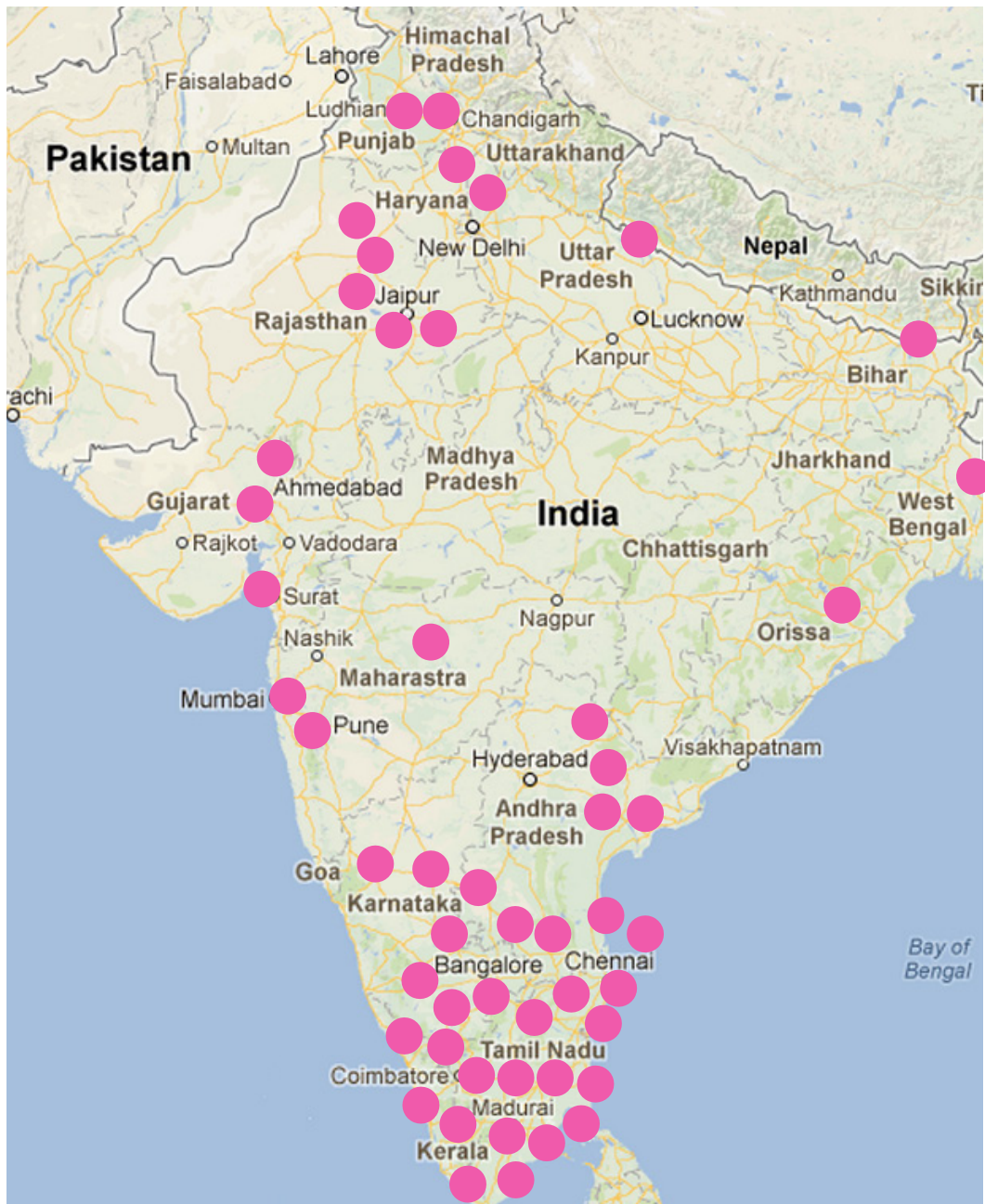
This was achieved by analysing the available data by geography. Table 6, below, illustrates the geographic concentration of programs that score 4 or more on the 5 point binary scale. This confirmed, as had been assumed by GSK, that India was a place of heavy health innovation, but also – somewhat surprisingly – identified that Kenya was the second greatest “hotbed.”

Table 6: Geographic concentration of programs ranked > 4 (333 programs)

Country	Count of Programs*	% of Programs
India	93	23%
Kenya	34	8%
Uganda	28	7%
Philippines	21	5%
Vietnam	14	3%
Indonesia	14	3%
Pakistan	14	3%
Tanzania	13	3%
Bangladesh	13	3%
Nigeria	12	3%
Subtotal	256	61%
Other (58 countries)	155	39%
Total	411	100%

**Count of programs does not equal 333 due to programs operating in multiple countries*

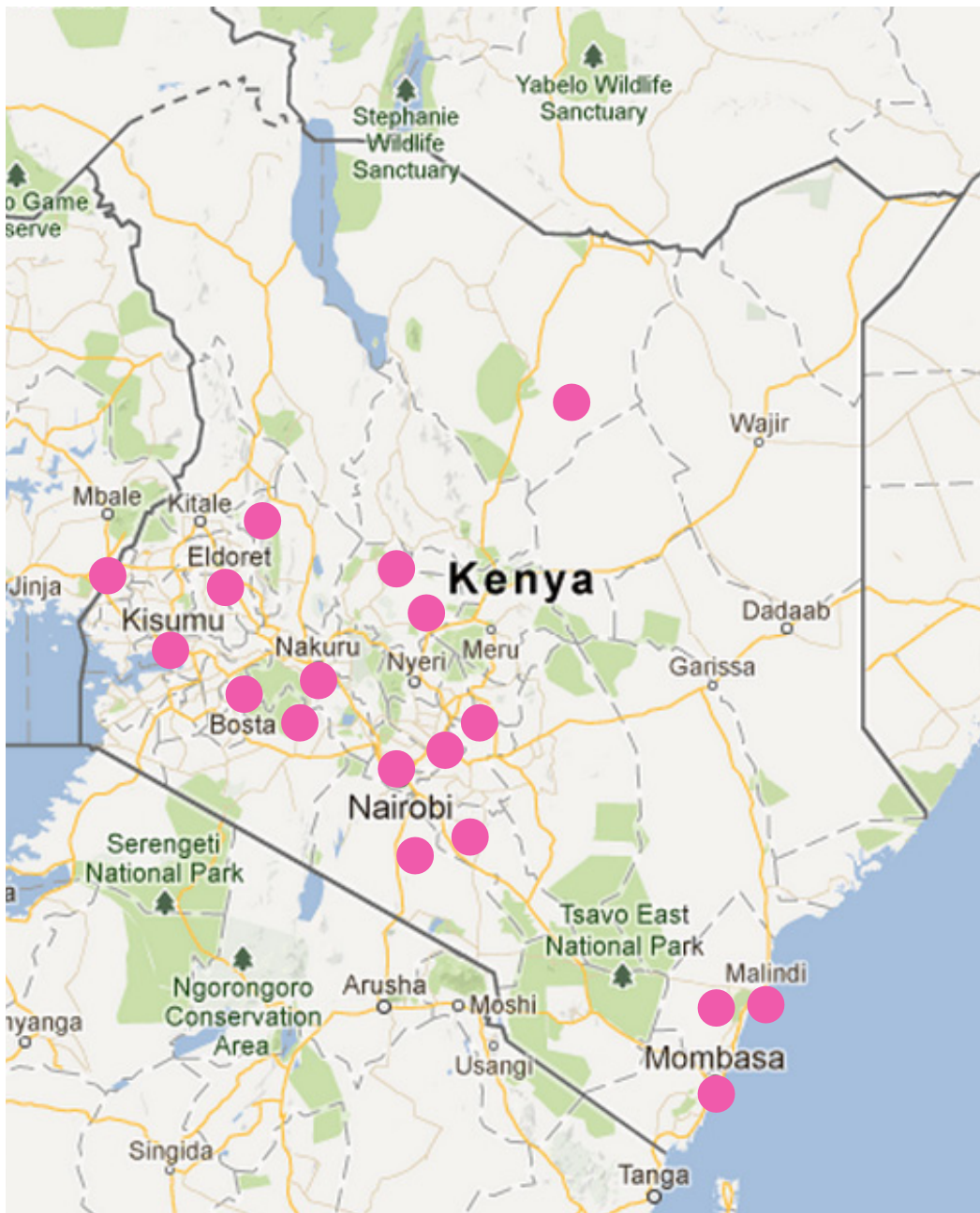
Figure 4: Map showing distribution of top-ranked programs in India



The majority of the top-ranked Indian programs were found to be in the Southern provinces:

- Kerala (Cochin) - 15
- Karnataka (Bangalore) - 11
- Tamil Nadu (Chennai) - 11
- Andhra Pradesh (Hyderabad) - 11

Figure 5: Map showing distribution of top-ranked programs in Kenya



20 out of 29 of the top-ranked Kenyan programs were located in three provinces:

- Rift Valley - 9
- Nairobi - 7
- Nyanza - 4

India and Kenya were therefore selected for field visits and the project team set up and conducted structured interviews. As broad a range of projects as possible were selected, encompassing all of the model types that had been identified as well as other field experts who could contribute broader knowledge about healthcare innovation. Wherever possible, and in the vast majority of cases, face-to-face meetings were held with the management of each program.

Visits and Structured Interviews

The goals of each structured interview were to:

- Understand the program's history, evolution, and future growth
- Explore all aspects of the business model (marketing, operations, strategy)
- Confirm replicability and the long-term financial sustainability of model
- Identify the key indicators for success and major obstacles to overcome

Findings from each discussion were documented in a structured interview template. Each conversation lasted between 30 minutes and 2 hours. These face to face meetings were invaluable as they helped to identify issues that might not otherwise have come to light, and were not immediately obvious from the desk based research. For example, an in-person interview with the CEO of Changamka Microhealth in Kenya revealed that the organization would be radically revising its business model in the next six months but had not yet announced the plan.

In order to ensure that a wide a range of model types and experience were visited, in addition to projects that scored >4, the team also visited programs that had not been financially successful, scored <4 and those that were no longer operational, or were not directly related to pharmaceutical and vaccine sales. Examples of such programs are Open MRS-Kenya and MamaTele (see Table 7, below) which on the initial screening criteria did not appear to be a good fit but still provided critical insight on how to implement successful programs.

Field Visits

Over a roughly three-week period, the team made contact and interacted with healthcare programs and field experts in Kenya and India. Locations visited:

1. Kenya / Nairobi
2. India / Mumbai (aka Bombay)
3. India / Bangalore
4. India / Hyderabad
5. India / Delhi

Over the duration of the visits the team met with 37 programs and 12 field experts. These meetings are listed in Tables 7, 8 and 9 on the following page.

Table 7: Programs visited in India

Programs Visited - India	Description
Apollo Hospitals	One of Asia's largest healthcare groups. 8500 beds across 50 multi specialty hospitals.
Apollo Tele Health Services	Network of tele consultation kiosks in rural areas of India providing secondary and tertiary consultations through a branded network. Expanding from 166 to 1000 kiosks.
Arogya Parivar	Funded by Novartis - 1 plus 1 education model. Health Educators are trained in general health principles and educate groups of villages on: water sanitation, and diseases with the goal of creating faith in medicine.
Arogya Raksha Yojana	Clinic and micro insurance model. Operates 9 clinics.
Arogya World Diabetes	US NGO "aiming to change the course of chronic disease" - diabetes through social marketing programs.
AyurVAID	4 accredited hospitals professionally delivering traditional Indian Ayurvedic medicine.
Biosense (TouchHb)	Non-invasive blood analysis machine for measuring haemoglobin levels.
Byrraju Foundation	Sole example of rural primary care claiming to have the potential to become 100% sustainable without government intervention.
Embrace	Award-winning company that has developed a low-cost infant warmer for developing countries.
EMRI	108 toll-free number for fire, police and ambulance in 15 Indian states.
Forus Health	Portable, non-invasive, non-mydratic, eye screening device that can detect 5 major eye ailments - cataract, glaucoma, diabetic retina and cornea problems.
HALO Medical Foundation	Trains Village Health Workers (called Bharat Vaidyas). Cost of consultation is close to the standard bus fare.
Health Management and Research Institute HMRI	Not-for-profit group funded by the government and grants. Provides: advice only (non emergency) call centres (104) Medical Mobile Units, Telemedicine facilities.
MediAngels	Provides a platform for specialist and second opinions remotely through live web consultations with doctors.
MeraDoctor	Primary care call-in service.
MyaHealth Credit	Loans for planned medical procedures. (Formerly a micro insurer)
Narayana Hrudayalaya Hospital	India's largest cardiac hospital uses a "Walmart" approach to procurement and consumer engagement to provide high-quality medical care to the entire income spectrum of the population.
NationWide Primary Health Care Services	Franchise network of 24x7 primary care clinics in Bangalore.
Nokia Life Tools (Health)	SMS platform preloaded on all Nokia S30 and S40 series phones. Sends messages to users on topics they have selected including Health.
Operation ASHA	Treatment regime and follow-up for TB.
ReMeDi-Madu	Remote diagnostic kit, textbook sized computer peripheral which collects vital signs (temperature, pulse, oxygen saturation, blood pressure, and ECG) and transmits them by proprietary compressed video feed to a doctor.
Smile-on-Wheels	Mobile clinics for marginalised groups.
Swayam Shikshan Prayog	Women's empowerment NGO promoting micro insurance and other financing schemes.
Uplift Mutuals	Mutual Insurer with complementary health screening program.
Viva Sehat	Primary healthcare and polyclinics.
World Health Partners	Rural informal healthcare practitioners, tele consultation suites, branded generics and distribution serving 7 million people.
Ziqitza Healthcare	Emergency ambulances - cross subsidy and a Public Private Partnership service.

Table 8: Field Expert Interviews, India

Field Experts Visited	Description
Access for Health	<p>U.S. non-profit with small field offices tied to local academic institutions in India, Philippines, Bangladesh, Singapore, and Sweden.</p> <p>They partner with federal and state governments to provide top analytic thinking around a core set of issues including: healthcare system financing, drug access and affordability, and health technology.</p>
Acumen	Impact Investor.
Dalberg	Niche consultancy firm advising on impact investment.
Dasra	India's leading strategic philanthropy foundation working with philanthropists and social entrepreneurs to create large scale social change.
Ernst and Young	Global accountancy and consultancy firm.
FSG	Consulting firm specializing in strategy, evaluation, and research to help organisations, individually and collectively, achieve greater social impact.
IDG Ventures	\$150m technology-focused Venture Capital fund.
IIP	Impact Investor.
Indian Institute of Management (IIM)	Project to establish the feasibility of a healthcare translational centre focused on medical devices & diagnostics. Aims to address the challenge of a lack of inter-specialty interaction in the Indian educational system.
Microsoft Research	Research in to how technology can be used to combat the problems associated with the emerging markets. Focus on technology that can lead to behaviour change and medication adherence.
Wellcome Trust	£80 million initiative funded equally by The Wellcome Trust, UK and Department of Biotechnology, India. Aim is to build excellence in the Indian biomedical scientific community by supporting future leaders in the field.

Table 9: Programs visited in Kenya

Program Name	Description
Access Afya (Afya Salama)	Network of mini clinics in Nairobi slums.
Changamka	Novel prepayment mechanism for financing healthcare costs among lower middle-income Kenyans.
Helping Babies Breathe	NGO training healthcare workers how to deal with infant asphyxia.
Kenya Fortified (GAIN)	Nutritional supplement (micronutrients) sold at market price to low and middle income Kenyans.
KMF Telemedicine	Mobile medical clinic plus support services (lab, imaging, cold storage vaccines, social worker) for remote areas.
M-Vaccine	Pre-pilot mHealth project to create national health record IT platform linked to mothers' mobile phone accounts - primarily for vaccine records.
Mama Tele (Formerly MaleziBora)	Health education via mobile phones for pregnant women.
MicroEnsure (Tanzania)	World's largest insurance platform explicitly dedicated to serving low-income consumers. MicroEnsure acts as an insurance broker, rather than insurance company, finding insurance providers and willing to enter into policies together.
Open MRS	EMR System for Kenyan Government.
Philips Health Care	Distribution company operating in 7 countries in sub-Saharan Africa. Achieved significant market share whilst increasing overall size of the market by using its intermediary position to negotiate substantial unit discounts across the value chain, in exchange for volume increases.
Wellcome Trust	£80 million initiative funded equally by The Wellcome Trust, UK and Department of Biotechnology, India. Aim is to build excellence in the Indian biomedical scientific community by supporting future leaders in the field.