The Rockefeller Foundation–Sponsored Initiative on the Role of the Private Sector in Health Systems in Developing Countries

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Innovative Health Service Delivery Models for Low and Middle Income Countries

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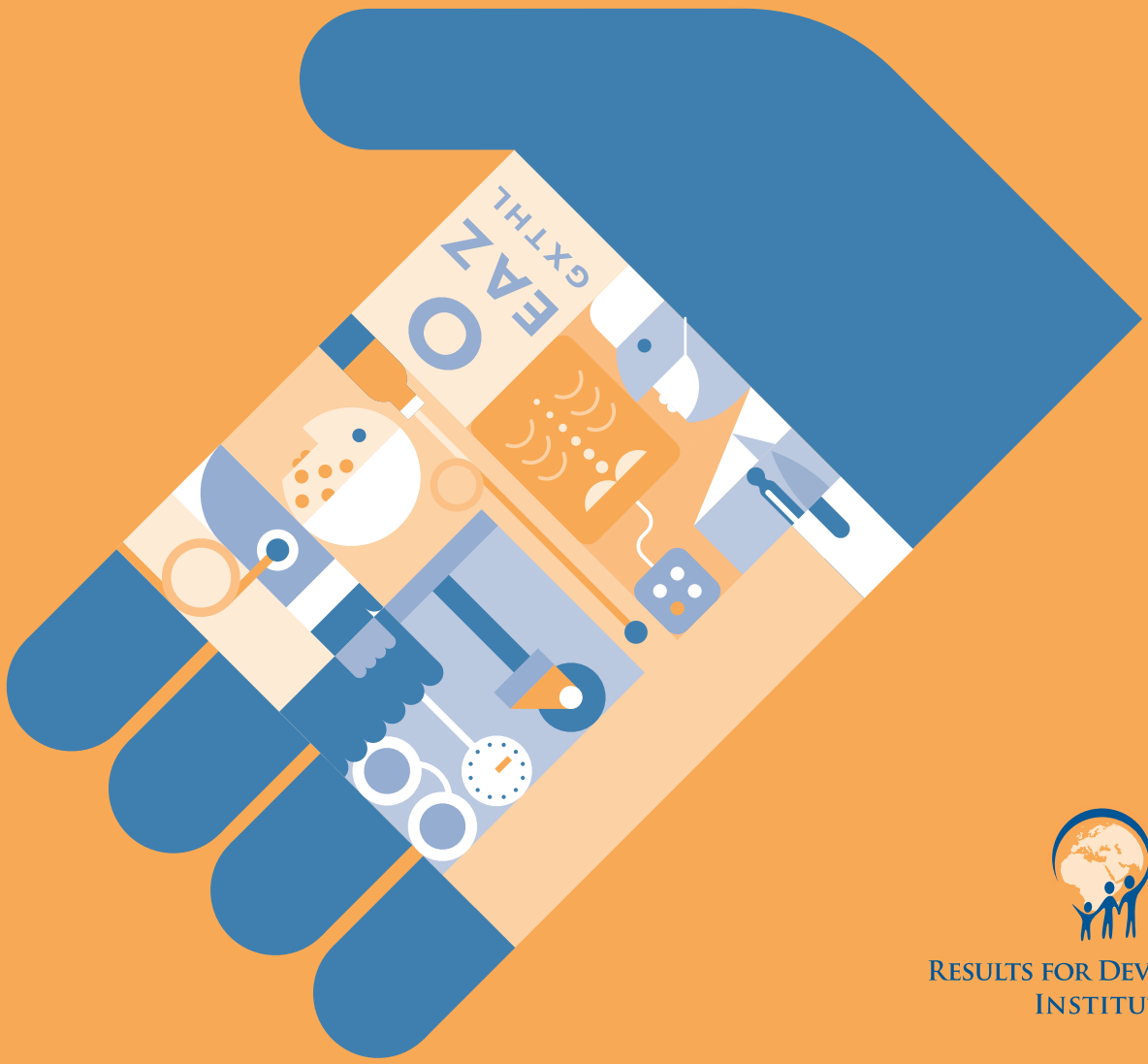

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Innovative Health Service Delivery Models for Low- and Middle-Income Countries

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Contents

1. Introduction **1**

Background 2
Mixed health systems 2
Problems with private sector provision of health services 3
Potential of private sector organizations in health service delivery 4
Gaps in existing literature 4
Goal of this report 4

2. Methods **5**

Search strategy 5

3. Results **7**

Search results 7
Characterizing innovations in health care delivery 10

4. Key Findings from Cases **12**

Business processes 12
Medical processes 21
Social impact 22
Organizational impact 24
Summary of innovations and impacts 25

5. Discussion **29**

Contributions to knowledge 29
Practical recommendations 31
Role for government in supporting private sector innovation 32

6. Conclusions **33**

References **34**
Appendix 1: Porter and Teisberg's Care Delivery Value Chain for an Integrated Practice Unit **38**
Appendix 2: Search Strategy **39**
Appendix 3: Case Studies **41**
Case 1: Aravind Eye Hospital 42
Case 2: Kisumu Medical and Educational Trust (K-MET) 46
Case 3: Jaipur Foot 50
Case 4: VisionSpring (formerly Scojo Foundation) 53
References 57
Case 5: Population Services International's Social Marketing Programs: Top Réseaux, 100% Jeune, and Centre Dushishoze 58
Innovation 58
Case 6: Narayana Hrudayalaya Heart Hospital 63
Innovation 63
References 65
Case 7: Population and Community Development Association (PDA) 66

Case 8: Dentista Do Bem 70
Case 9: Seva 73
Questionnaire to organization.Case 10: Ziqitza 1298 75
Case 10: Ziqitza 1298 76
Case 11: Greenstar Social Marketing Pakistan 79
Appendix 4: Environmental scan results: Innovative private health organizations 83

1. Introduction

After years of disease-focused initiatives in global health, there is a growing interest in strengthening health systems so that they work better for the poor. Low- and middle-income countries have mixed health systems, often with large private sectors widely used by the poor. The lack of availability, high out-of-pocket expenses, and poor quality of care in these systems result in low utilization and suboptimal health outcomes. Harnessing the existing private sector—a mix of licensed for-profit and nonprofit organizations as well as informal providers—may be an efficient way of improving services. The example of social enterprises that aim for social impact, financial sustainability, and rapid scale-up has created enthusiasm to explore the potential of investments in this sector in health, with specific efforts from the International Finance Corporation and the Rockefeller Foundation. We have undertaken an extensive review of print and online sources to identify private sector organizations that have used innovative business models to improve care for the poor, in order to characterize their models.

Organizations that have demonstrated impact (improved availability, affordability, or quality of care for the poor) and that have been imitated or scaled up from initial pilots were identified. Using a purposive sample of information-rich examples, we developed 11 case studies. Starting from a health care delivery value chain and the cases, we developed a framework for characterizing innovations in generic business processes (marketing, finance, and operations) and medical processes (prevention, diagnosis, intervening, rehabilitation, monitoring). Marketing strategies were mostly in mass communication, customer orientation, and franchising. Financial strategies focused on reducing capital and operating costs; high-volume, low-cost models; and cross-subsidy from rich to poor. Operating strategies included extensive use of paramedical staff, knowledge development, and novel delivery mechanisms to reach patients more effectively. Medical process innovations focused on the areas of screening and intervention, with one example of rehabilitation.

All but one of these organizations innovated across all three business processes mentioned above, suggesting that there is no single effective strategy, and a portfolio approach is favored. Most organizations had a vertical orientation; that is, they used effective medical protocols with a narrow disease focus (for example, eye care or heart surgery) with innovative business processes to support them. These organizations often stand alone and are highly flexible in their finance and operating strategies, which have allowed them to experiment and expand. Some organizations have deep innovations in certain business processes that can be translated from private sector organizations to public health systems. One organization developed a novel marketing strategy that became the basis for a successful national HIV/AIDS awareness campaign. None of the organizations attempted more horizontal approaches to address the spectrum of population health needs rather than a particular disease.

This study reviewed many examples of private sector organizations that have improved care for the poor and created a model to characterize their business and medical process

innovations. These organizations all innovate across marketing strategies aimed at more closely targeting the poor, financial models to dramatically reduce costs, and novel delivery processes to make services more available. Their work can be expanded to fill gaps in health services, and elements of these models can be replicated or promoted by governments or foundations to improve care in other institutions. Future work should assess the degree to which leadership and organizational culture have contributed to their success. Though most organizations have a narrow disease focus and have filled gaps in public service delivery, some of their approaches could integrate with or be adapted to horizontal public services. In this respect, they may act as a complement to the public system rather than an alternative.

Background

In low- and middle-income countries, the disproportionate burden of illness experienced by the poor is compounded by the fact that the poor use fewer health services, which are generally of a lower quality; pay high out-of-pocket expenses; and have less knowledge about the benefits of formal health care than the non-poor (IHSD 2004; Gwatkin et al. 2004). Lack of funding for public health services in many countries has created a gap where the private sector has grown to address unmet demand (McPake 1997). The private sector includes licensed for-profit and nonprofit organizations as well as informal providers. The average quality of care in the private sector is poor (Chakraborty et al. 2000; Burgha and Zwi 1998), but there are some examples of excellence (Burgha and Zwi 1998; Zwi et al. 2001; Prahalad 2006). The emergence of social enterprises—organizations that aim for social impact, financial sustainability, and rapid scale-up—has created enthusiasm to explore the potential of the private sector (Nicholls 2006). The International Finance Corporation has started a fund of $1 billion (U.S. dollars) to invest in the private health sector in Africa (IFC 2008), while the Rockefeller Foundation is exploring a wide range of strategies to harness the existing private sector to improve care for the poor. Both of these efforts require an understanding of how high-performing organizations function and what niche they occupy in the health system in order to maximize the impact of their investments.

Mixed health systems

The health systems in low- and middle-income countries are pluralistic, with many providers operating outside the regulatory framework (Bennet, 1997). The health sector can be classified into organized and unorganized economies based on whether its providers are licensed or not (Bloom 2002). The organized economy includes public health services and licensed, legally recognized private providers, whether for-profit organizations, nonprofit nongovernmental organizations, or faith-based organizations (Bloom 2002). The unorganized economy includes activities that are marketized (services provided by unlicensed providers paid for in cash or in kind) and not marketized (provided for free by family or community members) (Bloom 2002). This report focuses on the licensed private sector and the marketized portion of the unorganized health economy, also known as the formal and informal private sector.

The structure of health markets varies significantly across the developing world. Cuba is remarkable in that it has universal public health care without formal private hospitals and facilities (De Vos et al. 2008). Thailand, on the other hand, has a relatively large formal private sector with 40 percent of all hospitals privately owned and operated (Danish Trade Council 2006). India has a large unorganized private sector with an estimated 500,000 to 1.2 million unregulated private providers, in addition to a sizeable licensed private sector (Radwan 2005). In Niger, a country with very sparse health resources and services, only 18 percent of births are attended by skilled birth attendants. This means that the unorganized non-marketized portion of the health sector is the country's largest source for health care and health services (WHO 2008). The niche occupied by the private sector will vary from one country to another, but the strategies of specific organizations may translate effectively across settings. This report focuses on delivery of health services rather than finance, looking at organization-level strategies rather than broad system regulation.

Problems with private sector provision of health services

While the dominance of the private sector in many countries is largely left unchallenged, its involvement in health has been widely criticized (Kumaranayake 1997; Bhat 1999). Such criticism is substantiated by the market's failure to provide effective health services. There are three main arguments given in favor of public intervention in the health sector (World Bank 1993): First, public goods, which benefit both the individual and society, are undervalued by individuals and underprovided in free markets. Second, because health care is considered a basic human right and some people may not be able to afford any services, the government should finance basic health services, at least to cover the indigent. Third, the asymmetry of knowledge between patients and providers means that the profit motives of the latter could lead them to provide profitable services that could be harmful (or of no benefit) to the public. While these principles are generally agreed upon and there is a sound rationale for intervention, the influence of the public sector is highly variable, and its ability to correct market failures inconsistent (Bennett 1997).

In the numerous countries where public health systems do not serve the poor effectively, the private sector could (and already does) play a role. The poor by definition are disadvantaged in a mixed health system. First, they have limited purchasing power, whether one sets the limit at earnings of $1 or $2 a day (Prahalad 2006; Kasturi 2007). They also have limited savings and little or no insurance coverage; both of these factors make them susceptible to further impoverishment in the event of major medical expenditure (WHO 2000). They tend to have low literacy (particularly health literacy) and are less likely to engage in preventive activities (Gwatkin et al. 2004). Last, they tend to live in peri-urban slums or in remote rural areas, both of which have poor access to public services (Prahalad 2006; Bennett et al. 1997). Targeting this group and developing sustainable models to provide services for them is challenging for any sector, but it is particularly necessary in the area of health.

Potential of private sector organizations in health service delivery

Private sector organizations have features that lead them to innovate in ways that are not normally available to the public sector. Because their funds come directly from patients or indirectly through reimbursement by insurance, they have a strong focus on generating demand for services. This can lead to over-provision through supplier-induced demand (Thaver and Harpham 1997; Kamat and Nichter 1997), but it can also increase utilization of beneficial services that people may neglect (for example, for stigmatized groups or taboo problems)(Bennett 1997). Private sector providers tend to have a strong customer orientation, as it is important for the private sector to increase the number of new and returning customers. Private sector organizations are sensitive to feedback on performance in terms of utilization, which may push them to modify their approach if demand for their services wanes. In contrast, a salaried provider in an institution with revenues based on the number of employees or beds—as is the case in the public sector of many countries—may not be concerned by a drop in demand. Private sector organizations will often try to lower costs. While these savings are generally used to increase profits, they could also be passed on to the consumer in higher volume, lower margin profit models. These benefits are not automatic, and the organizations that adopt these strategies are not the norm. However, there are enough of them to suggest that they are contributing viable models and, in some cases, large-scale social impact. We reviewed the available information on a large number of high-performing private sector organizations to characterize the innovative business models they have developed.

Gaps in existing literature

Though there is an increasing amount of scholarship on private sector provision in low- and middle-income countries, innovative models have not been characterized in a systematic way (IHSD 2004; Prata and Montagu 2001; Mills et al. 2002; Palmer et al. 2003). Many reports focus on well-defined delivery models, such as social marketing and health franchising, but do not explore innovation outside these categories (IHSD 2004; Patouillard et al. 2007; Ruster et al. 2003; McBride and Ahmed 2001). A recent systematic review of private sector interventions in health finds few rigorous evaluations of impact on the poor, but is focused on evaluation of specific strategies rather than organizations (Patouillard et al. 2007). Innovative organizations have a wide range of mechanisms that may have an impact on consumers and thrive in mixed health systems. C. K. Prahalad's book *The Fortune at the Bottom of the Pyramid* (2006) provides a series of informative case studies, which includes health care organizations; as does the recent International Finance Corporation report on the health sector investment opportunities in Africa (IFC 2008). However, neither Prahalad's book nor the International Finance Corporation report mention how they might be integrated into the broader health system.

Goal of this report

The goal of this report is to determine how private sector innovation in health service delivery can improve care for the poor. To do this, we have identified innovative organizations that have improved care for the poor, and we have characterized the

innovations in their health service delivery models, as discussed below. We then explore how these models might be harnessed by government and international funders to strengthen health systems.

2. Methods

This report is based on a review of the literature on innovative private sector health service delivery models and comparative case studies of information-rich examples from successful organizations. It is also based on a brief survey and interviews with a subset of organizations, but no site visits by authors of this report. We assume that the strategies employed by successful organizations are good practices and, therefore, have contributed to their success. The cases were analyzed using Michael Porter and Elizabeth Teisberg's health care delivery value chain as an initial framework to help organize qualitative data from the review (see appendix 1)(Porter and Teisberg 2006). This framework was informed and modified using data from the cases to characterize health service delivery innovations. These innovations were grouped together and the cases described in these terms to understand trends across the organizations.

Search strategy

Our team conducted an in-depth search for innovative health service delivery models in low- and middle-income countries (see appendix 2 for details). The search targeted private sector programs and organizations and public-private partnerships. A variety of key words were used to identify organizations using franchising, social marketing, training and/or voucher schemes, technological innovations, employee-based programs, and humanitarian aid programs. Searches were then conducted by geographic region. We searched the peer-reviewed literature using Medline, gray literature databases, and the Web sites of various international development organizations and venture philanthropy funds, as well as case studies on specific organizations from business schools. Searches were conducted in English, French and Chinese.

We selected cases from organizations involved in health service delivery that have improved health care for the poor, as measured by increased availability, affordability, or quality of care. To narrow the cases to successful organizations, we focused on those that have expanded beyond pilots and have demonstrated reach, replication, or longevity. These elements of the selection criteria are described and defined in the paragraphs below.

Innovation

We defined *innovation* as "the design, invention or development and/or implementation of new or altered products, services, processes, systems, organizational structures or business models for the purpose of creating new value for customers and financial returns for the firm" (Advisory Committee on Measuring Innovation 2008). While taken from industry, the term refers to all the areas that will be explored in this study. Whether a given process

is new or not has been determined by others, as confirming the novelty of a given strategy is beyond the scope of this report.

Improvements in health-service delivery

We defined *health services* as all inpatient and ambulatory care services, and we included public health interventions, such as health promotion. Organizations that only distributed health-related products without an associated service were not included. Thus, health service delivery organizations are those that do more than distribute or sell a health-related product. Associated services could be screening for need and counselling on the product. Organizations that developed a new technology but did not use it in direct patient care were also excluded. Similarly, organizations that focus on building infrastructure or training health human resources but have no involvement in ongoing patient care (such as a medical school) were also excluded.

Social impact

We focused on organizations that had a reported impact on access or quality of care. Access is proximal to measures such as utilization, but it was used to increase the availability of relevant studies. We defined *access* as the ability of a patient to use health care services in an appropriate and timely manner to achieve good health outcomes (Carballo and Sundaram 2006). Access incorporates *availability of services* and *affordability of services*. Availability of services can be separated into geographic availability (the presence of patient care in areas otherwise not served, such as rural versus urban, slum versus city) and temporal availability (the existence of services that are conducive to patient use in terms of time, such as extended clinic hours and 24-hour services). Affordability relates to the financial accessibility of services, the cost of available services relative to patients' ability to pay for those services. In this way, services may be geographically available but not financially accessible.

We considered quality of health services relating to both technical and interpersonal aspects of care. Given the heterogeneity of the literature, we did not pre-specify these measures; instead, we opted for an inclusive definition that would allow us to explore what has been measured. Technical measures could include adherence to evidence-based treatment protocols, access to essential medications, and reduced complication rates. Measures of interpersonal quality and patient-centered measures could include patient satisfaction and perceived quality.

Demonstrated organizational impact

This report focuses on organizations that have gone beyond an initial pilot and achieved at least one of three measures of organizational success: reach, imitation (or replication), and longevity. *Reach* refers to the number of people or geographic areas affected by the organization. *Imitation* is a measure of whether other organizations had copied the model successfully. *Longevity* refers to the amount of time the organization had been in existence. Given our focus on innovation and our interest in including newer models, we did not set a

cutoff for any of these measures. Instead, we noted their presence and magnitude for each organization. The distinction between social and organizational measures could include the average impact of care (for example, a 50 percent reduction in mortality) versus the number of regions where this effective service is available. The first is a measure of how good the organization's services are, while the second is a measure of how well the organization is doing. There is admittedly some overlap between the concepts, but we felt that this distinction would better reflect the mechanisms by which innovative processes could have an impact on patients and the system.

Targeting the poor

To determine whether an organization has improved care for the poor, we used an operational definition of *poverty*. Poverty is a multidimensional concept that is difficult to measure, but we assessed whether the organization reached poor areas or whether it had an impact on the poorest group within an area. This is similar to the approach used by Patouillard and colleagues (2007) in their systematic review.

3. Results

Search results

Forty-six organizations satisfied our initial search criteria. Of these 46, 12 were eliminated because they were focused solely on technological improvements, expansion of physical infrastructure, or training, or did not offer health delivery services directly. However, we mention some of these organizations in appendix 4 to highlight their contributions to the poor. Among the 34 organizations that remained, we further removed one due to the language barrier and another 10 due to redundancy in the models (very similar franchising models). Of the 23 that remained, we e-mailed the 20 organizations that had provided contact information to gather more information. Seven replied to a brief survey, and follow-up phone calls were made when necessary. We reviewed the available information for the 23 organizations and removed cases with insufficient information as well as one that had not gone beyond the pilot phase. A total of 11 organizations remained. We developed short case studies to highlight key innovations, and compared the cases to describe the features and patterns across these organizations. The list can be found in the table below, and more detailed case studies can be found in appendix 3.

Table 1: Case study overview (in alphabetical order)

Organization	Country	Year Started	Scope of Service	Social Impact
Aravind Eye Hospital	India	1976	**Eye Care Services:** in-house manufacturing of intraocular lenses; Cataract Surgery; Screening Services	Largest and most productive eye care facility in the world; reaches rural areas through outreach camps and internet kiosks; cost of cataract surgery is $30; 70% of patients receive care subsidized or free; outcome data show high quality of care; model replicated through consulting branch.
Dentista do Bem	Brazil	2002	**Dental Care for youths:** Free treatment provided by existing practitioners.	High quality services provided for free to poor youth; reached >10,000 children in 27 states
Greenstar Social Marketing Pakistan	Pakistan	1991	**Family planning, maternal, neonatal and child health, control of infectious diseases:** Education; diagnosing; intervention, monitoring and evaluation	A franchise network of over 7,500 active providers; outreach workers reach over 2.5 million people every year; 2nd largest family planning provider after the Government in Pakistan, providing over 26% of all modern contraceptives at affordable prices.
Jaipur Foot	India	1975	**Foot and lower limb prosthetic:** Constructing and fitting of prosthetics	Novel prosthetic to suit needs of the poor; distributed >200,000 artificial limbs in India through clinics and outreach camps; cost of a prosthetic leg is $35
Kisumu Medical and Educational Trust (K-MET)	Kenya	1995	**Maternal and child care:** Trains existing providers on reproductive health, family planning, safe abortion care	Network of 204 health providers and community-based workers provide care for rural communities; gives loans to clinics and provides training to improve quality of care
Narayana Hrudayalaya (NH) Heart Hospital	India	2001	**Coronary artery disease:** Heart surgeries and cardiac care	The 800-bed hospital performs high quality surgeries and eight times more than average Indian hospitals; 54 telemedicine centers and outreach camps reach out to the rural poor; charge of cardiac surgery is Rs 65,000 as compared to Indian average of Rs 150,000; 18% of patients receive care subsidized and 1% free

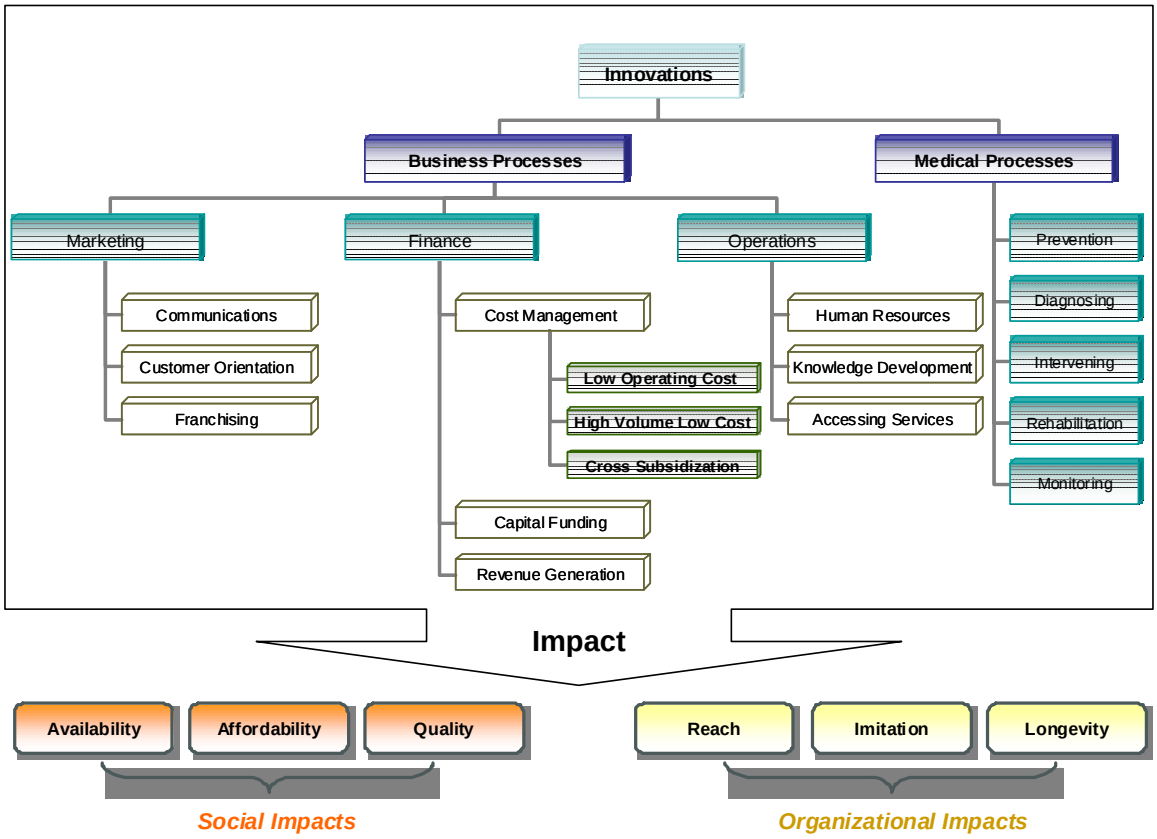
Organization	Country	Year Started	Scope of Service	Social Impact
Population and Community Development Association (PDA)	Thailand	1974	**Family planning and HIV/ AIDS care**: Education; prevention; diagnosing; contraceptive/ vasectomy/ pregnancy termination services	Outreach and mobile clinics reach out to 10 million Thais in 18,000 villages and poor urban communities; most services are free; trained 3000 health workers from 50 countries on HIV prevention
Seva	Nepal, India, Cambodia, Tibet, Bangladesh, Tanzania, Egypt, Guatemala	1978	**Eye care:** Primary eye care, mobile eye camps, community outreach	More than 500,000 people worldwide; more than 25,000 children received care to prevent blindness; more than 30,000 cataract surgeries
PSI's Top Réseau, 100% Jeune, and Centre Dushishoze (social marketing programs)	Africa (Madagascar, Cameroon, Rwanda)	1999	**Sexual/ Reproductive Health:** Peer counseling; education; contraceptive services; multimedia promotion; performance evaluation	Novel multimedia campaigns and outreach; increased contraceptive use among young men from 29% to 53%, among young women from 20 to 39%; increased number of people getting HIV test in Rwanda and reproductive services in Madagascar
VisionSpring	India	2001	**Vision correction:** screening, provide glasses, adjustments	1200 Vision Entrepreneurs distribute >100,000 pairs of glasses in poor communities and rural areas in 13 countries; glasses are $4 a pair and of higher quality than competitors within their price-range
Ziqitza 1298	India	2005	**Ambulance Services:** transportation and emergency care; public training	First single number for ambulance service; cross-subsidization has made services affordable to the poor; trained paramedics and life support equipments ensure quality services; 70 ambulances in Mumbai and Kerala; has served more than 60,000 patients.

Characterizing innovations in health care delivery

We sought to characterize the types of innovations in these organizations using comparative case studies. Using Michael Porter and Elizabeth Teisberg's health care delivery value chain from *Redefining Health Care* as an initial framework (Porter and Teisberg 2006), we explored the different functions of a health care organization to identify and catalog areas of innovation. Porter and Teisberg's model is based on the American health care system, and thus serves only as a starting point for our analysis (see appendix 1). Their model describes all of the functions of an integrated health care unit and does not include any of the financial aspects of operating a health facility. However, their value chain approach helps characterize areas in which one could innovate. A value chain describes each step in a process that adds value to a product or service before it is delivered to the ultimate customer, in this case, a patient. Value chains are separated into "support activities" and "primary activities." Because our focus is on characterizing innovations, we did not aim to describe all of the activities of an organization, and have headings that correspond only to areas of innovation (see the figure below). This section describes the new framework derived from the review, and the next section describes particular examples of innovations, with reference to the case studies.

The new framework focuses on two broad areas of innovation: business processes (generic to most organizations) and medical processes (particular to health service organizations). *Business process* innovations in the organizations studied fell into three broad categories: marketing, financing, and operating strategies. This is a slightly more restrictive definition than what may be used in the management literature, but it reflects a series of processes that support the delivery of medical care. *Medical processes* refers to prevention (for example, education and identification of patients at risk), diagnosis of health conditions, treatment, rehabilitation, and monitoring of ongoing health. Innovations in these areas are associated with their social impact in terms of availability, affordability, or quality of care. They are also associated with organizational impact, as these organizations have also had success in terms of a broad reach, imitation, and/or longevity.

Health service delivery model innovation framework



Business Processes

Marketing: Marketing is the management process that identifies, anticipates, and satisfies customer requirements profitably (Chartered Institute of Marketing 2008). It is designed to match the needs of customers to what the company can do. To accomplish this, an organization must understand customers' needs and marshal company resources to meet them. This includes a wide range of activities, including external communication (advertising, for example), customer orientation, competitor analysis, packaging, branding, pricing, and franchising.

Finance: Financing strategies are the way in which an organization gets and distributes cash resources. This may be through applications for grants, government funding, private investment, or revenue generation. In addition to accumulating more funds, organizations may employ other strategies, including mechanisms to reduce costs (to make services more affordable or increase profits) or a subsidized price for a given group of consumers. Some organizations make funds available to partners or reduce operating costs to facilitate expansion.

Operations: Operating strategies are those activities involved in the running of a business for the purpose of producing value for the stakeholders. It is the organization's essential logic for consistently achieving its principal objectives, and it includes many functions. In this report, we focus our analysis of operating strategy on knowledge development, facilitating access to services, and human resource management. *Knowledge development* refers to mechanisms for assessing and improving quality of services and creating new technologies or services. *Facilitating access* to services refers to approaches that facilitate interaction between the patient and health services beyond just informing patients of the service (community outreach or telecommunications). *Human resource management* refers to ways of recruiting, training, and managing staff.

Medical processes: These are the core activities that constitute health service delivery. They range from prevention (preventing the onset of disease or screening for it in asymptomatic individuals), diagnosis (identifying specific disease conditions through medical interview, physical exams, or tests), intervention (providing treatments for identified problems), rehabilitation (supporting the return to function of individuals with disease), and monitoring.

This model summarizes the key business strategies of the organizations in our review. All of the organizations had an impact on availability, affordability or quality of care, but the model suggests a possible association between these innovations and their potential impact. The quality of the data and the limited number of cases precludes the firm demonstration of an association, but this model provides a framework for more rigorous assessment of impact of these strategies in the future. The following section describes each of the strategies in detail with examples taken from the relevant cases.

4. Key Findings from Cases

This section provides a detailed analysis of the innovative marketing, financing, and operating strategies used in successful private sector health care delivery models, as well as the medical processes using representative examples from the cases under review. Most of the information provided here is taken from the case studies, which are presented in detail in appendix 3.

Business processes

Marketing strategies

Marketing is crucial to reaching the poor in low- and middle-income countries. Through mass communication, public education, and interaction with patients, organizations that

focus on marketing often become widely known and differentiate their work from that of similar organizations. The table below outlines some of the techniques that have been used by organizations to publicize their services and distinguish themselves from other providers.

Table 2: Innovative marketing strategies

Marketing Strategies		Innovations	Purpose
Communications	**Mass promotion**	• Mobile communication program • Flyers, logos, outreach	• Increase awareness of the problem, possible solutions, and demand for services
	Public education	• Educating through events, mobile vans, schools	
	Person-to-person	• Advertising via word-of-mouth referral system	
Customer Orientation		• Products and services designed to enhance patient experience	• Improve quality of care and increase number of customers
Franchising		• Strong brands that are associated with high-quality care and reliability	• Increase demand for services and quality of care

1. Communications

- **Mass promotion:** Media promotion can help position services so that they appeal to the public. Social marketing programs have been used to promote reproductive health services (Plautz and Meekers 2007), and many of these programs combine their marketing strategies with educational materials, known as "edutainment" (McBride and Ahmed 2001; Rwanda Development Gateway 2007). We looked at three such social marketing programs, all run by the nongovernmental organization Population Services International (PSI), that specifically targeted youth populations: (1) the Top Réseau program in Madagascar, (2) the Centre Dushishoze in Rwanda, and (3) the 100% Jeune program in Cameroon. These programs target youth, and they therefore use a variety of mass communication techniques that appeal specifically to their target population. For example, PSI's Top Réseau program in Madagascar sponsors a mobile communication program that travels to different communities showing videos and distributing educational materials. Other programs, like Centre Dushishoze and 100% Jeune, use standardized logos and rely on the work of peer educators, who travel to schools, community events, and workplaces to inform young people about the services offered, hand out educational materials, and give condom demonstrations. 100%

Jeune also included monthly magazines and a serial radio drama as part of its mass communication campaign.

- **Public education:** The Population and Community Development Association (PDA) has established some innovative public education campaigns in Thailand by using humor to address taboo subjects. These initiatives include "Condom Nights" and "Miss Anti-AIDS Beauty Pageants" in most red light district areas of Bangkok. As a mass education campaign, it provides an excellent opportunity to inform and educate high-risk groups, such as prostitutes and their clients, about HIV/AIDS prevention. Furthermore, PDA has established training and peer education programs that focus on social behavior change—within the country's schools, prisons, and other groups in the community—targeting the sex industry, young people, and the public in general. The organization has also helped established a national AIDS education program in partnership with the government, and has trained its network of village family planning agents in the causes and prevention of AIDS.
- **"Person-to-person":** In some cases, the most effective marketing technique available is one of direct interaction between the service provider and patient. In India, VisionSpring trains rural community members to become "Vision Entrepreneurs" (VEs), capable of providing vision screenings and identifying common eye conditions. One of the marketing strategies that VEs rely on in order to sell their products is door-to-door sales. Through a word-of-mouth referral system, for example, a VE may screen one patient the patient's home and then ask that patient to refer friends and neighbors who may be suffering from vision problems. They establish trust and rapport, increasing the VEs' credibility within the community.

2. Customer Orientation: Some organizations have carefully considered the needs of poor clients in the design of their products and services. The Bhagwan Mahaveer Viklang Sahayata Samiti (BMVSS) developed an artificial foot and lower limb prosthetic, the Jaipur Foot, intended to meet the needs of people living in developing nations—where squatting, sitting cross-legged, and walking barefoot, for instance, are common but largely impossible with typical prosthetic limbs. With the majority of amputees falling below the poverty line, BMVSS developed a more holistic approach to prosthetic provision to meet the needs of this target group. Through simple procedures for managing patient flow, processing, and admission, patients are able to check in at any time of day or night. Further, patients are provided free room and board if they have to spend the night, and their families are given free meals while they are with the patient at the clinic. BMVSS's intention is to have patients in and out within a day so as to minimize income loss. With fittings complete in a number of hours, patients are required to sacrifice only one or two days of work at most, and because everything is done at the same time, there is no need for a subsequent appointment, which would be difficult for patients with limited means and mobility.

3. Franchising: Franchising is a mechanism that has been used in the private sector to facilitate rapid expansion, enabling the sustainable distribution of products and services of a specified quality. Within a franchise business model, a firm (the franchiser) licenses an independent business (the franchisee) to operate under its brand name. Health franchising allows for different aspects of health care delivery (clinics, drug distribution, training centers) to be franchised in order to improve access to quality services. This model has been used in 4 of our 11 cases, in reproductive health (Greenstar, KMET), eye care (VisionSpring), and ambulance services (Ziqitza). The first three examples were very

successful; Ziqitza experimented with the model but then discontinued it because it was not able to maintain the quality of care by franchisees.

Greenstar is one of the largest health franchises. Through its work in the areas of family planning service and product provision, maternal and neonatal health and child health, and control of infectious diseases, Greenstar aims to convert low-income, non-users of contraceptives to users through a total market approach. This is largely achieved by pricing different products at different price points and targeting them to different segments of the population. The organization promotes several products and services across a range of five family planning methods and operates a franchise network of over 7,500 active providers. Greenstar franchisees are selected on the basis of need and availability, and most of the selected providers are in low-income urban and peri-urban areas in Pakistan. The franchisees are private independent providers. Greenstar signs franchising agreements with these franchisees (individuals and clinics) for distribution of social products or social services, and continues to keep regular contact with the franchisees to ensure quality of services and products provided.

Like other health franchises, Greenstar has developed a strong brand that is associated with high-quality care and information. The program's family planning products and services are marketed under the brand name "Sabz Sitara" (Greenstar), and family health products and services are marketed under the brand name "GoodLife."

Financing strategies

Financing strategies reflect the way in which an organization obtains and distributes resources. Looking across our case studies, we have identified certain innovations that have been used by successful programs and organizations. These innovative strategies cover aspects of cost management (for both providers and patients), capital funding, as well as revenue-generating programs.

Table 3: Innovative financing strategies

Financing Strategies		Innovations	Purpose
Cost management	**Lower operating costs**	• Lower costs obtained by simplifying medical services and efficient use of human resources, creating or sourcing cheaper materials	• Increase affordability
	High volume, low cost	• High throughput, maximal use of infrastructure, reducing overhead costs	
	Cross-subsidization	• Fees paid by paying clients subsidize free services for poor • Fee for service adapted to patients' ability to pay using a predefined sliding scale	
Capital funding		• Funds are made available to the providers to provide health services for their local area	• Improve quality, availability, and longevity
Revenue generation		• Alternative means to generate income to support health services	• Maintain program sustainability (longevity)

1. Cost management: One technique involves reinventing the cost structures to create products and services that the poor can afford. Dramatic reductions in cost have been achieved by rethinking the entire business process so that a focus is put on functionality, with every step subject to revision using lower cost inputs and using a broad definition of quality.

- **Lower operating costs:** One of the key factors in maintaining low operating costs in the case of the Jaipur Foot is the ability to produce the prosthetic with readily available local materials and relatively unskilled labor for manufacturing. This has allowed BMVSS to produce a prosthetic for $30, a quarter of which is the cost of raw materials. To provide and fit Jaipur Foot prosthetics, a center requires a small amount of capital expenditure and investment. As a result, the operating budget of the BMVSS is highly efficient; almost 89 percent of its expenses are in materials, labor, camps, and services, while only 4 percent is used to cover operating costs.

  VisionSpring employs a different tactic for reducing operating costs for providers. It offers a "business in a bag" strategy: VisionSpring trains rural community members to become Vision Entrepreneurs, capable of providing vision screenings and identifying common eye conditions, and provides them with a kit containing all the items required to launch their business (multiple styles, colors, and powers of

reading glasses; screening equipment; and marketing materials). After the launch, VisionSpring replenishes supplies of reading glasses and provides additional support as required. By using this concept of a "business in a bag," the program enables motivated workers to gain access to an entrepreneurial opportunity without the barriers of high setup and operating costs.

- **High volume, low cost:** The Narayana Hrudayalaya Heart Hospital in India has reduced the cost of cardiac surgeries by increasing volume. The hospital performs eight times more surgeries than the Indian average, maximizing the use of its infrastructure (Khanna et al. 2006). It rents machines for blood tests and pays only for reagents, which satisfies suppliers, given the high volumes. It also uses digital X-rays, which are cheaper than film, and comprehensive hospital management software, which reduces inventory and processing times. The average cost of open heart surgery at the hospital is about $2,000 (in U.S. dollars), for which it charges $2,400 as compared with $5,500 in the average Indian private hospital.

  Aravind Eye Hospital has brought down the cost of cataract surgery to $30 through high volumes, widespread use of paramedical staff, and intraocular lenses that are made in house. Today, Aurolab (the division responsible for manufacturing eye care materials) produces 10 percent of the world supply of intraocular lenses and exports to 120 countries at the remarkable price of $5 each (Shah and Murty 2004). This was facilitated by a strong brand, a focus on increasing patient flow, and a previously established positive relationship between surgical volumes and quality (Hannan et al. 1998).

- **Cross-subsidization:** Achieving financial sustainability through a cross-subsidization model requires a focus on generating revenue from a group of wealthier customers who are able to pay a higher price for health services, and generating sufficient revenues to provide discounted or free services to poor patients. Here we discuss cross-subsidy between clients for similar services, where identifying a sustainable mix of profitable and subsidized customers is a key challenge. The other challenge is finding efficient ways of assessing financial need to determine who should receive subsidies.

  Examples of organizations that have implemented this kind of revenue structure include the Aravind Eye Hospital, which offers both free and paying services. The hospital has designed services aimed at attracting the wealthier patients, who pay market rates, and then provides low-cost services for the poor, who get the services free or at a steeply subsidized rate. With a 70/30 ratio of paying patients to non-paying and subsidized patients, Aravind is able to provide quality care to all subsets of the population and remain financially stable. Paying patients sleep in private rooms, while non-paying patients sleep in open dormitories on mats. In this model, patients can select whether they want to pay or not, with the result that those who can afford it are much more likely to choose a private room. This approach, which is known as "quality targeting," is easily administered (Gwatkin 2002).

Dentista do Bem is a large network of private, for-profit dentists in Brazil. Its members see a few poor patients for free as part of their clientele. The cost of this free treatment is absorbed by the dentist who has a daily average of between 15 and 30 paying patients. In this model, an easily identified group, children, are screened in schools and recruited to join the program to the age of 18. Though the proportion of patients receiving free care is small, the network of dentists is large, which makes the absolute number of patients seen significant.

Ziqitza Healthcare Limited is another example of the cross-subsidization model. Ziqitza is a private ambulance service that operates in Mumbai and Kerala, India. It uses a tiered fee system that ranges from profitable to partly subsidized to free. Patients call the ambulance service and are charged a fee depending on which hospital they have arranged to be transported to—patients going to private clinics pay a profit-generating fee; patients going to free government hospitals pay nothing or a nominal fee; and trauma patients do not pay anything. In this model, patients' ability to pay is gauged from their choice of hospital and the costs they will incur after being taken there. This should be a reliable measure, and one that is very easy to administer. Ziqitza reports that, over the last three years, approximately 20 percent of patients have been subsidized, which allows the organization to be financially sustainable.

2. Capital funding: Capital funding can be made available to franchisees or service providers to start up or improve the quality of their health programs. For example, the Kisumu Medical and Educational Trust (K-MET) is a franchise that provides training in reproductive health to private providers in Kenya. It increases the availability of funds to the private provider franchisees through revolving loan programs (microfinance). These loans enable service providers to make small improvements to their clinics and services as part of quality improvements. Loans are also made available to community-based service providers to expand services and improve the quality of reproductive health services offered. This has also facilitated expansion to 125 franchisees since K-MET's start in 1995.

3. Revenue generation: Thailand's PDA has 16 for-profit companies that are affiliated with the organization and are mandated to put funds toward the nongovernmental organization to facilitate expansion and supplement operating costs. One of PDA's many innovative commercial ventures is the "Cabbages and Condoms" Restaurants, located in different parts of the country, where condom-themed food and drink help bring money into the organization, while spreading its message.

Operating strategies

Operating strategies deal in detail with how an organization operates day to day. In a traditional business model, operating strategies would include both finance and marketing under its umbrella; however, for the needs of this paper, we have separated financing and marketing, and created three areas within operating. These are knowledge development, human resources, and facilitation of access, both geographic and temporal.

Table 4: Innovative operating strategies

Operating Strategies		Innovations	Purpose
Human resource management	**Training of laypersons**	• Laypersons acquire skill sets that were exclusive to qualified medical practitioners	• Reduce cost of operation • Increase staff availability • Empower local community, increase sustainability of program
	Use of paramedical staff	• Paramedical staff take on some of the tasks performed by physicians; creation of a new class of health care providers	
	Improvement of staff quality	• Existing care providers are given more or better skills	• Improve quality of care and availability
Knowledge development		• New technology is developed • Process is improved • Performance is measured	• Improve efficiency, affordability, and quality of care
Facilitating access	**Outreach**	• Services are made available to rural areas via mobile camps and vans	• Increase availability of services
	Telemedicine	• Services are made available to rural areas via Internet, audio- and video-conferencing kiosks	
	Temporal access	• Services are offered around-the-clock • Opening hours are extended for specific groups	

1. Human resources management: Innovations in human resource management in the area of health care tended to focus on the training of laypersons, the use of paramedical staff, and the improvement of staff quality, all of them having the objective of improving quality and availability of care in remote areas. PDA, Seva, and VisionSpring all help laypeople acquire skill sets that were previously exclusive to qualified medical practitioners or experienced health care providers: distribution of oral contraceptives (PDA), provision of basic eye care and management of local health programs (Seva), and eye exams and business operations (VisionSpring). By shifting tasks to trained laypeople, these organizations have reduced the cost of operation, increased availability of staff, and empowered the local community. Seva even created novel categories of health care providers, such as the ophthalmologic assistant, to maximize the use of paramedical staff, further increasing the availability of care. All of these approaches to human resource management engage the community, create jobs for local people, and increase the sustainability of programs by helping local people acquire the skills to provide care for their own communities.

Another area of human resource development is through the improvement of the quality of existing health staff. An example of this is K-MET, which equipped existing private sector health providers with safe abortion skills and provided them with manual vacuum aspiration kits for safe abortions. Providing education, resources, and a network has helped improve the quality of maternal and child care given by this group.

2. Knowledge development: Organizations may improve their efficiency, the affordability of their services, and the quality of their care through the development of knowledge, which includes the development of new technology, improvement of process, and measurement of performance.

In addition to providing ready-made eyeglasses for the farsighted, VisionSpring is working together with d.o.b foundation to make new adjustable lenses ("U-specs") for the nearsighted population, especially for children. The innovative design of U-specs comprises two adjustable lenses. By shifting the two parts of the lens, the refractive strength can be adjusted: this makes mass production easier, reduces costs, and offers an alternative to the traditional customized eyeglasses.

Aravind Eye Hospital significantly improved its efficiency by reengineering its operating room and improving process, allowing surgeons to work on two tables in alternation, shifting from one case to another. While the surgery is in progress, a team of four nurses and paramedical staff prepares the next patient. This innovation allows them to perform a cataract surgery in 10 minutes, which is one-third of the industry standard of 30 minutes (Shah and Murty 2004). Despite the shared space for patients, the hospital's infection rate is 4 per 10,000 cases, which is better than the United Kingdom's published rate of 6 per 10,000 (Shah and Murty 2004). The hospital tracks surgical outcomes by surgeon and provides support to those who are below average, which contributes to improvements in quality of care.

3. Facilitating access: Facilitating access to care is a key component of an organization's operating strategy as the poor may be hard to reach. Without specific strategies, services may be affordable but not available to poor patients, and crossing this last mile is quite challenging. The notion of access to health services incorporates both the geographic and temporal ideas of availability. Organizations may be situated in geographically remote areas, but they may conduct outreach programs to bring services from urban areas to rural communities, or they may use telemedicine to send medical tests and results from rural areas back to urban areas. Temporal access means providing services that are appropriate time-wise for the populations that are being served.

- **Outreach:** Outreach can incorporate many different strategies. Some organizations' entire mission is to bring services to rural communities. To achieve that mission, the organizations and their services are situated in rural areas. K-MET is a nongovernmental organization that was founded to increase access to maternal and child health services in and around the western Kenya city of Kisumu. The K-MET network aims to increase the accessibility of reproductive health and family planning services for the poor, using

private providers as a means of establishing new and easy-to-access service delivery points.

High-volume providers like Aravind Eye Hospital and Narayana Hrudayala Heart Hospital provide health outreach camps to reach patients in rural areas and achieve economies of scale. Narayana Hrudayala organizes camps that focus on cardiac diagnosis and care, and arrangements are made for buses to travel to rural areas. On average, the camps see 400 patients a day. If any of these patients require further assistance, they are transported back to the hospital. Aravind provides a similar service, with screening through camps along with transportation to the hospital.

- **Telemedicine:** Aravind Eye Hospital has set up internet kiosks in remote villages run by local women, who take pictures of patients' eyes using a webcam and send the images to a doctor from Aravind hospital along with a completed online questionnaire about the patients' symptoms. The doctor is able to access the images instantaneously, and chat with the patient online in real time to assess whether the patient needed to come in for a consultation at the hospital. These kiosks reduce both the time and expenses incurred by an extra hospital visit. Narayana Hrudayala also provides expert consultation to providers in remote sites.

- **Temporal access:** Although geographic availability has been shown to be important in rural contexts, temporal availability is another significant dimension of access. Two organizations that have innovated in this area are Jaipur Foot and Population Services International's social marketing programs for youth. Jaipur Foot makes services temporally available by allowing patients to check in around the clock. Fittings are completed in a number of hours, and there is no need for a subsequent appointment, so patients are required to sacrifice only one or two days of work at most. PSI's youth social marketing programs make services available at times that are more appropriate for the targeted demographic. Sexual health clinics are open late at night and on weekends so that young people are able to access them.

Medical processes

Medical processes are the core activity of any health service delivery organization, but they are not necessarily the focus of business process innovators. Medical process innovations are often described as changes in the way a given service is provided, either through a new protocol or the use of a new treatment. For example, shifting tasks from doctors to nurses or to lay health workers could be considered a medical process innovation. This can also be described as a business process, for example, as a human resource strategy (as in this report). The medical processes discussed here, therefore, are prevention, diagnosis, treatment, rehabilitation, and monitoring, all of which are supported by the business processes described above. Given the different disease processes and scope of services, it is difficult to make comparisons across organizations; we therefore highlight key examples from each category. Many organizations develop new treatment modalities or technologies

but are not service providers, and some examples that were screened but not included in this study appear in appendix 4.

In terms of prevention, none of the cases reviewed has developed a new way of preventing disease, though some have innovative screening and diagnostic methods. VisionSpring has a kit that allows lay health workers (or "Vision Entrepreneurs") to screen for problems with visual acuity and identify presbyopia, which can be treated with reading glasses. This new process makes it possible for staff with limited training to screen people door to door, thus greatly facilitating access to this service. Dentista do Bem uses a validated screening tool to identify children with oral health problems in schools, but not one that it developed.

The cases provide examples of innovations in treatment and rehabilitation, but not in monitoring. Aravind Eye Systems has the most remarkable innovations in treatment, including a surgical procedure for cataracts that does not require sutures and that makes use of a mobile microscope so that one surgeon can operate at two tables, side by side. Both of these innovations reduce costs (no expensive sutures and less space required) and increase service volume by reducing the time required for a surgery. This has not increased infection rates, as noted above. The Jaipur Foot is the only innovator in rehabilitation, having developing a new prosthesis and fitting procedure that minimizes the need for follow-up. This approach makes this process more like a one-time intervention without the regular follow-up required for most rehabilitation activities. All of the other organizations use established protocols, in some cases from developed countries, like Ziqitza, whose training program is taken from ambulance services in London and New York.

Social impact

Existing evaluations of the impact of the 11 organizations on our final list were not always readily available, nor were they rigorous. However, with the data that we have gathered through the organizations' Web sites, published documents, gray literature, and interviews, we were able to infer that all of these organizations have demonstrated some positive impact on access (availability and affordability) and/or quality of care (table 5). The rigor of these measures is variable, but if a service is now provided in a region where this was not the case previously, we inferred that geographic availability had increased. If a service was provided for free to a certain group (the poor), we stated that it increased affordability. The scale of the impact (the number of people affected by the organization) is discussed below in the section on organizational impact.

Table 5: Summary of impacts

Impact	Aravind	K-MET	Jaipur Foot	Vision Spring	Social Mktg.	NH	PDA	Dentista	Seva	Ziqitza	Greenstar
Availability	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Affordability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Quality	✓	✓	✓	✓	✓	✓	✓				✓
Reach	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Imitation	✓	✓		✓	✓		✓	✓			✓
Longevity	✓	✓	✓	✓	✓	✓			✓		✓

Availability

All of the organizations in table 5, with the exception of Dentista do Bem, increased the availability of services. They did so through a range of reaching strategies, such as mobile clinics, telemedicine, and supporting the establishment of new providers in areas where they were not available before. For example, VisionSpring has made ready-made eyeglasses available in rural areas with their "Vision Entrepreneur" model. VisionSpring is one of the few organizations that have well-documented external impact studies (Christiansen, 2008; Clemminck, 2007) that measured its social impact through the number of glasses sold (more than100,000 pairs) and the number of Vision Entrepreneurs employed (1,200). Outreach (PDA's and Seva's mobile camps) and telemedicine (Aravind) has also increased the availability of services in rural areas. PSI's social marketing programs for youth also increased availability by offering weekend and weeknight sexual health clinics. Dentista do Bem is the only organization that did not have an impact on availability of services. Its model, in contrast to the other 11 organizations, did not focus on increasing the provision of care in rural areas, but rather on making existing services affordable to poor children by encouraging private dental practitioners to provide free services to this group. This limits the availability to areas where there are enough paying customers to sustain a for-profit private dental practice.

Affordability

All but two of the organizations discussed here have increased the financial accessibility of services through a range of price discrimination strategies (aligning cost with ability to pay) and efficiency strategies. Successful organizations in this regard have, for example, brought the cost of a prosthetic leg with fitting down to $35, cataract surgery to $30, and open heart surgery to $2,400. This has been done either through local production with low-cost materials and labor (for example, Jaipur Foot and Aravind) or through high volumes and specialization (for example, Narayana Hrudayalaya Heart Hospital and Aravind Eye Hospital). Some organizations, like Greenstar or VisionSpring, identify a price point that is affordable for poor patients and design their services to meet it. The other approach to increasing affordability is subsidizing prices for the poor using funds from richer patients. The proportions vary from 70 percent subsidized or free at Aravind to 20 percent at Ziqitza, and 18 percent subsidized and 1 percent free at Narayana Hrudayalaya Heart Hospital.

Increased affordability is inferred from the reduction in price and the presence of a system for subsidy. The actual performance of these systems (the proportion of non-poor covered and poor not covered) is not known, but they have efficient approaches to assessing ability to pay.

Quality of health services

At least half of the organizations have strategies that have led to improvements in the quality of services given, though this was often inferred. The rigor of these measures was weaker than for the other two impact measures, with only one organization (Aravind) providing outcome data, while others focus more on structural measures than staff training levels, whose relationship with outcomes is less certain. For example, by improving staff quality, K-MET and Aravind Eye Hospital provide better care to patients. Aravind uses operations research to track outcomes and measure the performance of providers and give feedback to improve the quality of care. Ziqitza 1298 calls patients or their families after every ambulance ride, but they do not report their results. Quality of care is a sensitive area for private sector organizations, with likely under-reporting of quality problems due to conflict of interest.

Summary

In summary, our study has highlighted some innovative business processes that successful organizations have used and that may have contributed to their social impact. An increase in availability is achieved through reaching strategies (mobile camps, telemedicine, longer operating hours), while greater affordability can be achieved though price discrimination strategies and efficiency strategies (high volume and specialization). An increase in the quality of services is achieved through improved patient experience and improved technical quality. The organizations have used innovative mechanisms to achieve these goals, but many of the impacts are inferred from the mechanisms, and the quality of the evidence in this area is highly variable. Nevertheless, they suggest feasible mechanisms for improvement that can be tested more rigorously in the future.

Organizational impact

Most of the organizations discussed in this paper have demonstrated an impact by their reach, imitation (or replication), or longevity. These measures differ slightly from the others discussed above because they are a product of the viability of the models rather than their specific impact on individual consumers. These private sector organizations provide successful strategies for scale-up, present replicable models, or have demonstrated sustainability. Some of the organizations have achieved all three of these, while others are newer but have reached a certain size, as shown in table 5.

Reach

All of the organizations in our sample have developed beyond their initial pilot and have reached many people and geographic areas. One of the organizations with the broadest

reach is VisionSpring, which operates in 13 countries, and its model is replicated in 6 states in India. A key driver for this rapid growth is its model's lack of region-specific factors and the simplicity of its "business-in-a-bag" model. For these reasons, the model can be easily adopted in villages with diverse cultures, economic conditions, and geographic locations. They also leverage existing networks developed by other organizations in order to grow rapidly. Jaipur Foot's massive scaling has enabled the organization to fit more than 200,000 limbs in India; scaling has also enabled Aravind to produce 60,000 intraocular lenses, and Narayana Hrudayalaya Heart Hospital has performed more than 11,000 open-heart surgeries.

Imitation

Aravind has developed a consulting branch, Lions Aravind Institute of Community Ophthalmology (LAICO), which has improved the outcomes of other hospitals. The model has been replicated in Nepal (Lumbini Eye Hospital) and elsewhere. Narayana Hrudayalaya Heart Hospital is replicating the high-volume, low-cost model of specialized hospitals in pediatrics, orthopedics, and neurosurgery. PDA's innovative approach to marketing reproductive health services has been adopted by the Thai government and made into a core element of the national strategy to combat HIV/AIDS.

Longevity

Though we have described these models as innovative, four of these organizations have been in operation for more than 30 years: Aravind, Jaipur Foot (BMVSS), PDA, and Seva. The other organizations are much younger, ranging from three to eight years. This shows that some of these models are sustainable in the long term, while others have been able to expand quickly in a short span of time, but their long-term stability remains to be seen. Innovative financial strategies that can help maintain program sustainability include the provision of capital funding (K-MET's loan programs) and revenue-generating projects (PDA's commercial ventures).

Summary of innovations and impacts

This section focuses on the patterns discernible in the various strategies employed across organizations. These strategies and their impact are summarized in table 6. Some of the blanks may be due to a lack of information on that particular strategy rather than its absence, but all of the checkmarks reflect documented activities. We also discuss patterns of innovations in medical processes as compared with business processes. Last, we explore the scope of services provided by these organizations to see whether they use a vertical approach, which fills narrow gaps in the health system, or a horizontal approach, which provides broad-based services across the spectrum of health needs.

As shown in table 6, the organizations identified in this study use a wide range of innovative strategies, all but one of which include some novel approach to marketing, finance, and operations. There is no single strategy used by all the organizations, which suggests that multiple strategies are important for success. The variation in their

approaches and the mix of different strategies is likely reflective of the various conditions they target and the contexts in which care is provided. For instance, high-throughput models make sense for surgery but are unlikely to work for psychiatry. The appropriateness of reaching out to the rural poor through mobile services, telemedicine, and establishment of rural facilities will vary according to the complexity of services provided. Given the difficulty of keeping physicians in remote areas, mobile services and telemedicine are solutions for surgical and medical issues which require the skills of doctors, while simple care protocols can be implemented by locally trained staff.

Although the relative paucity of innovations in medical processes as compared with business processes may be an artifact of our search strategy or definition of terms, it seems that many successful organizations primarily use new business processes to improve social impact. Activities like shifting tasks from one cadre of provider to another could be termed a medical process innovation, but we have treated it as a business process related to human resource management. On the other hand, novel protocols or technologies that facilitate task shifting are treated as medical process innovations. The search for innovative business models may have excluded traditional charitable organizations with medical process innovations. However, the purpose of the review was to explore the strategies of private innovations, and the review has covered a broad range of business model innovators. This suggests that, while there are still many technological and clinical problems that could be solved, there is great scope for management strategies to improve care for the poor.

These private sector organizations primarily fill gaps in care delivery, but some also suggest ways that a system could be strengthened more broadly. Most organizations reviewed here have innovated around a narrow disease focus on a specific unmet need in the health system. None of the organizations we identified provide broad-based clinical services that could satisfy all the health needs of the population; that is, none of the organizations uses a horizontal approach. Instead, they adopt existing technologies or medical protocols to target a specific health problem, which is reflective of vertical approaches. They are focused on core medical processes, with multiple business process innovations to support these activities. However, some innovations in business processes create an opportunity for migrating functional expertise that makes it easy for other organizations (including the public sector) to adopt. These could include an approach to marketing, a mechanism for cross-subsidy, a human resource management strategy, or outreach.

Good examples of the vertical type of innovation are the Aravind Eye Hospital, Jaipur Foot, and Narayana Hrudayalaya Heart Hospital. These organizations focus on a specialized disease area (eye care, prosthetic limbs, and heart surgery, respectively) and provide services that are specific to the problem. For example, Aravind provides comprehensive eye care services, from eye screening, surgical interventions, recovery monitoring to keeping detailed medical records. Narayana Hrudayalaya Heart Hospital's services range from public education on the prevention of disease, to patient checkups and diagnosis, to heart surgeries, to rehabilitation. Jaipur Foot, in contrast, targets a problem that is highly intervention-oriented. Hence, the only core process that it is involved in is intervention (the fitting of the prosthetic limbs). By scaling up their activities, organizations

with this vertical approach are able to reduce one specific problem on a large scale: Aravind has become the largest eye care provider in the world; Jaipur Foot has fitted more than 200,000 limbs in India; and Narayana Hrudayalaya Heart Hospital performed over 11,000 open-heart surgeries (though only a portion of these were for poor patients).

Good examples of deep innovations in business processes that allow for replication are PDA and Ziqitza. PDA's high-impact and innovative mass promotion and public education programs for family planning were eventually adopted by the Thai government to build its comprehensive national HIV/AIDS prevention program. PDA's strategy of using humor to de-stigmatize sensitive subjects was incorporated into the national reproductive health strategy and helped decrease Thailand's population growth rate, as well as rates of HIV/AIDS. Ziqitza's cross-subsidization strategy tackles the lack of funding for ambulance services, which has limited the growth of this area since the 1970s. Patients report their ability to pay through their choice of hospital, thus avoiding the administrative burden and potential gaming of many poverty assessment strategies. This strategy could be adopted by the public sector and used to fund the scale-up of a national ambulance service which might eventually be provided to all free of charge.

None of the organizations we found were horizontal system innovators, investing in health-system improvement as well as broad-based health services. These types of innovations may be more difficult because they involve improvements in existing infrastructure as well as governance systems. While some of these models lend themselves to replication, they may be difficult for public services to reproduce completely. Making changes to marketing, finance, and operations is very challenging for large public organizations with preexisting policies and large, entrenched interest groups (such as the civil service), and the capacity to reform is limited. These approaches may require the support of a transparent (and relatively well-funded) public sector. Alternatively, they may work in systems where the state is almost nonexistent, but none of our cases are from this type of setting.

Table 6: Summary of innovations in business processes

			Aravind	K-MET	Jaipur Foot	Vision Spring	PSI Social Marketing	NH	PDA	Dentista	Seva	Ziqitza	Greenstar
Marketing	**Communications**	Mass promotion	✓			✓	✓		✓	✓		✓	✓
		Public education		✓		✓	✓		✓		✓	✓	✓
		"Person-to-person"				✓	✓						
	Customer orientation		✓		✓	✓	✓		✓				
	Franchising			✓		✓	✓				✓	✓	✓
Financing	**Cost management**	Low operating cost	✓		✓	✓		✓					✓
		High volume, low cost	✓					✓			✓		
		Cross-subsidization	✓					✓		✓	✓	✓	✓
	Capital funding			✓									
	Revenue generation					✓	✓		✓				✓
Operating	**Human resources**	Training of laypersons	✓		✓	✓	✓		✓		✓	✓	
		Improved staff quality	✓	✓				✓	✓			✓	✓
		Use of paramedical staff	✓	✓	✓		✓	✓			✓	✓	
	Knowledge development		✓	✓	✓	✓	✓	✓		✓		✓	✓
	Accessing services	Outreach	✓	✓	✓	✓	✓		✓	✓	✓		✓
		Telemedicine						✓					
		Temporal access	✓	✓	✓		✓					✓	
		Rural facilities	✓	✓		✓	✓						✓

5. Discussion

We have developed a framework to describe innovations in health service delivery based on a review of private sector organizations in low- and middle-income countries that have improved care for the poor. Using this framework, we analyzed the activities of 11 organizations deemed successful in that they had improved availability, affordability, or quality of care for the poor and had achieved significant reach, had been replicated, or were long-lived. The key findings of this analysis were as follows:

Private sector organizations that have improved care for the poor are innovators in the areas of marketing, finance, and operations. The innovations include a focus on patient experience, tailoring to the needs of the poor, and price discrimination strategies like cross-subsidy; efficiency strategies such as specialization and high-volume, low-cost models; and operational approaches to increase the availability of services, such as outreach and telemedicine.

Successful organizations innovate across several business processes. All of these organizations had at least one innovation in each of the business processes—marketing, finance, and operations. This suggests that there is no magic bullet and that there is either synergy between the strategies or uncertainty about which will work.

Business process innovation is key. Despite innovating across all of the main business processes, fewer organizations innovated in the medical processes of prevention, diagnosis, treatment, rehabilitation, and monitoring. While it may be that other organizations not identified here innovate in these areas, it seems that it is possible to have a large-scale impact by implementing existing care processes using innovative marketing, financing, and operating strategies. This suggests that management has much to contribute to the field of health service delivery and that the private sector may help develop this area.

Most innovation is vertical. Most of the organizations in this review had a narrow disease focus built around a few medical processes with multiple innovations allowing them to market their services on a large scale, reduce costs, and streamline operations to target poor patients effectively. Some organizations had innovations that could be easily adopted by public sector or other organizations, thus contributing to improvements within health systems. None of the organizations identified here provided broad-based comprehensive health services.

Contributions to knowledge

This study contributes to the existing literature a model for characterizing innovations and an analysis of patterns of innovation in private sector organizations that have improved care for the poor. This builds on the work of Porter and Teisberg (2006) by adapting their health care delivery value chain concept to a novel setting (developing countries) and using it to focus on types of innovation. This report also builds on and goes beyond the single strategy categorizations used in the International Finance

Corporation report (IFC 2008) and many of the previous reviews on particular strategies (for example, social marketing or franchising). This model could be used by funders, governments, social entrepreneurs, and businesses to analyze health service delivery organizations for investment or replication. It may be particularly useful to isolate innovations that could be taken up by public systems, thus optimizing a potential contribution of new knowledge to health systems.

The review of case studies found that every one of them innovated in multiple areas, which suggests that there may be a synergy between marketing, financing, and operating strategies that goes beyond the benefits of each in isolation. Alternatively, it is not clear which has the most impact, so trying multiple ones may increase the chances of success. This is a caution to governments and enterprises looking for "silver bullet" approaches to improving care for the poor. The finding that private sector business process innovators can have a significant impact with few innovations in medical processes may be in part an artifact of the search strategy. Nevertheless, the finding suggests that while technical advances in medicine are very important, there is much to gain from improvements in management strategies in health care delivery.

The finding that most organizations innovate in vertical (disease-specific) systems suggests that it is easier to manage and experiment within health care delivery systems with a narrow focus. It may be that the predictability of the health problems and treatment strategies makes it easier to streamline processes, delegate tasks to personnel with less training, and use quality improvement strategies, all of which can reduce costs and increase reach. One caution here is that our search focused on terms like *innovation*, and it may be that mission hospitals and some broad-based nongovernmental organizations do this type of work but have not been characterized as innovative. Some large and innovative private sector organizations like Apollo Hospitals in India and Bumrungrad in Thailand provide a wide range of services but do not focus on the poor (*The Economist* 2008). Despite the risks that vertical approaches may weaken horizontal services like primary care (Garret 2007; Mills 2005), private sector organizations may be well suited to "cherry-pick" health problems to which they can find inexpensive and scalable solutions. If the interface with the public health system is managed adequately, this could be a promising approach.

These findings are the result of an extensive review of the existing literature, drawing on a wide range of sources, including representatives of the organizations studied. However, we found relatively few rigorous or external evaluations of these organizations, and the completeness and reliability of the reporting may be variable. Nonetheless, given the broad criteria and multiple sources, this is a reasonable representation of what is currently known on the subject. The method of comparative case studies does not allow one to infer that a given mechanism had a certain impact, only that certain mechanisms have been associated with particular effects. The available data did not allow us to explore factors like organizational culture, leadership, and an enabling environment, all of which are likely to be very important and should be explored in the future. Last, some of the findings may be an artifact of the search strategy and our choice of organizations. These results are representative of the well-documented business innovators who target the

poor, but not of nongovernmental and charitable organizations in general or of private sector organizations targeting the wealthy.

Practical recommendations

1. Funders and investors should look across the range of strategies used by health service organizations to identify strategies that are likely to have a large-scale impact. The organizations examined in this report all innovated in multiple business processes at once, addressing the marketing, financing, and operational issues of providing care to the poor. These include novel ways of informing the public, considering patient experience, focusing on cost reduction and price discrimination strategies to keep services affordable, and operational elements such as effective use of human resources and outreach.

2. Investors and governments should consider scalability and interaction with the public health system when investing in private sector organizations. Many of the organizations described here have been able to scale up significantly because they were able to generate significant demand, reduce their operating costs, or develop models that can be easily replicated. This is one of the areas that makes private sector investment attractive, but it is likely to represent only a small proportion of opportunities.

3. Strengthening health systems may involve linking with "vertical" organizations. The vertical orientation of many high-performing organizations may provide an opportunity for value-added partnerships with the public sector. The relationship between high service volume for procedures and both reduced cost and increased quality that is exploited by many organizations reflects the benefit of specialization for some conditions. Linking effectively with these organizations either through service agreements, contracts, or referral systems could increase the efficiency and capacity of health systems.

4. The private sector does not provide an easy solution to improving horizontal health systems. None of the organizations provided models of provision of broad-based services spanning the range of a population's health needs. However, they do suggest mechanisms that could become part of horizontal systems like primary care. These include the innovative use of lay health workers, paramedical staff, and new technologies to improve access to care in rural areas. National health systems may be able to learn from, imitate, scale up, and otherwise implement specific innovations from the private sector.

The findings of this report suggest that private sector organizations can contribute to public health systems. Some of the innovations described here could be incorporated into health systems, particularly marketing strategies and some of the operating strategies, which may be more amenable to change than finances. These provide opportunities for learning from the private sector when there is a desire for exchange. There are few examples of this currently, and further study is needed to understand the circumstances in which this could work. On the other hand, integration or collaboration with the health

system may provide an opportunity for private sector organizations to scale up and maximize their potential. For example, the ambulance service Ziqitza 1298 attempted to scale up through franchising but withdrew because of difficulties with quality control. Ziqitza is now bidding for citywide government contracts, which could bring the funds and legitimacy needed for rapid growth while filling a gaping hole in public services.

Role for government in supporting private sector innovation

If the private sector is both a provider of services and a source of innovation, should the government support either of these functions and, if so, how? Like many projects funded by nongovernmental organizations, some private organizations develop models that are successful but not scalable. On the other hand, an organization like the Aravind Eye Hospital has the largest eye care facility in the world (Rangan 1993) and has a consulting division that has dramatically improved the performance of other eye hospitals by incorporating elements of its model (Kumar, 2000). The demonstration of how service volumes can dramatically increase along with quality has had an impact on eye care across India and in many other countries. This is an example of a private sector innovation that has public good characteristics and that could benefit from public or donor investment.

The government can support innovative private sector organizations through financial means, legal means, and partnerships. Identifying these organizations may be a challenge, though there are investors that seek out and support these groups (for example, Ashoka, Schwab Fund, Echoing Green, and the Acumen Fund). Partnering with these associations to identify organizations that could have an impact on the health system would facilitate this. From a financial perspective, governments and donors could provide low-interest loans to high-performing organizations so that they can expand or encourage banks to lend to health sector organizations. This is a constraint that several organizations have identified as a key limiting factor (IFC 2008).

The most significant way of supporting innovative organizations would be to purchase their services indirectly by supporting demand (through insurance or vouchers given to patients) or purchasing services directly through contracts. The growth of social insurance and micro-insurance creates new opportunities to finance care for the poor. Given the significant number of indigent persons in many low-income countries, it is unlikely that models requiring user fees could be sustainable and ensure that all of the poor are covered, even with a cross-subsidy, as noted above.

From a regulatory perspective, governments may officially expand the scope of practice of a given provider to increase the availability of certain services. This was done for PDA, allowing distribution of contraceptives by lay health workers and access to abortion under certain circumstances after a change in legislation. Another effective approach has been to approve new categories of paramedical staff, like ophthalmology technicians (Seva), which has increased the availability of certain services.

Supporting innovative organizations like the ones described in this report would require governments to shift from their traditional role of funder and provider of care to steward of the entire health system, public and private, formal and informal. This role could involve acting as an informed purchaser on behalf of the public, identifying effective health care delivery channels, and either reimbursing patients who use them or contracting services from them directly.

Future work should involve more in-depth analysis of specific organizations, exploring the environmental factors and internal factors contributing to their success. Little information is available about how these organizations interact with government and whether there is potential for collaboration. Similarly, the influence of organizational culture and leadership on the growth and impact of these organizations may limit the broader applicability of these findings to other settings. Last, this study focused on successes, but there is just as much to be learned from failures, which are not well documented but merit equal attention.

6. Conclusions

In summary, this report reviewed a number of private sector organizations that have used innovative finance, marketing, and operating strategies to improve the availability, affordability, and quality of care for the poor. These organizations innovated across marketing, finance, and operations, suggesting that there is no single effective approach. Most of their innovations were in business processes rather than medical processes, suggesting that management approaches have much to contribute to increased impact. Most organizations had a narrow disease focus, which may have facilitated widespread innovation and rapid scale-up. These organizations can contribute to the strengthening of health systems either by linking with public health systems or by providing replicable examples of effective strategies. Scale-up could be facilitated by contracting with the government or by obtaining subsidies to provide care to the truly indigent. Encouraging public health authorities to manage their mixed systems and support effective organizations is a crucial step to expanding effective health service delivery models to meet the needs of the poor.

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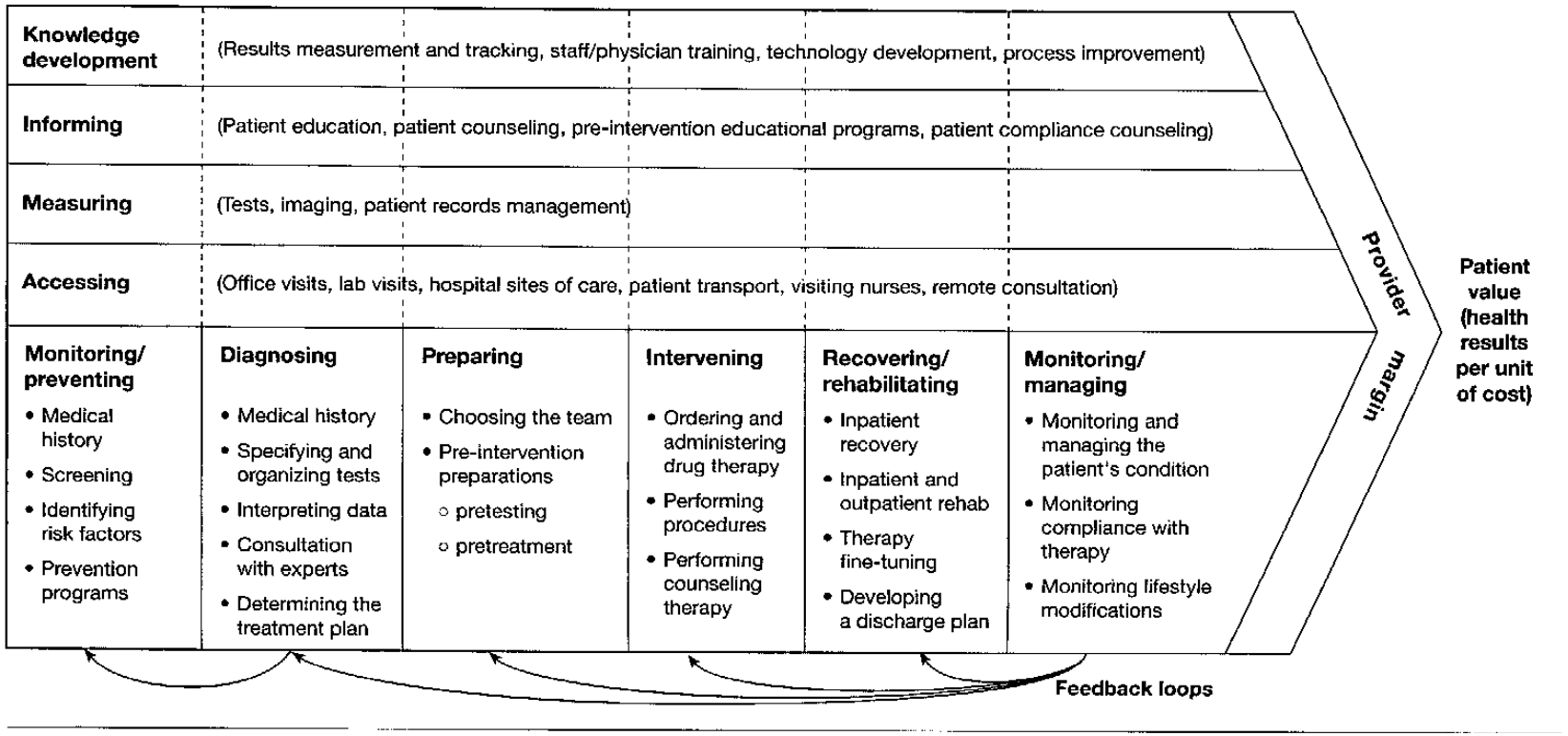
Appendix 1: Porter and Teisberg's Care Delivery Value Chain for an Integrated Practice Unit



Source: Porter and Teisberg 2006.

Appendix 2: Search Strategy

Types of literature searched

- Peer-reviewed journal articles
- Gray literature
- Project reports and documents on Web sites of organizations
- News articles
- Documents provided by expert sources

Databases consulted

- Medline
- Academic Search premier
- PubMed
- EMBASE
- Web of Science
- HealthSTAR
- POPLINE

Web sites and sources consulted

- U.S. Agency for International Development (www.usaid.org)
- World Health Organization (www.who.int)
- Population Services International (www.psi.org)
- President's Emergency Plan for AIDS Relief (www.pepfar.gov)
- Ashoka (www.ashoka.org)
- The Skoll Foundation (www.skollfoundation.org)
- The Schwab Foundation for Social Entrepreneurship (www.schwabfound.org)
- The Acumen Fund (www.acumenfund.org)
- London School of Hygiene and Tropical Medicine (www.lshtm.ac.uk)
- BBC News (http://news.bbc.co.uk)
- International Finance Corporation Report (IFC 2008)
- Local news Web sites
- Organizational Web sites (where available)
- Conversations with experts in the field

Search limits

- Journal articles were limited to articles in English, but organizational Web sites were limited to English, French, and Chinese.
- Geography limitations were to low- and middle-income countries.
- Program limitations included purely public sector programs and programs that fell outside the realm of health delivery.

Search terms included but were not limited to

- Health service delivery developing country
- Innovative health service delivery

- Health franchising
- Social marketing
- Health training
- Human Resources for health
- Human Resource Retention Health
- Innovative Health Africa
- Innovative Health India
- Innovative Health Asia
- Public Private Partnerships Health
- Private Sector Health Service Delivery
- Health and technology
- Community based care
- Health delivery increased quality
- Health delivery increased availability
- Health delivery increased affordability
- Employer health service delivery
- High volume low cost hospitals
- Health integrated networks

Limitations

- To access timely information, both organizational Web sites and external Web sites were consulted for specific information on programs. The reliability of the data on these Web sites may be variable.
- It is likely that program failures are not reported in these sources, as the organizations that we were looking at were seeking further funding from external donors.
- There was a lack of external evaluations of many of the programs. Many of the evaluations that we did consult were done internally by the organizations implementing the program or the donor organizations.
- Our search terms and criteria were very specific. As a result, we may not have fully canvassed all service delivery organizations that exist in low- and middle-income countries.
- Our searches also relied on the organizations or programs having Web sites or having Web sites in English, French, or Chinese that were accessible to the researchers. Ones that were not accessible would not have been included in the final scan.

Appendix 3: Case Studies

This appendix presents detailed case studies of 11 organizations that have been identified as innovative and sustainable:

1	Aravind Eye Hospital
2	Kisumu Medical and Educational Trust
3	Jaipur Foot
4	VisionSpring
5	Social Marketing
6	Narayana Hrudayalaya Heart Hospital
7	Population and Community Development Association
8	Dentista do Bem
9	Seva
10	Ziqitza 1298
11	Greenstar

Case 1: Aravind Eye Hospital

(Founded in 1976 by Dr. Govindappa Venkataswamy in Madurai, India)

Innovation

Blindness affects more than 18 million people in India (Dandona, 2001), three quarters of which can be cured through simple and inexpensive procedures like cataract surgery (Nirmalan et al, 2002). Furthermore, visually significant cataracts occur about 14 years earlier in India than in the US, meaning that many working age people are affected, in addition to children (Brian et al, 2001). However, identifying those who would benefit from treatment and makings services available to them logistically and financially is a major challenge. The country must use limited resources to reach large numbers of people, despite an underfunded and relatively inefficient health system.

Dr.Govindappa Venkataswamy used the principles of mass marketing and industrial engineering to create a model of eye care that combines high service volumes and quality with low cost and innovation to sustainably meet the needs of poor and wealthy clients. Since founding the Aravind Eye Care System in 1976, and it has grown into the largest and most productive eye care facility in the world.

Marketing strategies

Dr. Venkataswamy described his marketing strategy for the hospital as follows: “Give people a new experience, one that deeply changes their lives, make it affordable, and eventually change the whole world. And your customers become your marketers.”

1. Mass promotion: The first step for Aravind was to educate the public about the need for eye screenings and cataract surgeries. This was done using community workers who would go to villages where the hospital planned to hold eye camps and meet with village heads. The eye camps are sponsored through local organizations that take it upon themselves to educate and promote eye camps and conduct widespread publicity through all possible media. Publicity is generally in the form of public announcements, newspaper ads, and information pamphlets.

2. Public education: The medical team at the eye camps is involved in educating the local community in the maintenance of proper eye care.

3. Customer orientation: By studying patient flow, Aravind has designed its operations such that waiting times are reduced and the experience is as seamless as possible for patients. The hospital employs patient flow managers to keep the process moving, and patients are accompanied by their families or other villagers when they are brought to the hospital from eye camps, to lessen the anxiety of the experience.

Financing strategies

1. High quality, low cost: To provide inexpensive eye care, Aravind monitors its costs very closely. Both operating rooms and surgical procedures were designed with surgeons' productivity levels in mind. This was done by building an efficient, high-volume, assembly-line-like process to perform surgeries, whereby surgeons operate on two or more patients in the same operating room; after completing one surgery in less than 20 minutes, the surgeon then moves on to the next patient, who has been prepped for surgery in the interim period. Thus, the hospital performs 400 surgeries per doctor per month. This high volume of surgery does not compromise the quality of care, however; the hospital maintains extremely low infection rates: in 2003, infection rates were 4 per 10,000 patients, as opposed to 6 per 10,000 in the United Kingdom for the same year.

2. Cross-subsidization: The hospital charges patients who are able to pay (roughly 30 percent of all admitted patients) and uses the collected fees to subsidize treatment for patients who are unable to pay for care (70 percent of all admitted patients). The only difference for those who pay and those who do not is post-surgical accommodations.

3. Lowering operating costs: Aravind manufactures its own intraocular lenses (IOLs) through its manufacturing arm named Aurolab, and is currently one of the leading IOL manufacturers of these types of lenses in the world. IOLs was a popular technique in the United States in 1980s but they were expensive ($300-$400 each). Dr. Venkataswamy started manufacturing IOLs in-house in India in 1992, producing lenses at one-eighth of the price of the imported. While the average cost of an intraocular lens is $ 100-150 (in U.S. dollars), Aurolab sells the same quality of lenses for between $4-6 per lens.

Operating Strategies

1. Use of paramedical staff: Nearly 70% of the work performed in the operating theatres is performed by paramedical staff. Each surgeon at the hospital works with four nurses – two running nurses and two assisting nurses. This allowed surgeons to maximize the time they spent on a surgery, thereby performing a higher number of surgeries. The nurses themselves go through a rigorous selection, training and classification process, and they are in high demand both nationally and internationally as nurse trainers. Ophthalmologic paramedical staff does pre- and post-op work, so costs are lowered and surgeons can focus on performing more surgeries.

2. Training laypersons: In order to keep human resource costs low, the hospital chooses to recruit village girls who have only a high school education, as opposed to nursing diploma holders, who would require higher salaries.

3. Staff quality: Highly skilled surgeons at Aravind make meager salaries compared to what they could earn at corporate hospitals, but are motivated by the professional satisfaction. Similarly, the nurses that are recruited from the villages come to work at Aravind in order to achieve a human element to their work.

4. Knowledge development: Aravind's Aurolab manufactures their own IOL's lens at a low cost, making the product a lot more affordable to the patients. They provide 10 percent of the world's supply of IOL's lens, exporting to 120 countries. In addition, Aurolab also manufactures ophthalmic suture products, which tend to be too expensive to be used in developing countries. By 2003, Aurolab was selling more than a million ophthalmic suture needles every year. Dr. Venkataswamy also entered in to research and training collaborations with premier teaching hospitals in the United States so that they could stay up to date with all the latest developments in the field. Aravind also uses data to improve service delivery and reduce costs.

5. Telemedicine: In conjunction with a project run by research professors at the Indian Institute of Technology, Chennai, Aravind set up 30 internet kiosks by the end of 2003 in remote villages of Tamil Nadu. These kiosks are run by young local women, who take pictures of patients' eyes using a webcam and send the images along to a doctor from Aravind hospital, along with a completed online questionnaire about the patients' symptoms. The doctor is able to access the images instantaneously, and chat with the patient online in real time in order to assess whether the patient needed to come in for a consultation at the hospital. If not, the doctor is able to give his suggestions through email immediately; reducing both the time and expenses occurred in a physical hospital visit.

6. Outreach camps: An integral part of Aravind is its community outreach programs like screening eye camps, school eye health programs and village volunteer programs, all of which provide different strategies for taking eye care service to the doorstep of the community. They provide curative, preventive and rehabilitative care to the community along with information, education & communication programs to improve service delivery to potential patients in the community. Through free eye camps, medical teams from each hospital reach patients in rural areas. The teams work closely with local community leaders and service groups to organize these daily camps. There are also eye care projects that include screening for diabetes-related eye disorders, eye screening at schools and treatment of children suffering from refractive errors, strabismus and Vitamin A deficiency. By bringing eye care services directly to the community, Aravind makes a significant contribution towards reducing needless blindness.

7. Temporal access: Camps were set up daily in rural areas.

6. Rural Facilities: Aravind has VisionCentres that offers permanent services to rural population.

Impact

1. Availability*:* By using outreach camps and internet kiosks, Aravind brought eye care services to rural areas where services were not available before,

2. Affordability*:* By lowering operating cost, and manufacturing the lens in house, Aravind greatly reduced the costs of their services. Furthermore, their use of the cross-subsidization strategy made it possible for the poor patients to afford surgeries.

3. Quality: Aravind monitors patient flow and optimizes the patient's experience. They also use data to improve quality of health services delivery.

4. Reach*:* From April 2007 to March 2008, about 2.4 million persons have received outpatient eye care and over 285,000 have undergone eye surgeries at the Aravind Eye Hospitals at Madurai, Theni, Tirunelveli, Coimbatore and Puducherry. It is the largest provider of eye care in the world.

5. Imitation: Aravind Eye Care System has inspired health workers everywhere. Seva's project, the Lumbini Eye institute in Nepal, for example, has adopted Aravind's fee structure to become financially sustainable in Nepal.

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Case 2: Kisumu Medical and Educational Trust (K-MET)

(Founded in 1995, Kisumu, Kenya)

Innovation

Unsafe abortion is a major cause of maternal mortality and morbidity, accounting for up to 35 per cent of maternal deaths in public hospitals in Kenya (Kinotti et al. 1995). Restrictive abortion laws, the lack of access to trained service providers, or a combination of both often forces women to resort to unsafe methods and contributes to poor post-abortion care. K-MET is a nongovernmental organization that was founded in 1995 to increase access to maternal and child health services in and around the western Kenya city of Kisumu by forming a network of private physicians and training them to provide comprehensive, affordable reproductive health care and family planning. Since 40 per cent of all physicians in Kenya work in the private sector and the number of private health facilities has been growing over the last 10 years (Montagu et al. 2005), K-MET aims to increase the accessibility of reproductive health by leveraging the infrastructure and personnel of these existing providers. In this franchising role, K-MET trains reproductive health personnel in safe abortion practices, post-abortion care, and family planning. The program includes midwives, clinical officers, and nurse practitioners. In 2003, K-MET extended its services to include the training of community-based workers to provide home-based care for HIV/AIDS patients, to reach the patients living in the semi-urban and slum communities surrounding Kisumu, who were unable to access the treatment centers.

Marketing Strategies

1. Franchising: As a franchiser, K-MET trains, supplies and supports private healthcare providers, government doctors and mid-level providers so that they can offer services they would not have been offered prior to membership. Training includes safe abortion and post-abortion care. Franchisees are limited to one per site. When K-MET first started, franchisees were mainly doctors and consultants. As of 2001, all the new providers were mid-level providers (i.e., people who provide assistance to physicians, such as midwives, clinical officer, nurse practitioners). They are required to meet facility standards, receive free training and provide free manual vacuum aspiration kits for safe abortion practices and contraceptive commodities and pay a token annual membership fee to participate in the revolving loan program They have access to yearly medical updates and networking events

2. Public Education, Advocacy and Policy Development: K-MET also produces models in advocacy and policy development, curriculum development, peer education, and provider-training programs.

Financing Strategies

1. Investments and financial support: Investments and financial support received by K-MET included:

- A five-year grant from Family Planning International Assistance in 1996; extended for another five years
- Money for specific activities to support two member providers and related community-based distribution of family planning products to remote areas (Kinotti et al. 1995).
- Free in-kind family planning products from the government, such as condom-distribution boxes, which were placed in bars and other locations targeting at-risk populations
- Volunteer time and skills to run and operate the majority of the projects

2. Capital Funding: Revolving Loan facilities since 2004 enable network providers to make small improvements to their clinics and services (i.e., purchasing beds for patients, drugs, lab equipment, painting or renovation). Loans are also made available to community based service providers to expand and improve quality of reproductive health services offered and living standards of orphans and vulnerable children left behind. Cost sharing programs are also established in which the new network providers are responsible for their own transport, accommodation and 50% of the training tuition. The remaining costs are covered by K-MET.

Operating Strategies

1. Use of paramedical staff: Two-thirds of K-MET's network providers are mid-level providers (consultants, midwives, clinical officers, and nurse practitioners). This can facilitate the provision of services in rural areas because few doctors practice outside urban areas.

2. Improved staff quality through education and training: K-MET's training touches every level of society, from community-based service providers to medical specialists, allowing them to offer quality services that they would not have offered prior to membership. Yearly refresher courses equip community-based providers with the latest health information and tools, and enable them to share their experiences with one another. By training the local community, K-MET empowers community members and improves their human resource capacity.

3. Knowledge Development: K-MET builds community and professional networks among its members for effective linkage, networking and collaboration. These networks are useful for professional purposes, as well as building a sense of community and collective purpose among reproductive healthcare workers. K-MET also holds an annual Providers' Network meeting involving all members and stakeholders so that they can liaise and collaborate with each other. This meeting opportunity is especially important

for groups whom seldom interact, such as government employees, faith-based providers and private providers.

4. Outreach: K-MET trains Community Based Workers to provide home-based care for HIV/AIDs, in order to reach the patients living in the semi-urban/slum communities surrounding Kisumu and unable to access the treatment centers.

Impact

1. Availability: An evaluation in 2004 showed that K-MET has successfully created a network of private sector providers in areas where government services are generally out of reach (Montagu et al. 2005).

2. Affordability: K-MET served clients who were slightly poorer than the community. It was noted that the poor were benefiting as part of the overall gains equally shared across all wealth quintiles. Moreover, by shifting the services from public to private, K-MET did not increase inequities in access to health services in rural communities (Montagu et al. 2005). K-MET has no records for cost-effectiveness, but studies have estimated their Cost per Couple Year of Protection (cost/cyp) to be US$4.11. This is among the lowest of all supported family planning programs in Sub-Saharan Africa (Montagu et al. 2003).

3. Quality: KMET provides training to its network of private physicians and providers to provide comprehensive, affordable reproductive health care and family planning. These providers can offer quality services that they would not have offered prior to membership. Yearly refresher courses and network activities also encourage providers to exchange knowledge on latest health information. They also provide loans that help service providers improve the quality of their facilities and services.

4. Reach: The network consists of 204 health providers in 5 provinces (65 private; and 139 work at least part-time in missions or the public sector).

5. Imitation: KMET models in advocacy and policy development, participatory learning practices, collaborative community networks and curriculum development, amongst others, have been replicated by government, the U.S. Agency for International Development, and other health organizations.

6. Longevity: with grants and financial support from different sources, plus their new revolving loan programs, K-MET has remained financially-sustainable since 1995.

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Case 3: Jaipur Foot

(Founded in 1975 by Mr. D. R. Mehta in India)

Innovation

There are 10 million to 25 million amputees in the world today, with 250,000 new cases each year (Macke 2003). Although the causes of amputation vary greatly, in the developing world, the prevalence of landmines drastically increases the number of people affected by amputation. The cost of prosthetics can often be prohibitive and can prevent amputees from regaining full mobility. With average cost of prosthetics in the thousands of dollars, and the majority of new amputees living well below the poverty line, most cannot afford a prosthetic that would allow them to return to their jobs and previous way of life.

In 1975, the Jaipur Foot, an artificial foot and lower limb prosthetic was developed to meet the needs of people living in developing nations; where squatting, sitting cross-legged and walking barefoot is common. The Jaipur Foot is an affordable, hand-made prosthetic that is made and fitted by the Bhagwan Mahaveer Viklang Sahayata Samiti (BMVSS).

Marketing Strategies

1. Customer Orientation: In part, the marketing success of the Jaipur Foot and BMVSS has been the inherent focus on patient experience. With the majority of amputees falling below the poverty line, BMVSS was established to target the working poor. By adopting a holistic approach, BMVSS provides services that extend far beyond the provision of prosthetics. BMVSS has established simple procedures for managing patient flow, processing, and admission. These processes allow for patients to check in at any time, night or day. Patients who need to spend the night are provided with free room and board. While at the clinic, patients and their family members are given free meals as well. BMVSS's aim is to have patients in and out within a day so as to minimize income loss. With fittings complete in a number of hours, patients sacrifice only one or two days of work at most, and because everything is taken care of at the time of the visit, there is no need for a subsequent appointment. The design of the Jaipur Foot was created to meet the specific needs of India's working poor. Specifically, this prosthetic can support squatting, sitting cross-legged, walking on uneven terrain, and walking barefoot. Once fitted, the Jaipur Foot does not require maintenance and therefore no follow-up appointments with patients are needed. The prosthetic has a typical life span of 2.5 to 3 years.

Financing Strategies

1. Lower Operating Cost: Central to BMVSS's financial strategy is cost reduction to make its product affordable to the poor. For that reason, the Jaipur Foot is made with locally available materials and labor. Because the Jaipur Foot is made with local materials, the estimated cost of each prosthetic limb is $7.68 (in U. S. dollars). The materials used to produce the Jaipur Foot are not native to Jaipur and can be procured in other developing nations. Designed for the working poor, the Jaipur Foot costs roughly $35 to produce and fit as opposed to $4,000 to $8,000 for most prosthetics in the United States and Europe. A Variflex prosthetic costs $1,400 per foot piece, while the Jaipur Foot costs $5. The average cost for the Variflex including the prosthesis and fitting is $3,700 compared to $30 for the Jaipur Foot. Patients receive the prosthetic for free; all costs are recovered through funding and donations. The biggest cost is a vacuum-forming machine, which costs roughly $4,000, and lasts from five to seven years. Other necessary tools cost approximately $2,000. On average, each Jaipur Foot costs $35 to manufacture and fit, and about 60 prosthetics are produced every day. If the location operates for 365 days a year, its annual operating budget is approximately $766,500 (this calculation is based on rough estimates using data found in the Michigan Business School case study).

2. Grants and donations: BMVSS receives almost half of its budget from government, and individual donors are encouraged to give funds via the Jaipur Foot Web site.

Operating Strategies

1. Training local labor: The process of manufacturing and fitting the Jaipur Foot relies heavily on skilled artisans and their modest income levels. BMVSS trained local labor to manufacture the artificial limbs locally to cut down operation costs. Within six months they can begin working. Each artisan is paid an annual income of roughly $1,200 (in U.S. dollars). On a typical day, 70 trained technicians and artisans are employed at a BMVSS location; this helps ensure that there is a one-to-one patient-to-employee ratio.

2. Use of paramedical staff: More experienced employees act in a supervisory capacity, allowing the number of doctors employed by BMVSS to be minimal. Each fitting location has a full-time physician on-staff to supervise the fitting and manufacturing process.

3. Knowledge Development: The operating budget of BMVSS is highly efficient, with almost 89 percent of its cost attributed to materials, labor, camps, and services, while only 4 percent is used to cover operating costs

4. Temporal Access: BMVSS has established simple procedures for managing patient flow, processing and admission.

5. Outreach: As a means of extending their reach, BMVSS is holding camps in more remote areas of India, as well as other countries, including: Afghanistan, Bangladesh, Dominican Republic, Honduras, Indonesia, Malawi, Nigeria, Nepal, Nairobi, Panama, Philippines, Papua New Guinea, Rwanda, Somalia, Trinidad, Vietnam, Zimbabwe and Sudan. Depending on the nature of sponsorship, these camps can last anywhere from a few days to a few weeks. At these locations, locals are provided with and fitted for prosthetics; similar to if they had traveled to an actual BMVSS clinic itself.

Impact

1. Availability: The number of limbs fitted every year increased from 50 in 1968 to 16000 today. The value system and patient-centric management practices has made Jaipur foot widely available in India. More than 200,000 have been distributed in India and more than 13,000 in 18 other countries.

2. Affordability: Patients receive the prosthetic for free; all costs are recovered through funding and donations.

3. Quality: By using customer orientation strategies, Jaipur foot improved the quality of their prosthetics as well as the quality of services provided, including temporal access, room and board after the fitting and flexibility in patient's schedules.

4. Reach: BMVSS has worked in remote areas of India, Afghanistan, Bangladesh, Dominican Republic, Honduras, Indonesia, Malawi, Nigeria, Nepal, Nairobi, Panama, Philippines, Papua New Guinea, Rwanda, Somalia, Trinidad, Vietnam, Zimbabwe and Sudan.

5. Longevity*:* While 50% of its operating costs were covered by government sources, this has reduced recently, leading to a funding gap. The organization is now exploring other sources of revenue, but it had sustained itself with grants and donations for over 30 years.

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Case 4: VisionSpring (formerly Scojo Foundation)

(Founded in 2001 by Jordan Kassolow and Scott Berrie in India)

Innovation

Presbyopia is an age-related loss of elasticity of the lens that results in the inability to focus on near objects. Studies have shown that the prevalence of presbyopia in low- and middle-income countries is more than half of the adults over the age of 30 (Patek and West 2007). Presbyopia affects quality of life and productivity at work, and can hamper development by forming a barrier to adult literacy. For more than 40 percent of those who have presbyopia, a pair of reading glasses would remedy the problem. However, most people in the developing world do not have access to eyeglasses. In India, for example, more than 92.4 million people from the "bottom of the pyramid" suffer from presbyopia, and there is an average of only one eye care professional per 30,200 people (Christiansen 2008). Because the majority of eye care professionals are located in urban areas, rural communities are even more disadvantaged.

VisionSpring, a nonprofit social enterprise, piloted its direct selling model in India in 2001. Its strategy is to enable motivated workers ("Vision Entrepreneurs" or VEs) to gain access to an entrepreneurial opportunity through which they can provide inexpensive eyeglasses to their customers. Each VE receives his or her own "business in a bag"—a sales kit containing all the products and materials needed for vision screening, sales, data collection, and marketing—as well as ongoing support from VisionSpring staff.

Marketing strategies

1. "Business in a bag": VisionSpring trains rural community members to become VEs, capable of providing vision screening and identifying common eye conditions. The vision screening enables VEs to refer all customers with eye conditions other than presbyopia to reputable partner eye clinics to receive comprehensive eye care. For customers with presbyopia, VEs are able to assess the correct magnification required and provide ready-made reading glasses on the spot. VEs are provided with a kit that includes multiple styles, colors, and powers of reading glasses and screening equipment and marketing materials to help launch their business. After the launch of the business, VisionSpring replenishes supplies of reading glasses and provides additional support as required (Clemminck and Kadakia 2007).

2. Mass promotion: In its Vision Entrepreneur (VE) channel, VisionSpring relies on two marketing techniques for selling its glasses: eye camps and door-to-door sales. Eye camps are set up at a central location in the village where VEs offer complimentary vision screening and sell glasses for half a day. Often, the VE would engage the local town drummer to advertise these eye camps a couple days in advance. Door-to-door work

relies on a referral scheme by which the VE screens a local at his or her home and asks for referrals who might suffer from up-close vision problems. The referral scheme helps to establish trust between the VE and potential customers, especially when the VE begins by screening a village leader, or when the entrepreneur has earned credibility as a physical examiner by making a sale to a relative of the referral. VEs have observed that the door-to-door strategy is more profitable than the eye camps, as the likelihood of a sale is higher.

3. Public education: The rural poor often assume that near-vision loss is inevitable and that treatment (expensive prescription glasses) is unaffordable. VEs are trained to conduct marketing and education campaigns in nearby villages, such as passing out flyers, putting on skits, and making radio announcements. Sometimes they host one-day vision campaigns, often with the support of the mayor or a health clinic, and these sometimes attract hundreds of people in need of vision care.

4. Building demand/customer orientation: VisionSpring offers four models of reading glasses through its retail operations. The more stylish models are more expensive. Four lines of reading glasses are offered: Jyoti (tube readers), Kranti (bifocal), Deepti (single-vision), and Usha (low-cost). They also come in different colors and powers. Glasses are made to be affordable to those living on less than $4 a day.

6. Franchising/branding
VEs wear branded VisionSpring uniforms and IDs. They use professional eye charts, and carry letters of credibility from government and health officials. This and their knowledge of vision health help them gain standing, trust, and respect in their communities.

Financing strategies

The main sources of revenue have been eye-glasses sales, grants and loans. These, and some of the other financial strategies that have enabled their success, are noted below.

1. Lower capital costs: VisionSpring cuts its capital costs by sourcing its reading glasses from manufacturers in China and paying a 17 percent tariff to import the glasses into India. The other components of the "business in a bag," such as marketing materials, cords, cases, and the bag itself, are made in India.

2. Revenue generation: The money for VisionSpring emerged from a venture in the United States. In 2001, Jordan Kassolow and his business partner Scott Berrie formed both the Scojo Foundation and Scojo New York, a high-end reading glasses company serving the U.S. market. Five per cent of the pre-tax profits from Scojo New York were sent directly to the Scojo Foundation. In 2008, they sold Scojo New York, and the Scojo Foundation changed its name to VisionSpring (VisionMonday 2008). VE and the glasses wholesalers for VisionSpring generate revenue by charging a user fee. VisionSpring offers four models of reading glasses through its retail operations and relatively more stylish models are more expensive. Interestingly, the most popular model of glasses among customers was not the low-cost model, demonstrating that the poor are willing to

pay a little more for glasses of their own style and preferences. The average margin for VE is $1.11 USD per pair of glasses while it is around $2.08 USD for the wholesalers. Vision Entrepreneurs run profitable businesses, earning more than twice their previous daily income on each pair of glasses sold. And with a new pair of low-cost glasses, their customers are able to double their productivity.

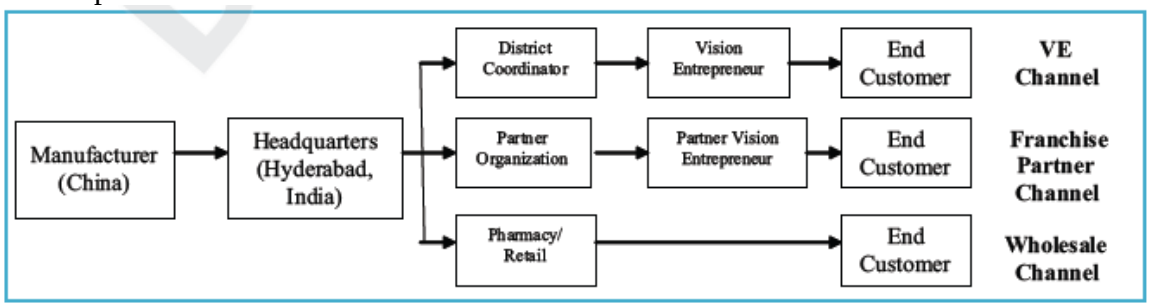
3. Loans and fund-raising: VisionSpring reveived a $100,000 USD loan from Acumen Fund for its India operations in 2006. In June 2008, they launched a five year $5 million dollar prospectus to attract philanthropic investors, to secure funding and allow them to devote 100% of its resources to executing its mission (Gergen and Vanourek 2008). According to the prospectus, VisionSpring wants to raise $5 million within a year to deliver 650,000 pairs of glasses to people in Asia, Latin America and Africa. The company also plans to train more than 5,000 village-based entrepreneurs in selling the glasses.

Operating Strategies

1. Training laypersons: VisionSpring's "Business in a bag" has facilitated the training of lay individuals, so that they may become Vision Entrepreneurs. Rural community members who receive the training are capable of providing vision screenings, identifying common eye conditions and providing readymade glasses.

2. Knowledge development: VisionSpring's structure and management have been well thought-out and researched. It pricing structure is based on sales data from current operations, a market study conducted by Marketing and Research Team (MART), and the Scojo pilot program conducted in 2001. VisionSpring is also working with d.o.b foundation to make new adjustable lenses called "U-specs." The U-specs' refractive strength can be adjusted by shifting the two parts of the lens. Adjustable glasses mean that mass production is possible. Moreover, an optician is no longer necessary. The primary target group for U-specs are children with myopia (short-sightedness) in developing countries.

3. Outreach and distribution: As pictured below, there are three distribution channels for the product.



With these three channels of distribution, VisionSpring's glasses are available to customers on a consistent basis in their communities

Impact

1. Availability: Though VE's different distribution channels, they have made eyeglasses available in rural areas at an affordable price.

2. Affordability: Across the developing world, eyeglasses are sold at significant margins by eye doctors and optical shops. A pair of custom eyeglasses costs anywhere from $40-$60, a price truly out of reach for those living on less than $4 a day. In order to make eyeglasses more affordable, VisionSpring charges approximately $4 a pair.

3. Quality: The qualities of glasses that are available through VisionSpring are higher than its competitors within their price-range, which is affordable by the poor. Although the customized glasses provided by local optical retailers might be of higher quality, affordability, the convenience and substantial cost and time savings of purchasing from VE, the screening method and immediate, easy to prove benefits provided by reading glasses has enabled entrepreneurs to gain credibility over time.

4. Reach: VisionSpring operates in 13 countries (including El Salvador, Guatemala, Bangladesh, Mexico, Ghana and Sub-Saharan Africa) and has trained over 1,200 "vision entrepreneurs" who have in turn sold over 100,000 pairs of glasses in communities with an average daily income between $1 and $4. In 2007, VisionSpring and Population Services International signed a five-year agreement to make reading glasses available to the millions of Africans who lack this simple, essential health product and tool for economic development. As a result, approximately 300,000 people will receive new glasses in 13 African countries (PSI 2007).

5. Imitation: In addition to VisionSpring's broadening reach, its model has been replicated in six states in India, through a broad range of remote villages with diverse cultures, economic conditions and geographic considerations.

6. Longevity: In 2007, the group committed to tripling its impact in three years as part of the Clinton Global Initiative. One of its strategies for growth involves an innovative franchise operation in which more than 30 non-governmental partners are plugging the "Vision Entrepreneur" program into their existing economic development activities, reducing VisionSpring's need to build out costly infrastructure. VisionSpring launched a five-year, $5 million initiative in 2008 to build a fully sustainable enterprise, dramatically reducing its ongoing fundraising burdens.

Awards: Scojo Foundation has received numerous honors and awards, including the World Bank's Development Marketplace Award in 2003; the Yale/Goldman Sachs Foundation Partnership on Nonprofit Venture Award in 2003; New York University's Stewart Satter Social Entrepreneur of the Year Award in 2006; the Fast Company magazine's Social Capitalist Award in 2005, 2007, and 2008; and the Brigham Young University's Social Innovator of the Year in 2006.

Enabling environment

VisionSpring's business model requires economies of scale in order to be profitable, and it has aggressively expanded its network of VEs. In addition to its own distribution network, leveraging existing networks developed by other organizations in concentrated geographic regions has provided VisionSpring with a faster and substantially less expensive expansion strategy. Another key driver for its rapid growth is the minimal impact of regional, cultural, or economic factors on its success: the problem of presbyopia affects every person over the age of 35 to 40, irrespective of region, culture or economic conditions. Even literacy rates do not appear to have a significant impact, because the glasses are used for sewing, cooking, farming and other necessary daily tasks.

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Case 5: Population Services International's Social Marketing Programs: Top Réseaux, 100% Jeune, and Centre Dushishoze

(Founded in 1999; Top Reseau in Madagascar, 100% Jeune in Cameroon, Centre Dishishoze in Rwanda)

Innovation

Methods traditionally used to deliver health products and services in developing countries often do not reach a large portion of the population, especially those at the low end of the economy. Commercial entities sell products at high prices affordable only to a small portion of the population, usually with little or no promotion. Over-burdened public health systems generally do not have enough outlets, and provide a free, generic product or service that often is not valued by the consumer. Government ministries are limited in the type and nature of motivational campaigns they can undertake. Social marketing programs are usually designed to meet unmet demand for health products by making them accessible to needy populations, typically through multimedia communication campaigns. Health products and services are offered at affordable prices and programs are installed to motivate people to practice healthy behaviors including correct use of the products sold. Social marketing programs typically receive donated products such as condoms and then sell them, attractively packaged under a brand name, in small shops and other outlets that low-income people frequent every day.

In sub-Saharan Africa, roughly 1.7 million African youth become infected with HIV each year. Young women are twice as likely to be infected with HIV as young men due to biological and social reasons. Young people have limited access to reproductive health information, products and services due to social, cultural and economic obstacles. Condoms and reproductive health are taboo subjects in these regions, and are considered as off-limits to unmarried youth. Perceptions of invincibility and the unplanned sexual encounters also contributed to the high unintended pregnancies and HIV infection rates. Population Services International (PSI) started its three social marketing programs in 1999 to address the reproductive health problems among youth: Top Reseau in Madagascar, 100% Jeune in Cameroon and Centre Dishishoze in Rwanda.They use commercial marketing techniques such as multimedia campaigns to motivate 15-to-24-year-olds to practice safe behaviors, including consistent condom use or abstinence, voluntary counseling and testing for HIV, and STI treatment. They also have peer education programs that help develop young people's motivation, ability, and intent to practice safe behavior.

Marketing strategies

1. Branding – all of PSI's youth programs share a common logo and brand name.

Top Réseau franchise consists of 13 for-profit and 2 non-profit clinics with 27 medical providers, offering STI diagnosis and reproductive health counseling services. All franchise members are trained, supervised and supported with guidelines and promotion materials. There are regular meetings, newsletters and continuing education opportunities to help service providers. PSI has full-time medical supervisor who visits each clinic twice a month and interviews that monitor service standards. Clinics charge youth a **subsidized price** of US$ 1.45 for STI diagnosis and other reproductive health services. **Mass media and face-to-face communication** activities promote the clinics as well as motivate youth to practice safe behavior. Television and radio spots highlight the risk factors for contracting STIs and the consequences of insufficient treatment, a television talk show with youth, "Ahy Ny Safidy" ("It's My Choice"), discusses avoiding unplanned pregnancy, negotiating condom use, and what to do when you or your partner has an STI, **Outreach:** Peer educators working in mobile video units bring health films, discussions, and demonstrations of correct condom use to youth in rural areas.

100% Jeune implemented a multichannel communication program to motivate and enable sexually active, urban youth to use condoms consistently or not have sex. The program targeted approximately 600,000 youth ages 15 to 24 in the country's two largest cities, Douala and Yaounde. Their **mass media educational** program elements include youth magazines, television spots, radio spots, call-in radio shows and radio drama, among which the magazine "Jeune Le Journal" appeared to have the highest exposure to youth (90% of youth had read at least one issue of the magazine), corresponding to the magazine's high sales figure. **Customer Orientation:** They work with youth to develop messages and activities that resonated with the locals (such as the use of popular slang language) and offered practical solutions to common reproductive health problems, including television and radio clips that model positive behaviors such as young women buying condoms without embarrassment. Call-in radio shows feature interviews with guests, youth, and address questions from listeners. They also have **peer education programs**, where the peer educators conduct face-to-face sessions with in-school and out-of-school youth each month. The sessions include role-plays and interactive activities to build skills such as how to negotiate abstinence or use condoms. Other than communication programs, they also run **youth-friendly condom outlets** where youth can buy condoms from trained personnel.

Centre Dushishoze does not use mass media because of young people's limited access to television and radio in Butare. 90% of the youths in this province live in rural areas. Instead, peer educators, print materials, and mobile video-unit shows motivate youth to visit the center, seek HIV counseling and testing and STI treatment services, and practice safe behaviors. The centre offers reproductive health services and skill-building opportunities. There are five full-time medical professionals who provide voluntary HIV counseling and testing, STI diagnosis. The **user fee** for services is lower than other health clinics in the area. The program's peer educators and medical professionals also provide small-group and individual counseling sessions for youth at churches, clubs, schools, and rural community centers.

Financial strategies

1. Grant: PSI's social marketing programs began with a four-year US$ 5million grant from Bill and Melinda Gates Foundation. Each of the programs managed about $1.1 million for field activities and $1.7 million for research, technical assistance and consultation for quality assurance of program. They are sustained by ongoing grants and locally generated revenues.

2. Revenue generation: They charge affordable user fee for some of the services in the clinics and also at condom outlets.

Operating strategies

1. Training laypersons and use of paramedical staff: 100% Jeune's staff (peer educators, journalists, comic strip artists, radio personalities, scriptwriters etc.) are all local Cameroonians and local agencies who understand the typical concerns and challenges of adolescence, and work in their own language. Their provide training for young people to become peer educators, whose main roles include facilitating small group discussions and complementing mass media activities by promoting, evaluating, motivating and serving as role models. Peer educators are selected carefully and are paid as contract employees. They all receive intensive training and are monitored regularly by country-specific education supervisor. They also use periodic "consumer audits" to assess the quality of program. At Centre Dushishoze, there are five full-time medical professionals who provide voluntary HIV counseling and testing, STI diagnosis.

2. Knowledge development: PSI has focus group discussions, rounds of surveys, along with other researches, to help them develop a logic framework for their youth program activities. They also have evaluation surveys (household surveys and school-based surveys) to monitor sexual and reproductive health behavior among young people between ages of 15 to 24. Moreover, they have smaller-scale studies (e.g. interviews and questionnaires) that aim to strengthen programs, explore challenges and assess the appeal of programs among the youths.

3. Outreach: PSI/Rwanda transports rural youth to Centre Dushishoze for reproductive health services and special events.

4. Temporal Access: Top Reseau Clinics provide flexible hours during evening and weekends. Centre Dushishoze's medical professionals work between 8am to 8 pm, six days a week.

Impact

1. Availability*:* About 28% of youth surveyed in 2003 recalled the 100% Jeune program. There are a variety of governmental and non-governmental partners that also offer youth-focused reproductive health programs, but 100% Jeune reached a higher proportion of youth than the other programs. The use of condoms among young men in Cameroon

increased from 29% (in 2002 with low program exposure) to 53 (in 2003 with high program exposure), while the corresponding percentages for female are 20 and 39%; young women who had HIV test in Rwanda increased from 2 to 8%; and number of young people seeking STI treatment or other reproductive health services at youth-friendly clinics in Madagascar rose from 122 to 716 after 24 months.

2. Affordability: The user fee for services at Centre Dushishoze is lower than other health clinics in the area. Top Reseau clinics charge youth a subsidized price of US$ 1.45 for STI diagnosis and other reproductive health services.

3. Quality: With research, performance surveys, outcome evaluations, franchise monitoring as well as customer orientation strategies with tailor-made services and products for youth, PSI constantly improves the quality of the programs and ensures that all service providers meet "youth-friendly" standards.

4. Reach: PSI's programs targeted an estimated number of youth of 600,000 in Cameroon, 73,000 in Madagascar and 150,000 in Rwanda. Specifically, the number of youth reporting having 100% Jeune program exposure in Cameroon rose from 1% in 2000 to 28% in 2003, although studies also suggest that the program predominantly reached youth who had already been reached by other programs. Among the different multimedia programs, the TV spots and monthly magazine reached the most youth (in a 2003 survey, 90% of youth has read the magazine at least once and 70% has seen a PSI television spot). Although only 12% of all youth were reached through peer education, the percentage of youth who reported speaking with a program peer educator was higher in 2003 than in the 2002 survey, which may be the result of the program's increased efforts to integrate participatory approaches into peer education sessions. PSI/Madagascar Top Reseau clinics reported more than 41,000 clients in 2005.

5. Imitation: PSI/Madagascar received an award from Global Fund in 2003 to expand and replicate its network in three other provinces.

6. Longevity: The three social marketing programs are run and supported by PSI since 1999.

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Case 6: Narayana Hrudayalaya Heart Hospital

(Founded in 2001 by Dr. Devi Shetty in Karnataka, India)

Innovation

Millions of people each year are affected by heart disease in India; however, only a small percentage of them are able to afford treatment. On a global level, Indians account for 45 percent of all people suffering from coronary artery disease (Kohn 2008). On a national level, 2 million people die each year from heart disease; this is one-third of all Indian deaths (Gaziano 2007). The proportion of premature deaths (before age 65) from heart disease in India is approximately 28 percent as compared with 11 percent in the United States, likely due to lower rates of treatment among those affected (Gaziano 2007).

There are typically two surgical treatments for coronary artery disease: angioplasty and a coronary artery bypass graft. The latter is a type of open-heart surgery that creates a bypass around the blocked artery. Adopting a high-quality, low-cost approach to heart disease, Narayana Hrudayalaya (NH) created a 500-bed hospital that performs eight times more procedures per day than other Indian hospitals. The sheer volume of completed procedures dramatically lowered the unit cost per surgery. Their patient load is about 700-800 a day.

Financing Strategies

1. High volume, low cost: Adopting a high quality, low cost approach to heart disease, NH created a 500-bed hospital that performed eight times more procedures per day than the average at other Indian hospitals. Their strategy of the "Wal-Martization of health care" cuts down their operating cost. NH runs approximately 500 blood tests a day while many other hospitals run two. The sheer volume of procedures conducted gives NH considerable negotiating power with suppliers. Machines are leased as opposed to bought out-right and reagents are continuously purchased for each of these machines. NH's demand for reagents is so high, that suppliers offer the Hospital excellent lease rates as the profit is made up for with the reagents. NH refuses to sign long-term contracts and instead negotiates each deal individually. In order to avoid corruption, NH's administrative team is kept extremely lean.

2. Lower operating costs: Costs are minimized by choosing cheaper alternatives whenever possible (e.g., using digital x-rays as opposed to x-rays with film). Working with other hospitals to achieve better bargaining power is another strategy used. NH has also developed relationships with pharmaceutical companies, which provides the Hospital with drugs that are much cheaper than the market rate. At the core of NH's financial success is the fact that only 22% of revenue is spent on staff and doctor salaries as

compared to 60% in the West. It is important to note that NH doctors and staff are not paid less overall, but rather work more hours.

3. Cross-subsidization: The mix of paying and non-paying patients has always been sufficient to support the viability of NH. The surgeries are performed at subsidized rates for people with low income and free in some cases. The daily accounting system allows them to know the extent of subsidization that can be given each day.

4. Insurance: Dr. Shetty has also created an insurance program called Yeshasvini. The insurance scheme was originally set up by the team at NH and assists 1.7 million farmers and their families in Karnataka. For $0.11 USD a month, members of the insurance plan have access to free treatment at 150 hospitals in 29 districts for any procedure costing up to $2,200 USD (Khanna 2005). Fees are collected upfront for a year minimizing the initial need for funds. The success of Yeshasvini prompted Dr. Shetty and the team at NH to pursue this idea for other groups of workers, including teachers.

Operating strategies

1. Training physicians and nurses/ improving staff quality: NH runs their own postgraduate programs. Diploma courses are offered in a wide array of areas including cardiac thoracic surgery, cardiology, and medical laboratory technology. In conjunction with Indira Ghandi National Open University, NH developed a cardiology diploma program. The primary intention of this educational initiative was to encourage more graduating doctors to specialize in cardiology. The program produced "intermediate-level specialists" after new graduates were required to spend two years either training at NH or at one of the 50 other heart hospitals in India. Beyond training physicians, NH also provides programs for nurses. As a means of encouraging potential students from remote areas, NH was able secure bank loans to cover the training costs and living expenses. In return, these new nurses would work at NH during their course and for up to two years afterwards to pay off their debt.

2. Knowledge development: Having high-tech, efficient machinery on-site has allowed NH to seamlessly run numerous tests each day. Finding efficiencies in the way patients are treated and diagnosed is pivotal to maintaining high patient volumes. There is also a daily accounting system that accounts for all revenue and costs for the day, including prorated salaries and medical supplies. All daily financial information is provided to scheduling doctors. As a result, they are able to assess how many below-cost surgeries can be performed on any given day.

3. Telemedicine/training: Dr. Shetty's plan also includes the use of telemedicine to reach-out to India's rural poor. Nine remote coronary care units (CCUs) were established across India and are linked to either NH or the Rabindranath Tagore Institute in Calcutta (RTI) depending on location. Each CCU is fully equipped with beds, medication, computers, ECG machines, video-conferencing capabilities, and technical staff. The NH staff trains GPs at the CCUs to perform routine checks and administer treatment. In extreme cases, patients are transported back to NH or RTI for surgery. The

government of the state of Karnataka sponsored the addition of 29 CCUs. NH conducts daily "virtual" rounds of each CCU to ensure that they are fully equipped and stocked to deal with patient needs and demands.

4. Outreach camps: NH and RTI also provide outreach camps that focus on cardiac diagnosis and care. These camps are sponsored by external organizations such as the Lions Club, and include buses that travel to rural areas. On average, the camps see 400 patients a day. Should any of these patients require further assistance, they are transported to NH or RTI.

Impact

1. Availability: With outreach camps and buses and telemedicine services, NH managed to reach out to India's rural poor. The total number of patients seen by the outreach camps in 2003-2006 was 54,590.

2. Affordability: The high volume, low cost strategy, the "walmartization" concept and their use of human resources have allowed NH to cut down their operating costs to 65,000 rupees (as compared to the Indian average of 150,000 rupees). Cross-subsidization has made it possible for low-income patients to get subsidized care or free care.

3. Quality*:* Their training of physicians and nurses to perform heart surgeries has produced many high-quality surgeons to operate in NH.

4. Longevity and expansion: NH has been operating since 2001 with the help of initial capital funding from Asia Heart Foundation, but they are looking for ways to make their model sustainable. They are considering adding revenue generating projects and attracting investors. Further building on the success of a low cost, high quality model, Dr. Shetty would like to expand his model to other areas of health care beyond cardiac care. He refers to this plan as "Health City." To date, NH has started non-cardiac units, including a neurosurgery unit, orthopedic and trauma hospital, and pediatric unit.

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Case 7: Population and Community Development Association (PDA)

(Founded in 1974 by Mechai Viravaidya in Thailand)

Innovation

In Thailand, the sex industry is a thriving but devastating enterprise. Serious health concerns related to this industry are: unwanted pregnancies, sexually transmitted diseases (STDs), and population growth. Mechai Viravaidya first founded the nongovernmental organization Population and Community Development Association (PDA) in 1974 to address Thailand's family planning needs. PDA's innovative family planning program, which includes non-physician, community-based distribution of oral contraceptives and condoms, and a clinic referral service, covers more than one-third of the country. PDA uses humor and a common sense approach, which resonates in communities, and it forms partnership with local government agencies to reach out to communities beyond the local governments' ability to serve. PDA recruits volunteers and rural school teachers in order to leverage its work and expand the program into most of rural Thailand. In 1991, the rapid spread of HIV/AIDS in the country has triggered the government to put AIDS prevention and control as the highest level national priority. PDA launched its AIDS program that focused on prevention, information dissemination and care projects. PDA helped establish the national AIDS education program and launch a massive public information campaign. Mechai was awarded the 2007 Gates Award for Global Health, in recognition for its pioneering work in family planning and HIV/AIDs prevention.

Marketing strategies

A community-based, integrated, empowering business approach is emphasized in all of PDA's projects. Its focus is therefore on education and engagement.

1. Mass education/ "person-to-person": PDA's campaigns use humorous approaches to promote family planning and HIV stigma reduction that appealed to Thai sense of fun. PDA has helped established the national AIDS education program, and educated its network of village family planning agents in the causes and prevention of AIDS. They also have training and peer group exercises in schools, prisons, and other groups in the community that focuses on social behavior change – targeting sex industry, young people and the public in general. PDA conducts "Condom Nights" and "Miss Anti-AIDS Beauty Pageants" in the most popular sex districts of Bangkok. This provides an excellent opportunity to inform the group at highest risk in society, prostitutes and their clients, about AIDS prevention. In Thailand, Mechai Viravaidya is widely known as the Condom King and a condom is commonly called a Mechai. PDA also set up HIV/AIDs prevention, information dissemination and care projects. These are vocational training and education projects that help give villagers economic alternatives to the commercial

sex industry. These projects are especially important for young northern women who are often targeted by recruiters.

2. Customer orientation: PDA's programs incorporate humour as its main component, and develop events, messages, slogans and accessories that resonate with Thai culture, effectively de-stigmatizing AIDS and sex, and encouraging frank discussions of these issues. For example, one of their revenue generating projects, "Cabbages and Condoms" Restaurants, offers enticing Thai dishes in a room with condom-patterned carpeting and decorations. Condom-themed dishes and replacing after-meal mints with condoms are just some of their many innovative ways to reach out to the audience and encourage positive behavior in a comfortable way.

Financing strategies

1. Revenue generation: The founder of PDA used an initial loan to start up a business back in 1975, which has now grown into sixteen different companies (legally separate entities from PDA) offering services ranging from industrial health services to resorts and restaurants. Apart from reserves and business expansion, the profits from the companies can only be used for PDA in three instances: first, when donor funds are inadequate; second, for the expansion of existing programs; and third, for launching new activities. In years with adequate donor support, the funds are used mostly for equipment, real estate and other items; in leaner years, these funds have contributed up to 70% of the needed financial resources to maintain PDA's ongoing activities. Through its international training arm, PDA has shared these skills with other NGOs in Asia; this concept was written up a UNAIDS Best Practice in the late 1990s. Innovative commercial ventures such as "Cabbages and Condoms" restaurants and "Birds and Bees" resorts were developed to fund community health and development projects. The "Cabbages and Condoms" Restaurants have 7 different locations in different parts of the country. These revenue generating projects were not only financial strategies. By combining the same colorful showmanship that corporations leverage to sell everything from automobiles to shoes with Thai people's sense of humor, Mechai was able to also reach different populations in his campaign to desensitize the condom (Gates Foundation 2007).

Operating strategies

1. Training laypersons: PDA is the first organization to use non-medical personnel to distribute oral contraceptives (and condoms) in villages and urban neighborhoods. PDA also trains residents of villages as community leaders and has engendered grassroots growth marked by extensive villager involvement, not only as beneficiaries, but also as planners, managers and leaders. PDA's integrated approach combines different elements to achieve multiple aims. Its full-time staff of 600, along with more than 12,000 volunteers, has reached more than 10 million Thais in nearly 18,000 villages and poor urban communities. PDA has trained nearly 3,000 health workers from 50 countries in HIV prevention, family planning, adolescent reproductive health, and other health issues.

2. Government involvement: In cooperation with the Ministry of Interior, PDA also trained government officers, district officers, governors, and community leaders such as monks, to inform the wider community about AIDS. Training was organized for employees of private companies to make them aware of the dangers and to de-stigmatize the disease.

3. Outreach: Other than going into schools, offices, and organizing local activities in villages, PDA also has an anonymous mobile clinic unit that provides blood tests for AIDS in areas close to red light districts and places of entertainment, so that anyone could be tested in strict confidence and privacy. They also have mobile health vans that provide basic health services and school and industrial healthcare to remote areas. By charging fees that are significantly lower than those charged by private clinics, the program has attracted a wide client base and has become self-sufficient.

4. Stationary Clinics: Family planning clinics are located in Bangkok and three provincial cities, providing pregnancy termination services for the poor. PDA clinics also offer counseling on abortion and free non-scalpel vasectomy. For example, "Cabbages and Condoms" operates free vasectomy clinics next to its restaurants, and is responsible for 30% of the country's vasectomies and 80% of Bangkok's vasectomies.

Impact

1. Availability: PDA increased availability of services by a range of strategies, such as going into schools, offices, and many public education events in remote areas. They also use mobile clinics to increase the availability of services. They also have family planning clinics that are located in Bangkok and three provincial cities, providing pregnancy termination services for the poor, which were previously unavailable. PDA had been involved in pregnancy termination services during a time in which the legality of such action was narrowly interpreted by the government; however, by the end of 2005, PDA and a group of physicians managed to convince the Medical Council of Thailand to accept new medical regulations concerning pregnancy termination on physical as well as mental health grounds.

2. Affordability: Their mobile health vans charge fees that are significantly lower than private clinics. Many of their family planning and HIV/AIDS promotion projects and services are provided for free.

3. Quality of Services: PDA orientates the education program so that they appeal to the Thai population, with the emphasis on compassion and understanding. PDA also provides safe pregnancy termination services and vasectomies which improve safety of these procedures.

4. Reach: PDA's family planning effort contributed significantly to the decrease of Thailand's annual population growth rate from 3.3 percent in the 1970s to 0.6 percent in 2005, and the average number of children per family fell from seven to less than two. By

recruiting volunteers, including over 320,000 rural school teachers, PDA was able to leverage its work and expand the program into most of rural Thailand.

5. Imitation: The groundbreaking approaches and principles used in PDA's family planning strategy were used to build a comprehensive national HIV/AIDS prevention program. Mechai was the chief architect of Thailand's HIV/AIDS awareness and prevention campaign and the initiative is still regarded as one of the most outstanding national efforts by any country in combating HIV/AIDS. By 2004, Thailand had experienced a 90 percent reduction in potential new infections compared with the rates in the early 1990s. PDA's initiatives have been widely adopted by the governments of many countries.

6. Longevity: PDA was established in 1974 and their services and reach have expanded since then. With many successful revenue-generating projects, they have been financially sustainable. Their work and success have been recognized by many international awards and agencies such as Gates Award 2007 and United Nations Population Award 1997.

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Case 8: Dentista Do Bem

(Founded in 2002 by Fabio Bibancos in Brazil)

Innovation

For many in developing countries, oral health and hygiene are luxuries few can afford and remain at the bottom of the priority list for public health ministries. Dentista do Bem is therefore unique in Brazil, where free orthodontic assistance services are almost inexistent and there are few prevention campaigns. By providing free assistance and education for young people, the Dentista do Bem program challenges the idea that orthodontic treatment is expensive and inaccessible for the majority of the population.

Dentista do Bem, a network of private dental care providers, is the creation of Fabio Bibancos. Dr. Bibancos has been working with an ever-growing network of public schools that identifies poor youth between the ages of 9 and 16 who are about to seek their first job and have severe and visible oral health problems, and evaluates and treats them for free until the age of 18.

Marketing strategies

Dentista do Bem relies on the network of dentist volunteers to offer their time and services for free to the youth. They have innovative marketing strategies that aim at recruiting more dentists to be volunteers and keeping them motivated and involved in the cause.

Marketing to dentists:

1. Mass Promotion and outreach: Dentist volunteers are recruited in congresses, dentistry associations, through word of mouth, dentist coordinators and media collaboration. In order to keep dentist volunteers involved and motivated, a plaque is placed at the entrance of the volunteers' offices, identifying that they are contributing to the greater social good. This public recognition also helps in attracting more dentists to join the network. Dentista do Bem also holds Smiles for Good Awards Events and has created a long-lasting community of dentists. They also have frequent press coverage in the media.

Financing Strategies

1. Cross-subsidization: The cost of providing free services is absorbed by the dentist who has a daily average of between 15 and 30 paying patients a day. The annual budget of Dentista do Bem is less than 90,000 reales ($45,000 in U.S. dollars). With

approximately 5,000 direct beneficiaries a year, the cost per client is 17.31 reales (around $8 total per client).

2. Partnerships and Fundraising: Because the partnerships are sufficient to cover only 60 percent of the operational costs, there are other initiatives for fundraising such as charity dinners, workshops, fairs and events, as well as sponsorships by large companies—for example, Impacto (2002 to 2006), Multitek, and Trident (2006).

Operating Strategies

1. Human resources: Dentista do Bem makes use of existing dentists to provide free services to the poor youths. Each of the volunteers decides how many patients they want to take at the dentist's own office, and provides educative, curative and preventive services. Dentista has regional coordinators who organize these volunteers, advertise and develop the program.

2. Outreach: Regional Coordinators and NGO employees arrange with public schools to select children for the program. The children are selected using a World Health Organization index that determines who is in most need of treatment. Upon selection, the beneficiaries are directed to the volunteer dentists' clinics that is closest to them and they receive free dental treatment until turn 18. The Dentista do Bem team oversees the processes.

3. Knowledge development: The central office in Sao Paulo provides systematic follow-ups of all cases and provide feedbacks to the coordinators. The dentists are then able to know how they are affecting the lives of their patients. The main office also provides efficient communication between the children, their families, the school, the organization, the volunteer dentist and the technical team.

Impact

1. Affordability: One of Dentista do Bem's selection criteria for the youths who will receive free treatment is that the youths has to be living in poverty. These youths are referred to dentists on their network where they receive free care and the cost is absorbed by the dentist.

2. Reach: Dentista do Bem is present 27 states, all over Brazil. Its 1,300 volunteer dentists have assisted more than 10,000 children (2008 figure).

3. Imitation: Dentista do Bem is replicating their model in Argentina, Venezuela, and Portugal.

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Case 9: Seva

(Founded in 1978 by Dr. and Mrs. Brilliant)

Innovation

Every five seconds, someone in the world goes blind. Ninety percent of the world's blind people live in the poorest areas of developing countries, and more than 75 percent of them could see again if they had access to adequate eye care services. Seva supports local hospitals and clinics in Bangladesh, Cambodia, Egypt, Guatemala, India, Nepal, Tanzania, and Tibet, and helps them provide basic eye care, surgeries, eye exams, and glasses at little or no cost. Seva sets up mobile eye camps and mobile operating rooms, and provides innovative community outreach services to ensure that people in rural areas have access to care.

Two of the greatest obstacles confronting eye care programs in developing countries are the shortage of trained eye care personnel and the lack of a strong management system. To ensure that its programs are sustainable, Seva trains local people in clinical knowledge as well as skills to manage the program and train others. The training covers every aspect of eye care—from cataract surgery to nutrition education to dispensing of eyeglasses. Through economically sustainable approaches, Seva has created a successful model of high-volume, quality care, and charges fees to those who can afford them to subsidize free care for those who cannot.

In 2004, the Center for Innovation in Eye Care was established to accelerate adaptation and utilization of high-volume service strategies in other regions of the world. Selected institutions are turning into hubs for training, mentoring, and improvement among surrounding eye hospitals, forming a network called the Centers for Community Ophthalmology. Their goal is to build the capacity of at least 100 eye hospitals through this process and to perform an additional one million sight-restoring cataract surgeries per year by 2015. Current partners include leading institutions in Canada, Egypt, Guatemala, India, Nepal, Tanzania, the United Kingdom, and the United States. The role of the institutions is to reach out to hospitals in their region to build on the number of sustainable, community-oriented eye programs in every part of the world.

Marketing Strategies

Seva partners with existing local programs and institutions to provide direct eye care services. They support local hospitals and clinics and help them develop the means to provide basic eye care, surgeries, eye exams and glasses at little or no cost to clients.

1. Outreach and education: To make sure that the services can reach remote population, especially women and children, Seva supports outreach programs in underserved

communities and trains local community health workers and volunteers to provide education on hygiene, nutrition and poor vision. These health workers refer patients needing eye glasses or medical treatment to the nearest hospital and arrange their transportation for them. These camps bring doctors and support staff to rural areas to provide outreach and education, diagnostic screening and sight restoring surgeries to people in need. These camps are crucial for places like Tibet's remote regions, where the population is less than one person per square kilometer. An advance team of local health workers announces the camp's arrival and then the doctors and aides will set up their camp in a community clinic, school building or other central place. Different kinds of eye camps accommodate different needs, e.g., high volume surgical camps vs. diagnostic camps.

Financing Strategies

1. Cross-subsidization: They established a subsidized pricing system for their eye care services. For example, in the Lumbini Eye Institute in Nepal, 80% of the patients pay a basic amount for their eye care, about 10% pay a higher level, and the poorest 10% receive free care. Lumbini Hospital was financially self-sufficient for its operating costs.

2. High volume, low cost: Seva modeled the Aravind Eye Hospital's cost recovery approach to ensure financial sustainability. This has enabled them to develop a successful model of high-volume, quality care where fees charged to those who can afford them subsidize free care for those who cannot.

3. **Assets and revenues:** Seva's Summary Statement of Activities and Changes in Net Assets (2007) is as follows: 78% Program Services; 11% Management and General; 11% Fundraising. Its main sources of revenues are contributions (the majority), grants, and realized and unrealized gains.

Operating Strategies

1. Training laypersons: Seva trains and supports local people to serve their own communities. 100 percent of Tibet eye camps are conducted by local teams trained by Seva. They perform about 4,500 cataract surgeries each year. Seva provides support, but the camps are led by local people. They also train a new category of health professional, the ophthalmologic assistant, to assist with medical procedures.

2. Outreach: Services are brought to rural areas via outreach programs and eye camps to provide treatment and education. They also provide transportation for patients if needed.

Impact

1. Availability: Seva's outreach programs and eye-camps have brought eye-services and education to remote areas where services were not available.
Affordability: their cross-subsidization strategies have made services more affordable for the poor.

2. Quality*:* they provide training for teams to operate eye camps locally.

3. Reach: In 2007 alone, Seva-supported programs served more than 500,000 people worldwide. More than 25,000 children received care to prevent blindness and more than 30,000 people had cataract surgery to restore their eyesight.

4. Longevity: Seva was established in 1978 and has been sustainable since.

Awards: Seva received the Critical Impact Award for helping Aravind Eye Hospital create Aurolab.

Reference:

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Case 10: Ziqitza 1298

(Founded in 2005 by Shaffi Mather, Sweta Mangal, Ravi Krishna, Naresh Jain and Manish Sanchet in Mumbai, India)

Innovation

Mumbai is a densely populated city of more than 16 million. Because it does not have a reliable ambulance service, getting to the hospital in an emergency can be treacherous. Many people are forced to rely on friends with cars, use van "ambulances" that do not contain any medical equipment, or take taxis. The poor are at the greatest disadvantage in getting to the hospital in an emergency—not only do they lack their own transportation resources, but they cannot afford to pay anyone else for transportation. To address this service gap, Ziqitza Healthcare, in partnership with the London Ambulance Service, established Dial 1298 for Ambulance. By calling an easy to remember number, 1298, people living in Mumbai are able to access reliable and affordable emergency medical response services.

Marketing strategies

1. Mass Promotion: Changing the public's mindset was a challenge for Ziqitza because many people continued to believe that it is more convenient to take a three-wheeler, a cab or use a friend with a car as transportation versus an ambulance. Ziqitza uses a low cost, "below the radar" marketing method. The police promote the ambulatory services, stickers have been placed on public transportation such as buses and taxis, there are radio advertisements and movie theatres play adverts at intermission promoting the use of the ambulance service. For example, they have posters that state "An ambulance starts treatment before you reach the hospital. A taxi doesn't." They also offer training sessions to the police force and through the HR departments of corporations to promote their ambulance services.

An important part of their strategy was making the ambulances visible and distinguishable. The ambulances themselves were painted yellow, which allowed them to be seen and distinguished as life support ambulances, as opposed to what is traditionally considered the role of ambulances – the transportation of dead bodies.

2. Public Education: Ziqitza has marketing strategies that emphasizes behavior change for the public. For example, in order to address the difficult traffic situation in Mumbai, they have posters that state "Save a life! Make way for an ambulance."

3. Linking with existing providers: Ziqitza contacts partner organizations in Mumbai if none of their own ambulances are in the area. The partners charge a higher fee and this information is made known to the patients. The partner benefits from increased number of cases while Ziqitza can cover a broader service network.

4. Franchising: Ziqitza started a similar project in Kerala, and attempted to run 10 ambulances on a franchise basis with revenue sharing. However their attempt failed because the existing private providers prefer handling the cases themselves and not sharing the profit from the cases routed through Ziqitza. The GPS systems were sometimes turned off and quality of services varied significantly.

Financing Strategies

1. Cross-subsidization: One of the goals of Ziqitza is to provide service to all – rich and poor. As a result, the finance model includes a sliding price scale that is dictated by a patient's ability to pay. Roughly 20% of all transported patients either do not pay or pay a subsidized rate. Based on the kind of hospital patients choose to be taken to, Ziqitza is able to discern whether they are able to pay or not. Patients taken to a government hospital are classified as "poor" and are not required to pay for their transportation, while patients going to private clinics pay a profit-generating fee. Trauma patients do not need to pay. This cross-subsidization strategy allows Ziqitza to be financially sustainable.

Operating Strategies

1. Human Resources: All the advanced life-support ambulances are operated by a Medical Consultant / Paramedic, a helper and a driver Ziqitza has a training arm, Lifesupporters institute of Health Sciences (LIHS), that offers American Heart Association's courses, including BLS, ACLS, PALS and ITLS. They also offer "Certificate of First Responder" courses. Ziqitza built a cadre of trained Emergency Medical professionals that was almost non-existent in India because of historical and regulatory reasons. Specifically, they hire traditional medical providers like ayurvedic, Unani and homeopathic practitioners and train them to become Emergency Medical professionals. These professionals are easier to recruit for these positions.

2. Knowledge Development: They spent six months researching successful models around the world before their pilot in 2004. Currently they have 70 ambulances, all of which are controlled by a central cell center and monitored through 24-hour GPS tracking systems. These monitoring systems allow them to dispatch the closest vehicle and also linked their network with existing providers. They follow-up their services with calls to the patients of the family seven days after the transports to get feedback on services provided.

Impact

1. Availability: Before Ziqitza 1298 introduced their ambulance services, there was no single number for ambulance services in Mumbai. Getting access to an ambulance is often a slow and difficult process. Upon its inception, Ziqitza had 10 ambulances. Since then, it has grown rapidly and now includes 70 ambulances (by quarter one of 2009). 1298 has received approximately 40,000 calls requesting ambulance service. Ziqitza is

currently exploring the possibility of franchising this model and extending its operations throughout India.

2. Affordability: Their cross-subsidized service charge model allows them to gauge patient's ability to pay. Poor patients are offered free ambulance services.

3. Quality of Services: around 90% of ambulances in urban areas in India do not have adequate equipment and trained paramedics. Ziqitza's ambulances have either advanced life support equipment or basic life support units, which includes comprehensive first aid kits. Their also trained their own emergency care personnel.

4. Reach: They have 70 ambulances, in two cities, and have served more than 60,000 patients,

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Case 11: Greenstar Social Marketing Pakistan

(Founded in 1991 by Population Services International)

Innovation

Contraceptive use in Pakistan is stagnating. On average, women give birth to 4.1 children during their reproductive lives. Moreover, only 53% of mothers receive antenatal care and maternal mortality rate is high at 300 per 100,000 live births. Infectious and communicable diseases such as diarrheal diseases, tuberculosis and hepatitis contribute to 40% of the total burden of disease in this country. Greenstar Social Marketing Pakistan was established in 1991 with the assistance of Population Services International, a US-based health NGO specializing in private sector approaches to improving health in poor countries. Since then, Greenstar has grown from a modest single product social marketing company to one that has national reach, operating a franchise network of more than 7,500 active providers. They work in the area of family planning service and product provision, such as condoms, pills, injections, intrauterine devices (IUDs) and sexually transmitted infection (STI) treatment. They also provide services for maternal, neonatal health and child health, and control of infectious diseases. Greenstar develops and implements national scale mass media and interpersonal health communications to increase knowledge and demand for these health products and services.

Marketing strategies

1. Mass Promotion": Greenstar has health communication activities that aim at motivating and creating awareness among low-income Pakistani women and men for quality health services and products. They have mass media campaigns on television, radio and print as well as extensive interpersonal communications. They also use alternate media such as cinema and bus services and maintain a hotline for family planning counseling.

2. "Person-to-person": Greenstar conducts household visits, neighborhood meetings and seminars with community leaders and members to educate them about family planning, mother and child health and tuberculosis (TB). Their outreach workers reach over 2.5 million people every year to discuss these issues and motivate them to seek quality health services at nearby clinics. Specifically, they use interpersonal communications (IPC) to educate low-income people about family planning and generate demand for the services and products offered at the Greenstar providers, directly contacting households with women who have an unmet need for family planning.

3. Public Education: The franchise providers are required to hold events called "Clinic Sahoolat", which give free services to the community to motivate people to visit the clinics to encourage behavior change. More than 200,000 women annually adopt family planning methods at these events.

4. Point of Sale: The sales force visits the retail outlets nationally to ensure that the contraceptive products are well displayed and that point of sale materials such as posters, stickers and banners are visible. They also send medical reprentatives to visit the health care providers and pharmacies to promote family planning and child health products. These products are now available in more than 20,000 pharmacies.

5. Franchising and Common Brand Name: In order to solicit new franchisees, Greenstar provides a five-fold plan to the franchisees: medical training, supply of goods, public education, technical support, quality control and program evaluation. Greenstar trains private providers in a broad spectrum of topics, including family health, maternal and child health issues and communicable diseases. Their private health care providers who were trained in family planning methods and supply contraceptives branded under "Sabz Sitara" (Greenstar), while their maternal and child health providers are marketed under the brand name "GoodLife."

Greenstar franchisees are selected on the basis of need and availability. Greenstar zonal teams under the supervision of a Greenstar female doctor (Assistant Manager Health Services - AMHS) conduct a mapping exercise to find out the need and availability of private health care providers (mostly doctors and lady health visitors) with their own clinic. The selection is made according to predefined criteria to ensure capacity, ability and quality of the service provider. Most of providers are selected in low-income urban and peri-urban areas in Pakistan. In 2007, Greenstar planned to expand into rural areas as well. Once the selection is made, Greenstar signs agreements with franchisees (individuals and clinics) for distribution of social products or social services through a franchising agreement.

Financing Strategies

1. Revenue Generation: Greenstar does recover some cost from with varying subsidies to different products that they sell, and these revenues are put back into the operational costs of Greenstar. Greenstar franchisees are fully for-profit private health care providers. They do not receive any direct financial support from Greenstar. The franchisee health providers support themselves through user fees, but studies have shown that the brand name does not add enough value to the practices to motivate royalties and franchise fees. Therefore Greenstar cannot sustain themselves without outside support. Greenstar's annual operating budget is approximately $16 million (U.S. dollars), while its commodity costs are an additional $9 million.

2. Cross-subsidization: Greenstar's approach to affordability is to ensure that low-income people in the cash economy have access to contraceptives that are affordable to them, while maximizing cost recovery from higher income segments of the population

with some products that are priced at cost recovery or lower subsidy. They price different products at different price points and target them to different segments of the population. The total market approach aims to graduate fertility product users who may enter the market at the lower-priced or free public sector product range to the higher end (social marketing and commercial sector) products, continually making room for new users who enter the market at the lower end while increasing sales volumes at the higher end.

3. Low Operating Cost: Greenstar devotes a significant proportion of their budget to providing services to their respective populations. Overhead and administrative expenses are kept as low as the programs allow. The Greenstar budget breaks down as follows: Operation / Admin: 35%; Program Costs: 38%; Commodities: 27% (questionnaire 2008)

4. Donations: Greenstar is a non-profit non-governmental Pakistani organization. Most of their funding comes from a range of donors including the US government (USAID), German government (KfW), British government (DfID), UNFPA, Global Fund, private foundations and the Pakistani government.

Operating Strategies

1. Improve staff quality: Greenstar employs over 52 doctors to train providers in family planning counseling, hormonal contraceptive dispensing, IUD insertion and voluntary surgical contraception. Medical staff monitors the quality of service provision.

2. Knowledge Development and evaluation: Greenstar zonal teams (AMHS, inter-personal communications and marketing teams) of the respective area keep regular contact with the franchisee to ensure follow-up of activities, provision of services, availability of products, quality assurance and training needs. Greenstar is currently developing a research methodology to estimate the number of FP clients among Greenstar providers. In the meantime they measure outputs based on the sales made. The sales figures are easily transformed into Couple Years Protection (CYPs) data, a WHO and PSI recommended indicator that give Greenstar a good sense of outputs. According that data they serve approximately 2.3 million couples throughout Pakistan.

3: Accessing via a Network of Private Providers: Greenstar franchisees are private independent providers. Most private providers in Pakistan do not keep any detailed records of any of their patients. One cross-sectional study conducted by Amy Tsoi in 2003 indicated that on average, Greenstar providers saw about three family planning clients per day.

Environmental Factors

Health Sector: The Pakistani health sector is dominated by private organizations. In sum, these private organizations provide over 70% of all health services. Greenstar, rather than resisting the status quo, has chosen to embrace it, and as a result, works with the private sector to increase the availability of family planning products and services.

Impact

1. Availability: They have 6000 private health care providers in its network, branded under "Sabz Sitara", providing counseling services in family planning and supply full range of contraceptives.

2. Affordability: Greenstar served higher proportion of poor clients than government facilities and serviced clients more efficiently (lower cost per patient) (Bishai et al, 2008).

3. Quality of Services: Greenstar provides higher quality services than other private facilities (Bishai et al, 2008).

4. Reach: Greenstar's outreach workers reach over 2.5 million people every year. Greenstar is the second largest family planning provider after the Government. They provide over 26% of all modern contraceptives in Pakistan. They distribute a full range of contraceptives at affordable prices to more than 100,000 pharmacies, shops and clinics nationwide.

5. Longevity: Greenstar has been operating since 1991, with support from several major donors, including USAID, UNFPA, KfW and DFID, Private Foundations regarding continued funding to support its programs and operations.

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Appendix 4: Environmental scan results: Innovative private health organizations

Organization (in alphabetical order)	Country	Type of Service Provided	Description of Program	Impact/Evaluation	Reason for Exclusion
Adopt A Doctor	**Liberia, Malawi, Mali, and Sierra Leone**	Primary health care	• The goal is to retain experienced physicians (reverse the brain drain of doctors) in poorest areas by increasing doctors' salaries, contingent upon their agreement to stay in country for more than seven years; provide worldwide network through which doctors can access resources directly from donors. • Donors are individuals and local community organizations.	N/A	Solely technology/human resources innovations
AngloGold Ashanti Health	**Ghana and South Africa**	TB control program; antiretroviral therapy program; HIV/AIDS; malaria and cholera	• Sets up programs for employees that deal with the debilitating regional health threats: HIV/AIDS and TB management programs (identification, diagnosis, treatment, monitoring, and quality assurance) and malaria and cholera management. • Treatment is free of charge.	Its anti-retroviral therapy program currently treats 566 HIV-positive employees. Awards: Its TB, HIV, and malaria programs were recognized in 2007 at the ABSA Health Care Initiative Awards—"Most Sustainable Project" and "Project with the Biggest Impact."	Lack of information
APOPO	**Tanzania**	Diagnosis of TB and HIV	• Uses trained sniffer rats to detect TB bacteria in human sputum samples. A rat can evaluate 40 samples in 10 minutes, equal to what a skilled lab technician can do in one day using microscopy. Pilot research started in 2003.	The project was awarded funds by the World Bank for further investigation. In its next phase, APOPO plans to focus on TB detection and sample collection.	Solely technology/human resources innovations
Barefoot College	**India**	Human resources	• Trains poor residents of remote villages as	Successfully decreased infant mortality rates in India and has	Solely technology/human

			lay health workers through a learning-by-doing process of education.	increased availability of services in rural areas.	resources innovations
Biruh Tesfah	**Ethiopia**	Family planning and reproductive health	• Social franchise that increases access to family planning and reproductive health services through a network of private providers including physicians, community health agents, and market vendors.	Improves quality of service by providing additional training, equipment, and supplies. Increased contraceptive use by 30 percent in areas served.	Extensive work already conducted on similar models
CFW (Child and Family Wellness)	**Kenya, Rwanda**	Distribution of drugs and services	• Franchises of drug stores or medical clinics in rural Kenya. • Shops are set up in areas with poor access to products or where products are otherwise not affordable to most of the population.	Quality assurance: franchisees must comply with regulations of CFW. Affordability is increased by the decrease in treatment cost (average treatment cost is $0.65).	Extensive work already conducted on similar models
Clear Seven	**Uganda**	Social marketing of a pre-packaged treatment kit to improve treatment of sexually transmitted infections and prevention of HIV infection	• Clear Seven is a pre-packaged treatment kit for men with urethral discharge in Uganda (contains a 14-day dose of tablets, condoms, partner referral cards, and an information leaf in accordance with the Uganda sexually transmitted disease management guidelines). • Promotes a full-course treatment of sexually transmitted infections, supports condom use, strengthens partner referral, and provides health education. • Socially marketed in clinics, pharmacies, and all the informal drug shops across the country, at a subsidized price of US$1.35.	Quality: Evidence showed that Clear Seven is helpful in treating sexually transmitted infections and preventing HIV infection. Affordability: It is sold at a subsidized price of US$1.35. Availability: The health ministry increased distribution availability by allowing informal drug shops to sell the kit. The government acknowledges that improving distribution through drug shops is crucial to its anti-AIDS strategy.	Solely technology/human resources innovations
Clinic Africa	**Uganda**	Primary and secondary care in clinics	• Integrated network of clinics providing primary and secondary care in both urban and rural areas in Uganda. • Clinics are centrally owned but individually operated by local physicians. Physicians retain most profits (a small portion of urban clinics' profits are paid to cover in-country nongovernmental organization operations).	Oversees expansion and quality control for network; improves access in rural regions, providing quality care to under-served populations; five clinics (three urban, two rural); served more than 5,000 largely poor patients in its first 1.5 years.	Lack of information

Community-Based rehabilitation	**Sri Lanka**	Rehabilitation	• Model provides mental, psychosocial, and medical rehabilitation services through community-based programs.	No formal evaluation is available at this time.	Lack of information
Comprehensive Community-Based Rehabilitation Tanzania (CCBRT)	**Tanzania**	Rehabilitation	• Public-private partnership with the government. Government provides the land and pays the salaries. CCBRT manages the hospital and attracts international partners. Currently, 90 percent of patients are from very poor backgrounds.	N/A	Lack of information
DISHA	**India**	Telemedicine	• Uses new and advanced technologies, development of partnerships, and integration into social networks to deliver high-quality, low-cost diagnostics. • It is the first mobile telemedicine initiative conceived in India, which combines imaging and medical diagnosis with satellite connectivity to offer online consultation.	Affordability: The low-margin, high-volume model impacts affordability. Availability: Services are brought to populations who otherwise would need to travel	Lack of information
Doc-in-a-Box	**Potentially worldwide**	Clinics; vaccines and infectious diseases	• Uses universally deliverable steel and aluminum containers and turns them into an instant primary care outpatient clinics, staffed by one or two paramedics drawn from the local community and trained to conduct mucous or saliva tests for TB, HIV, hepatitis, and malaria; dispenses drugs for these diseases; administers childhood vaccines; distributes condoms; hands out sterile syringes to IV drug users; prevents infectious diseases; and makes patient referrals.	Not in place—currently looking for investors.	Lack of information
D-Tree International	**Rwanda**	Technology	• Provides health care workers with handheld devices to collect medical information and prescribe treatment.	N/A	Solely technology/human resources innovations

Honduran Family Planning Association	**Honduras**	Reproductive health; social marketing	• Standard-dose oral contraceptive; develop pills. • Repackages and sells contraceptives to wholesaler who then redistributes products to pharmacies.	N/A	Extensive work already conducted on similar models
Janani	**India (Bihar and Madhya Pradesh)**	Contraceptive supply network	• Franchises private doctors and rural medical providers to provide contraceptive and family planning products.	Availability: Rural providers are trained; services were used by 80 percent of Bihar's rural population. Monitors clinics to evaluate cleanliness and availability of equipment with incentives for meeting quality standards (reduction in membership fee). Affordability: Cost per couple per year of protection through sterilization is $1.25; the client has to pay $0.40; Janani delivers sterilization at $12.25.	Extensive work already conducted on similar models
Jibon Tari	**Bangladesh**	Primary health care, surgical services	• Floating hospital that provides services in the remote waterways and offshore islands of Bangladesh. • Uses a sliding pay scale.	N/A	Lack of information
Kilombero and Ulanga Insecticide-Treated Net Project (KINET)	**Tanzania**	Sexually transmitted infection kit; social marketing	• Social marketing scheme to promote the use of a self-treatment kit for sexually transmitted infections ("Clear Seven"). The distribution system relies on the use of small retail outlets that are normally licensed to sell over-the-counter drugs but not antibiotics. The Ugandan government has waived these restrictions to promote sales of Clear Seven, marketed at the subsidized price of US$1.35, and trained shopkeepers	Greatly improve the management and control of sexually transmitted diseases and HIV infection; use of PPT kits has the potential for improving the management of other important health problems in developing countries. Cure rates for urethritis have increased from 46 percent to 87 percent, and condom use during treatment has more than	Extensive work already conducted on similar models

			in the management of sexually transmitted infections.	doubled (from 32 percent to 65 percent). Social marketing of pre-packaged treatment for men with urethral discharge (Clear Seven) in Uganda.	
Marie Stopes International	**Nicaragua**	Sexual health services	• Social franchising to provide access to sexual and reproductive health services through a variety of existing private sector providers.	N/A	Extensive work already conducted on similar models
Medicine Shoppe	**International**	Pharmacy franchises	• Licenses its brand, operating system, and ongoing support structure to qualified Master Franchisee candidates to develop The Medicine Shoppe Pharmacy System in select countries.	N/A	Solely technology/human resources innovations
Mucas Hospital	**Nigeria**	General and specialty practice	• A group practice combining several general practitioners and specialists that is based on an integrated network of clinics.	N/A	Lack of information
Nsambya Hospital	**Uganda**	Full medical services, including patient care, research, and training / teaching	• A Catholic mission hospital founded in 1903, provides specialist services in surgery, internal medicine, pediatrics, and obstetrics and gynecology; special attention to women and children care; specialized services in urology, eye care, orthopedics, endocrinology, endoscopy, larascopy, HIV/AIDS, and accident and emergency; provides training; has both general and private patient facilities. • High-volume, low-cost practice.	An average of 18,000 admissions every year; on average 200 outpatients every day; 5,500 deliveries annually. As a referral, research, and training center, Nsambya improves service quality of health care personnel and also provides high-quality care; aims to provide quality medical care to all people at an affordable cost.	Lack of information
On-Cue Compliance	**South Africa**	Patient compliance	• On-Cue uses SMS text messages to remind patients with chronic conditions (including HIV and TB) to take their medication. • The technology used to send out these	On-Cue's compliance services have been cited as an example of "Best Practices" by the World Health Organization and have received the	Solely technology/human resources innovations

			messages is extremely low-cost; a computer server accesses a patient database every half hour to send messages to patients.	unanimous support from South Africa's parliamentary organizations.	
PATH	**Indonesia**	Immunization, financial planning, advocacy; training and supervision	• Developed Uniject autodisposable injection device for vaccines (hepatitis B); easy to use; has one-way valve to expel the medicament and prevent uptake of other contents; cannot be reused; eliminates transmission of diseases. • Midwives are trained to use vaccines in remote villages.	PATH worked with the government of Indonesia to build a sustainable immunization program and to integrate the new technology into it; launched a national immunization program for hepatitis B vaccine in 2002. Approximately 12 million HB-Unijects are produced and used in Indonesia each year. The success of the device in Indonesia can be transferred to other nations where physical or cultural barriers stand between newborns and important immunizations.	Solely technology/human resources innovations
Phones-for-Health	**Implemented in Rwanda, expanding to 10 other African countries**	Health information system, medical records, treatment information	• Uses mobile phones to enter medical data, allowing governments to respond quickly to epidemics and help patients receive medical treatment faster. • Taking advantage of Africa's good mobile phone coverage, medical clinics communicate patient information, order medicine, and get treatment information. • Data are used to build up national health information systems.	Supported by MTN, Rwanda's largest mobile operator, Voxiva and the GSMA's Development Fund have completed testing of the software in the Eastern Province of Rwanda. Building on the success of this pilot, the GSMA and Voxiva plan to roll out the mobile phone solution across Rwanda and other African countries in need, such as Nigeria and South Africa.	Solely technology/human resources innovations
Red Plan Salud	**Peru**	Reproductive health and family planning services	• Network of midwives who provide affordable and accessible reproductive health products and services.	Availability: Services provided to low- and middle-income women in rural areas. Affordability: Small fee charged by midwifes for services	Lack of information

Riders for Health	**Sub-Saharan Africa (five countries)**	Supply chain	• Riders for Health's innovation was the design of an appropriate infrastructure to manage the vehicles used for delivering health care and other vital services in the harsh environments of Africa.	Availability: Makes health services more available by partnering and supporting those who deliver health care in Sub-Saharan Africa by effectively managing vehicle fleets. Affordability: N/A Quality: N/A	Solely technology/human resources innovations
R-Jolad Hospital	**Nigeria (Lagos)**	Full medical service: primary care, consulting specialty, lab and drugs	• Nonprofit, fully self-sustainable, physician-owned organization including hospital and clinic in Lagos. • High service volume. • Strong mission from the providers to "serve the masses."	Accessibility: Increased access to health care services in regions without established insurance systems (McKinsey survey); successful growth from small clinic to major hospital. Affordability: Very positive patient feedback. According to patients, affordability is only part of the reason they choose R-Jolad (friendly service, reliable, and efficient). A tiered fee structure charges patients what they are able to pay, sometimes as low as $1 for a visit.	Lack of information
Tsilitwa Telehealth	**South Africa**	Telemedicine; primary health care	• Nurses use video and phone technologies to communicate with physicians in Cape Town; one hospital and clinic.	N/A	Solely technology/human resources innovations
Saude e Alegria (SA)	**Brazil**	Primary health care; oral health; environmental and reproductive health	• Travels by boat from village to village with a team of doctors, engineers, environmental experts, agronomists, and communications specialists. • Using health as an entry point, SA began helping 16 communities improve their lives through solar-based electrification, environmental education, and access to	Currently, SA is looking to partner with Turma do Bem on an "orthodontic boat" to travel up the Amazon, providing curative and preventive oral health services to rural populations.	Language barrier

			information technology. • Creates a “health patrol” in each community. • Trains individuals identified by the community in basic primary health care.		
Uganda Health Information Network	**Uganda**	Medical consultation; access to information	• Provides practitioners with real-time access to vital information through the use of personal digital assistants connected via the local GSM cellular telephone network. • Provides consultation, real-time ordering of medicines, and access to medical journals.	Developed by SATELLIFE, the project has successfully transitioned from a grant-funded project to a stand-alone nonprofit organization, in part due to its ability to secure support from the Ugandan government.	Solely technology/human resources innovations
Well Family Mid-Wife Clinic	**Philippines**	Midwifery, family planning, and maternal and child health	• Network of private midwives who own and operate private midwife clinics. • Clinics are mostly in urban areas. • Continuing training provided to providers.		Extensive work already conducted on similar models