

## INCLUSIVE INNOVATIONS

# Serving the Healthcare Needs of the Poor with Specialized Clinics

*Through cross-subsidization and hub-and-spoke models, peri-urban and rural, lower-income populations can better access affordable, high-quality specialized healthcare*

### HIGHLIGHTS

- High specialization and streamlined procedures of health clinics allow for good quality and low-cost results.
- Innovative approaches reduce operating costs.
- Cross-subsidization allows poor patients to access care and helps make the clinic financially sustainable.



### Summary

Poor populations in peri-urban and rural areas lack access to affordable specialized healthcare and products, including simple products such as eyeglasses. Specialty clinics use a high-volume/cross-subsidization model to meet the massive patient demand and medical needs of the underserved, particularly in the areas of eye care, reproductive health, kidney care, and dentistry.

### Development Challenge

Most health systems in developing countries struggle to meet patients' most basic medical needs. Public services are often extremely overburdened, and private services are usually too expensive for low-income segments of the population to afford.

For poor people in rural and peri-urban areas, medical care requiring specialized physicians or equipment is even farther out of reach, in terms of both geography and cost. Millions of people do not receive specialized treatment or basic corrective surgeries because care is not available or the costs of travel and surgery are too high.

In response to this problem, highly specialized healthcare clinics are emerging in developing countries that make services more affordable for the poor and underserved. Their innovative business models reduce operating costs and adopt a cross-subsidization revenue model in which wealthier patients pay more and poorer patients pay less (or nothing at all). These clinics, often set up as chains, frequently use a pyramid, hub-and-spoke, or branch structure, consisting of a main hub hospital, peri-urban centers, and rural mobile camps with community outreach activities. They manage a high volume of patients through a streamlined and standardized yet patient-centric system.

## Business Model

### Components of the Model

Single-specialty clinic chains provide the poor with access to specialized medical services. The model builds standard of care protocols that result in economies of scale, which help drive down costs. These clinics identify, triage, and channel patients; standardize procedures in ways that maximize efficiency gains and quality assurance; develop innovative ways to ensure high patient volumes and facilitate uptake; recruit and train staff and adopt measure to retain them; and cross-subsidize services in order to be able to provide free or low-cost services to the poor.

Eye care was one of the first areas to adopt the single-specialty clinic model. Many innovative eye care business models originated in India.

The model is being applied to many subspecialties, such as reproductive health, dentistry, diabetes treatment, and kidney care (table 1). It lends itself to areas where treatment can be provided as an outpatient service; patients pay out-of-pocket; and demand is high and unmet by public or other facilities. Replications of the model have revealed the importance of factors in the enabling environment, such as low regulatory barriers, low costs of labor and materials, the existence of a paying patient segment, and the interest of the owner to serve a social mandate.

*Table 1. Examples of single-specialty clinic chains that reach the poor*

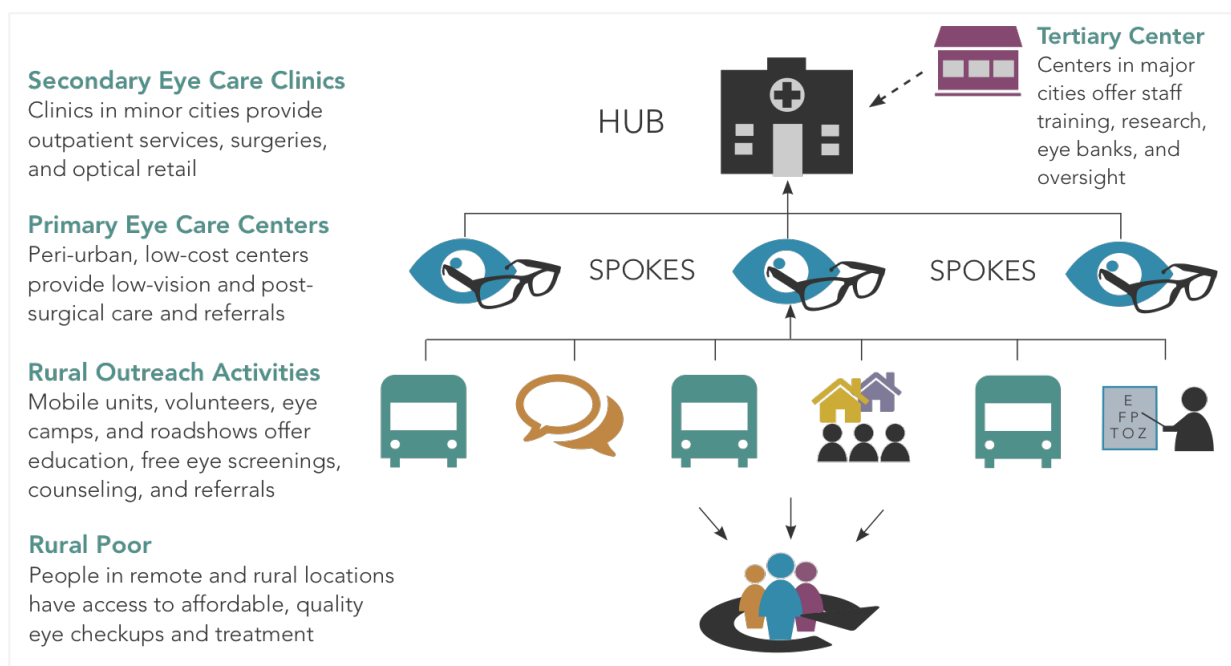
Specialty	Example
<b>Eye care</b>	
Eye-related diseases affect 285 million people worldwide. Approximately 80 percent of visual impairment is curable. It is estimated that in the next nine years the number of blind people aged 50+ will grow in all WHO Regions, particularly in China, India, Southeast Asia and the Eastern Mediterranean, unless action is taken to prevent and cure the main causes of visual impairments (WHO 2010).	ERC Eye Care provides accessible and affordable eye care to poor populations in Assam, India through a hub-and-spoke model that includes one central hub hospital, seven peri-urban vision centers, mobile screening and treatment camps in rural areas, and trained assistants from the community to conduct outreach.  salaUno, created in 2011, is a for-profit enterprise that provides eye care to the poorest people in Mexico. It educates doctors and nurses and collaborates with public, private, and non-profit institutions.
<b>Dental care</b>	
Dental cavities cost the world almost five million disability adjusted life years in 2000 (IHME n.d.). Globally, the distribution of dentists is extremely unequal, with 1 dentist per 5,000 people in advanced regions and 1 dentist per 150,000 people in Africa (FDI World Dental Federation 2014). Severe periodontal disease can be associated with diabetes, arthritis, low birthweight, and cardiovascular disease.	Sorridents is a Brazilian network of wholly owned and franchised dental clinics on the outskirts of urban centers. Through its non-profit institute, Sorridents operates mobile clinics that provide dental care to the poor.  Vasan Dental Care reaches low-income people in India through neighborhood daycare clinics and dental screening camps in rural areas.
<b>Kidney care</b>	
Lack of access to dialysis, which is required to treat end-stage renal disease, causes one million deaths annually in developing countries (Couder and others 2011). Because of its cost, most of the two million people worldwide receiving renal replacement therapy live in five developed countries.	NephroPlus Kidney Care Centers in India look after all requirements of a dialysis patient, and help the patient lead a life as close to normal as possible. The clinics ensure that patients are very involved in their care. For example, peritoneal dialysis exchanges at NephroPlus are usually done by patients themselves after being trained by the center's technicians and nurses. Most of its facilities are located in major hospitals.

	RG Stone Urology and Laparoscopy Hospital pioneered the process of low-cost, high-technology, minimally invasive urinary stone management and removal. It operates 16 sites across India.
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Single-specialty clinic chains are often adding or expanding the activities conducted through their tertiary centers. Often the tertiary center is a financially autonomous nonprofit entity due to research and consulting revenues. These facilities—such as the Centre of Excellence at the L V Prasad Eye Institute (LVPEI) and the Lumbini Eye Institute—serve as the chain’s control center (Figure 1).

As facilities develop, they often conduct research and provide training and mentoring. The LVPEI, for example, allows its specialists to devote one-third of their time to research. The Pushpagari Eye Institute (PVRI) runs a competitive donor-funded fellowship program. Bringing training in-house enables clinic chains to overcome common human resource challenges and become self-reliant. LVPEI has trained more than 18,000 eye care professionals for employment at its own facilities and increasingly for other institutes in India and abroad. The Lions Aravind Institute of Community Ophthalmology (LAICO) trains both clinical staff and managerial personnel in the development and implementation of efficient and sustainable eye care programs in India and abroad.

*Figure 1. Features of specialized eye clinic hub-and-spoke healthcare model*



## Cost Factors

Focusing on a single disease that can be treated on an outpatient basis makes this model less costly than in-patient or multispecialty hospitals. It also makes standardization and quality easier to achieve. The model keeps operating costs low by improving efficiency and achieving economies of scale through high patient volumes and extensive outreach activities. At the Aravind Eye Care System (AECS), the average doctor performs 2,400 cataract surgeries a year; LVPEI’s surgeons average 1,000–1,500 cataract surgeries a year. These volumes are up to six times the average annual rate of 400 surgeries per doctor in the United States (Lindstrom 2015).

Efficiency gains also come from vertically integrating the supply chain and adopting cutting-edge products and processes and innovative technologies. SalaUno, in Mexico, uses small-incision cataract surgery, computer software for patient flow optimization, and telemedicine to verify referrals and

advise on complicated cases. It also purchases in bulk, minimizes waste, and partners with universities, detection centers, etc., to develop low-cost health technologies.

Many enterprises have developed innovative cost-cutting measures. SalaUno formed a pro bono partnership with a public relations agency to raise awareness. LVPEI negotiated land donations from socially minded community members and subsidized land from the government. AECS collaborated internationally to create and manufacture a low-cost intraocular lens.

Enterprises have also adopted approaches to expand patient volume. LVPEI and ERC Eye Care train community-recruited vision assistants to make house calls in rural areas. SalaUno uses social media, television, and radio to raise awareness among new patient segments.

## Revenue Streams

Cross-subsidization is one of the most innovative aspects of the model (Table 2). Clinic chains offer tiered price and service options to patients based on their willingness to pay. Using standardized, simple, and transparent price and service lists (akin to menus) at the point of registration, patients self-select the level of service at the price they are willing to pay. Wealthier patients often opt for premium add-on services, such as private recovery rooms and reduced waiting times. The higher fees charged for these services subsidize poorer patients. Segmenting patients based on willingness to pay rather than ability to pay may crowd out services for which costs could be recovered (Radhakrishnan and others 2015).

EYE-Q uses geography as the basis for cross-subsidization. An operation that costs USD 360 in an urban center costs USD 260 in a peri-urban area. Business units within the company also cross-subsidize one another. Profits from the sale of eyeglasses or other products sold through optical and pharmacy shops, for example, are used to subsidize free services. More commercial-centric clinic chains often provide free services and cross-subsidization at arm's length through a foundation or separate legal entity.

*Table 2. Examples of cross-subsidization of services by eye care clinic chains*

Enterprise	Method of cross-subsidization	Percent of patients receiving free services
Aravind Eye Care System (India)	• Tiered price and service scales based on willingness to pay	23
EYE-Q (India)	• Tiered price and service scales, based on location of service delivery • Eye-Q Foundation subsidizes free services	Not available
L V Prasad Eye Institute (India)	• Tiered price and service scales based on willingness to pay • Revenues from optical and pharmacy shops	52
salaUno (Mexico)	• Tiered price and service scales based on willingness to pay	70

## Financial Viability

Grants, loans, and equity investments provide support. The type of financial support depends partly on the legal status of the clinic chain. Chains such as AECS and LVPEI are set up as nonprofit enterprises. salaUno established itself as a for-profit enterprise, partly to leverage the advantages that such status has to secure finance, such as impact investing. EYE-Q is profit clinic chain that is closely affiliated with the nonprofit Eye-Q Foundation.

Development agencies (such as the Department for International Development and the Canadian Development Fund [DFID]) provide funding to some specialty clinic chains (mostly in the form of grants). Development finance institutions (such as the Inter-American Development Bank and the International Finance Corporation), and impact investors (such as the Acumen Fund), sometimes invest in these chains. National financial support tends to come in exchange for services—that is, through tie-ins with social health insurance schemes or consulting or policy collaborations. salaUno, for example, benefited from the inclusion of its services by Seguro Popular in 2012–13. Established by the government of Mexico, Seguro Popular is a public health insurance that covers a wide range of services without co-pays for its affiliates. Since 2004, Seguro Popular has gradually expanded to include 55.6 million people. PVRI is a long-standing beneficiary of the Sri Rajiv Aarogyasri health insurance scheme in Andhra Pradesh.

The mix of financial tools and legal status may change over the life cycle of a clinic. DFID supports one of the younger clinic chains, the Nairobi Eye Hospital (NEH). The Acumen Fund has invested in established clinic chains (AECS, LVPI).

Some of the more mature models are close to reaching financial sustainability with respect to operating costs. AECS, established in 1976, covers 94 percent of its costs; LVPEI, established in 1987, covers 85 percent. Most of their revenues comes from patient fees for services.

A key feature of successful models is a diversified business model that allows profitable services (such as optical and pharmacy sales, product development, research, surgical tourism) to cross-subsidize loss-making business segments. In general, the clinic chains that are growing fastest are those that have multiple internal revenue streams.

## Partnerships

In rural areas, many clinic chains operate spokes that recruit outreach workers from local communities. They support community participation and ownership. PVRI recruits and trains “vision guardians,” who work on a voluntary basis in return for free eye care for their families and consideration for future employment. SalaUno uses a pool of marginalized rural women for outreach. It secured a grant from IDB to train ophthalmic nurses recruited in this manner.

Clinic chains are filling a gap in public healthcare services. Some enterprises actively cooperate with the government to extend service provision. PVRI’s clinics are state accredited and part of the Andhra Pradesh state health insurance scheme. LVPEI and AECS connect with the government through research grants and policy exchange; both chains consult with the national government to replicate their model.

Some of the more mature clinic chains want to preserve their independence from the state. LVPEI has a policy of not accepting government financing for its core business model.

## Implementation: Delivering Value to the Poor

### Awareness

All chains use extensive community outreach activities to raise awareness. Activities include health talks, health road shows, and use of health educators. To maximize service utilization, these activities occur just before screening camps or mobile clinic visits. Some chains target specific population segments, such as agricultural workers and students. Traditional outreach activities in rural areas are complemented by Internet-based outreach. Increasingly, chains are advertising directly to patients. Many chains cite word-of-mouth as responsible for the majority of their new patients.

salaUno uses social media and Internet platforms, aware that paying patients are increasingly, young, discerning, and literate in information technology (IT). It has also negotiated a pro bono partnership with a public relations agency, which designs direct-to-consumer TV and radio ads that raise awareness of its services. salaUno has incorporated a referral award scheme, called an “ambassador program,” to capitalize on this organic growth through social media. Approximately 60 percent of its new patients are estimated to come through word-of-mouth.

### Acceptance

Fear of surgery and loss of eyesight through poor care and bad surgical outcomes are among the main reasons for low uptake of free cataract surgery (Mitsuhiro and others 2014). These fears—not all of them unfounded (BBC 2014)—are most prevalent among rural, less-educated people. Addressing challenges around acceptance and creating community ownership are the main objectives of community outreach and education.

### Accessibility

Clinic chains focus on attracting patients from rural areas for whom specialized services were previously inaccessible. They locate hubs outside the major cities, where services are often already available through multispecialty hospitals. They often use the hub-and-spoke design and conduct extensive community outreach. These features extend their service delivery into peri-urban and rural areas and reduce time and travel costs for patients. Where services are not available near a community, many clinic chains provide reimbursement or even transportation.

### Affordability

Many clinic chains provide a proportion of their services free to the poorest people. The proportion is determined by its ability to reduce operational expenses, by the values and vision of the enterprise, and by the mix of financing tools used. It ranges from 23 percent of all patients at AECS to 78 percent at PVRI.

AECS depends on funding other than patient revenues for 6 percent of its costs; at PVRI the figure is 10–15 percent. These sources include internal revenue streams such as optical and pharmacy sales, although most extra revenue comes from external financing.

Even when all direct costs (including service fees and transport) are covered, uptake can be low among poor people, because they cannot afford the short-term opportunity costs of undergoing surgery (lost income from missing work, further dependency on family members) and lack support systems (Kovai and others 2014).

## Results and Cost-Effectiveness

### Scale and Reach

Single-specialty clinic chains have made highly specialized health interventions available to the poor through free service provision, extensive outreach activities, and peri-urban clinics. This model has reached millions of patients, many of them saved from further disability, blindness, and poverty.

Some eye care clinic chains have reached significant scale, with a handful demonstrating international replicability. The number of patients reached ranges from tens of thousands to millions. The hub-and-spoke model correlates the number of patients with the number of clinics, because of the variability in its implementation. Some of the pioneering chains that are now at scale took 20–30 years to achieve their current reach, whereas some of the newer chains (often international replications) are scaling up extremely rapidly. Within two years, for example, salaUno became the top cataract surgery provider in Mexico City, with 21 centers.



## Improving Outcomes

Eye care clinic chains reduce the prevalence of avoidable blindness in the areas where they operate. In doing so, it not only improves health, it also increases income. In rural Assam, for example, where weaving and small handicrafts are a primary livelihood, poor vision contributes to loss of income. Since February 2015, ERC Eye Care has treated about 9,000 patients in Assam, performing 350 cataract correction surgeries at its hub hospital.

Successful treatment raises patients' productivity. In addition, by allowing them to maintain or reclaim their economic independence, it makes them less likely to be an economic burden on their family and community and to incur catastrophic health expenditures. An impact evaluation assessment on the provision of eyeglasses to low-income visually impaired individuals found that it increased their productivity by 35 percent (Karnani and others 2010).

The clinic chains also bring more sustainable employment opportunities to people working within the communities, and they have trained thousands of clinical staff from all over the world. By creating high-level economic opportunities, these chains help prevent the brain drain of specialists.

## Cost-Effectiveness

Specialized clinic chains often provide higher-quality care than general clinics at an affordable price. At AECS streamlined procedures reduced the time spent per patient, resulting in an average surgery time of 6 minutes, compared with 21 minutes in the United States. Tasking surgeons with only one operation allows them to perform more surgeries, reducing the cost per operation to USD 40–125. Cost reductions do not come at the expense of quality: AECS has a postoperative infection rate of 0.05 percent compared with a national average of 0.09 percent in the United States.

Clinic chains also reduce costs by producing their own products in their labs. An intraocular lens produced in their labs costs USD 13, compared with USD 96 for an international brand (Ophthalmology Times 2014).

## Scaling Up

### Challenges

The main challenge many clinic chains face is recruiting and retaining top physicians. Unable to offer high or competitive remuneration, many chains have adopted innovative approaches to retain qualified staff. LVPEI allows its specialists to devote one-third of their time to research. PVRI has a competitive, donor-funded fellowship program. Some chains have training in-house to overcome human resource challenges and be self-reliant.

Another challenge is maintaining sufficient patient volumes to achieve economies of scale. Competition from multispecialty models targeting peri-urban centers is increasing, and healthcare financing is expanding (India's government aims to reach universal health coverage by 2022), increasing pressure on clinics to partner with other providers or integrate within the health system.

Financing is the most frequent reason for forming a partnership with the government. The majority of financing takes the form of end-user financing through subsidies or, more frequently, acceptance by public insurance schemes.

LVPEI agreed to participate in four pilots with the state government of Andhra Pradesh in India, which will integrate its facilities with public primary healthcare centers. Financial pressures remain, however.

The company needs to reduce its operational dependence on external grants and subsidies and secure financing for growth outside of the major urban centers.

### Role of Government and Public Policy

Governments can support specialized clinic chains and protect patients by setting up registries and licensure of clinics. Such registries could be used to provide access for national pooled procurement systems (for drugs, commodities, and medical supplies), particularly systems with robust, often international quality assurance certification. Oversight, regulation, and enforcement of private providers and products are needed to protect patient safety.

National governments can help single-specialty clinic chains obtain financing in their first few years. A number of successful, fully scaled examples of this business model serve as proof-of-principle, which could reduce donor risk. Domestic seed funding (e.g., angel financing, royalty-based debt), flexible financing products (e.g., India Inclusive Innovation Fund), and impact investments from domestic philanthropists may be avenues for governments to partner with and encourage and facilitate financial support for specialized clinics. Although a variety of specialized clinics show significant results, validation on the cost-effectiveness of the model is needed to encourage state or national governments to incentivize and disseminate specialized clinics model as a means of using public expenditure more efficiently to achieve better outcomes.

*Table 3. Examples of single-specialty clinics that serve the bottom of the pyramid*

Enterprise	Country	Description
<a href="#">Aravind Eye Care Systems</a>	India	Provides high-quality eye care through cost cross-subsidization. <a href="http://www.aravind.org">www.aravind.org</a>
<a href="#">CCBRT Disability Hospital</a>	Tanzania	Provides surgical and outpatient services for ophthalmology, obstetric fistula, orthopedics, and reconstructive surgery, targeting the lowest-income communities. Subsidizes free or low-cost services by charging higher prices for supplemental services. <a href="http://www.ccbtr.or.tz/disability">www.ccbtr.or.tz/disability</a>
<a href="#">ERC Eye Care</a>	India	Provides quality, affordable primary and tertiary eye care to the low-income community through a hub-and-spoke model in Assam and other areas of northeast India. <a href="http://www.erceyecare.com">www.erceyecare.com</a>
<a href="#">Eye-Q</a>	India	Provides affordable eye care for conditions that do not require overnight stay, using hub-and-spoke model in north and west India. <a href="http://www.eyeqindia.com">www.eyeqindia.com</a>
<a href="#">HealthCare Global Enterprises Ltd</a>	India, Kenya, Tanzania, Uganda	Operates largest network of oncology hospitals in South Asia. Doctor-led initiative has more than 150 partnering physicians at independent centers that belong to the HealthCare Global network. <a href="http://www.hcgoncology.com">www.hcgoncology.com</a>
<a href="#">L V Prasad Eye Institute</a>	India	Provides eye care through a pyramid model. Builds on community participation to offer community wide tertiary facilities. Half of services are free for the poor, subsidized by sales from optical and pharmacy shops. <a href="http://www.lvpei.org">www.lvpei.org</a>
<a href="#">Lumbini Eye Institute</a>	Nepal	Provides self-sustaining primary eye care in rural areas through multipronged approaches at the grassroots, district, and zonal levels. <a href="http://www.lei.org.np">www.lei.org.np</a>



<a href="#">Narayana Health</a>	India	Applies principles of assembly line production to cardiac surgery in order to improve productivity and lower costs. Cross-subsidizes services to the poor. Innovates low-cost micro-health insurance scheme. <a href="http://www.narayanahealth.org">www.narayanahealth.org</a>
<a href="#">Nairobi Eye Hospital</a>	Kenya	Delivers eye care to patients across all income levels. Specializes in treating diabetic retinopathy, a leading cause of visual impairment. <a href="http://www.uheal.or.ke">www.uheal.or.ke</a>
<a href="#">NephroPlus</a>	India	Provides one-stop shop for kidney care, with focus on dialysis patients and all their needs. <a href="http://www.nephroplus.com">www.nephroplus.com</a>
<a href="#">Pushpagiri Health Care Hospitals Pvt. Ltd.</a>	India	Operates two super-specialty hospitals that treat preventable eye diseases at full cost for people who can pay and at a subsidized cost for people who cannot. Runs community screening and outreach programs. <a href="http://www.pvri.org">www.pvri.org</a>
<a href="#">RG Stone Urology &amp; Laparoscopy Hospital</a>	India	Provides urology services by establishing own clinics, partnering with doctors in Joint Ventures, and establishing department in large clinics. <a href="http://www.rghospitals.com">www.rghospitals.com</a>
<a href="#">salaUno</a>	Mexico	Brings affordable high-quality eye care to low-income people through a high-volume/low-cost model achieved through economies of scale in operations and partnerships with corporations and NGOs. <a href="http://www.salauno.com.mx">www.salauno.com.mx</a>
<a href="#">Sorridents Clínicas Odontológicas</a>	Brazil	Provides accessible, affordable dental care closer to home, typically on the outskirts of large- and mid-sized cities, where most poor people live. Patients include the elderly and people with disabilities. <a href="http://sorridents.com.br">http://sorridents.com.br</a>

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# Profile: LV Prasad Eye Institute

*Expanding access to eye care through a community-driven approach*



## Challenge

India has the largest number of visually impaired and blind people in the world. An acute shortage of optometrists and donated eyes and the fact that most Indians cannot afford treatment means that millions of people suffer from conditions that are preventable or treatable.



## Innovation

The LV Prasad Eye Institute (LVPEI), (<http://www.lvpei.org/>), is a nonprofit chain of eye clinics operating primarily in the southern Indian state of Andhra Pradesh. It delivers good-quality eye care, including screenings, cornea transplants, and cataract, glaucoma, and retinal surgeries.

The institute's pyramid model of service delivery and cross-subsidization of patient segments allows it to reach people who are unable to afford care. At the top of the pyramid, LVPEI operates three tertiary care hospitals, conducts research, trains clinicians, maintains an eye bank, offers medical tourism services, engages in policy and advocacy activities, and performs consulting services. At the bottom of the pyramid, its network of 117 vision centers in rural areas refers patients, provides refraction and dispensing services, and screens for blinding diseases.

Each vision center serves as the hub of a network of about 10 "vision guardians," who perform community awareness activities and provide postsurgical care and outreach. These volunteers are recruited, trained, and returned to the communities. In return for their work, they receive free eye care for themselves and their families as well as priority consideration for paid positions with LVPEI. The institute also operates 15 secondary and 127 primary care facilities in remote rural areas in the states of Andhra Pradesh, Karnataka, Odisha, and Telangana.

About half of LVPEI's patients are treated free of charge. The cost of their care is cross-subsidized by fee-paying patients (including growing numbers of international patients) as well as by revenues generated from other sources, including optical shops and pharmacies and royalties from a contact lens developed through an international research and product development partnership. In addition to free services, LVPEI offers a tiered price and service list, which allows patients to select the most appropriate services they are able and willing to pay for. At the lower tiers, prices are substantially lower than comparable interventions performed at private hospital facilities.

## Impact

Since its launch, in 1987, LVPEI has improved the lives of 20 million people in 3,000 villages in India through its comprehensive eye-care and door-to-door services. In 2014–15, 47 percent of all outpatient services as well as 44 percent of surgeries were provided free of charge. LVPEI provided free eye-care services to another 700,000 people and reduced the severity of impairment of 88,000 poor patients.

LVPEI's eye bank—the Ramayamma International Eye Bank (RIEB)—is the largest provider of sight-restoring corneas in India. It has harvested 43,000 donor corneas and transplanted 22,750 of them, more than any other center in the world. LVPEI has also trained 18,000 eye care professionals, 80 percent of them from India; published more than 1,550 research papers; supported 200 national

hospitals in 18 states in India; and provided assistance to eye-care facilities in 17 other countries. LVPEI's vision center model has been replicated by the government of Australia, which provided a USD 50 million grant to apply the model in its primary-level development programs in South East Asia and the Pacific Islands.

### **Scaling Up**

The main driver of the model is its ability to be self-reliant on training and retaining staff. Strong community involvement, extensive monitoring and evaluation to continuously optimize operations, and well-balanced government oversight are also critical to the program's success. Resourcing challenges remain, since outside of the major cities, skilled managers and community-based ophthalmologists with the skill and reputation for community acceptance in rural areas are scarce.

## Profile: salaUno

*Replicating and adapting India's Aravind Eye Hospital model has brought vision-saving relief to thousands of Mexicans*



### Challenge

Eye-related disease is the second-most common type of disability in Mexico, affecting 60 percent of the population (Forbes 2013). The country's high prevalence of diabetes, a condition that increases the risk of cataract and diabetic retinopathy by 40 percent, means that the burden of eye disease is likely to remain heavy for years to come.

The public health system in Mexico is unable to meet the demand for care, and private providers are too expensive for 65 percent of the population (Mukesh, Moe, and Bartlett 2013). The combination of heavy demand and limited supply means that the level of unmet medical need is very high. The problem is particularly acute among the rural poor, for whom lack of eye care leads to or deepens poverty.



These low-income Mexicans, pictured here with Javier Okhuysen, one of salaUno's founders, received free treatment from the program.

### Innovation

salaUno (the name means "room one," referring to its surgical theater) was founded in 2010 as a for-profit eye care clinic chain, replicating and adapting India's successful Aravind Eye Hospital model. The company's vision is to eliminate needless blindness by bringing affordable, high-quality eye care to lower-income Mexicans through a high-volume, low-cost business model. It does so through economies of scale (salaUno's surgeons perform five times the number of surgeries of an average Mexican ophthalmologist) and the cross-subsidization of poorer patients by wealthier ones. Prices for a check-up range from USD 1.75 to USD 3.50; for cataract surgery, patients can choose from services that range from USD 400 to USD 1,740.

Many of the innovative aspects of the salaUno model resulted from adapting the Aravind model to the Mexican context. For example, Internet connectivity is greater in Mexico than in India, allowing salaUno to use social media platforms such as Facebook to maximize awareness of its services and telemedicine to improve efficiency in patient referral. salaUno also operates two software subsystems to manage a range of business components, from finances to inventory of its optic stores, and coordinate patient flow and medical records.

salaUno has set up partnerships with private enterprises and NGOs to increase patient capture and referral and make its services affordable. Initially, services were included in the government's health insurance scheme (Seguro Popular), through which salaUno performed 60 percent of its surgeries. That partnership ended in 2013, when the government decided to cover eye care itself. Service provision is currently subsidized through a partnership with Fundación Cinépolis and the establishment of a microloan program.

### Impact

salaUno is the leading provider of cataract surgery in Mexico City. Between 2011 and 2014, it served 72,000 people, including performing 7,400 cataract surgeries, treating 10,000 eye ailments, and

providing 17,000 free consultations to people at the bottom of the pyramid. In 2015, it performed half of its surgeries free of charge. Studies demonstrate the cost-effectiveness of cataract surgery, with some estimating the financial return on investment to society at 4,567 percent over 13 years (Brown and others 2013).

salaUno is a certified hospital that offers training courses in collaboration with universities. Nurses trained by salaUno can receive a diploma in ophthalmic nursing.

### Scaling Up

salaUno replicated and built on the lessons learned from the Aravind model. The strong business case and flattened learning curve facilitated access to equity and debt financing from the Inter-American Development Bank, the International Finance Corporation, and Adobe Capital.

The main driver is the high demand for services. Partnerships with other actors for referrals and the initial inclusion of salaUno in the government's health insurance scheme also contributed to scale-up.

The end of the partnership with the government highlighted the vulnerability of depending on external actors, particularly public ones, and reignited a drive to pursue a sustainable independent business model. It led salaUno to raise its service fees and explore other avenues for subsidizing the free services for patients who cannot cover surgery out-of-pocket. Increased revenue from tiered pricing offering ancillary services has helped offset the greater uncertainty while dealing with government contracts.

The ability to serve large numbers of patients may be a growing challenge, as it was for some of its Indian predecessors, and recruitment and retention of specialized, trained staff is an ongoing challenge. These constraints have been partly mitigated by adding salaUno's own hospital for training of staff and making it a more attractive employer among physicians through the possibility to conduct research.

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