Inclusive Business Models of Healthcare in India: Brief Profiles

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Aaji Care at Home Services

Training, multiple disease focus

OBJECTIVES AND COMPONENTS

Aaji Care-at-Home Services is a social enterprise that offers non-medical/personal care services to families with patients, seniors, and kids at their home through trained care assistants.

Their main services include:

- 10/12 hour day and night services that include:

- **Child care services**- Provides trained care assistants for infant/child care

- **Senior care services**- Provides trained care assistants for geriatric/senior care.

- **Patient care**- Provides trained care assistants for non-medical patient care.

- Training programs titled Empower to Care (E2C) to care assistants; mainly for women, and a few men, from low income backgrounds.

SIZE, SCALE, AND IMPACT

- As of 2013, Aaji Care has trained close to 30 caregivers in three batches by doctors, nurses, PhD scholars, and IITians.

- Aaji has helped 60 families around Powai with its services.[1]

KEY FACTS

Nature	For profit
Duration	2 years
Location	Mumbai
Target population	General population
Target geography	Urban
Area of healthcare focus	Distributional models
BOP engaged as	Suppliers
Website	www.aajicare.in

UNIQUE FEATURES

- Aaji aims to professionalize a highly unorganized, neglected sector in Indian healthcare and provide personal, non-medical care for families. It also provides dignified career options for less educated, low-income women.

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1   The Indian Express

Akhand Jyoti Eye Care

Health facility, eye care

OBJECTIVES AND COMPONENTS

- Akhand Jyoti runs an eye hospital and rural outreach program that aims to reduce the backlog of eye surgeries in Bihar by 75 percent in the next 5 years.[2]

- Its mission is to eradicate curable blindness among the rural folk by providing accessible, affordable, sustainable, and quality curative and preventive eye care services.

- The 350-bedded tertiary care hospital in Mastichak, Bihar has a cataract clinic, glaucoma unit, pediatric eye care unit, cornea clinic and oculoplasty clinic.

- Akhand Jyoti has also set up satellite and secondary care centers in Patna and Siwan in Bihar and in Chhapra and Ballia in U.P. These centers provide general out-patient (OPD) services, cataract and glaucoma care.

- It has set up a teaching eye hospital in Bihar.

- Through its 'Education through Football' program, Akhand Jyoti focuses on girls from at-risk communities. It runs a parallel education and empowerment program for girls who will eventually have the opportunity to be trained and employed as skilled nurses.

- Akhand Jyoti also conducts outreach programs that include camps, village door-to-door activities and school screening.

SIZE, SCALE, AND IMPACT

- The main tertiary center in Mastichak increased from 20 beds in 2005 to 350 beds in 2013. Akhand Jyoti also has satellite secondary care centers in Patna, Siwan in Bihar, and Chhapra, Ballia (Uttar Pradesh).[3]

- Akhand Jyoti performed 67,302 sight restoring surgeries in the financial year 2012-13.[4] 77 percent of these surgeries were conducted for free.

KEY FACTS

Nature	Not for profit
Duration	9 years
Location	Bihar, Uttar Pradesh
Target population	General population
Target geography	Rural, peri-urban, urban
Area of healthcare focus	Hospitals & clinics
BOP engaged as	Consumers
Website	www.akhandjyoti.in

UNIQUE FEATURES

- Akhand Jyoti chooses to specifically target and reach out to poor patients from rural Bihar. This focused approach on the blind patient has made Akhand Jyoti the largest eye hospital in eastern India.

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3   Ibid

2   Center for Health Market Innovations

4   www.akhandjyoti.in

Andhra Pradesh Urban Slum Healthcare Project

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

The Andhra Pradesh Urban Slum Healthcare Project (APUSHCP) was implemented to provide reproductive and sexual health services (RSH) services by building primary healthcare infrastructure for urban slum populations through a public-private partnership. The project aims to:

- Increase availability and utilization of health and family welfare services.

- Develop a referral system from the community to urban health centers (UHCs) and from UHCs to first referral units (FRUs).

- Increase overall health awareness and better health seeking behavior among slum dwellers.

While the UHCs were established by the state, their day-to-day management was contracted out to local service providers (NGOs, for profit and not for profit entities). The UHCs are located within the slums to ensure easy access for the target population. Each UHC is assigned a defined slum area, clearly demarcated in terms of the boundaries, which covers an average of 15,000 to 20,000 individuals.[5]

SIZE, SCALE, AND IMPACT

- As of 2007, the project had established 192 UHCs in 74 municipalities by contracting out to NGOs. These UHCs cover a population of about 3 million.[6]

- This project was started with World Bank support and the state has effectively managed the transition from a donor-funded project to government program while achieving demonstrable impact on health status among its target population.[7]

KEY FACTS

Nature	Not for profit, PPP
Duration	14 years
Location	Andhra Pradeh
Target population	Urban poor
Target geography	Urban
Area of healthcare focus	Health facility
BOP engaged as	Consumers
Website	

UNIQUE FEATURES

- The APUSHCP provides comprehensive promotive, preventive, and curative healthcare services to urban poor for minor and common ailments and RSH services for women and children.

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5   Provision of Reproductive Health Services to Urban Poor through Public-Private Partnerships: The Case of Andhra Pradesh Urban Healthcare Project

6   Ibid

7   Ibid

Aravind Eye Care

OBJECTIVES AND COMPONENTS

Aravind Eye Care System (AECS), a network of hospitals in India, is one of the largest providers of eye care in the world. Its mission is to eradicate needless blindness by providing appropriate, compassionate, and high quality eye care for all.

Its main services/activities include:

- Hospital services: The hospitals provide high-quality and affordable services to the rich and poor alike, and aim to be financially self-supporting. They have well-equipped specialty clinics with comprehensive support facilities.

- Community outreach programs include comprehensive screening eye camps and primary care eye facilities. The camps also educate the local community on eye care. The hospital has set up vision centers to provide primary eye care services to rural populations in Tamil Nadu.

- Aurolab, the manufacturing division of Aravind Eye Hospital, supplies high-quality ophthalmic consumables at affordable prices to developing countries.

- Aravind Eye Care also has eye banks in Madurai, Coimbatore, Tirunelveli, and Pondicherry.

SIZE, SCALE, AND IMPACT

- Aravind has set up 10 hospitals across Tamil Nadu and Puducherry.

- In 2012-2013, 3.1 million outpatients were treated and over 370,000 surgeries were performed.[8]

- In 2012-2013, 2,841 camps were conducted at which 554,413 patients were screened and 90,547 patients underwent surgery.[9]

- Started in 1998 at Madurai with a collection of 253 eyes, the eye banks now procure more than 4000 eyes and perform about 1400 corneal transplants annually.[10]

KEY FACTS

Nature	Not for profit
Duration	38 years
Location	Gujarat, Puducherry, Tamil Nadu, West Bengal
Target population	General population
Target geography	Urban, peri-urban, rural
Area of healthcare focus	Hospitals & clinics
BOP engaged as	Consumers
Website	www.aravind.org

UNIQUE FEATURES

- Aravind provides free services to 70 percent of its patients, a subsidy that is financed by full-fee services provided to wealthier individuals. Differential pricing is established by a patient's choice of amenities (private rooms vs. open dormitories) and the type of lens that is to be inserted into the eye (hard vs. soft).

- Aravind improves operational efficiency by allowing surgeons to work on two tables simultaneously. While one surgery is in progress, a team of nurses and paramedical staff prepare the next patient for surgery. This process allows Aravind to perform cataract surgery in 10 minutes, about a third of the industry standard.[11]

8   www.aravind.org

9   Ibid

10   Company website

11   Center for Health Market Innovations

Arogya Parivar

Low-cost product/device/diagnostics, multiple disease focus

OBJECTIVES AND COMPONENTS

Arogya Parivar is a social initiative of Novartis, a multinational pharmaceutical company, which aims to increase access to affordable medicines.

• Local community members serve as health educators, who raise awareness about common diseases, preventive measures, and provide referrals for treatment.

• Sales supervisors serve as the local sales force and collaborate with others to organize health camps that provide treatment and preventive care.

• The medicines provided cover health conditions including tuberculosis, skin and gynecological infections, diabetes, micro-nutrients during pregnancy and childhood, intestinal worms, acid reflux, cough and cold, and allergies.

• The program operates through cells that cover a 25-30 kilometer radius and cater to around 100 villages.[12]

• The program aims to keep weekly treatment costs below $1.25.[13]

SIZE, SCALE, AND IMPACT

• Started operations with 20 cells in Maharashtra and U.P., and has now expanded to 250 cells across 181 districts in 10 states (including U.P., Maharashtra, Uttarakhand, Rajasthan, Chhattisgarh, Gujarat, Andhra Pradesh, Tamil Nadu, and Karnataka).

• The program has benefitted an estimated 40-50 million people.

• The network has linkages with over 45,000 doctors and 28,000 pharmacies.[14]

KEY FACTS

Nature	For profit
Duration	7 years
Location	Uttar Pradesh, Uttarakhand, Chhattisgarh, Rajasthan, Gujarat, Maharashtra, Andhra Pradesh, Tamil Nadu, Karnataka
Target population	Low-income groups
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers
Website	www.novartis.com

UNIQUE FEATURES

• The products sold are tailored to cater to rural populations and customized according to the local disease burdens. For example, medicines are available in smaller, affordable sizes.

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12   'Novartis India's Arogya Parivar Reaches 42 Million', INCANUS Public Affairs

13   Arogya Parivar Fact Sheet, Corporate responsibility at Novartis, February 2013

14   Arogya Parivar Fact Sheet, Corporate responsibility at Novartis, February 2013

ArogyaUDHC

OBJECTIVES AND COMPONENTS

- ArogyaUDHC (User-Driven Healthcare) platform addresses the low doctor to patient ratio, specifically specialists, in rural India

- The platform is a web-based care-giving, collaborative, medical-learning platform enabled by a social network to connect patients with inadequate access to quality healthcare and his/her care giver, health experts and physicians regardless of geographical limitation.

- It is an internet-based medical learning and care-giving collaborative platform built on the theory of "evidence-based practice."

- Here, patients and healthcare providers – including primary care physicians (PCP), RMPs (registered medical practitioners), AYUSH (ayurveda, yoga and naturopathy, unani, siddha and homoeopathy), as well as informal providers – provide inputs, which are processed in a social network of physicians dispersed globally. The treatments are then presented to the patient and her/his primary care provider.

- In the absence of healthcare providers in rural areas, local trained community social-health workers, known as TCHEs (trained community health entrepreneurs) bridge the gap. TCHEs address the health of the community via telemedicine.

SIZE, SCALE, AND IMPACT

- The platform currently engages 500+ physicians globally and is ably supported by the International Journal of User-Driven Healthcare (IJUDH).[15]

KEY FACTS

Nature	Not for Profit
Duration	3 years
Location	West Bengal
Target population	General populations
Target geography	Rural, peri-urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.care.udhc.co.in

UNIQUE FEATURES

- ArogyaUDHC is different from other telemedicine services, which exclude the poor and draws mid-income patients to urban centers, resulting in costly treatment.

- As a network of independent caregivers, ArogyaUDHC provides treatment options and referrals based on patients' socio-economic conditions.

15   Mission Arogaya website

Asian Health Meter

Low-cost product/device/diagnostics, multiple disease focus

OBJECTIVES AND COMPONENTS

Asian Health Alliance Pvt. Ltd. is a network and alliance of diagnostic centers across the country under the brand name of Asian Health Meter.

• Asian Health Meter's vision is to provide trusted, reliable, and cost-effective diagnostic services in lower tier cities, towns and rural areas.

• It has a hub-and-spoke network to deliver services closest to patients where more tests are reported on the same day. It has partnered with multi- specialty hospitals, medical college hospitals and standalone labs.

• Services offered in the diagnostics lab include multi-slice CT scans, magnetic resource imaging, digital X ray, mammography, ultrasound scan with 4D, color doppler, 3D echocardiogram, computerized ECG, endoscopy, colonoscopy, immunoassay, Clinical Laboratory Improvements Amendments (CLIA), biochemistry, hematology, microbiology, histopathology, health check-up and corporate health check-up.

SIZE, SCALE, AND IMPACT

• Asian Health Meter has eight centers - two hubs and six spokes in Karnataka.

• AHM provides diagnostic services in communities where 80 percent of the population earns less than Indian rupees 15,000 a month ($250) as family income.[16]

KEY FACTS

Nature	Not for profit
Duration	4 years
Location	Maharashtra, Karnataka, Madhya Pradesh
Target population	Low-income groups
Target geography	Rural, peri-urban,urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.asianhealthmeter.com

UNIQUE FEATURES

• AHM offers quality services at affordable prices. The quality of AHM's service offerings is on par with those of larger diagnostic chains, but its prices are ~40 percent lower.[17]

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16   http://acumen.org/investment/asian-health-alliance/

17   Ibid

Axio Bio Solutions

Low-cost product/device/diagnostics, multiple disease focus

OBJECTIVES AND COMPONENTS

Axio Bio Solutions is a bio-medical company that has developed bleeding control and wound management products using bio-materials.

Axio Bio Solutions' Axiostat is an emergency hemostatic dressing to prevent bleeding.

- This product has a range of applications and can be used for dental procedures, capillary wounds, arterial punctures, intravenous procedures, etc. The technology utilizes natural bio-polymers, unique sponge-like structures capable of treating deep wounds. It seeks to replace traditional cotton gauzes.

- Axiostat is a sterile, single-use, non-absorbable hemostatic dressing intended for temporary control of bleeding wounds and to stop traumatic external bleeding within few minutes of application.

- It targets three major market segments: trauma and casualty care in hospitals; emergency service providers such as ambulances, and defense personnel such as military and paramilitary.

Axio Bio Solutions has also developed a retail product, Sureklot, which will be sold through pharmacies.

The products are priced competitively – from Indian rupees 50 to 600($0.9 - $10) in Indian markets depending on the intended application. It will be sold in international markets for $15-20, compared to competitor pricing of $50.

SIZE, SCALE, AND IMPACT

- Currently being piloted in five states in India.

- Also exported to seven countries in Europe and Africa (as a pilot), targeting military personnel, hospitals, and ambulances.

- As of 2013, has piloted 2,000 units of Axiostat to 25 clients.

KEY FACTS

Nature	For Profit
Duration	6 years
Location	Gujarat, Delhi
Target population	General Population
Target geography	Urban, Semi urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.axiobio.com

UNIQUE FEATURES

- Axiostat is safe to use as it is non-toxic. It does not contain proteins or any blood derived components.

- It is India's first emergency hemostat.

- It is one of the most affordable external hemostats in the world, priced at around $15-20 per unit.

AyurVAID Hospitals

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

AyurVAID applies ayurveda to solve modern health problems.

- Its chain of ayurveda hospitals across India provides a range of inpatient and outpatient services, in addition to para-surgical techniques.

- Its hospital in Domlur, Bangalore was the first ayurveda hospital in India to be accredited by the NABH (National Accreditation Board for Hospitals & Healthcare Providers), Quality Council of India.

- Its community health initiative, AyurVAID SEVA hospitals, offers AyurVAID services at affordable rates to low-income communities (typically earning between $100 to 130 per month).

- AyurVAID SEVA hospitals provide the same standard of services, and are able to lower costs by offering general ward facilities with a lower cost of establishment and operations.

- At AyurVAID SEVA hospitals, the consultation fee for BOP (bottom of pyramid) patients is less than $1, and treatment for serious ailments costs between $80 and 115 per week.[18]

SIZE, SCALE, AND IMPACT

- Operates a network of six hospitals, with an 18-bed AyurVAID SEVA Hospital in Dharavi, Mumbai and a 15-bed AyurVAID SEVA Hospital in Ramamurthy Nagar, Bangalore.[19]

KEY FACTS

Nature	For profit
Duration	6 years
Location	Kerala, Karnataka, Tamil Nadu, Maharashtra
Target population	General population,
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.ayurvaid.com

UNIQUE FEATURES

- AyurVAID has designed an insurance product targeted towards low-income communities through industry collaborations.

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18   'Ayurveda: Nothing Divine, Just Science', Forbes India, August 2011

19   Company website

Ayzh

Low-cost product/device/diagnostics, RCH/nutrition

OBJECTIVES AND COMPONENTS

- **Ayzh** is a for-profit social venture providing health and livelihood solutions for women.

- Ayzh has developed a clean birth kit, called Janma, which provides women components recommended by the World Health Organization for a safe and hygienic birth.

- The kit focuses on providing the 'six cleans' and includes an underpad, surgical scalpel blade, cord clamp, bar of soap, and instruction sheet in jute packaging. The kits are assembled by local women. This provides them with a sustainable means of livelihood.

- Ayzh operates an innovative B2B business model, selling to health-based businesses (for-profit and non-profit) capable of giving Ayzh significant and scalable access to its target beneficiaries (underprivileged women).

- Ayzh serves two key customer segments:

  ➤ medical institutions (hospital pharmacies, healthcare centers, and slum clinics), which resell Ayzh products to women

  ➤ non-profit aid organizations (working to improve the health and well-being of women and families in developing countries), which supply Ayzh products to women.

- Ayzh has developed a newborn kit called Shishu which provides hygiene and thermal care needs of newborn babies.

SIZE, SCALE, AND IMPACT

- It has sold over 42,000 kits since inception.

- Ayzh has trained 340 health workers about the '6 cleans'. It has developed a short animated film on using clean birth kits in an institutional setting.

KEY FACTS

Nature	For profit
Duration	5 years
Location	Pan-India
Target population	Women
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Suppliers, consumers
Website	www.ayzh.com

UNIQUE FEATURES

- The kits are sourced and assembled in India by rural women to create economic opportunities for communities living in poverty.

- Ayzh ensures safe births by providing clean birthing kits and training health workers.

Biosense Technologies

Low-cost product/device/diagnostic with multiple disease focus

OBJECTIVES AND COMPONENTS

Biosense Technologies Private Limited focuses on developing alternative technological solutions to facilitate detection of commonly undiagnosed ailments.

Biosense has developed affordable, point-of-care non-invasive diagnostics products:

- **ToucHb,** the company's first product, is a needle-free scanning device used to detect anaemia.

- **SüChek** is an intelligent sugar management solution that is compatible with the Android mobile platform.

- **uChek: Lab-made mobile** is a smartphone-based portable diagnostic system that can perform a range of routine and specialised tests.

SIZE, SCALE, AND IMPACT

- It is currently in a startup/pilot stage.[20]

KEY FACTS

Nature	For profit
Duration	6 years
Location	Pan-India
Target population	General population
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.biosense.in

UNIQUE FEATURES

- Inexpensive, easy-to-use, and effective diagnostics, which can be used directly by local health workers and consumers.

- TouchHb is the only low-cost device to measure haemoglobin without needles, leading to safe diagnostics even in areas where safety measures around reuse of needles are not necessarily enforced.

BNH TeleMedicine Centre

Telemedicine, multiple disease focus

OBJECTIVES AND COMPONENTS

The BNH Telemedicine Centre was set up as an outreach initiative of the Mumbai-based Balabhai Nanavati Hospital, to address problems of mobility, accessibility, and availability of primary healthcare.

- BNH has set up a network of telemedicine units and e-clinics in India.

- The centers provide tele-consultation, tele-radiology, mobile health consultation/education/disease prevention, and live physiotherapy sessions.

- Telemedicine services are provided for cardiology, neurology, urology, pediatrics, dermatology, dentology, orthpaedics, oncology, nephrology, obstetrics and gynecology (OB/GYN), and opthalmology, in addition to neurosurgery and urosurgery consultations.

- BNH has been identified by National Rural Health Mission to provide telemedicine services to civil and sub-district hospitals in Maharashtra and Madhya Pradesh.

SIZE, SCALE, AND IMPACT

- The BNH network provides telemedicine services to 78 peripheral hospitals in India.[21]

- The network has served over 4,000 patients in rural Maharashtra, Gujarat, Madhya Pradesh, Daman and Diu.[22]

KEY FACTS

Nature	For profit
Duration	8 years
Location	Maharashtra, Gujarat, Madhya Pradesh, Daman and Diu
Target population	Children, elderly, women, slum dwellers
Target geography	Rural, urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.bnhtmcentre.com

UNIQUE FEATURES

- Apart from its own centers, BNH also offers franchising opportunities to doctors, hospitals, laboratories, etc.

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21   www.bnhtmcentre.com

22   'BNH Tele-consult', Ashoka Changemakers, 2012

Boat Clinics - C-NES and NRHM

Outreach/health education, multiple disease focus

OBJECTIVES AND COMPONENTS

The Boat Clinics initiative provides healthcare services to marginalized communities living in the riverine islands of Assam.

- The clinics provide basic preventive and curative services, in addition to building awareness of the services available under National Rural Health Mission.

- Services provided include detection of communicable and non-communicable diseases, minor surgical procedures, reproductive and child care, family planning, basic laboratory services, and emergency services.

- The clinics operate in two ways: larger, specially designed boats undertake 4 to 6-day trips with one or two health camps conducted daily. When these are unavailable, smaller boats are modified to provide basic services including an out-patient department and a cabin for ante-natal check-up.

- Each clinic consists of two doctors, three nurses, one laboratory assistant, one pharmacist, three community workers and four boat crew.[23]

- The community workers serve as a liaison between the clinics and communities, spreading awareness of the health camps.

SIZE, SCALE, AND IMPACT

- The initiative consists of 15 boat clinics in 13 districts of Assam.[24]

- The initiative was initially launched by the Centre for North East Studies and Policy Research (C-NES) and subsequently expanded through a partnership with NRHM. While C-NES is responsible for the construction of the boats, the program is funded by NRHM.[25]

- Additional funders include Numaligarh Refinery Ltd, Oil India Ltd, and UNICEF.[26]

- 2,582 camps were organized in 2012-13, during which 200,679 patients were treated.[27]

KEY FACTS

Nature	Not for profit (PPP)
Duration	9 years
Location	Assam
Target population	Children, women, general population
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, distributors
Website	www.c-nes.org

UNIQUE FEATURES

- The clinics provide healthcare services to islands in the Brahmaputra that get cut off from the mainland during floods and have limited access to healthcare.

23   Boat Clinic case study, Governance Knowledge Centre, 2011

24   'Evaluation of Boat Clinics in Assam', Regional Resource Centre for North Eastern States, 2013

25   Ibid,

26   'Assam's Boat Clinic Gets NRL Funds', Sinlung News, September 2010

27   'Evaluation of Boat Clinics in Assam', Regional Resource Centre for North Eastern States, 2013

CARE Hospitals

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

The CARE Hospitals Group is a multi-specialty healthcare provider, delivering comprehensive patient-focused care through super-specialty hospitals.

• CARE focuses on maximizing accessibility and providing high-quality care at lower costs.

• While known for its cardiology services, CARE offers over 30 specialty services, including neurology, neurosurgery, urology, orthopedics, plastic surgery, vascular surgery, and medical and surgical gastroenterology.

• Its partner organisation CARE Foundation focuses on making quality healthcare affordable and accessible to all. The foundation manages a network of telemedicine facilities in rural Andhra Pradesh and Maharashtra.

SIZE, SCALE, AND IMPACT

• Operates a network of 13 hospitals serving seven cities across five states of India.[28]

• It admitted 80,452 patients in 2009-10, up from 79,436 in 2008-09.[29]

KEY FACTS

Nature	For profit
Duration	17 years
Location	Andhra Pradesh, Chhattisgarh, Odisha, Maharashtra, Gujarat
Target population	General population, middle-income groups
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.carehospitals.com

UNIQUE FEATURES

• The operating model of CARE Hospitals is built on strategic cost control through efficiency, a tiered pricing model and a team-based approach for care delivery. CARE also focuses on training, education, and continuing medical education.

28   www.carehospitals.com

29   Ibid.

CARE Rural Health Mission

Low-cost product/device/diagnostics, multiple disease focus

OBJECTIVES AND COMPONENTS

CARE Rural Health Mission (CRHM) is non-profit organization supported by the CARE Hospitals group. It provides affordable, accessible primary care in rural areas.

- CRHM operates through a hub-and-spoke healthcare delivery model, with a central hub in Yavatmal, Maharashtra that serves primary health centers in nearby villages.

- The primary health centers provide diagnostics and treatment for basic ailments, and also include pharmacies and equipment to facilitate telemedicine.

- CARE trains local women to become village health champions (VHCs), who connect the villagers to healthcare delivery centers.

- VHCs are equipped with handheld devices that allow them to collect data and provide treatment through the diagnosis of a remote doctor.

- VHCs are also trained to provide basic healthcare services, enhance community awareness, and refer patients to the primary health centers.

- Patients are typically charged $0.16 per consultation by the VHC, and $0.32 per consultation at the hub.[30]

SIZE, SCALE, AND IMPACT

- CRHM is present in over 400 villages in three states in India, in addition to a 180-village program in Kalahandi, Odisha.

It plans to expand to 70 more villages in East and West Godavari districts of Andhra Pradesh.[31]

- 65 percent of primary care treatments take place at the village level and 35 percent in primary health centers. Primary health centers serve 1,000-1,200 patients per month.[32]

KEY FACTS

Nature	Not for profit
Duration	6 years
Location	Andhra Pradesh, Odisha, Maharashtra
Target population	General population,
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers

UNIQUE FEATURES

- CARE leverages a cost-plus drug pricing model where drugs are sold below minimum retail price (MRP) in the villages and at MRP in towns.

- CARE has also introduced a micro-insurance model with monthly, semi-annual, and annual premiums.

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30   'Tele-health delivery models in India' case study, ACCESS Health International, 2012

31   Ibid.

32   Ibid.

CareMother

mHealth, RCH/nutrition

OBJECTIVES AND COMPONENTS

CareMother is an initiative of the Science for Society (S4S), which is an inter-disciplinary innovation and research-based organization.

- It is an end-to-end solution with a sensor kit for medical tests, mobile application and web portal for regular care for high-risk and normal pregnancies.

- The mobile application records test data, educates and engages pregnant women, and has an integrated web application for doctors to analyze patients at a remote locations. It predicts and identifies high-risk pregnancies.

- The system comprises a portable solar-powered integrated non-invasive kit for digital tests for hemoglobin, blood pressure, urine protein, urine sugar, fetal heart rate, weight, height, fundal height, etc.

- CareMother is used by gynecologists, hospitals, pregnant women, husbands and health workers to offer pregnancy care.

SIZE, SCALE, AND IMPACT

- It has been used in two villages and has served 100 families.[33]

KEY FACTS

Nature	For profit
Duration	4 years
Location	Mumbai,Hyderabad
Target population	Women
Target geography	Peri-urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers, suppliers/ distributors, entrepreneurs.
Website	www.caremother.in

UNIQUE FEATURES

- It empowers gynaecologists to reach and manage many patients and offer quality service.

- It has a multilingual interface and unique touch-based data entry, which overcomes hurdles of low awareness and low education.

- It works in no network conditions/offline mode and synchs automatically when in a network.

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33   Sankalp

Ca:sh Community Accessible & Sustainable Health

Emerging medical technology, multiple disease focus

OBJECTIVES AND COMPONENTS

Ca:sh or Community Accessible and Sustainable Health is a mobile electronic medical record (EMR) system that addresses the problems of poor data flow and logistical support. It is used by outreach workers in large communities and is currently being used by paramedical health workers in Ballabhgarh, Haryana

- The Ca:sh software is a Linux-based embedded application for entry and retrieval of demographic and medical data. It can be used on any Linux-compatible system.

- Ca:sh led to the development of the CommCare platform which is used by Dimagi.

- Dimagi, in association with Media Lab Asia and the All India Institute of Medical Sciences, developed a handheld software application to facilitate ordered data collection, immunization scheduling, pre-natal care for pregnant mothers, and recording routine demographic changes in the community.

- The software can be adapted as a disease case-management system using a rule-based decision support engine.

SIZE, SCALE, AND IMPACT

- In the first eight months of operation, Ca:sh was used by 10 health workers to track over 70,000 patients.[34]

KEY FACTS

Nature	Not for profit
Duration	12 years
Location	Haryana
Target population	Women, Children
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Distributors, consumers
Website	http://www.dimagi. com/cash/

UNIQUE FEATURES

- The Ca:sh project has provided community health workers an efficient data collection tool and instant access to patient records during home visits.

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34   'Handheld computers for rural healthcare: Experiences from research concept to global operations', Dimagi

ClikJaundice

Low-cost product, communicable diseases

OBJECTIVES AND COMPONENTS

- ClikJaundice is a product developed by Chromatic Mobile Health Technologies Pvt. Ltd. in partnership with the University of Liverpool in the United Kingdom.[35]

- ClikJaundice is a non-invasive mobile-phone-based jaundice monitoring technology. The technology empowers the detection and monitoring of jaundice using images of infants taken via a mobile phone.

- The aim is to make ClikJaundice technology accessible to 75 percent of parents with hospital births and 60 percent of parents with rural at-home births.[36]

- Using a pay-per-use model, parents can take photos of their infant with their cell phone camera. For a nominal fee, they can send these images via SMS or email to the analysis hub. At the hub, the signal is analyzed to yield a chromatic signature, which is then compared with the chromatic color charts supplied to the hubs by CMHT. Based on this evaluation, the diagnosis is then sent back to the parent or the healthcare worker via SMS.

SIZE, SCALE, AND FINANCIAL DATA

- clikJaundice has been pilot tested in Bangalore and Mysore in India with 50 images and a detection accuracy rate of 95 percent.[37]

KEY FACTS

Nature	For profit
Duration	3 years
Location	Karnataka
Target population	Infants
Target geography	Rural, peri-urban, urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	

UNIQUE FEATURES

- ClikJaundice is easy to use as it does not require any special skills to operate, nor are there any recurrent costs such as needles or blotting papers. The technology enables healthcare workers and parents to get an objective result that they can use to make important therapeutic decisions.

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35   Next Billion2.0- Development Through Enterprise

36   Ibid

37   Ibid

ClinEval

mHealth, non-communicable diseases

OBJECTIVES AND COMPONENTS

ClinEval develops technology solutions to reduce the burden of chronic diseases for patients, health systems, and governments.

- ClinEval has developed a platform that serves as an end-to-end solution to identify, manage and reduce the risks from chronic non-communicable diseases (CNCDs), targeted towards low and middle-income countries.

- Patients at high risk from NCDs are identified through a clinical evaluation and risk-identification algorithms.

- These patients are then assigned to electronic disease management programs (eDMPs), which are customized to their needs, lifestyle, geography, etc. Patients access their eDMP through an online patient portal.

- ClinEval also engages in raising awareness of the importance of NCD prevention.

- The two main types of customers are health payers/government agencies and health insurance companies.

- The company's main sources of revenue are implementation/user set-up and license fees.

SIZE, SCALE, AND IMPACT

- ClinEval is in a start-up/pilot stage.

KEY FACTS

Nature	For profit
Duration	2 years
Target population	General population
Target geography	Rural, peri-urban, urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.clineval.com

UNIQUE FEATURES

- The platform can be integrated with existing EMR and ERP platforms.

- The company has kept operating costs low through strategies such as outsourcing its technical team and using technology efficiently.

Clinics4All

Other, disease neutral

OBJECTIVES AND COMPONENTS

Clinics4All delivers healthcare to medically underserved and infrastructure-poor communities in developing countries. Clinics4All has developed an integrated healthcare delivery model with three main components:

- It converts used steel shipping containers into self-contained and portable medical clinics consisting of a consultation room, laboratory, and pharmacy, which are donated to governments, NGOs, and other partners

- The Essential Medicines and Laboratory Support Program (EMLS) ensures a regular supply of essential medicines, vaccines, diagnostics, and other medical products to the clinics.

- It provides training to local people to serve as community health workers (CHWs), who are linked to a clinic and provide basic preventive and curative treatment.

- CHWs also receive training and mentoring from volunteer medical professionals, who are stationed at clinic locations for short periods of time through the Clinical Skills Rapid Transfer Program.

SIZE, SCALE, AND IMPACT

- 100 to 500 patients are treated by a single clinic daily.[38]

KEY FACTS

Nature	Not for profit
Duration	9 years
Target population	General population
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers
Website	www.clinics4all.org

UNIQUE FEATURES

- The clinics are equipped for prevention, diagnosis, and treatment of diseases and do not require infrastructure such as electricity to function

- Clinics4All leverages partnerships with the government, private sector, and NGOs to strengthen its operations. For example, it works with consumer packaged goods companies that have strong supply chain and distribution linkages to ensure efficient distribution of its products.

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38   Interview with Ackim Hamweenda, Founder of Clinics4All, Social Entrepreneurship Forum, February 2013

Dhan Foundation- Kalanjiam Foundation and SUHAM Hospitals

Hospital, multiple disease focus

OBJECTIVES AND COMPONENTS

The Dhan Foundation started the Kalanjiam Foundation to use its microfinance program for integrated community development by focusing on women. Health is an important component of this program. The Kalanjiam Foundation has organized 40,618 primary groups at village/slum-level covering 609,139 families into 209 federations.

- Matured Kalanjiam federations are involved in health interventions, including comprehensive health programs with health insurance offered by the federations themselves.

- The project seeks to study health intermediation and the potential of community participation in health through bodies such as self-help groups. Key interventions in a pilot reproductive-child health (RCH) project included behavior change communication, RCH case management, creating linkages between the public health system and the community, increasing access to diagnostic and referral services through block-level camps, etc. Kalnjiam health workers work closely with government frontline workers.

- Community-managed Sustainable Healthcare Advancement (SUHAM) hospitals have been set up in Madurai and Theni to provide quality and timely healthcare service at affordable costs. These are supplemented by primary care centers. The model combines a multi-speciality hospital with a health insurance package.

- The hospitals cover around 80 percent of its operational costs.

SIZE, SCALE, AND IMPACT

- The SUHAM hospitals backed by health insurance cover 80,000 families from 34 federations.

- The hospitals have treated 28,891 outpatients and 1,053 inpatients.

KEY FACTS

Nature	Not for profit
Duration	17 years
Location	Tamil Nadu, Andhra Pradesh
Target population	Women, children, adolescents
Target geography	Rural
Area of healthcare focus	
BOP engaged as	Owners, suppliers, distributors, consumers
Website	http://www.dhan.org/themes/kf.php

UNIQUE FEATURES

- The foundation focuses on integrated community development through community participation.

- The BOP is involved as owners, suppliers, distributors, and consumers through the various components of the foundation: self-help groups, health workers, insurance packages connected to community-managed super-speciality hopsitals, etc.

DhilCare

Low cost-product/device/diagnostics, non-communicable diseases (cardiac)

OBJECTIVES AND COMPONENTS

DhilCare is a no-frills affordable mobile phone-based ECG solution, which addresses affordability and accessibility issues in preliminary cardiac treatment in India.

- The product is a portable ECG device that enables a general practitioner to diagnose and treat cardiac patients at the point of care with the help of cardiologists.

- DhilCare consists of a 12-lead diagnostic quality ECG device, which connects to a mobile phone and a mobile application to share ECGs and receive expert diagnosis from cardiologists.

- The Dhil care ECG has a Bluetooth-enabled ECG transfer to mobile and advanced software-based configurable ECG filters with interpretation.

- The Dhil Care mobile app enables general physicians and cardiologists to share reports. Other features include:

  - ➤ Chat and timely cardiac diagnosis by cardiologists

  - ➤ Sharing of ECG images with patients

  - ➤ Electronic medical record of patients on cloud

  - ➤ Safe and secure medical data storage.

KEY FACTS

Nature	For profit
Duration	< 5 years
Location	Chennai
Target population	General population
Target geography	Urban. rural. peri-urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.dhilcare.com

UNIQUE FEATURES

- It is an affordable 12-lead mobile-based ECG machine.

- It is a unique printerless model for ECG.

- It enables cardiologists to reach more patients and empowers general practitioners to provide cardiac diagnosis remotely.

Dimagi

Low-cost product/device/diagnostics, multiple disease focus

OBJECTIVES AND COMPONENTS

Dimagi is a social enterprise that creates open-source software to improve data management and case management by community health workers (CHWs).

- Dimagi's CommCare technology is an open-source, cloud-based platform accessible through basic cell phones. It provides community health workers with services such as patient registration and monitoring, decision support and remote training (supported by multimedia), and helps supervisors manage and monitor health workers' performances.

- CommCare has a high a degree of local customization and is accessible to low-literate users. The software replaces the conventional practice of manually tracking patients' health with paper registers and carrying large patient-education flipcharts.

- CommCare is developed with inputs from stakeholders: project officers, and accredited social health activists (ASHAs), who are the end-users. This allows the product to meet their specific needs in terms of content as well as the user interface.

- Dimagi provides technical training to organizations working with community health workers in India.

SIZE, SCALE, AND IMPACT

- In 2013, Dimagi launched 40 CommCare projects in India.

- Over 2,000 community health workers use CommCare in India.

- Dimagi estimates that over 250,000 beneficiaries have been reached through CommCare.

KEY FACTS

Nature	For profit
Duration	9 years
Location	Jharkhand, U.P., M.P., Maharashtra
Target population	Community health workers
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers, distributors
Website	www.dimagi.com

UNIQUE FEATURES

- CommCare has scaled up through partnership with the public health system and by leveraging the network of ASHAs for deployment of its solution.

- Dimagi's approach of building technology solutions and capacity-building of CHWs ensures that there is local capacity for better data management and case management.

Ehealth Point

Telemedicine, multi disease focus

OBJECTIVES AND COMPONENTS

Ehealth Point's (EHP) mission is to provide high-quality, affordable, health and safe drinking water services to underserved communities by building and operating the necessary infrastructure. EHP units are owned and operated by Healthpoint Services India (HSI).

EHP provides the families in rural areas with:

- Clean drinking water.

- Medicines and drugs.

- Comprehensive diagnostic tools; advanced diagnostic tools and mobile-based diagnostics.

- Each health kiosk is staffed by one clinical assistant (CA), one pharmacist, and a diagnostics technician.

- The CAs are recruited locally, from the same village or nearby villages. In addition to staffing the health point, they also make home visits and serve as health promoters, spreading awareness about EHP's services.

- Diagnostic tests and medicines are available through an onsite laboratory and pharmacy. The health point is equipped to perform ~40 tests and test reports can be emailed or collected onsite.

- Specialist doctors are present onsite at health camps held on fixed days. Specialties include skin, neurology, oncology, etc.

- The EHPs are connected through tele-medicine and video conferencing with GPs and specialists at Max Bhatinda.

SIZE, SCALE, AND FINANCIAL DATA

- It has eight facilities/outlets in Punjab.[39]

- Healthpoint outreach as of 2013:

  ➤ Telemedicine consultations: 31,000

  ➤ Diagnostic investigations: 17,000

  ➤ Prescriptions filled: 36,500

  ➤ Safe drinking water: 300,000 users daily.[40]

KEY FACTS

Nature	For profit
Duration	5 years
Location	Punjab
Target population	General population
Target geography	Peri-urban, rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers
Website	www.ehealthpoint.com

UNIQUE FEATURES

- This social business enterprise effectively combines and leverages benefits of existing and emerging technologies in the health, water, and ICT domains to enhance affordability and quality of its products and service offerings.

- Raises awareness of the use of clean water to decrease water-borne diseases.

- Innovative positioning of preventive care (access to safe drinking water) with curative care (access to doctors, diagnostics, and medicines) in modern clinics in rural villages.

39   Center for Health Market Innovations

40   Ibid

Embrace

Low-cost product/device/diagnostics, RCH/nutrition

OBJECTIVES AND COMPONENTS

Embrace Innovations has developed a low-cost, portable, and easy-to-use baby warmer that does not require continuous power supply.

- Embrace offers a low-cost product (priced at $200, 1 percent of the price of traditional incubators in western markets) as an effective alternative to other existing solutions such as incubators, radiant warmers, and thermocol boxes.

- The baby warmer looks like a miniature sleeping bag. It requires half an hour of electricity to be able to function for 4-6 hours. The baby warmer uses a phase change material (a proprietary wax-like substance) with the ability to maintain a constant temperature while supplying heat to the baby.

- The device is targeted for use in both public and private health facilities, ranging from primary health facilities to tertiary care facilities.

- Embrace has also developed a non-electrical version for use at home, to be sold directly to end-users.

- Embrace also works with doctors, nurses, and midwives at its program sites for training/capacity building on recognition, treatment, and prevention of neonatal hypothermia, and provides hands-on education to mothers and care givers on how to care for low birth-weight infants.

SIZE, SCALE, AND IMPACT

- The Embrace baby warmer is used in nearly 2500 public and private facilities (ranging from primary to tertiary care facilities) and 200 ambulances.

- It has been used for more than 50,000 babies.

KEY FACTS

Nature	For profit
Duration	2 years
Location	Present in 15 states across the country including Karnataka, Gujarat, Uttar Pradesh, and Rajasthan
Target population	Infants, low birth-weight babies
Target geography	Rural, urban, peri-urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.embrace.com

UNIQUE FEATURES

- The Embrace baby warmer is a unique low-cost product that is portable, easy to use, and does not require a constant source of electricity. This product can be used in public and private health facilities.

- Embrace has customized the product for home use as well.

ERC Eye Care

Hospitals/clinics, eye care

OBJECTIVES AND COMPONENTS

- ERC Eye Care has set up five primary eye care centers, known as vision centers, in Jorhat and Sivsagar in Assam. Each vision center caters to a 50,000-100,000 population and provides optical retail, optometrist services, vision tests, and pharmacy retail.

- Each vision center is staffed with one optometrist, one vision center-in-charge, and one health assistant or nurse.

- ERC has a network of community-based health workers (focusing on raising awareness and creating demand) known as EVAs (ERC vision assistants). Each EVA caters to a population of 5000.

- ERC also organizes vision camps for areas beyond a 5-km radius from the vision centers. The services (apart from optical retail) at the vision camps are free of cost.

- ERC has partnered with Vision Spring to provide ready-made eye glasses. They also have other local suppliers for both optical products (frames, lenses) and for medicines/drugs.

- ERC has also partnered with Guwahati Eye Hospital for tertiary/specialty care and referrals and with Aravind Eye Care for on-ground technical support in setting up and operationalizing the ERC hospital.

SIZE, SCALE, AND IMPACT

- ERC has five vision centers in two districts of Assam.

- Their total reach is around 600,000 people.

- Close to 29,000 people have been impacted through ERCs services.

- Each vision center has a catchment reach of around 50,000 to 100,000 people.

KEY FACTS

Nature	For profit
Duration	3 years
Location	Jorhat, Sivsagar
Target population	General population
Target geography	Peri-urban, rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumer
Website	www.erceyecare.com

UNIQUE FEATURES

- ERC's outreach services through EVAs have generated awareness and demand for eye care services. The geographical location of the vision centers and vision camps in areas which do not have any eye care services for the poor, combined with the community outreach and pricing of services at rates lower than the market, attracts BOP customers.

- ERC calls each patient after their visit to the VC for feedback and follow-up. This increases the patient's trust in ERC and ensures client-stickiness.

Eye-Q

Health facility, eye care

OBJECTIVES AND COMPONENTS

Eye-Q operates a chain of hospitals that provide affordable, high-quality healthcare.

- Eye-Q's eye care services range from maintaining optimum vision and preventing deterioration to vision correction.

- Services include comprehensive eye care, lasik, cataract, refractive, retina, glaucoma, pediatric, oculoplasty, visual aids, and optical services.

- It also has special programs for the elderly, executives, and children.

- Eye-Q operates under a hub-and-spoke model.

- It follows tiered pricing under which it charges lower prices in its rural and semi-urban locations than in its super-specialty hub.

- Eye-Q accepts certain government medical insurance policies for BOP patients, and also conducts eye camps.

SIZE, SCALE, AND IMPACT

- It is present in 28 locations across five states.[41]

- Each center receives 100-150 patient visits daily.[42] The chain has treated 10 lakh patients since inception.[43]

KEY FACTS

Nature	For profit
Duration	7 years
Location	Haryana, Uttar Pradesh, Delhi, Uttarakhand, Gujarat
Target population	General population
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.eyeqindia.com

UNIQUE FEATURES

- The Eye-Q network shares doctors and equipment. Specialists and equipment that are not required at a center on a regular basis travel among Eye-Q centers where patients are pooled in advance.

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42   'In Small Town For Big Business', Businessworld, July 2011

43   'Eye-Q attempts to better the rural Indian eye care market', Entrepreneur, October 2013

First Care

Training, multiple disease focus

OBJECTIVES AND COMPONENTS

First Care focuses on improving rural healthcare through technology.

- First Care provides training, mentoring, support, and accreditation to equip local rural health providers (RHPs) to deliver high-quality rural healthcare.

- Its interventions include linking RHPs to internet kiosks and training them in computer use, delivering distance-learning modules, providing classroom-based skills training, maintaining online patient records, training in laboratory testing, and ordering health supplies online.

- The interventions are targeted towards nutrition, diabetes and hypertension, malaria, anemia, first aid, HIV, disease prevention, and other common illnesses such as diarrhea, asthma, and bronchitis.

- A partnership with NLHMB Institute of Health Sciences allows First Care to provide training certification.

- It has also partnered with IBM for technology support.

SIZE, SCALE, AND IMPACT

- First Care runs a pilot project with 22 RHPs in Sivagangai district of Tamil Nadu.[44]

KEY FACTS

Nature	For profit
Duration	7 years
Location	Tamil Nadu
Target population	General population, lower-middle income, middle-income
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	firstcarehealth.in

UNIQUE FEATURES

- Targets improvement of knowledge and first level healthcare management, including identification and referral of RHPs.

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44   Company website

36

Forus Health

Low-cost product/device/diagnostics, eye care

OBJECTIVES AND COMPONENTS

- The Forus Health mission is to address the healthcare delivery crisis in the developing world through innovative and inclusive product design and service deployment.

- Forus has developed 3nethra, a single, portable, non-invasive, non-mydriatic eye pre-screening device that can detect five major ailments: diabetic retinopathy, cataract, glaucoma, cornea problems, and refractive errors,

- 3nethra provides an automated "normal" or "need to see a doctor" report, which is useful especially during early onset of eye disease when patients do not experience symptoms.

- It connects primary care centers to secondary or tertiary care centers through telemedicine for remote diagnosis.

SIZE, SCALE, AND IMPACT

- The device has gained extensive recognition within the Indian ophthalmic community and has also received widespread traction globally, with more than 220 installations across 14 countries till date. It has screened 600,000 eyes worldwide.[45]

KEY FACTS

Nature	For profit
Duration	5 years
Location	Bangalore
Target population	General population
Target geography	Urban, peri-urban, rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumer
Website	www.forushealth.com

UNIQUE FEATURES

- 3nethra has been designed so that it can be operated by a minimally-trained technician, and can be deployed in remote areas, improving access to quality ophthalmic care.

- The 3nethra device is low-cost and greatly reduces direct and indirect cost of screening, making it available to rural populations.

GE Healthcare (GE MAC 600 ECG)

Emerging medical technology, cardiac

OBJECTIVES AND COMPONENTS

GE's Healthymagination initiative is dedicated to improving people's access to quality healthcare at lower costs around the world. GE is developing low-cost ECG devices in India since 2005.

- GE MAC 600 ECG is a lightweight, portable, easy-to-use digital resting ECG device.

- The MAC 600 has been developed with a built-in screen to view ECGs instantly and eliminates the need to print all ECGs.

- Technicians and doctors can store and transfer ECGs in a PDF format using any multimedia phone.

- The ECG machine incorporates a smaller printer and battery-only use, and is enabled to conduct upto 250 ECG readings on a single battery charge.

- GE's MAC 600 allows physicians to determine whether the quality of ECG being taken is good or bad through HookUp Advisor, helping to avoid potential errors.

- The GE MAC 600 ECG costs between $1000 and 1250, which is 80 percent lower than simillar quality, FDA-cleared ECG solutions being imported.

SIZE, SCALE, AND IMPACT

- As of 2011, more than 10,000 MAC units have been sold.[46]

KEY FACTS

Nature	For profit
Duration	~3 years
Target population	General population
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	

UNIQUE FEATURES

- The GE MAC 600 ECG has made quality and cheap ECG available at remote locations.

- Includes a 'HookUp Advisor' that indicates the accuracy of the ECG and thus helps avoid errors.

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46   'Market-Relevant Design: Making ECGs Available Across India', GE Newsroom, September 2011

Global Health Bridge

mHealth, RCH/nutrition

OBJECTIVES AND COMPONENTS

Global Health Bridge improves healthcare in developing countries through the use of health technologies.

- Global Health Bridge has developed the maternal health platform, a cell phone-based health tool.

- It has transformed the cell phones of community health workers (CHWs) into a maternal health information and monitoring system, through which they can collect health information, receive patient reminders, and store/retrieve clinical data.

- CHWs also receive intensive training on how to use the platform.

- The platform has several benefits, including increasing the number of patients that CHWs can see, streamlining healthcare delivery, incentivising the collection of quality data, transfering information to a central server, and reducing costs.

- Various entities have indicated a wilingness to purchase the platform or resulting dataset, with the company's target customers being village healthcare workers, international organizations, and large research institutions.

SIZE, SCALE, AND IMPACT

- Currently in a start-up/pilot stage.

- The platform has been piloted in 23 villages with a total population of 30,000 people in Ahmednagar district of Maharashtra.[47]

- It will benefit over 1,000 pregnant women in the initial phase.[48]

KEY FACTS

Nature	Not for profit
Duration	6 years
Location	Maharashtra
Target population	Women
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www. globalhealthbridge. org

UNIQUE FEATURES

- The platform was developed based on discussions with and the needs of CHWs.

- The platform enables CHWs to address multiple health problems rather than focus on specific diseases.

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47   www.globalhealthbridge.org

48   'Enable Safe Pregnancies For 1,000 Mothers In India', GlobalGiving

Glocal Healthcare

Health facility with multiple disease focus

OBJECTIVES AND COMPONENTS

Glocal Healthcare provides primary and secondary healthcare services to medically underserved areas in India. Glocal stands for global quality, delivered at a local level.

- Glocal operates a chain of multi-specialty hospitals which provides medical services at a price point that ensures affordability and maximizes access.

- The hospitals provide services in the defined range of 100 tests/diagnostics/surgeries/procedures, based on disease prevalence and paying potential of its catchment population.

- It also offers a range of telemedicine services, such as teleconsultation, teleradiology, telepathology, telesonology and teleendoscopy, which further expands its reach to remote locations and sister facilities.

- Glocal Healthcare has acquired an NSDC-supported company, Indigram, which provides paid skilled courses (it offers 17 skilled courses, for example, a 6-month nursing assistant course).

- Glocal has also set up a cloud-based software solution, LITMUSDX, which helps doctors diagnose patients, plan tests, prescribe drugs, and maintain electronic medical records. LITMUSDX is a commercial product which other organizations can also purchase.

SIZE, SCALE, AND IMPACT

- Runs a network of five hospitals, with each hospital covering a population of about 500,000 within a 14-km radius.[49]

- Treated ~210,000 patients till date with ~28,000 admissions and ~20,000 surgeries.

- Glocal also trained 30,000 nursing assistants in 2013.

KEY FACTS

Nature	For profit
Duration	3 years
Location	India
Target population	General population
Target geography	Rural
Area of healthcare focus	Hospitals and clinics Emerging medical technologies
BOP engaged as	Consumers
Website	www.ghspl.com

UNIQUE FEATURES

- No-frills design and improved efficiency to reduce time take by OPD patients from 6 hours to 1.5 hours.

- Telemedicine including teleradiology used to cut costs and expand reach.

- Standardized diagnosis and management through a management system linked to HMIS.

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49   www.ghspl.com

GNRC

Hospitals/clinics, multiple disease focus

OBJECTIVES AND COMPONENTS

GNRC addresses the large unmet need for high-quality healthcare among the poor in Assam.

- GNRC Medireach started "hospitals on wheels" with diagnostic services. These mobile medical units are equipped with diagnostic equipment, doctors (hired from a pool of retired public health doctors), and paramedics. They provide diagnostic tests (ECG, X-ray, pap smear and ultrasound), basic treatment, and raise awareness in rural communities.

- The mobile medical units go to each cluster three days a week, and are parked at a central location (such as a primary school or post office), which is easily accessible by people from all villages in the cluster. All services provided by the hospital on wheels are free of cost.

- The mobile medical units are linked to a super-specialty tertiary care hospital, GNRC Medical, which provides out-patient and in-patient services, diagnostics, and pharmacy retail.

- GNRC Medical is a 300-bed tertiary care hospital (currently 100 beds are operational) and provides care in most specialties (out-patient and in-patient, diagnostics, pharmacy). Its services are priced much lower than other players and emergency care is provided free for the first 24 hours. The catchment area of the hospital includes rural and peri-urban regions of north Guwahati, other villages/communities in Assam, as well as nearby states in the north-east.

- GNRC also has a nursing institute that offers both graduate and post-graduate programs.

SIZE, SCALE, AND IMPACT

- GNRC Medical caters to a catchment population of 10 million. Its OPD volumes are around 200 per day.

- The two mobile medical units in Assam have screened and treated over 100,000 people across 100 villages.

KEY FACTS

Nature	For profit
Duration	2 years
Location	Assam
Target population	General population
Target geography	Peri-urban, rural, urban
Area of healthcare focus	Hospitals and clinics, outreach
BOP engaged as	Consumer
Website	www.gnrchospitals.com

UNIQUE FEATURES

- GNRC has a linked its primary care services through mobile medical units to a super-specialty tertiary care hospital providing high-quality healthcare not just for those in Assam, but also to populations in the neighboring states.

Health Information Helpline - HMRI

mHealth, multiple disease focus

OBJECTIVES AND COMPONENTS

- Health Management and Research Institute (HMRI) reduces the load on the public health system through its health information helpline.

- The health information helpline is a health contact center that provides medical services round the clock.

- By dialling 104, users can access free medical information and advice, counselling services, directory information, and lodge service complaints against public health facilities.

- The call center is staffed by paramedics, counsellors, and doctors, with paramedics providing basic medical advice and doctors providing specialized advice.

- The call center staff is aided by medically validated algorithms and disease summary software.

- Health conditions covered include non-communicable diseases such as diabetes, heart issues, and cancer, common ailments, chronic medical issues, family planning, birth disorders, childcare, and pregnancy.

- HMRI's first helpline was set up in Andhra Pradesh, which is now run by the Aarogyasri Healthcare Trust. The other state helplines continue to operate under HMRI.

SIZE, SCALE, AND IMPACT

- The helplines have been established in partnership with various state governments.

- HMRI has also worked with the Government of India and Department of Telecommunications to establish 104 as India's central number for non-emergency health services.

- As of November 2013, the helpline has benefitted 67 million callers, covering a population of 383 million people.[50]

KEY FACTS

Nature	Not for profit (PPP)
Duration	7 years
Location	Chhattisgarh, Karnataka, Maharashtra, Rajasthan, Assam
Target population	General population
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.hmri.in

UNIQUE FEATURES

- The helpline is not limited to medical advice; it provides information during local epidemics and serves as a contact center in monitoring epidemics.

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50   www.hmri.in

HMRI
(Health Management and Research Institute)

Telemedicine, multiple disease focus

OBJECTIVES AND COMPONENTS

The Health Management and Research Institute (HMRI) works towards improving accessibility, affordability, and availability of healthcare.

- In addition to its health information helpline, HMRI runs four programs:

- Its telemedicine solution provides primary and secondary care. Its Asara program, in partnership with MacArthur Foundation, focuses on maternal health. It connects patients to an OB/GYN through the Asara Telehealth Center, trains traditional birth attendants, raises awareness, conducts village outreach, and facilitates home-based neonatal care.

- Its telemedicine offerings are supplemented by its **Dox-in-Box technology,** which can capture, store, and transmit eight vital signs.

- Its **eSwasthya** micro-franchise model helps female health workers set up clinics at home, in which they connect patients to doctors through mobile technology, for a nominal fee.

- **Mobile Health Services** operate mobile medical units, consisting of medical devices, medicine, and health workers that visit villages on a fixed-day basis. The units provide screenings and referrals, education, medication, monitoring and follow-up, and electronic health records for chronic diseases, maternal and child health, and minor ailments

SIZE, SCALE, AND IMPACT

- HMRI's telemedicine initiatives and Mobile Health Services have benefitted 25,000 patients and 26 million people, respectively.[51]

- As of June 2013, eSwasthya has 101 centers and has treated 72,637 patients in Rajasthan.[52]

- HMRI has trained 111 traditional birth attendants, and reduced maternal and neonatal deaths by 60 percent and 58 percent, respectively.[53]

- HMRI operates in partnership with state governments and NGOs.

KEY FACTS

Nature	Not for profit (PPP)
Duration	7 years
Location	Andhra Pradesh, Assam, Karnataka, Maharashtra, Odisha, Rajasthan
Target population	General population
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers, entrepreneurs
Website	www.hmri.in

UNIQUE FEATURES

- HMRI has leveraged public-private partnerships to access funding and increase its reach across India.

- It has an integrated program, where telemedicine is supported by other HMRI interventions.

51   www.hmri.in

52   Ibid.

53   HMRI brochure

HealthBooth
(Pappilon Software Solutions)

Low-cost product/device/diagnostics, multiple disease focus

OBJECTIVES AND COMPONENTS

HealthBooth increases accessibility of health screening services.

- HealthBooth consists of a set of equipment and technology capable of fitting into a 6x4-foot space, in which various preliminary screening tests can be conducted.

- The system serves as a warning signal, helping patients detect conditions early and deciding the future courses of action for their medical well-being.

- The booth comprises of seating for patients, medical equipment, an Android tablet to display results, a printer to provide reports, and a battery for mobility.

- It is capable of conducting tests such as blood pressure, sugar, weight, temperature, oxygen count, heart rate, BMI, body fat and total cholesterol, height, vision, and pulmonary function, which can be used to detect common health conditions and controlled better if detected earlier.

- The tests offered are customizable and can be modified at minimal cost.

- The tests can be conducted in five minutes, at a cost of $1.[54]

- The company's primary customers are the BOP population, who lack access to health screening services. Additional customers include people who are pressed for time and businesses that require health screening for their employees.

SIZE, SCALE, AND IMPACT

- It is currently in a start-up/pilot stage

- HealthBooth has been developed by Pappilon Software Solutions Pvt. Ltd.

- It was selected for Village Capital and Center for Innovation, Incubation, and Entrepreneurship's 'Technology for Impact' accelerator program for tech-focused companies that deliver social impact.

KEY FACTS

Nature	For profit
Duration	9 years
Location	Karnataka, Maharashtra
Target population	General population, bottom 20 percent
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	No website

UNIQUE FEATURES

- The technology is built on mobile devices, offering portability and allowing it to be set up quickly and at almost any location.

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54   Village Capital website

HelloDoctor24x7

mHealth, multiple disease focus

OBJECTIVES AND COMPONENTS

HelloDoctor24x7 provides round-the-clock healthcare information and services through the telephone and internet.

- The company operates a healthcare call center with trained medical, paramedical, and life sciences professionals.

- Patients can access health information and advice free of cost.

- The call center can facilitate fixing of appointments with registered providers.

- It also offers a doctor-on-call option for non-emergency home health services. The service connects patients to a range of doctors, including specialists, general physicians, dentists, physiotherapists, etc., who provide diagnosis, treatment, and follow-up services. Health services covered include treatment of common ailments, preventive medicine, blood drawing, and various diagnostic tests. The company also offers health services in offices.

- Healthcare providers that want to be listed on the site can become a member of HelloDoctor24x7 with a registration fee. Members can also schedule appointments and provide information and treatment support to patients.

SIZE, SCALE, AND IMPACT

- The model is currently in a start-up/pilot stage.

- It has served more than 5,000 patients till January 2012.[55]

- The company has received mentoring and incubation support from KIIT Technology Business Incubator.[56]

KEY FACTS

Nature	For profit
Duration	4 years
Location	Odisha
Target population	General population, lower-middle income, middle-income
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www. hellodoctor24x7.com

UNIQUE FEATURES

- It offers an integrated approach, by providing both a medical advice helpline and home health services.

- The company supplements its revenue streams by offering advertising opportunities on its website.

55   'Hello Doctor 24/7', Center For Innovations In Public System

56   'Orissa is ready to say "hello doctor" 24x7 365 days', Odisha Diary, December 2009

iKure Techsoft

Hospitals/clinics, multiple disease focus

OBJECTIVES AND COMPONENTS

iKure Techsoft's initial service offering was software called Wireless Health Incident Monitoring System (WHIMS) for remote monitoring of patients. iKure Techsoft also set up rural health centers (as spokes) providing primary healthcare consultations, a pharmacy, and basic diagnostic tests like BP, blood sugar, and ECG (in some centers).

- iKure has four teams, each comprising a doctor, a nurse, and a health worker. The doctors and nurses provide basic consultation and diagnostics services to patients while the health workers visit homes and act as interfaces between doctors and patients.

- iKure has also set up two hub clinics (with one hub clinic taking care of 17 RHCs/ spokes and another of 5. These hubs provide primary care services.

- The Wireless Health Incident Monitoring System (WHIMS) is installed on tablets for remote monitoring of patients. Health workers visit patients in remote villages (where rural health centers are not available) and record patient vitals/ condition/ diagnostic test results in the WHIMS app, which are sent to doctors/ specialists online. The health workers, based on feedback by the doctors, dispense medicines to patients/ refer diagnostic tests/ refer patients to iKure health centers.

- The software is also available at the rural health centers, where it is used to store medical records, and to check records of patients referred by health workers.

- iKure has partnerships with three hospitals – Nanavati Hospital in Mumbai, Sanjiban Hospital in West Bengal, and Mission Hospital in Durgapur, West Bengal for telemedicine and referral services.

SIZE, SCALE, AND IMPACT

- iKure has setup 22 rural health centers in West Bengal with each center having a catchment radius of 10-12 km.

- It has catered to nearly 1,000,000 people across 90 villages.

- iKure has expanded its range of services to include ECG tests in some centers and physiotherapy in one center on a pilot basis.

KEY FACTS

Nature	For profit
Duration	4 years
Location	West Bengal
Target population	General population
Target geography	Peri-urban, rural, urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumer
Website	www.ikuretechsoft.com

UNIQUE FEATURES

- iKure uses technology for remote monitoring of patients. Health workers from the rural health centers conduct house-to-house visits and interface between doctors and patients.

Innovators in Health

Low-cost product/device/diagnostics,
communicable diseases

OBJECTIVES AND COMPONENTS

Innovators In Health uses technology to improve adherence to TB treatment.

- Its products facilitate electronic recording, authenticating, relaying, and analyzing delivery of medication, thus increasing treatment adherence for both patients and programs.

- The **uNotify** system records the delivery of medication, transmits information to a central server, monitors treatment, and issues reminders and alerts.

- The system uses a range of devices to record treatment delivery: **uBox** is a smart pill dispenser that records when patients take their medication and issues reminders; **uPrint** is a fingerprint logger that uses fingerprints of both the patient and provider to authenticate delivery; **uPhone** uses a cell phone with custom software to record health indicators, which can be used to detect new cases and monitor existing patients; **uMessage** uses basic cell phones to record dosage.

- The system also maintains electronic medical records of patients.

- The company partners with programs that deliver T.B. treatment by providing technology solutions, and helping in deployment.

SIZE, SCALE, AND IMPACT

- It partners with Prajnopaya Foundation and Operation ASHA for treatment delivery; technology partners include Massachusetts Institute of Technology, Microsoft Research, and Birla Institute of Technology.

- Its Aahan T.B. Program in Bihar serves a population of 243,000 and has diagnosed 1,996 patients, of which 614 with TB were treated. It has engaged 134 government health workers to deliver TB treatment.[57]

KEY FACTS

Nature	Not for profit
Duration	7 years
Location	Bihar, Delhi
Target population	T.B. patients
Target geography	Peri-urban, rural, urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www. innovatorsinhealth. org

UNIQUE FEATURES

- Its products allow treatment delivery by both treatment providers and patients themselves.

57   www.innovatorsinhealth.org

Janani

OBJECTIVES AND COMPONENTS

Janani provides a range of family planning and

abortion products and services.

- Janani's Surya clinics provide contraceptives and abortion facilities.
- The network consists of both Janani-owned clinics and franchises.
- The clinics follow standard operating procedures that cover essential services, laboratory services, nursing care, operation theaters, emergency services, etc., ensuring efficient functioning and standardized procedures across clinics.
- Janani provides family planning outreach services through government facilities and engages in behavior change communication to raise awareness on family planning.
- It also sells various contraceptives and abortion care products through social marketing initiatives.
- It provides family planning and abortion care training and certification to doctors, nursing personnel, laboratory assistants, and surgical assistants at its center in Patna, Bihar.
- Janani earns revenues from the sale of products and services, with 30 percent of costs borne out-of-pocket and 70 percent covered under government reimbursement schemes.[58]

SIZE, SCALE, AND IMPACT

- Janani operates a network of 185 Surya clinics, of which 135 are fractional franchises and 50 are Janani-owned.[59]
- Janani has conducted over 270,000 female sterilizations, 12,000 male sterilizations, and 250,000 surgical abortions.[60]

- Over 15 million couples have benefited from its family planning products and services.[61]
- It has sold over 450 million condoms, 70 million oral contraceptive pills, 150,000 injectables, 150,000 intra-uterine devices, 250,000 medical abortion pills, and 600,000 emergency contraceptive pills.[62]
- The Surya network consists of 300 doctors, 450 nurses, 50 midwives, 50 lab technicians, 100 clinic assistants, 98 counselors, and 7,000 community health workers.[63]
- Janani is an international affiliate of DKT-International.

KEY FACTS

Nature	Not for profit
Duration	18 years
Location	Bihar, Jharkhand, and Madhya Pradesh
Target population	Low-income population, young adults
Target geography	Peri-urban. urban, rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.janani.org

UNIQUE FEATURES

- Janani uses social marketing and social franchising to increase the reach of its family planning and abortion services.

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58   'Clinical Social Franchising Compendium, 2013', Social Franchising for Health

59   www.janani.org

60   Ibid.

61   Ibid.

62   Ibid.

63   'Clinical Social Franchising Compendium, 2013', Social Franchising for Health

Jeevanti Healthcare

Health facitilty, multiple disease focus

OBJECTIVES AND COMPONENTS

Jeevanti Healthcare runs a growing chain of hospitals equipped with modern facilities, technology, and a qualified and well-trained team of doctors and medical staff. Jeevanti provides efficient and effective healthcare at affordable prices.

- The hospitals offers specialist healthcare such as obstetrics and gynecology as well as diagnostic services: pathology, radiology, 2D echo sonography, etc.

- The hospitals also have fully-equipped ICUs and NICUs.

- Jeevanti lowers costs by acquiring existing hospitals in densely-populated towns with diversified economies.

- It upgrades these facilities by installing infrastructure and equipment required for secondary hospitals by the National Accreditation Board for Hospitals: operation theaters, ICU wards, and emergency services.

- The process by which the old facilities become a Jeevanti hospital takes less than a year.

SIZE, SCALE, AND IMPACT

- Jeevanti has two facities: Jeevanti Ambernath Hospital and Jeevanti Bhiwandi Hospital.

- Between March 2012 and July 2013, the two hospitals served 30,000 people (27,736 outpatients and 2,264 inpatients).[64]

KEY FACTS

Nature	For profit
Duration	3 years
Location	Gujarat, Maharashtra
Target population	General population
Target geography	Rural,peri-urban, urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.jeevanti.co.in

UNIQUE FEATURES

- Jeevanti is able to set up a new hospital in less than a year by acquiring existing hospitals. This helps in reducing the time and costs of setting up a hospital.

Karra Society for Rural Action-Referral Networks in Jharkhand

Distribution model, RCH/nutrition

OBJECTIVES AND COMPONENTS

Karra Society for Rural Action is a Jharkhand-based NGO, established in 1985. In 2008, Karra Society for Rural Action and UNICEF set up referral networks for obstetric and infant healthcare in Khunti District.

- The aim of the project is to create a pool of village health volunteers to raise awareness about reproductive and child health, and to increase safe births by facilitating institutional deliveries.

- Village women are mobilized into self-help groups and trained with traditional birth attendants on the importance of institutional deliveries and availability of referral services.

- A 24X7 call center has been set up in each block and a mapping of vehicles undertaken in each village to facilitate fast referral services for deliveries, pre and post-pregnancy complications, and other serious illnesses.

- The call center is connected to SHGs and accredited social health activists, locally known as sahiyas and connects all callers with them.

- The SHGs support members financially as well as accompany patients to health facilities and donate blood when required.

- Street plays and regular block meetings are used for community mobilization and raising awareness about reproductive and child health services.

SIZE, SCALE, AND IMPACT

- The referral network covers over 370 villages across six blocks in Khunti district, Jharkhand.

KEY FACTS

Nature	Not for profit
Duration	19 years
Location	Jharkhand
Target population	Women, children
Target geography	Rural
Area of healthcare focus	Delivery
BOP engaged as	Consumers, distributors
Website	karrasociety.org

UNIQUE FEATURES

- SHG members and sahiyas are closely connected with call centers. By accompanying pregnant women to health facilities they provide a sense of security to patients and their families.

- There is a high sense of community ownership through regular block-level meetings and involvement of SHGs.

Kshema (KTwo Technology Solutions)

mHealth, communicable diseases

OBJECTIVES AND COMPONENTS

KTwo Technology Solutions is a healthcare IT company that develops integrated solutions. The Kshema system improves efficiency and quality of healthcare in remote areas and helps in disease outbreak control.

- The company's flagship product, Kshema, offers medical diagnosis, ongoing patient care, and remote patient monitoring.

- The system consists of a combination of diagnostic hardware and software. The software can measure various vital parameters, which can then be transmitted to a remote doctor.

- The system provides point-of-care diagnostic testing and facilitates remote consultation through video conferencing.

- It can measure parameters such as body temperature, pulse, blood pressure, blood sugar, urine, blood-DC, and an ECG for $1.30, and conduct tests for malaria and tuberculosis for an additional $0.60.[65]

- The system comprises of four components: integrated disease surveillance for the analysis of various parameters, knowledge management for the analysis of ailment patterns and disease outbreaks, electronic health records for the maintenance of patient histories and transfer of data, and workflow management to manage consultations, doctors' workflow, referrals, and patient registration.

SIZE, SCALE, AND IMPACT

- Kshema partnered with Bruhat Bengaluru Mahanagara Palike to install 18 e-Kshema kiosks in Bangalore, for which it received funding under the Member of Parliament Local Area Development scheme.[66]

- KTwo, in partnership with Karnataka government-owned Keonics, will make Kshema services available in 250 locations across Bihar.[67]

- Intel is a technology partner for the Kshema system.

KEY FACTS

Nature	For profit
Duration	7 years
Location	Offices located in Karnataka, Maharashtra, Bihar
Target population	General population
Target geography	Urban, rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.ktwo.co.in

UNIQUE FEATURES

- The system is simple and cost-effective, that has been designed for use in rural areas.

- Kshema focuses on clinical rather than tele-video components through advance medical offerings such as disease surveillance and differential blood count capabilities.

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65   'e-Kshema health kiosks unveiled', The Hindu, August 2012

66   'KTwo Technology teams up with BBMP to launch 18 e-Kshema health kiosks funded by MPLAD', Pharmabiz.com, August 2012

67   'KTwo, Keonics consortium to partner Bihar for rural healthcare', Business Standard, November 2012

Kurji Holy Family Hospital

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

Kurji Holy Family Hospital is a faith-based hospital that offers curative and preventive healthcare services, community development, social welfare programs, and training.

- It is a 300-bedded multi-specialty teaching hospital that offers specialized care in medicine, surgery, pediatrics, OB/GYN, orthopedics, ophthalmology, ENT, plastic surgery, and alternative medicine, in addition to diagnostic and emergency services.

- Kurji has community health and rural development centers in Kurji, Dibra, and Maner that offer health services in immunization, ante-natal, leprosy, tuberculosis, HIV/AIDS etc.

- It also provides health education at the centers and through home visits.

- Additionally, the hospital works on school health, non-formal education, school HIV/AIDS awareness, self-help groups, and girl-child literacy through various targeted programs.

- The hospital has a training focus; it has a school of nursing, and offers residency programs, various courses, and training programs.

- The nursing assistants employed by the hospital are recruited from poor families and provided subsidized nursing training. Health workers that staff the community centers are recruited from the village.

- The hospital's fees are around 30 percent lower than those of other private hospitals in the state.[68]

SIZE, SCALE, AND IMPACT

- Kurji's community health and development services are provided in 15 villages. Its hospital recorded around 400 deliveries a month in 2010.[69]

KEY FACTS

Nature	Not for profit
Duration	56 years
Location	Bihar
Target population	General population
Target geography	Urban, semi-urban, rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers, suppliers
Website	www. kurjiholyfamilyhospital. org

UNIQUE FEATURES

- The hospital has a comprehensive delivery model through health services and information at the hospital, at rural and urban centers, and through home visits.

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68   'Improving the Health of Mother and Child: Solutions from India', ACCESS Health International, 2012

69   Ibid.

L.V. Prasad Eye Institute

Health facility, eye care

OBJECTIVES AND COMPONENTS

L.V. Prasad Eye Institute (LVPEI) runs a comprehensive eye care facility and rural health programs to provide high-quality and affordable eye care.

- It operates a community eye-health program through the LVPEI Eye Health Pyramid.
- **Vision Guardians** are trained volunteers who monitor the eye health of communities and provide referrals, catering to a population of around 5,000 people.
- **Vision Centers** are primary eye care facilities staffed by trained members of local communities that provide eye screenings, spectacles, and referrals. Each center caters to a cluster of villages, with a population of 50,000.
- Vision Centers are linked to **secondary eye care centers,** which provide outpatient and surgical services, community-based rehabilitation, and pharmacy facilities. The centers consist almost entirely of trained community members, and cater to a population of 500,000.
- **Tertiary care hospitals/training centers,** catering to a population of 5 million, provide comprehensive eye care and training.
- The **center of excellence,** at the apex of the pyramid, engages in service delivery for complex diseases, training of trainers, and advocacy. It caters to a population of 50 million.

SIZE, SCALE, AND IMPACT

- LVPEI's eye care services have benefited over 17 million people, with more than 50 percent receiving treatment free of cost.[70]
- It has 108 vision centers and 11 secondary eye care centers, and has provided eye care services to over 2000 villages.[71]

- The primary and secondary eye care centers have provided eye care to over 2 million outpatients, with more than 71 percent receiving treatment free of cost.[72]
- The capital investment required to set up a vision center/secondary eye care center/tertiary care hospital/center of excellence is $10,000/$100,000/$1 million/$10 million, respectively, each amounting to 20 cents per person.[73]

KEY FACTS

Nature	Not for profit
Duration	27 years
Location	Odisha, Andhra Pradesh
Target population	Geographically and economically disadvantaged groups
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers, suppliers
Website	www.lvpei.org

UNIQUE FEATURES

- LVPEI's tiered model addresses eye care needs in rural areas.
- The model does not require long-term external funding as the Vision Centers are revenue generating and have the potential to serve as community hubs for issues beyond eye care.

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70   www.lvpei.org

71   Ibid.

72   Ibid.

73   www.lvpei.org

Lifespring Hospitals

Health facility, RCH/nutrition

OBJECTIVES AND COMPONENTS

LifeSpring Hospitals Pvt. Ltd. is an expanding chain of hospitals that provides high-quality healthcare to lower-income women and children across Andhra Pradesh.

- The Lifespring model comprises small hospitals, which accommodate between 20-25 beds each and operates on a cross-subsidy model of tiered pricing.

- The hospital refers complicated cases to other hospitals early on. It hires less expensive auxiliary nurse midwives in addition to general nurse midwives, and has developed a strict standard of clinical protocols and other procedures to enable clarity of tasks and ensure that staff and resources are used efficiently.

- LifeSpring's hospitals primarily use midwives to provide maternity care, allowing one doctor to oversee more patients by focusing on cases that specifically require a doctor's attention.

- Lifespring Hospitals' services include:

- Antenatal care, postnatal care, deliveries (normal and caesarean), and family planning services.

- Pediatric care, including immunizations, diagnostic services, a pharmacy and healthcare education to the communities in which they are located. LifeSpring recently added NICUs at some locations.

- Community outreach: Its programs educate surrounding communities on women's health. Outreach workers and nurses based in each hospital go door-to-door within LifeSpring's communities to educate women and key decision-makers about women's health and maternity issues.

SIZE, SCALE, AND IMPACT

- LifeSpring is a 50-50 equity partnership between HLL Lifecare Ltd. (HLL), a mini ratna enterprise under India's Ministry of Health and Family Welfare, and the Acumen Fund, a U.S.-based nonprofit global venture philanthropy fund.[74]

- It has 12 hospitals across Andhra Pradesh and examines 40,000 women and delivers 25,000 babies a year.[75]

- LifeSpring charges between 30 and 50 percent of the prevailing market rates.[76]

KEY FACTS

Nature	For profit
Duration	9 years
Location	Andhra Pradesh
Target population	Children under five, women
Target geography	Urban, semi-urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.lifespring.in

UNIQUE FEATURES

- LifeSpring's narrow specialization in maternal health care enables the chain to focus on lowering costs and increasing productivity.
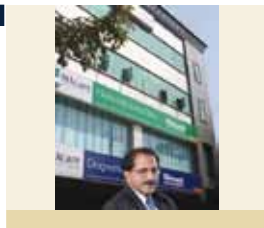
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74   Center for Health Market Innovations

75   The Health foundation Inspiring Movement – What can UK learn from Healthcare Innovation in India report

76   Center for Health Market Innovations

MACare

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

MACare is a venture of Manappuram Health Care Limited. MACare aims at making affordable and quality diagnosis and care available to all.

- MACare has a set up a chain of hi-tech laboratories in Kerala. With the opening of its Cochin center, MACare has become the largest centralized diagnostic service-provider in Kerala.[77]

- Various related tests are bundled and offered under packages to patients.

- MACare has established dental clinics, which provide affordable dental treatment including cosmetic surgeries. Extensive educational campaigns are conducted by MACare to increase the level of dental health consciousness.

- MACare's super-speciality medical centers have specialists in endocrinology, cardiology, neurology, paediatrics, orthopaedics, etc.

- MACare offers subsidized services to select patients, and discounts to BOP patients.

SIZE, SCALE, AND IMPACT

- MACare expanded from eight (six diagnostic labs, one multispecialty center, one dental hospital) centers in 2011 to 17 (13 diagnostic labs, two multi-specialty centers, two dental clinics) in 2013.

- It plans to launch a chain of 200 and more dental and diagnostic clinics across India within the next five years.[78]

KEY FACTS

Nature	For profit
Duration	3 years
Location	Kerala
Target population	General
Target geography	Rural, urban, peri-urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.macare.in

UNIQUE FEATURES

- In some locations, MACare offers an integrated approach by providing a rare combination of diagnostic and dental services in the same facility.

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77   Company website

78   Ibid.

mDhil

OBJECTIVES AND COMPONENTS

mDhil provides basic healthcare information to Indian consumers via text messaging, mobile web browsers, and interactive digital content.

- mDhil identifies health topics relevant to the community. By consulting with university students, women's groups, local clinics, NGOs, and experienced doctors, mDhil has been able to target its services specifically to the daily needs of consumers in the Indian market.

- Subscribers receive three health messages a day on their mobile phones for a fee of Indian rupees 1 ($0.01) per day. The health alerts are written by public health professionals such as registered nurses and physicians.[79]

- The topics include general health, tuberculosis, diet, stress, skin care/beauty, diabetes, sexual health, and weight management.

SIZE, SCALE, AND IMPACT

- Mdhil had over 150,000 paid users on SMS subscription services at the point of initiation.[80]

KEY FACTS

Nature	For profit
Duration	5 years
Location	Bangalore
Target population	General population
Target geography	Semi-urban, urban, rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.mdhil.com

UNIQUE FEATURES

- The unique value proposition is the quality, relevance, and access of mDhil content. The content is determined by identifying what is relevant to the consumer group. Services are available on the mobile platform, which makes them accessible.

79   Center for Health Market Innovations   80   www.mdhil.com

mDiabetes
Arogya World's Diabetes Prevention SMS Program

mHealth, multiple disease focus

OBJECTIVES AND COMPONENTS

Arogya World's mDiabetes is a diabetes prevention mobile health (mHealth) initiative, implemented in association with Nokia for six months in 2012.

- The program educated consumers in rural India about diabetes and its prevention through SMSs twice a week. The messages were sent in local languages.

- Arogya World developed 56 text messages with Emory University in 2011, based on science and behavior-change theory. It then consumer-tested them with Ipsos in simulated conditions as well as in the real world. Arogya World then refined the messages, adapting them culturally for Indian audiences based on consumer feedback and review by its Behavior Change Task Force.

SIZE, SCALE, AND IMPACT

- In 2012, Nokia Life helped Arogya World recruit 1,052,633 persons who opted to receive mDiabetes text messages.[81]

- Nokia Life provided the translation and transmission infrastructure, and transmitted more than 56 million mDiabetes text messages to consumers throughout 2012.[82]

- Consumer awareness of diabetes and its complications increased, and promising trends in behavior change were noted. Self-reported data indicated a 11 percent increase in daily exercise, a 15 percent increase in the intake of fruits, and an 8 percent increase in vegetable intake a day.[83]

KEY FACTS

Nature	Not for profit
Target population	General population
Target geography	Semi-urban, rural, urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.arogyaworld.org

UNIQUE FEATURES

- mDiabetes has been designed as a population-level nationwide public health intervention using mobile technology to establish health behavior known to prevent diabetes.

81   www.arogyaworld.org

82   Ibid

83   Ibid

MeraDoctor

mHealth, multiple disease focus

OBJECTIVES AND COMPONENTS

MeraDoctor runs a 24-hour medical helpline.

- Patients avail helpline services by making a missed call to a designated number, following which the patient receives a call from the company, transferring them to a doctor.

- The doctor, supported by clinical software, provides medical advice, recommendations for over-the-counter medicines, tests/scans, and referrals for further medical investigations, if required.

- Call records are kept to maintain patient histories and serve as health records.

- The services can be availed by purchasing prepaid phone cards, which can be bought online, on the phone, or at sales locations across India.

- The packages provide unlimited consultations, discounts on scans, consultations, and insurance.

- Health issues covered include coughs and cold, pregnancy, diabetes, blood pressure, skin ailments, cancer, weight loss, joint pain, sexuality, headache, and fever.

SIZE, SCALE, AND IMPACT

- MeraDoctor has provided over 24,000 consultations for over 400 ailments.[84]

- MeraDoctor is an initiative of mHealth Venture India Pvt. Ltd.

KEY FACTS

Nature	For profit
Duration	3 years
Location	More than 19 states, including Madhya Pradesh, Maharashtra, Uttar Pradesh, Bihar
Target population	General population
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.meradoctor.com

UNIQUE FEATURES

- Patients access medical advice by making a missed call rather than calling the helpline and incurring telecom charges, thus lowering costs for low-income patients.

- The model is easily replicable in areas with a demand for low-cost healthcare and mobile connectivity.

- Patients can receive advice from qualified doctors, rather than access care from informal providers.

Merrygold Health Network

Health facility, RCH/nutrition

OBJECTIVES AND COMPONENTS

Merrygold Health Network is a social franchising program that provides essential health care services to the poor. The program is being implemented through a public-private partnership (PPP).

The project has a hub-and-spoke design

- Level 0 consists of two model hospitals in Agra and Kanpur established by Hindustan Latex Family Planning Promotion Trust.

- Level 1 facilities (Merrygold) are fully franchised models similar to Level 0 facilities. Merrygold hospitals can provide emergency obstetric care to patients.

- Level 2 comprises fractional franchisees (Merrysilver) established at subdivision and block levels. These clinics provide basic obstetric care, family planning services, counseling, and immunization services.

- Level 3 (MerryAYUSH) acts as the first point of contact with the community. Level 3s also provide referral support to Merrysilver and MerryGold hospitals.

Main features of the model include:

- Leveraging existing private healthcare infrastructure to complement the public health system.

- An integrated approach, combining demand creation, service delivery, and use of technology to increase system efficiency.

- Standardized services and quality assurance by ensuring uniform clinical and operational protocols across all franchisees. Also ensuring regular capacity-building and medical audits.

- Affordable services at assured costs for maternal health services.

- A family planning toll-free helpline to educate beneficiaries on the need for and choices for family planning.

- Linkages with government schemes like Rashtriya Swastha Bima Yojana, Janani-Shishu, Suraksha Karyakram, etc.

SIZE, SCALE, AND IMPACT

- Merrygold Health Network is present in 35 districts in Uttar Pradesh. It has been replicated in a hybrid model in Rajasthan.

- From October 2007 till February 2012, the network conducted more than 756,100 antenatal check-ups, nearly 133,900 deliveries, more than 10,600 sterilizations and nearly 38,200 IUCD insertions.

- In addition, with condoms and oral contraceptive pills, the network has generated more than one million couple years of protection.[85]

KEY FACTS

Nature	For profit
Duration	7 years
Location	Uttar Pradesh and Rajasthan
Target population	Children, women
Target geography	Peri-urban, rural, urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers, suppliers
Website	www.merrygold.org.in

UNIQUE FEATURES

- The Merrygold Health network works on referrals to ensure that health asset utilization is optimized.

- Charges for services are standardized and healthcare seekers are assured of quality through the network.

85   MGHN MIS, February 2012

Mobile Harvest

mHealth, disease neutral

OBJECTIVES AND COMPONENTS

Mobile Harvest creates technology solutions that serve as a knowledge database, which can be used by health personnel who are not literate or have limited literacy levels.

- The company develops literacy-neutral, easy-to-use mobile applications and platforms that help spread information and technical know-how in a variety of health areas.

- Its solution, Karna, serves as a training platform for health workers.

- Governments can upload audio or video content onto the platform, which can be used to train workers and provide information on important health issues.

- Health workers can also raise queries through the platform.

- Additionally, the platform has analytical capabilities to provide information such as location and time of use to help analyze usage trends.

- The company plans to target national and state health facilities to adopt the platform, to aid in upgrading and monitoring the training of their health workers.

SIZE, SCALE, AND IMPACT

- It is currently in a start-up/pilot stage

- The platform has been licensed for use by UNWomen and the Department of Biotechnology, Government of India.[86]

KEY FACTS

Nature	For profit
Duration	2 years
Location	Piloted in Andhra Pradesh
Target population	Health workers with limited literacy
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.mobileharvest.in

UNIQUE FEATURES

- The technology was developed based on insights from and the needs of various stakeholders, including farmers, rural entrepreneurs, bureaucrats implementing various government schemes, and NGO workers.

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86   'Mobile Harvest', Ashoka Changemakers

MobiSante

Low-cost product/device/diagnostics, multiple
disease focus

OBJECTIVES AND COMPONENTS

Mobisante aims to transform medical imaging by
making safe, simple, non-invasive, and affordable
ultrasound technologies available to a broad range of
clinicians, allowing them to provide effective point-
of-care testing.

- It has two products: the MobiUS SP1 System
  (for smart phones) and the MobiUS TC2
  System (for tablets)

- The MobiUS SP1 System's mobile
  ultrasound imaging system includes a
  smart phone, an ultrasound probe, and
  software for ultrasound imaging, analysis,
  and measurement. The company's smart
  phone-based ultrasound system uses cellular
  networks and wi-fi to send images for
  diagnosis, second opinions, or to a picture
  archiving and communication system for
  storage.

- The MobiUS SP1 system is used for primary
  care applications, such as abdomen, aorta,
  kidneys, gall bladder, thyroid, soft tissue,
  vascular, small organs, implants, foreign
  bodies, bladder, and OB/GYN applications,
  including pregnancy confirmation.

- The MobiUS TC2 System is a tablet-
  based system that allows physicians to use
  powerful ultrasound probes, and gives them
  a larger screen with which they can review
  high-resolution ultrasound images.

KEY FACTS

Nature	For profit
Duration	5 years
Target population	General population
Target geography	Peri-urban, rural, urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.mobisante.com

UNIQUE FEATURES

- The smartphone-enabled ultrasound costs
  around $7,500 with a Toshiba smartphone,
  probe and software, as compared to full-
  size machines that can cost in excess of
  $100,000.[87]

Narayana Health

Hospitals and clinics, non-communicable diseases (cardiac)

OBJECTIVES AND COMPONENTS

Narayana Health (NH), formerly known as Narayana Hrudayalaya, started as a cardiac hospital and now offers super-specialty tertiary-care facilities across a number of specializations including cardiology, oncology, nephrology, and neurology.

- Narayana Health aims to provide high-quality medical care to all segments of the population.

- Close to 60 percent of treatment are provided at lower prices or for free.

- The network is able to keep treatment costs low, but quality of care high, through numerous cost-saving methods by applying the philosophies of mass production and through better use of critical resources like doctors and surgeons.

- NH's cost of open heart surgery is $2,000. The hospital charges the patient $2,400, compared to $5,500 charged at an average private hospital in India.

- NH has a high success rate with an average mortality rate of 1.4 percent within 30 days of coronary artery bypass graft surgery, compared to 1.9 percent in the U.S.

- Narayana Health also trains family members in simple yet time-consuming tasks related to at-home care management through their Care Companion program.

- NH has expanded its reach to rural areas through a coronary care unit network with NH-trained doctors at health facilities run by state governments, the Karnataka Integrated Telemedicine and Telehealth Project, and the Family Physicians Network, in which private practitioners use free software to transmit ECG scans to NH for assessment.

SIZE, SCALE, AND IMPACT

- NH has 18 hospitals across 14 cities in India

- With over 1,300 full time doctors, NH performs over 40 heart surgeries, 24 open heart surgeries, and 35 catheterization procedures daily.

KEY FACTS

Nature	For profit
Duration	13 years
Target population	BoP
Target geography	Karnataka, Andhra Pradesh,Jharkhand, Rajasthan, Chhattisgarh, West Bengal, Gujarat, Assam
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www. narayanahealth.org

UNIQUE FEATURES

- NH performs around eight times more surgeries per day than other hospital chain in India.

- Surgeries at NH are at less than half the price than at other private hospitals.

- NH involves family members in post-operative care, allowing for personalized care. The continuity of care at home reduces postsurgical complications.

NephroPlus

Health facility, non-communicable diseases
(kidney care)

OBJECTIVES AND COMPONENTS

NephroPlus is a chain of kidney care clinics. It aims to provide quality dialysis in a hygienic setting that prevents cross-infection and offers convenience to patients.

- NephroPlus provides the following services: hemodialysis, peritoneal dialysis, kidney transplant, AV fistula surgeries, peritoneal dialysis catheters, kidney stone treatment, and other urology procedures such as ESWL, laser lithotripsy, TURP, and nephrolithotomies.

- Some centers are specially equipped to accommodate and provide treatment to patients under the government's Aarogyasri Healthcare Scheme

- NephroPlus has entered into a PPP agreement with the Government of Andhra Pradesh wherein they are the sole service providers for dialysis under Employee's State Insurance Corporation..

- NephroPlus runs Enpidia, a training academy for dialysis technicians and nurses.

- It has also set up a free helpline, Hello Kidney, for patients to consult for kidney-specific issues. This is staffed by health care workers, as opposed to call center executives.

- NephroPlus organizes Aashayein, an event where dialysis patients have the opportunity to interact with experts on kidney disease such as nephrologists, urologists, transplant surgeons, vascular surgeons, and dieticians.

- The Hyderabad Kidney Foundation (HKF) is a non-profit organization founded by NephroPlus to serve as a platform for people with kidney disease to come together and support each other. The foundation provides information and support for people afflicted with any kidney disease.

SIZE, SCALE, AND IMPACT

- NephroPlus has 26 centers and a total of 230 machines across the country. The majority of the centers (20 centers) are within tertiary care hospitals, and the remaining six are standalone centers.

KEY FACTS

Nature	For profit
Duration	5 years
Location	Andhra Pradesh, Delhi, Haryana, Karnataka, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh, Uttarakhand
Target population	General population
Target geography	Urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.nephroplus.com

UNIQUE FEATURES

- The pricing for a dialysis session is lower than what corporate hospitals charge. NephroPlus also follows a differential pricing model where evening slots are priced lower

- By training its staff, NephroPlus has been trying to increase efficinecy and maintain a 0 percent infection rate

- NephroPlus ensures patients are involved in their own care and teach each patient on how to do their own exchanges and exit site dressings, to use aseptic techniques, etc.

Neurosynaptic Communications

Low-cost product/device/diagnostics, disease neutral

OBJECTIVES AND COMPONENTS

Neurosynaptic Communications Pvt. Ltd. develops technologies to benefit rural populations.

- Neurosynaptic has developed a range of products to facilitate rural healthcare delivery.

- The remote medical diagnostics (ReMeDi) medical data acquisition unit (MDAU) measures and transmits vital parameters, facilitating remote diagnosis. It can measure heart activity through an ECG, blood pressure, body temperature, heart sounds, oxygen saturation (SPO2), heart and pulse rates.

- ReMeDi Professional Edition is a telemedicine offering that consists of the ReMeDi MDAU, patient application software, and physician application software.

- ReMeDi Enterprise Edition is a comprehensive solution that provides linkages to partners within the delivery network such as diagnostic laboratories, pharmacies, and health workers. It is suitable for use by telemedicine centers in remote areas.

- The company does not provide telemedicine services directly; instead, it sells its products to telemedicine providers. It also provides both on-site and video conference training for the use of its products.

SIZE, SCALE, AND IMPACT

- Clients include World Health Partners, Cisco Systems, IL&FS, Meenakshi Mission Hospital & Research Center, and various government health departments.[88]

- Its products are being used in around 350 village centers, including 130 in Uttar Pradesh.[89]

KEY FACTS

Nature	For profit
Duration	12 years
Location	Uttar Pradesh, Madhya Pradesh, Bihar, Karnataka, Tamil Nadu, Maharashtra, Andhra Pradesh
Target population	General population, lower-middle income, middle-income
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.neurosynaptic.com

UNIQUE FEATURES

Its products are developed indigenously, in collaboration with the Indian Institute of Technology, Madras.

The products are designed to operate under rural conditions such as slow internet connectivity and irregular electricity.

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88   www.neurosynaptic.com

89   Sameer Sawarkar, Ashoka Fellows, 2012

NewDigm

mHealth, multiple disease focus[90]

OBJECTIVES AND COMPONENTS

NewDigm aims to increase rural India's access to high-quality affordable healthcare through the use of technology.

- Its products and services are centered on community participation, technology support, and monitoring through a central server.

- **Amrita** is mobile-based decision support software that can generate a diagnosis and treatment, and uses electronic patient records for monitoring and follow-up.

- **Nira** is a real-time monitoring and tracking system that uses patient data to facilitate decision support and issues reminders and alerts.

- It has also developed an assessment, training and certification program for village health workers called **Saksham**.

- Additionally, **Swashiksha** facilitates the transfer of health information to the community through customized content, form, and medium.

- It has also implemented the **Healthcare Outreach Program Enabler** (HOPE) model that offers a tiered healthcare model, linking villages to towns and tertiary care centers.

SIZE, SCALE, AND IMPACT

- A field trial was conducted in two PHCs in Tiruvallur district, Tamil Nadu[91] in which 95 percent pregnancies were registered and monitored. Outpatient costs were reduced by 20 percent, and 75 percent of village health workers experienced an increase in diagnostic efficacy and ease of operations within the first year.[92]

- NewDigm was incubated by the Rural Technology and Business Incubator.

KEY FACTS

Nature	For profit
Duration	4 years
Location	Tamil Nadu, Bihar, Odisha, Andhra Pradesh, Karnataka
Target population	Low-income groups
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers, suppliers
Website	www.newdigm.com

UNIQUE FEATURES

- NewDigm implements its solutions through partnerships with both governments and private enterprises.

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90   The organization is not active anymore

91   www.newdigm.com

92   Ibid.

Narayana Hrudayalaya Telemedicine

Telemedicine, multiple disease focus

OBJECTIVES AND COMPONENTS

Narayana Hrudayalaya (NH) is one of the largest super-specialty hospitals for cardiac care in the world. Its telemedicine network is the largest in the world, with 800 centers across India. NH pioneered the concept of telemedicine through a partnership with Indian Space Research Organisation to lower operating costs and increase reliability and quality of the network.

- NH's telemedicine network makes general primary care and tele-cardiology services available to poor patients in remote areas.

- The telemedicine network consists of a medical software, integrated with computer hardware and medical diagnostic instruments and is connected via commercial very small aperture terminals (VSATs) at each location.

- Senior specialists at NH's tertiary facilities guide paramedics and doctors in remote areas to conduct screenings and stabilize critical patients.

- NH has set up coronary care units at government hospitals and clinics where NH-trained doctors provide emergency and coronary care. These centers are connected via teleconferencing facilities.

- NH worked with the Karnataka government to set up 37 telemedicine-enabled district hospitals. Local doctors complete primary screenings and patients are referred to NH in Bangalore if required.

- NH has also started a family physicans' network where private practitioners are trained to use software to transmit ECG scans to NH for assessment.

- All district head post offices in Karnataka are also connected to NH's telemedicine network and patients can send their diagnostic reports for analysis to doctors at NH centers.

SIZE, SCALE, AND IMPACT

- With 800 telemedicine centers across India, NH has treated over 53,000 heart patients through telemedicine.[93]

- The network performs over 350,000 tele-consultations annually.[94]

KEY FACTS

Nature	For profit
Duration	13 years
Location	Kolkata, Jaipur, Ahemdabad, Raipur, Bangalore, Dharwad, Kolar, Mysore
Target population	Women, children, adolescents
Target geography	Rural
Area of healthcare focus	Emerging medical technolgies
BOP engaged as	Consumers
Website	http://192.206.4.123/~narayana/services/telemedicine/introduction/

UNIQUE FEATURES

- NH has pioneered the concept of telemedicine with its partnership with ISRO.

- The scale of NHs telemedicine network is immense, connecting district hospitals, other government facilites, private practitioners, and patients directly with senior specialists at tertiary centers.

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93   Company website

94   Wharton Knowledge, 2012

OTTET Telemedicine

Telemedicine, multiple disease focus

OBJECTIVES AND COMPONENTS

OTTET Telemedicine uses technology to provide high-quality healthcare services in villages.

- OTTET Telemedicine sets up telemedicine centers in government health facilities at the village level and trains local community members to run the centers and provide tele-health services.

- The centers are equipped with medical equipment, telemedicine software, and video conferencing, and are connected to super-specialty hospitals

- The centers provide preventive care, diagnostic services, consultations, follow-up and referrals, chronic disease management, and post-operative care.

- The company provides health services for a range of conditions, including cardio-vascular diseases, hypertension, anemia, diabetes, skin diseases, respiratory diseases, eye care, chronic diseases, common ailments, and non-emergency care.

- It also operates a health information system to monitor health indicators and disease surveillance, an electronic medical record to maintain patient data, and OPD and IPD registration systems.

- Through school and corporate health programs, it also offers health screenings by setting up telemedicine centers in schools and offices.

SIZE, SCALE, AND IMPACT

- Caters to 51,000 villages in Odisha and has provided employment opportunities to more than 100,000 youths.[95]

- It has benefited more than 205,000 patients.[96]

- Each telemedicine center can cater to a population of 20,000 to 30,000.[97]

- The project has been developed as a PPP between Orissa Trust of Technical Education and Training (OTTET) and the Government of Odisha, in technical collaboration with the School of Telemedicine & Biomedical Informatics, SGPGI, Lucknow, National Resource Center for Telemedicine, and Ministry of Health and Family Welfare.

KEY FACTS

Nature	Not for profit (PPP)
Duration	4 years
Location	Odisha
Target population	General population
Target geography	Peri-urban, rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers, suppliers
Website	www.ottettelemedicine.com

UNIQUE FEATURES

- Offers a family insurance policy for health check-ups.

- Makes use of existing healthcare infrastructure.

- Revenue generated through consultations is shared between OTTET Telemedicine and the consulting doctor.

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95   www.ottettelemedicine.com

96   Ibid.

97   OTTET Telemedicine case study, ACCESS Health International, 2011

Pahal Jan Sahyog Vikas Sansthan

Low-cost product/device/diagnostics, RCH/nutrition

OBJECTIVES AND COMPONENTS

Pahal is an NGO working towards strengthening women and child rights. Secure environment, gender equity, and empowerment of the community for self-sustainability are the most important components of its mission.

Key activities of the organization include:

- Provision of sanitary napkins

  ➤ Pahal provides cotton sanitary napkins to poor tribal women of Barwani district in Madhya Pradesh. These sanitary napkins are made by local tribal and disabled women trained by Pahal.

- Community medical center at Khajrana, Indore

  ➤ Pahal runs OPD/IPD services for poor

  ➤ Slum dwellers free of cost.

  ➤ It undertakes immunization/vaccination of pregnant women and children aged 0-5 years.

  ➤ It functions as a gender resource center for the community.

  ➤ It provides counseling and advice on health, nutrition, vaccination, TB, and HIV/AIDS.

- TB awareness program through Project Axshya: advocacy, communication, and social mobilization activities in slums are organized to increase new case detection, capacity-building of DOTS providers (Directly Observed Treatment Short-Course for tuberculosis patients) and retrieval of defaulters.

SIZE, SCALE, AND IMPACT

- Pahal is present in nine districts of Madhya Pradesh

KEY FACTS

Nature	Not for profit
Duration	9 years
Location	Madhya Pradesh
Target population	Women, children
Target geography	Peri–urban, Rural, Urban
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers, distributors
Website	www.pahalindore.org

UNIQUE FEATURES

- The sanitary pads are sold at a very nominal cost of $0.07 per pad, promoting hygienic practices while providing employment to poor tribal women.

Parivartan (Procter & Gamble)

Low-cost product/device/diagnostics, RCH/nutrition

OBJECTIVES AND COMPONENTS

The National Parivartan Program (Whisper School Girl Program) is a social responsibility program introduced by Procter & Gamble that aims to improve feminine hygiene practices in rural areas.

- The program focuses on eliminating the practice of using unhygienic cloth for sanitary protection, and that attendance at school is not affected by feminine hygiene issues.

- It provides education on and awareness of the importance of feminine hygiene, as well as subsidized sanitary napkins manufactured by P&G.

- Additional components of the project include capacity building and knowledge enhancement of community workers and organization of group meetings within the community to promote feminine hygiene.

- Dissemination of both information and sale of products is done by accredited social health activists (ASHA).

- ASHAs are given monetary incentives to increase sales of sanitary napkins; they receive $0.85 for the sale of 30 packs per month, and $ 1.60 for selling more than 80 packs.[98]

SIZE, SCALE, AND IMPACT
- The program benefits 2.5 million girls annually, across 15,000 schools.[99]

- It is being implemented in four district of Rajasthan.[100]

- A network of 1,800 community workers has inculcated hygiene practices in 30 percent of the women in the project area.[101]

- Parivartan is implemented in a public-private partnership in collaboration with the Ministry of Health, under the National Rural Health Mission, and the Government of Rajasthan.

KEY FACTS

Nature	Not for profit (PPP)
Duration	6 years
Location	Rajasthan
Target population	Women
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers
Website	www.pg.com/en_in

UNIQUE FEATURES

- A combination of behavior change communication strategies and the availability of low-cost products in the privacy of one's home has contributed to the successful implementation of the project.

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98   'Parivarthan – Rajasthan', Center for Health Market Innovations

99   P&G Annual Report 2012-13

100   Smile Foundation website

101   Ibid.

Pathfinder
Family medical health centers

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

Pathfinder Health India seeks to improve primary healthcare in India, making it affordable and accessible to lower-income segments of urban and rural populations.

- Pathfinder works with partners and training institutions to establish a health workforce of general practitioners, nurses, and healthcare assistants.

- The family health centers (HUBs) are designed to serve 5 to 10 Docs in Boxes (DIBs).The DIBs operate among the poorer communities while hubs are strategically placed, both as economic engines and a crucial community service.

Main services provided include:

- Family doctor services, a holistic person-centered service

- Nursing services

- Low-cost pharmacy

- Child and maternal health

- Clinical decision-making support systems offering standardized care

- Electronic medical records (EMR), to help population health managers understand local health needs and demographics.

SIZE, SCALE, AND IMPACT

- The family medical health centers serve a patient population of 10,000 to 20,000 each and are designed to support 5 to 10 Docs in Boxes (DIBs).The 10 DIBs serve a much larger patient population of approximately 80,000 to 120,000.[102]

KEY FACTS

Nature	For profit
Duration	3 years
Location	Delhi
Target population	General population
Target geography	Peri-urban, rural, urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www. pathfinderhealth.in

UNIQUE FEATURES

- The program's clinics are based on the concept of family physicians as the first point of contact for all health needs, setting in place a model that delivers high-quality, low-cost primary health care.

- This model ensures that people are not overly medicated and quality healthcare is developed as a standardized system.

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102   www.pathfinderhealth.in

PACT (Promoting Access to Care and Treatment)

Health facility, HIV/AIDS

OBJECTIVES AND COMPONENTS

Hindustan Latex Family Planning Promotion Trust (HLFPPT) is a trust promoted by HLL Lifecare Ltd. It aims to establish prevention and treatment of HIV/AIDS, and provide support to people living with the illness. It aims to reduce the incidence of HIV and support people living with HIV to lead healthy and productive lives.

- Promoting Access to Care and Treatment (PACT) undertakes various activities to increase treatment and support available to people living with HIV.

- It operates community care centers (CCCs), where patients receiving antiretroviral treatment (ART) at public health facilities can be referred for care.

- The program offers both inpatient and outpatient services to help with management of infections and side effects of ART.

- It provides counseling services for home-based care, treatment adherence, and nutrition.

- It also provides referrals to healthcare delivery and DOTS treatment centers, linkages to income-generation programs, social welfare schemes, and outreach services, and additional support services to improve livelihoods and well-being.

- The CCCs are usually attached to an ART center, and ensure that all patients receive counseling either prior to receiving treatment or during follow up.

SIZE, SCALE, AND IMPACT

The program has set up 35 community care centers across three states.[103]

The project is implemented by several organizations, including HLFPPT and Enable Health Society.

The management of CCCs set up by HLFPPT is undertaken by partner NGOs and community-based organizations (CBOs).

Enable Health Society is responsible for training/capacity-building of PLHIV to be treatment educators, and district project coordinators/support net officers who provide supervisory support to the program.

KEY FACTS

Nature	Not for profit
Duration	7 years
Location	Madhya Pradesh, Uttar Pradesh and Rajasthan
Target population	HIV/AIDS patients
Target geography	Rural, urban, high HIV/AIDS incidence areas
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.hlfppt.org

UNIQUE FEATURES

- The program focuses on providing comprehensive care and support to PLHIV, rather than solely focusing on treatment.

RCH Guwahati Program

Health facitilty, RCH/nutrition

OBJECTIVES AND COMPONENTS

The Government of Assam has launched the RCH Guwahati program in partnership with the Marwari Maternity Hospital (MMH) to provide basic health and reproductive services to poor urban women and their children in and around Guwahati city through locally-based outreach camps/clinics.

The program aims to:

• Fill the gaps in reproductive and child health (RCH) service delivery by providing outreach services to improve maternal and child health for the urban poor.

• Provide maternal and child-health services in the selected wards of the Guwahati Municipal Corporation.

• The Marwari Maternity Hospital provides:

   ➤ First-tier health services, including outreach camps in slums

   ➤ Second-tier health facilities for outreach patients. Services rendered under this project include regular vaccinations for children, ANCs for pregnant women, basic laboratory services, obstetric care, family planning, and in-patient care.

SIZE, SCALE, AND IMPACT

• The project, first implemented in 2002, covers seven municipalities and 14 sites, effectively providing maternal and child care to slum populations.[104]

• The target population includes daily-wage earners (construction workers, domestic help, rickshaw pullers, and vegetable vendors), almost 70-80 percent of whom are migrants (from Bangladesh, Bengal, and Bihar).[105]

KEY FACTS

Nature	Not for profit
Duration	12 years
Location	Assam
Target population	Children under five, Women
Target geography	Urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers

UNIQUE FEATURES

• RCH Guwahati Program uses locally-based outreach camps/clinics to provide reproductive and child health services to the poor.

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104   Center for Health Market Innovations

105   Ibid

Reproductive Child Health Centers

Health facility, RCH/nutrition

OBJECTIVES AND COMPONENTS

Using a nurse-practitioner-based model, Reproductive Child Health (RCH) Centers provide primary and emergency obstetric care services to pregnant women, new mothers and infants.

The RCH Centers

- Provide maternal and neonatal health services to the disadvantaged

- Train nurse-midwives and enable them to provide safe maternal and neonatal health services in the absence of a doctor.

At each center, two or three nurse-midwives provide outpatient services six days a week and emergency services around the clock. A gynecologist visits each center twice a week and a pediatrician once a week. The organization has established contacts with referral centers to ensure that referred clients receive good-quality services quickly. Services provided at health centers include:

- 24/7 delivery services and management/ referral for maternal-newborn complications

- Integrated management of neonatal and childhood illnesses and primary health care by nurse-midwives

- Safe abortion services

- Reversible methods of contraception

- Laboratory facilities for basic investigations.

SIZE, SCALE, AND IMPACT

- Midwives, operating at four community-based primary health care clinics, provide 24/7 services to a population of over 50,000. They independently detect and manage obstetric complications and decide when to refer cases to a higher level, better-equipped facility.[106]

KEY FACTS

Nature	Not for profit
Duration	17 years
Location	Rajasthan
Target population	Women, children under five
Target geography	Rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	

UNIQUE FEATURES

- The health centers demonstrate that trained nurses can provide a wide range of maternal neonatal services and manage complications in the absence of a doctor. An active referral system (counselling for decision making, arranging transport, providing subsidy for the poor, accompanying the patient to referral hospitals) allows a majority of patients to receive referral care for complications.

Rural Healthcare Foundation

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

Rural Health Care Foundation's goal is to develop a chain of sustainable rural primary care clinics across India for the poor. Its mission is to provide affordable quality health care in rural India through primary health care units in remote villages where public health care delivery system is weak.

- The center provides primary healthcare facilities. Each center is staffed with one doctor, one dentist, one homeopathy doctor, and one optometrist, assisted by five support staff.

- There are four departments: general medicine, eye, dental and homoeopathy.

- Patients are provided with spectacles at subsidized rates. The eye department identifies cataract/pterygium patients and the foundation arranges for free or subsidized surgeries in collaboration with various Rotary eye hospitals.

- In addition, free cleft lip/palate operations are arranged for children in association with Smile Train Foundation and Wheel Chairs. Blankets and crutches are distributed to needy patients.

SIZE, SCALE, AND IMPACT

- More than 2,000,000 patients were treated between 2012 and 2013.[107]

- It has six centers.[108]

- Since inception, the centers have sold highly subsidized spectacles to 16,500 patients, provided cataract surgeries to more than 4,000 elderly patients, and provided cleft lip/palate surgeries to more than 100 children.[109]

- The foundation charges a nominal consultation fee of $0.80 as registration charge to avoid misuse of services and to make the project sustainable. The fee includes the medicines for seven days and covers operating costs of the centers.

KEY FACTS

Nature	Not for profit
Duration	7 years
Location	West Bengal
Target population	General population
Target geography	Rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.ruralhealthcarefoundation.com

UNIQUE FEATURES

- The centers provide affordable and quality primary healthcare to the poor. Consultation fee at the clinics is approximately 0.80, compared to $4 charged for similar services elsewhere.[110]

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107   Center for Health Market Innovations

108   Ibid

109   Ibid

110   Ibid

Saathiya

Outreach/health education, RCH/nutrition

OBJECTIVES AND COMPONENTS

The Saathiya program fosters partnerships with the private sector to increase access to family planning services and accurate reproductive health information and products for young married couples in the lower socio-economic groups.

The main activities include:

• Training a network of Saathiya providers

• Promoting a basket of modern and reversible branded contraceptives

• A referral system created within the Saathiya network of providers

• A toll-free telephone helpline

• Advertising and outreach activities to build awareness of the Saathiya brand and generate demand for Saathiya providers.

SIZE, SCALE, AND IMPACT

• The program started as a pilot in Lucknow, Uttar Pradesh (U.P.) in 2007, and scaled up to cover six additional cities: Agra, Allahabad, Barabanki, and Varanasi in U.P., and Dehradun and Haridwar in Uttarakhand.[111]

• Saathiya has a provider network of over 3,000 family doctors, retail chemists and obstetrician/gynecologists trained in family planning and counseling skills.[112]

• A study conducted in Lucknow in April 2009, reported that married youth who were exposed to Saathiya interventions were 71 percent more likely to be current users of modern methods of family planning compared to their non-exposed counterparts.[113]

• Since its inception in October 2007, the Saathiya helpline has received over 350,000 calls.[114]

KEY FACTS

Nature	For profit
Duration	11 years
Location	Uttar Pradesh, Uttrakhand
Target population	General population
Target geography	Rural, peri-rural, urban
Area of healthcare focus	Distribution models
BOP engaged as	Consumers

UNIQUE FEATURES

• Saathiya is based on an unique integrated social marketing approach that seeks to improve both the supply demand of contraceptive services and methods through a network of trained providers, private sector partners, and communication campaigns.

111   USAID "Market-Based Partnerships for Health" project website

112   Ibid

113   Ibid

114   Ibid

Sana

OBJECTIVES AND COMPONENTS

Sana uses mobile applications to improve rural healthcare delivery.

• The Sana Mobile Client is an open-source telemedicine platform built on Android software that links health workers to remote medical professionals.

• The system consists of a phone and web-connected server, which runs the Sana Dispatch Server program. The program links the phone to a central server.

• The platform can deploy clinical protocols, capture data, and interface with external devices, allowing health workers to collect, store, and transfer health information and physiological parameters.

• The information is sent to a remote doctor for diagnosis and treatment and to a central server to create an electronic medical record database.

• The platform is capable of capturing location-based data, text, images, audio, and video.

• The platform also consists of a training and workflow solution to train health workers.

• In addition to development of the platform, Sana also assists with implementation of the technology.

SIZE, SCALE, AND IMPACT

• Sana is based in MIT's Computer Science and Artificial Intelligence Laboratory, which operates through an open course at the university.

• Sana partners with various organizations, including Narayana Hrudayalaya and Mazumdar Shaw Cancer Center, to implement its solution.

• Sana has predominantly been used for the detection of oral cancer in India.

KEY FACTS

Nature	Not for profit
Duration	6 years
Location	Delhi, Karnataka, Maharashtra, Punjab
Target population	Low-income groups
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	sana.mit.edu

UNIQUE FEATURES

• The platform is customizable and can be integrated with existing systems.

• The platform has various features that allow it to operate in areas with unreliable mobile connectivity.

• Sana operates within an academic institution, giving it more freedom than other non-profit or for-profit organizations to explore new areas of interest and partners.

Sankara Nethralaya

Health facility, Eye care

OBJECTIVES AND COMPONENTS

Sankara Nethralya was founded by Dr. S.S. Badrinath to provide charitable eye care services. The hospital has gained international recognition and is acclaimed for its quality care.

The initiatives targeted at the BOP include:

- Tele-Ophthalmology Project: A fully-equipped van with all medical and telemedicine facilities visits rural areas where patients are screened by a team of optometrists for various eye disorders, including cataract, diabetic retinopathy, and glaucoma. Spectacles dispensing unit ensures that those in need of spectacles are provided a pair at the campsite at a nominal cost. Based on the diagnosis, patients are brought to Sankara Nethralaya for further treatment, which is provided free of cost.

- Jaslok Community Ophthalmic Center: The center offers free services to those with a family income of less than $57 per month. Sankara Nethralaya has put in a system to identify patients in nearby villages with eye problems, bring them to the main hospital, provide surgical care, give them glasses, and drop them back to their homes. These services are provided free of cost.

SIZE, SCALE, AND IMPACT

- As of 2014, 4,666 tele-ophthalmology camps were organized and 406,237 patients underwent complete ophthalmology examinations.[115]

KEY FACTS

Nature	For profit
Duration	38 years
Location	Tamil Nadu, Karnataka, Maharashtra, West Bengal
Target population	General population
Target geography	Peri-urban, urban, rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.sankaranethralaya.org

UNIQUE FEATURES

- Innovative use of tele-ophthalmology to cater to the eye disorders in rural areas.

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115   www.sankaranethralaya.org

Sevamob

Outreach/health education, multiple
disease focus

OBJECTIVES AND COMPONENTS

Sevamob provides services to BOP consumers
in India through a subscription-based model in
which doctors visit patients monthly for regular
check ups

Services provided include:

- Primary healthcare and insurance via mobile
  clinics to groups on a monthly subscription
  model.

- Basic primary care, medicines, and
  prescriptions, which are delivered on-
  premises by mobile clinics with the help of
  mobile technology. Advanced primary care
  is delivered by back-office specialists. For
  emergencies, subscribers have access to a
  24×7 call center and a network of third-
  party service providers like hospitals and
  pathologists.

- Rapid point-of-care diagnostics.

- Seva 360, an online health exchange that
  connects patients with healthcare providers.

- Seva angels, which are healthcare
  sponsorships for orphanages and old age
  homes.

Sevamob's healthcare services are delivered by a
field team, which consists of a dentist and a sales
representative. Once patients are subscribed to
Sevamob's scheme, the teams pay a visit to their
homes with Android tablets. These tablets have
software that operate without wireless networks.
The teams are supported by MBBS-qualified
doctors, a 24x7 call center and a network of
third-party service providers (including clinics and
hospitals).

SIZE, SCALE, AND IMPACT

- Sevamob started with one mobile van in U.P.
  and is now running three vans in U.P., NCR-
  Delhi, and Bangalore.

- The vans cater to 5,000 subscribers.

- The tele-health exchange has 240 healthcare
  providers and over 10,000 users.

KEY FACTS

Nature	For profit
Duration	3 years
Location	Uttar Pradesh, Karnataka, Delhi
Target population	Children, the elderly, general population
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers
Website	www.sevamob.com

UNIQUE FEATURES

- Sevamob provides healthcare to students
  in schools and employees in factories
  and services organizations. The group
  subscription model helps Sevamob offer a
  subsidized rate for its bundle of services.

Soalni Healthcare

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

Soalni Healthcare provides high-quality and affordable healthcare services to all.

- Soalni operates Om Spero Hospital in Palwal, Haryana, a multi-specialty hospital that serves as the company's pilot hospital.

- The hospital offers a range of facilities, including inpatient and outpatient services, diagnostics, critical care, emergency services, pharmacy, and blood bank.

- The hospital also provides expanded services through a tie-up with Fortis Healthcare Group, with emergency transfers to Fortis Escort, Faridabad, if required.

- Soalni plans to set up a comprehensive healthcare delivery system through a hub and spoke model, consisting of a chain of 120+ bed hospitals in tier 2 and tier 3 cities that will serve as hubs, linked to primary clinics with pharmacies in villages and urban slums that will serve as spokes.

SIZE, SCALE, AND IMPACT

- Currently in a start-up/pilot stage.

- Soalni has a ISO-certified multi-specialty 120-bedded hospital.

KEY FACTS

Nature	For profit
Duration	6 years
Location	Haryana
Target population	General population, bottom 20 percent, lower-middle income, middle-income
Target geography	Tier 2 and tier 3 cities
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.soalni.com

UNIQUE FEATURES

- The hospital lowers costs by cutting down on non-medical services through a "no-frills" model without comprising on quality of medical care.

Swasth India

OBJECTIVES AND COMPONENTS

Swasth is a network of self-sustaining health centers located in slums, providing quality and affordable primary healthcare services to India's urban poor. Supported by a community outreach program and a referral network, they act as gateways to comprehensive health services.

Swasth health centers are located in low-income housing areas such as slums and act as the first point of call for all health related matters in the community. It offers the following services:

- The primary healthcare centers provide services for:

  ➤ General healthcare: medical consultations, minor procedures

  ➤ Dental healthcare: tooth extractions, root canal, cleaning, dentures

  ➤ Pharmacy

  ➤ Pathology lab tests: basic tests like BP, sugar, urine, malaria, pregnancy, CBC.

- Community outreach services include:

  ➤ House-to-house visits by health workers to generate awareness about diseases, OTC products, and early detection of ailments

  ➤ Swasth camps - basic health screenings

  ➤ School camps - health and weight check-up, anemia test, eye check-up, health talks, etc.

- Swasth has also developed a cloud-based technology, Swasth Live, for internal use as well as for sale to other players. This can be used for electronic medical records, supply chain and inventory management, technology assistance for operations personnel, member enrolment and identification, etc.

SIZE, SCALE, AND IMPACT

- Swasth has 12 centers in Mumbai.[116]

- 132,000 patient visits till date, 42,000 registered families, and 10,000 children

KEY FACTS

Nature	For profit
Duration	3 years
Location	Maharashtra
Target population	General population, urban slums
Target geography	Urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.swasthindia.in

UNIQUE FEATURES

- The Swasth model provides all the health services (preventive, promotive, primary, secondary, drug dispensing, diagnostic) under one umbrella. It provides financial risk protection against health events through micro-insurance.

- The primary value proposition of the Swasth model is that it makes healthcare easily accessible for the urban poor by being located within slums. Swasth's integrated basic healthcare solutions are priced much lower than what the market offers.[117]

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116   Primary data from Swasth India

117   Supporting a market-based healthcare delivery model to succeed in India , FemS3 Sustainable Social Solutions

Swasthya Slate

Low-cost product/device/diagnostics,
multiple disease focus

OBJECTIVES AND COMPONENTS

Swasthya Slate provides accessible and affordable diagnostic services.

- Swasthya Slate is a device that works with Android tablets and phones to conduct diagnostic testing. It is sold with a solar panel.

- It is capable of performing 33 tests, ranging from common tests such as blood pressure and blood sugar to more complex tests such as electrocardiograms, hepatitis B, dengue, and urine protein tests. It is currently being used to conduct nine basic diagnostic tests (body temperature, blood pressure, blood sugar, blood hemoglobin, heart rate, water purity, electrocardiogram, urine protein test, and urine sugar test) and is in the process of field testing the other tests.

- The device also offers decision support tools and an electronic medical record that is stored both on the device and through cloud storage.

- The system has several applications that can perform functions such as maintaining patient registration and history, capturing physiological information, delivering and monitoring specialized care, providing education, and training to health workers and patients.

- Its target market is public health centers and is aimed at empowering frontline health workers.

- The cost of the device and solar panel is Indian rupees 38,500 ($650). Tests are nominally priced (Haemoglobin – $0.08, blood sugar – $0.10, ECG – $0.33, dengue – $4.83, pregnancy test – $0.15). The set of 33 tests (excluding dengue) costs a patient between $6.66 and $8.33

SIZE, SCALE, AND IMPACT

- Field testing are being conducted in 80 locations worldwide, through deployment of 280 devices.

- Through field testing, services have been provided to 75,000 people globally, including 67,000 in India.

KEY FACTS

Nature	Not for profit
Duration	2 years
Location	Karnataka, Maharashtra, Odisha, Chhattisgarh, Andhra Pradesh, West Bengal, Punjab, Himachal Pradesh, Delhi, Haryana, Jammu and Kashmir
Target population	General population
Target geography	Rural
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.swasthyaslate.org

UNIQUE FEATURES

- Swasthya Slate provides low-cost diagnostics for a wide variety of tests and can be used by community health workers

- It provides support for other areas within the healthcare system, such as training and maintaining electronic medical records.

- Swasthya Slate has strong linkages with the public health system and is using government field-level workers to test and deploy the product.

TeleDoc

mHealth, multiple disease focus

OBJECTIVES AND COMPONENTS

TeleDoc uses Java-enabled mobile phones to connect village-based healthcare workers with doctors in urban areas for remote diagnosis and treatment.

- Doctors receive real-time diagnostic information entered by the healthcare workers and prescribe appropriate treatments.

- TeleDoc field workers prepare any prescribed medicines at regional offices. These medications are delivered directly to the home of patients in rural areas by a combination of pharmacies and delivery personnel

- In the 'Women's Healthcare' component, TeleDoc provides training, software, and village-appropriate information resources addressing women's reproductive health — including pre-natal and post-natal care.

SIZE, SCALE, AND IMPACT

- TeleDoc has treated more than 10,000 patients online and over 12,000 patients at 120 free health camps in India, delivering a total blended value of over $230 million for 66,000 patients since 1995.[118]

KEY FACTS

Nature	For profit
Duration	11 years
Location	Haryana
Target population	Women, General population
Target geography	Rural
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.jiva.com

UNIQUE FEATURES

- TeleDoc uses Java-enabled mobile phones to connect village-based healthcare workers with doctors in urban areas for remote diagnosis and treatment.

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118   www.jiva.com

Telerad Foundation

Telemedicine, multiple disease focus

OBJECTIVES AND COMPONENTS

The Telerad Foundation was set up as a not-for-profit arm of TeleRadiology Solutions. It provides remote radiology to hospitals in rural/semi-rural or underserved areas that are unable to obtain on-site radiology coverage.

- The Telerad Foundation operates on a hub and spoke model, where the spokes are the independent hospitals and departments that are remotely connected through a web-based teleradiology platform.

- Telerad Foundation aims at a turnaround time of 30 minutes to perform a scan, send images over the Teleradiology web server, and get the diagnosis and preliminary report from a radiologist by fax.

- By utilizing exisitng infrastructure and technology available through Teleradiology Solutions, the foundation has been able to cut down on its capital costs.

- Teleradiology Solutions allocates a certain percentage of its profits to the foundation for operational expenses.

- Image interpretations are provided for free to charitable hospitals and not-for-profits, which provide free or subsidized services to patients.

- For hospitals or departments that charge patients for diagnostic services, the services are provided for a fee per report which is ~10-15 percent of the fee collected from the patient

- The foundation has created a training center called 'Radgurukul' and conducts CME training programmes for academic development and skill upgradation of radiologists, doctors, IT personnel, etc.

- The foundation is also committed to developing low-cost technologies to make the delivery of radiology services feasible to locations where high-speed broadband is not available.

SIZE, SCALE, AND IMPACT

- Telerad Foundation has read more than 43,000 scans for patients in Asia.[119]

- Telerad Foundation provides remote radiology services to five hospitals across Karnataka and Arunachal Pradesh.

KEY FACTS

Nature	Not for profit
Duration	7 years
Location	Karnataka, Arunachal Pradesh
Target population	General population
Target geography	Rural. semi-rural
Area of healthcare focus	Emerging medical technolgies
BOP engaged as	Consumers
Website	http://www. teleradfoundation. org/index.html

UNIQUE FEATURES

- Telerad Foundation provide preliminary reports of scans within 30 minutes.

- Leveraging resources and technology from Telerad Solutions has helped the Telerad Foundation to reduce capital costs.

119   Company website

U-Respect Foundation: Project Vikalp

Outreach/health education, RCH/
nutrition

OBJECTIVES AND COMPONENTS

Urban and Rural Economic and Social Progress
for the Empowerment of Communities
(U-Respect) works to improve the quality of
life of marginalized communities in both urban
and rural India. Project Vikalp was started by
U-Respect.

- Project Vikalp is an integrated family
  planning e-healthcare model which aims to
  bring about high contraceptive prevalence
  rates among India's populous rural
  communities. It started in 2013 and will go
  on till 2016.

- The project proposes to sensitize and
  educate the rural community about
  reproductive health, including family
  planning and HIV/AIDS, and ensure easy
  access to contraceptives in the rural Thane
  district in Maharashtra.

- The innovation takes a triangulation
  approach – contraceptives, a toll-free mobile
  helpline, and local healthcare providers/on-
  field community consultants to target higher
  contraceptive use.

- The model involves interventions by
  male and female outreach workers to
  create awareness and provide primary
  consultations and sell contraceptives.

- The project leverages the use of a call
  center to address sexual and reproductive
  health issues and facilitates increased use
  of reversible contraceptives (specifically
  condoms, oral contraceptive pills, and intra-
  uterine devices).

SIZE, SCALE, AND IMPACT

- A three-year project was awarded by the
  Millennium Alliance (alliance of FICCI,

Department of Science and Technology,
and USAID) to the foundation president
Dr. Arundhati Char as the lead innovator.
The project started in Thane district,
Maharashtra state, India, in June 2013.[120]

KEY FACTS

Nature	Not for profit
Duration	2 years
Location	Maharashtra
Target population	General population
Target geography	Rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers
Website	www.urespect.org

UNIQUE FEATURES

- Project Vikalp introduced significant
  innovations to family planning. Couples can
  retain their confidentiality yet get complete
  information about family planning and
  contraceptives and sources of contraceptives
  and reproductive health services without
  feeling intimidated.

- It leverages the widespread use of mobile
  phones in rural communities. It also enables
  easy tracking of first-time users, switchers
  between methods or discontinuers of
  contraceptives, allowing program planners
  to alter their strategy in counseling couples
  towards a more effective family planning
  program.

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120   Organization Website

Vaatsalya Healthcare

Health facility, multiple disease focus

OBJECTIVES AND COMPONENTS

Vaatsalya operates a network of hospitals providing affordable, accessible, and appropriate primary and secondary healthcare services to underserved communities in semi-urban and rural India.

- Vaatsalya hospitals are 50-70 beds in size, with neonatal intensive care facilities, operation theatres, maternity rooms, and intensive care facilities. In addition there are 24/7 pharmacies, basic laboratories, and diagnostics facilities.

- The specialties include OB/GYN, pediatrics, general medicine, general surgery, nephrology, and diabetology.

- Vaatsalya also accepts state and central insurance programs, including RSBY (Central government), Rajiv Arogyasri (operating in Andhra Pradesh), National Rural Health Mission & Janani Suraksha Yojana (for neonatal and maternal care), and others.

- Vaatsalya's healthcare model is based on standardizing operations, providing no frills but high-quality services, recruiting, training and retaining healthcare personnel (doctors, nurses, technicians, etc.) and renting buildings. Vaatsalya lowers operating costs by centralizing procurement of medical equipment and consumables.[121]

SIZE, SCALE, AND IMPACT

- Started with three hospitals in 2005, it currently has nine hospitals with a total of 600 beds. [122]

- Vaatsalya serves around 130,000 patients/ month on OPD basis and 5,000 patients/ month on IPD basis.[123]

KEY FACTS

Nature	For profit
Duration	9 years
Location	Karnataka, Andhra Pradesh
Target population	General population
Target geography	Peri-urban, urban
Area of healthcare focus	Hospitals and clinics
BOP engaged as	Consumers
Website	www.vaatsalya.com

UNIQUE FEATURES

- Vaatsalya hospitals are accessible as they provide the most needed healthcare services in both basic and specialty care, for peri-urban and rural areas.

- By specializing in healthcare services most relevant to the local community, Vaatsalya is able to drive down costs as well as attract high volumes of patients, creating a viable model for small-town hospitals in India.

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121   Primary data

122   ibid

123   ibid

VisionSpring

OBJECTIVES AND COMPONENTS

VisionSpring works towards increasing access to primary eye care products, services, and information.

- VisionSpring sells low-cost reading glasses and ultra-violet protector glasses through three main approaches.

- With its hub-and-spoke model, VisionSpring-managed optical shops in hospitals serve as the hub, and outreach efforts are conducted through mobile medical units that conduct screenings and sell glasses.

- It trains and facilitates community members to become Vision Entrepreneurs, who engage in marketing, outreach activities, eye screenings, sale of glasses, and referrals to hospitals.

- It partners with organizations that deliver subsidized VisionSpring-supplied glasses through their own networks.

- It also supplies spectacles to primary health centers and community vision centers, and provides training for eye screenings.

- Additionally, it organizes eye screening camps at industry and factory sites, targeting laborers, workers, and employees.

SIZE, SCALE, AND IMPACT

- Provided affordable glasses to over 220,000 people belonging to the BOP population in India.[124]

- Its customers have reported a 20 percent increase in income and 34 percent increase in productivity after using its glasses.[125]

- VisionSpring has trained more than 5,200 Vision Entrepreneurs globally.[126]

KEY FACTS

Nature	Not for profit
Duration	13 years
Location	Rajasthan, Haryana, Andhra Pradesh, Delhi, Uttar Pradesh, Maharashtra, Karnataka, Odisha
Target population	Low-income groups
Target geography	Semi-urban, urban, rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers, suppliers, entrepreneurs
Website	www.visionspring.org.in

UNIQUE FEATURES

- VisionSpring follows a multi-pronged approach, based on its operating location and partner.

- It uses a cross-subsidization pricing strategy, offering both basic, low-cost and higher-priced frames.

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124   Company website

125   Ibid.

126   Acumen Fund website

Vivus Mobile Solutions

Outreach/health education, non-communicable diseases (cardiac)

OBJECTIVES AND COMPONENTS

Vivus Group works to extend the reach of technology to people. The group launched the mobile cardiac catheterization laboratory for cardiac patients in 2005. The group also has heart-care centers in various cities in India.

- The sophisticated cardiac catheterization laboratory is housed in a 40 feet trailer, which is bacteria free and air conditioned.

- The trailer can be taken to any part of the state, on regular roads. Cardiac catheterization is done inside the trailer and recovery of patient occurs in any hospital or nursing home with modest facilities.

- Initially patients are screened by their family doctor for evaluation of their heart problem. If patients are detected to have heart disease, they are referred to the nodal center, where a Vivus cardiologist examines the patient and decides on the need for coronary angiogram.

SIZE, SCALE, AND IMPACT

- By November 2010, a total number of 2130 patients had been screened.[127]

KEY FACTS

Nature	For profit
Duration	9 years
Location	Karnataka
Target population	General population
Target geography	Semi-urban, rural
Area of healthcare focus	Distribution models
BOP engaged as	Consumers
Website	www.vivushealth.net

UNIQUE FEATURES

- It is a unique concept of a catheterization lab on wheels that goes to rural parts of the state and makes specialized care accessible to the rural population.

- The screening simplifies and reduces the cost of healthcare as not all patients who have heart problems require bypass surgery or angioplasty. Patients with milder disease can be managed medically at their home towns.

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127   Ibid

WE CARE Solar

Low-cost product/device/
diagnostics, disease neutral

OBJECTIVES AND COMPONENTS

WE CARE Solar improves health outcomes through solar power.

- WE CARE Solar has designed the Solar Suitcase, a low-cost, portable power unit.
- The suitcase provides medical lighting and power for mobile communications, laptops, and small medical devices
- The system consists of solar panels, battery, charge controller, outlets, and LED lights.
- The company also provides training, monitoring, and in-country servicing for the suitcases.
- While the suitcase was initially designed to support obstetric care, it can be used for a range of medical applications.
- The Solar Suitcase Prime is priced at $1,495, and the Solar Suitcase Maternal, which also includes a Fetal Doppler, is priced at $1,595.[128]

SIZE, SCALE, AND IMPACT

- Approximately 300 solar suitcases have been deployed in 25 countries.[129]
- Solar suitcases have been piloted in collaboration with ministries of health, NGOs, and international organizations.

KEY FACTS

Nature	Not for profit
Duration	6 years
Location	Madhya Pradesh
Target population	Women
Target geography	Areas without reliable electricity
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.wecaresolar.org

UNIQUE FEATURES

- The suitcase is easy to use, requires low maintenance, durable even in harsh conditions, and can be expanded to power larger applications.
- It is a compact and portable solution, allowing for installation in remote locations and mobile settings.

128   www.wecaresolar.org

129   Ibid.

88

Welcare Health System

Low-cost product/device/diagnostics,
eye care

OBJECTIVES AND COMPONENTS

Welcare Health Systems is an affordable eye screening services company which operates quality eye screening services for people in India.

- Welcare sets up affordable eye screening services inside existing diabetes centers, general hospitals, and other health centers.

- Welcare installs an innovative internet-connected retinal screening device (built by Forus) and trains a technician to operate the device.

- Patient information including retinal images are securely transferred online to Welcare's certified ophthalmologists for review and diagnostics.

- The results and recommendations for follow-up are then shared with the patient.

SIZE, SCALE, AND IMPACT

- Welcare has set up retina screening devices in 20 centers across Tamil Nadu, Andhra Pradesh, Uttar Pradesh, and Punjab.

KEY FACTS

Nature	For profit
Duration	1 year
Location	Tamil Nadu, Andhra Pradesh, Uttar Pradesh and Punjab
Target population	General population, diabetes patients in particular
Target geography	Urban, peri-urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www. welcaretelemed.com

UNIQUE FEATURES

- By setting up retina screening devices in existing diabetes clinics, Welcare provides patients with integrated services.

- Welcare leverages new technology for the screenings and keeps costs low by having ophthalmologists working remotely.

- Welcare is able to lower the cost of an eye screening procedure by more than 50 percent, making it much more accessible.

World Health Partners

Telemedicine, multiple disease focus

OBJECTIVES AND COMPONENTS

World Health Partners (WHP) is a health service delivery organization that uses social franchising to link existing village-level providers through business relationships and technology to high levels of care to provide comprehensive, quality healthcare to rural communities.

The service model include the following :

- Telemedicine provision centers, branded as SkyHealth Centers and operated by entrepreneurs with a health backgrounds, enable remote diagnosis and audio-visual communication between rural patients and qualified city doctors.

- Sky Care, where local rural health providers, who live in the villages, are trained to act as WHP's direct local health agent. These local agents receive training in delivering basic diagnostic services and also provide health products such as non-clinical contraceptives and over-the-counter products.

- Central Medical Facilities houses a panel of experienced, accredited physicians and specialists, who consult with clients via cell phone at the SkyCare level or via the internet at the SkyHealth level.

- Franchised Clinics cater to clients who require surgery, inpatient care, or specialized procedures which cannot be delivered via tele-medicine

- SkyMeds and WHP Approved Shops ensure availability of low-cost, high-quality medicines for patients. WHP maintains a supply chain to distribute SkyMeds within project areas. In urban and peri-urban areas, SkyMeds are delivered directly to franchises and retail outlets using existing market infrastructure.

SIZE, SCALE, AND IMPACT

- WHP is present in U.P. and Bihar has 9,267 facilities/outlets.[130]

- WHP has delivered 113,411 telemedicine conferences and has connected 112,625 rural patients to urban doctors.[131]

KEY FACTS

Nature	Not for profit
Duration	6 years
Location	Uttar Pradesh, Bihar
Target population	Women. BOP
Target geography	Peri-urban, rural urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers, entrepreneurs
Website	www. worldhealthpartners. org

UNIQUE FEATURES

- WHP has an innovative social franchising and marketing model that has created a complete service delivery ecosystem that connects informal rural health providers to qualified doctors and provides access to a wide range of critical health services and products.

130   Center for Health Market Innovations

131   www.worldhealthpartners.org

Ziqitza – 108 Emergency Response Services

Ambulance, emergency care

OBJECTIVES AND COMPONENTS

Dial 108 Emergency is an emergency transport and response model that is delivered through a public-private partnership with state governments. Its services are provided either free or through user-fees as mandated by the contract with the participating state government. Each region has adopted a slightly different model for the services.

The facilities provided by the 108 service include:

- Basic life support, including oxygen administration, treatment of fractures, control of bleeding, and CPR by a trained nurse.

- Advanced life support, including equipment to monitor, shock, and pace the heart by a trained EMS doctor.

- Patient transport services, including hospital-to-hospital transfer or other destinations in cases of non-emergency.

- Free transport for all accident and disaster victims.

SIZE, SCALE, AND IMPACT

- Ziqitza runs more than 700 ambulances under the Dial 108 program.

- Its ambulances cover around 2.65 million people which include 720,000 million pregnant women.

- It is present in five states across the country: Punjab, Bihar, Kerala, Odisha, and Rajasthan.

KEY FACTS

Nature	Not for profit, PPP
Duration	5 years
Location	Bihar, Kerala, Odisha, Punjab, Rajasthan
Target population	General population
Target geography	Peri-urban, rural urban
Area of healthcare focus	Distribution models
BOP engaged as	Consumers
Website	www.zhl.org.in

UNIQUE FEATURES

- ZHL operates state-of-the-art 24/7 call centers with ambulance tracking systems, and equips ambulances with personnel trained in basic and advanced life support.

Ziqitza – Dial '1298' for Ambulance

Ambulance, emergency care

OBJECTIVES AND COMPONENTS

Dial '1298' for Ambulance was started to address the acute need for emergency medical services in India.

- The company owns and operates a network of ambulances that provide round-the-clock services.

- It offers two different types of ambulances: basic life support ambulances that are equipped with oxygen cylinders, blood pressure machines, and stethoscopes, and advanced/cardiac life-support ambulances that are additionally equipped with apparatus such as a ventilators, resuscitation kits, and nebulizers.

- It operates on a cross-subsidization model, in which charges vary based on the destination of the patient. Patients who choose to go to a private hospital are charged full price ($0.33 per km) while patients bound for government or municipal hospitals are given a 20 percent discount

- Accident victims, unaccompanied, unconscious individuals, and victims of mass casualty incidents are provided free ambulance services

- In addition to operating its own ambulances, it also provides ambulance outsourcing and management services to hospitals and nursing homes, and ambulance services at events and infrastructure/project sites.

SIZE, SCALE, AND IMPACT

- It operates 100 ambulances under the Dial 1298 program.

- It started by covering two districts in Kerala and is now present in four states: Maharashtra, Bihar, Kerala, and Punjab.

KEY FACTS

Nature	For profit
Duration	~7 years
Location	Maharashtra, Bihar, Punjab, Kerala
Target population	General population
Target geography	Urban
Area of healthcare focus	Distribution models
BOP engaged as	Consumers
Website	www.1298.in

UNIQUE FEATURES

- Ensures quick response time by using GPS technology to identify closest ambulance and nearest hospital to a patient.

- Its cross-subsidization model allows those who go to a government facility to pay subsidized rates.

ZMQ development

mHealth, disease neutral

OBJECTIVES AND COMPONENTS

ZMQ Software Systems is a technology-for-development social enterprise. ZMQ Development is the not-for-profit arm while ZMQ Technology for development is the for-profit arm of ZMQ systems.

The health programs developed by ZMQ include:

Women Mobile Lifeline Channel

• Women Mobile Lifeline Channel is an integrated mobile toolkit that provides critical health services to women at the BOP. It is a single-window mobile tool with multiple channels for maternal and child health, reproductive health, family planning, home-based neonatal care, and adolescent health. The initiative is part of ZMQ Development's EmpowerShe program.

• The channel is designed to serve semi-literate women through icons and with limited audio/text support. The channel also delivers edutainment content like Games4Women, functional literacy tools, vocational training, and various other decision-making tools to empower women.

• The company also provides training to women to use the application.

Mobile Care, Support and Treatment Manager (MCST)

• MCST was created by ZMQ Software Systems as a solution to logistical challenges of HIV/AIDS management in developing countries.

• It is a client-server application with secure encrypted database to protect and maintain confidentiality of the patients.

• The primary function is to address logistical challenges in developing countries, including the provision and distribution of anti-retroviral treatments (ART), continuous patient monitoring, and communication of relevant data.

• The primary features of the application include maintaining medical history,

including diagnostic test reports, drug and dosage alerts, and nutrition planning.

SIZE, SCALE, AND IMPACT

Women Mobile Lifeline Channel:

• The project is in Phase I and has been adopted by two micro-finance institutions and covers 14,300 women. Over 750 women use it to manage their own prenatal care needs. It is also used to manage immunization of over 680 newborns. Over 19,300 sessions of different women's games has occurred in the last six months.[132]

KEY FACTS

Nature	For profit
Duration	9 years
Location	Karnataka
Target population	General population
Target geography	Sem-urban,rural, urban
Area of healthcare focus	Emerging medical technologies
BOP engaged as	Consumers
Website	www.zmqsoft.com

UNIQUE FEATURES

MCST enables HIV/AIDS patients to use their mobile phones to access lab tests and medical history reports, use the system for nutritional planning, create alerts to remind them to take their medication, and connect with a help line. In addition, the solution can be used in 'group management' mode for organizations that work with HIV/AIDS patients.

Women Mobile Lifeline Channel is a single-window platform providing both development and entertainment tools designed specifically for women with low literacy in resource-poor settings.