

case 1-430-436  
September 9, 2016

## SughaVazhvu: An Affordable and Accessible Model for Last Mile Healthcare

“Be happy with what you have and are, be generous with both, and you won’t have to hunt for happiness.”

— William E. Gladstone

It was a hard decision for her. After obtaining her PhD in molecular diagnostics at ETH Zürich, Zeena Johar decided to return to India to make a positive change in healthcare for rural communities. Johar led the incorporation of SughaVazhvu Healthcare and the IKP Centre for Technologies in Public Health (ICTPH) in India. The organizations work jointly toward replicable and scalable service delivery networks at the interface of affordable healthcare technologies and innovative human resource solutions for hard-to-reach rural populations in India.

As of 2015, the Thanjavur-based SughaVazhvu Healthcare served more than 65,000 patients in 57 villages. Its founders have higher ambitions: They want to reach 1 million patients. Founded in 2009, SughaVazhvu (pronounced Sugha-Vaarv, which means “happy life” in Tamil) entered India’s rapidly changing healthcare landscape with the goal of reorganizing primary healthcare delivery in rural India through replicable community-driven initiatives, supported by technology and standardized healthcare protocols. Its ultimate goal is to create disease-free villages.

The company’s growth and accomplishments are commendable. Reflecting on the successful SughaVazhvu 5000 Challenge in February 2014, during which the organization reached 6,000 patients in the most impoverished communities of India, several questions were facing SughaVazhvu CEO Johar and her staff: Will the organization’s mindset fully shift from a medical experiment to a self-sustainable business model? How strong should the emphasis be on earning a sustainable profit? Will secondary and tertiary care providers want to partner with SughaVazhvu? What are the best modes of applying lessons learned to other parts of India?

---

*Published by WDI Publishing, a division of the William Davidson Institute (WDI) at the University of Michigan.*

©2016 Vimal Agarwal, Yin Jane Jin, Dan Runcie. This case was written under the supervision of Paul Clyde (President of WDI and Tom Lantos Professor of Business Administration at The Ross School of Business at the University of Michigan) by MBA students Vimal Agarwal, Yin Jane Jin, and Dan Runcie. The authors disguised some figures and data within this case for the purposes of the company’s confidentiality. The information is based on work done in 2014 when the case was substantially completed.

---

---

## SughaVazhvu Background

---

IKP Trust is a Hyderabad-based private trust that focuses on advancements in scientific knowledge to advance Indian society. It is the parent organization for a group of subsidiaries including ICTPH and received its initial round of funding from ICICI Bank.<sup>1</sup> ICTPH — a non-profit action-based research organization that aims to demonstrate sustainable and scalable models of healthcare delivery for the rural Indian population<sup>2</sup> — was a great knowledge and information launch pad for SughaVazhvu. In collaboration with ICTPH, SughaVazhvu rolled out its Rural Microhealth Clinic (RMHC) delivery model as a pilot program to test its effectiveness in rural India. In 2007, Nachiket Mor<sup>3</sup> left ICICI Bank and pursued a role with the ICICI Foundation, focusing on rural development.<sup>4</sup> Full of new concepts to serve the poorest sectors of rural India, Mor soon became restless with projects he just could not get off the ground and left the foundation in 2009 to head up SughaVazhvu.<sup>5</sup>

About 70% of India's healthcare resources are located in urban regions, while over 70% of the Indian population lives in rural regions.<sup>6</sup> This 70/70 divide is further complicated by the dearth of medical professionals available to serve the general population. There was only one physician per 1,700 people in India in 2013; the World Health Organization recommends a minimum of one doctor per 1,000 people.<sup>7</sup> Mor and Johar believed there was room to not only develop primary care clinics that would focus on a host of preventable diseases impacting millions of Indians,<sup>8</sup> but also to seamlessly integrate primary healthcare with secondary and tertiary care offerings at hospitals and other medical facilities.<sup>9</sup>

While primary care clinics were already prevalent in India, they did not have the resources required to track chronic disease, build a medical history of their patients, and maintain continuity of care. They were primarily treating patients on a per-visit basis. Mor believed that primary care should be committed to "tracking an individual's health indicators over her life."<sup>10</sup> By putting a solid technological architecture in place, SughaVazhvu was able to track patients based on the symptoms they reported during earlier visits and standardize protocols. According to Johar, 80% of diseases affecting rural Indians were preventable under this system. These included cardiovascular disease, diabetes, and hypertension.<sup>11</sup>

SughaVazhvu's first RMHC was launched in Alakkudi, Tamil Nadu. Mor indicated that the southern state of Tamil Nadu was selected as ground zero for SughaVazhvu because the healthcare set-up was good enough to experiment with next-generation questions like delivering managed care or seamlessly connecting patients into secondary and higher level healthcare systems when necessary.<sup>12</sup> Subsequently, Johar became the CEO of SughaVazhvu and the organization continued to implement its blueprint, opening six other clinics by 2012 in the villages surrounding its headquarters. SughaVazhvu planned to create a system under which RMHCs would serve a centralized semi-urban clinic for additional patient needs, much like a secondary healthcare clinic.<sup>13</sup>

---

## The Organization, Its People, and Its Activities

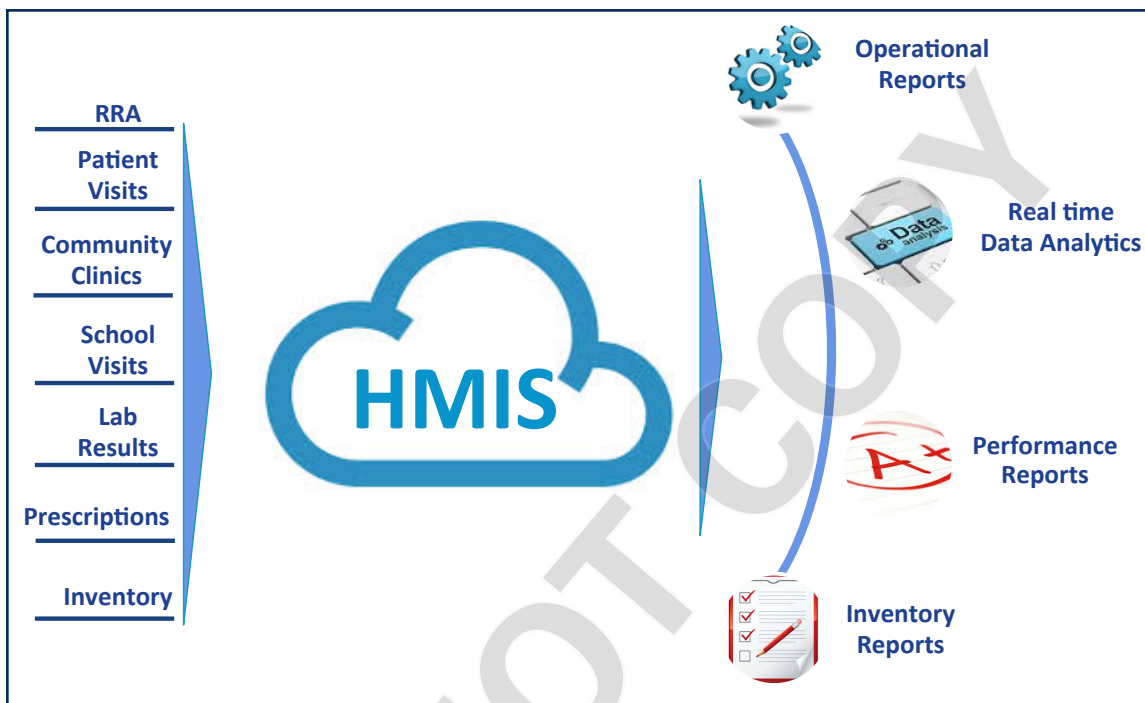
---

The investments ICTPH made in a health management information system and physician-training programs sets SughaVazhvu apart from other primary healthcare organizations.<sup>14</sup> In addition to the operational efficiency gained from maintaining information electronically rather than on paper, SughaVazhvu makes patient information available to all physicians no matter which clinic the patient visits. The training program helps maintain physician availability across the network and fulfill other community-based activities.

## Health Management Information System (HMIS)

SughaVazhvu's health management information system (HMIS) is the central nervous system for the organization. Designed to be the keeper of all of the organization's data, the HMIS touches almost every function within the organization. Through the system, a patient's electronic medical records (EMR) are accessible in real time at headquarters and all of SughaVazhvu's RMHCs (see **Exhibit 1**).

**Exhibit 1**  
**Health Management Information System**



Source: Created by the authors of the case.

The HMIS enables the entire patient-facing process, from registration to consultation and community-based interventions to diagnosis and prevention:

- *Patient record tracking* — A community-based patient registration conducted by health extension workers using a mobile phone app helps capture the name, age, gender, and pregnancy status of all members of a household, in addition to the household's geographical coordinates (longitude and latitude). Any history of chronic, non-communicable diseases like diabetes and habits such as tobacco use are also recorded if self-reported. Lastly, the waist and hip circumference (for calculating waist-hip ratio<sup>15</sup>), height, weight, and blood pressure are also measured and recorded for each member of the household.
- *Record collection* — Data collected during a patient's first visit includes education, occupation, health history, and cardiovascular risk parameters.
- *Physician consultation* — Physicians at the RMHCs enter the patient visit details directly into the HMIS. Any diagnostic tests ordered or prescription drugs dispensed are updated in real-time to ensure inventory is well managed. Lab technicians input test results into HMIS for the physicians to access.

- *HMIS' technical evolution* — Data gathered from community clinics and school-based interventions are captured on paper forms and manually entered into the HMIS.
- *Other operations* — The RMHCs' weekly schedule, supply chain management, and auditing are driven by the HMIS.

The system was instrumental in standardizing the operational model as the organization grew to seven RMHCs between 2009 and 2012 and will continue to be critical as the organization charts the future course of expanding regionally in Tamil Nadu and/or launches in other areas of India.

## Tackling the Physician Shortage

Healthcare delivery in rural India is challenging due to a lack of skilled personnel. Regardless of skill or experience level, physicians have little incentive to work in impoverished rural communities, given the opportunities available in major cities. SughaVazhvu developed a unique solution for this problem by designing a training program that allowed it to tap into the talents of thousands of graduates from alternative medicine fields, commonly referred to as “AYUSH” (ayurveda,<sup>i</sup> yoga,<sup>ii</sup> naturopathy,<sup>iii</sup> unani,<sup>iv</sup> siddha,<sup>v</sup> and homoeopathy<sup>vi</sup>) systems.<sup>16</sup> These graduates are not only willing to work in rural settings, but also have lower salary requirements than medical doctors. The University of Pennsylvania's School of Nursing developed a program for these graduates at SughaVazhvu that emphasized evidence-based practice in assessment, differential point-of-care diagnosis, standardized treatment, and follow-up care. In addition to establishing a joint certificate program for alternative healthcare providers, Penn Nursing plans to collaborate with ICTPH to develop a Center of Excellence in Primary Healthcare Education.<sup>17</sup>

### Alternate Physician Practice

AYUSH physicians located in rural communities develop trust with the locals and create stability in the healthcare system, making them a strong fit for SughaVazhvu.<sup>18</sup> AYUSH medicine has been recognized in the country since 1947, when India won independence. The Ministry of AYUSH was originally called the Department of Indian Systems of Medicines and Homeopathy when it was created in 1995.<sup>19</sup> In 2003 it was renamed AYUSH when the National Rural Health Mission<sup>20</sup> began placing traditional healers in primary health centers, community health centers, and district hospitals to serve Indians with their most basic health care needs.<sup>21</sup> Over five years of training and education is required to become an AYUSH physician. As of 2012, the ministry reported a total of 507,645 registered AYUSH practitioners in India.<sup>22</sup>

### ICTPH Training Program for SughaVazhvu Physicians

ICTPH recruits only AYUSH-certified physicians, specifically from ayurveda and siddha practices, to work at SughaVazhvu. The physicians enroll in a required three-month training program conducted by ICTPH. The first two months are classroom training and the last month is field-based. The program focuses on two broad areas — SughaVazhvu orientation and clinical practice orientation. The SughaVazhvu orientation trains physicians in the mission of SughaVazhvu, team responsibilities, and soft skills. The clinical practice orientation teaches the physicians how to use the HMIS system, pathophysiology, pharmacology, diagnostics, and procedures.

i A form of holistic alternative medicine that is the traditional system of medicine of India.

ii A Hindu philosophy that teaches a person to experience inner peace by controlling the body and mind.

iii The treatment of illness by using diet, herbs, exercises, etc., without standard drugs or surgery.

iv A system of medicine, practiced in parts of India, thought to be derived via medieval Muslim physicians from Byzantine Greece.

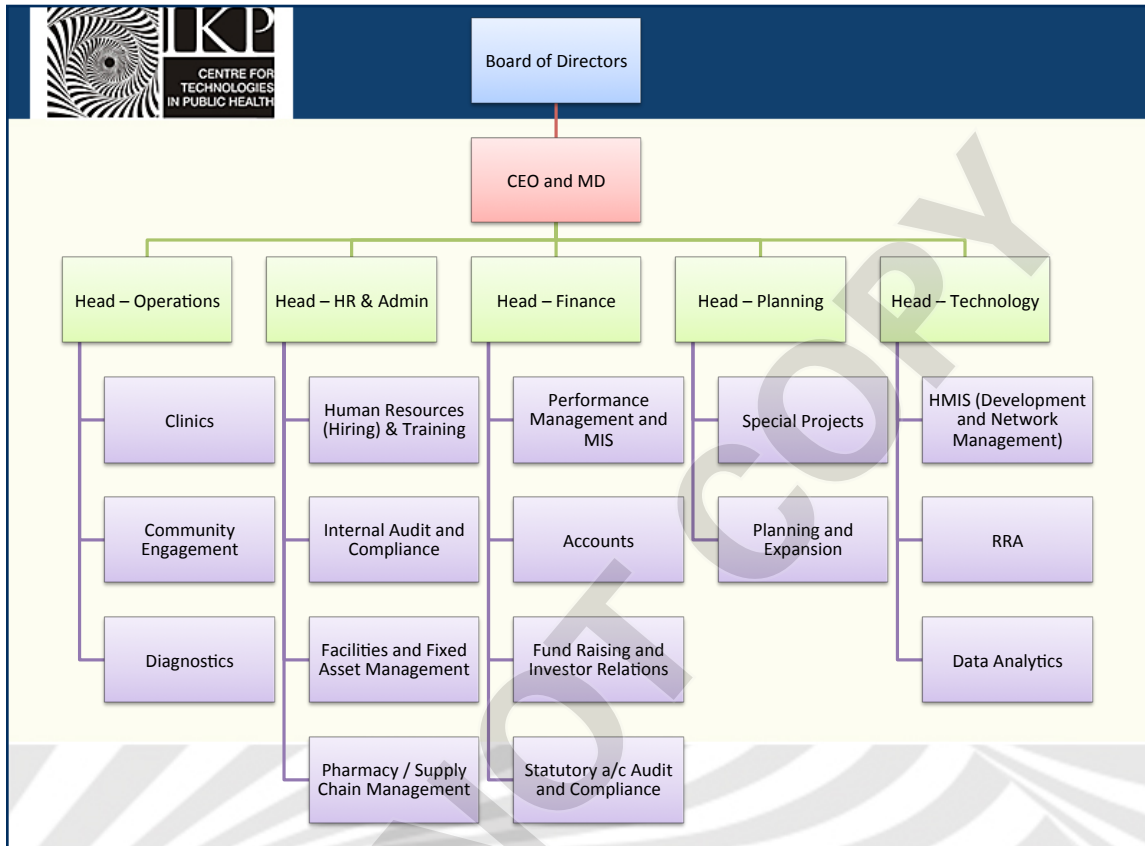
v An old medical system originating in the state of Tamil Nadu.

vi A system for treating illnesses that uses very small amounts of substances that would in larger amounts produce symptoms of the illnesses in healthy people.

## SughaVazhvu's Support Functions

SughaVazhvu's leadership team was organized around areas critical to both SughaVazhvu and ICTPH; responsibilities among the roles overlapped significantly (see **Exhibit 2**).

**Exhibit 2**  
**ICTPH and SughaVazhvu Organizational Chart**



Source: IKP Centre for Technologies in Public Health.

The physicians and the health extension workers are the primary members out in the field, operating the clinics and delivering care to the patients. Two diagnostics bike runners collect test samples from the clinics and deliver them to the central diagnostics lab. A technician manages the central lab, runs the tests requested by physicians and updates the test results directly into the HMIS. At the headquarters, in addition to the leadership team, four full-time nurses conduct the SughaVazhvu training classes and perform clinical audits. In addition, staff members follow up on patient visits and conduct customer-satisfaction surveys, and two full-time business analysts gather feedback on the HMIS and work on related enhancements with the organization's information technology vendor. This fifteen-person HQ team (excluding the leadership team) also fulfills additional responsibilities ranging from maintaining accounts to assisting in audits and other operational activities.

The composition of the leadership team reflects the "first who, then what" philosophy popularized by Jim Collins in his widely read book *Good to Great*, ensuring that only the people with the right attitude are on-boarded to the team and then deciding the direction the organization will take (see **Exhibit 3**).<sup>23</sup>

### Exhibit 3

## Leadership Team Members and Their Roles

**CEO and Medical Doctor Zeena Johar** — As a founder, Johar led the incorporation of SughaVazhvu Healthcare and ICTPH, working toward replicable service delivery networks at the interface of affordable healthcare technologies and innovative human resource solutions for hard-to-reach rural populations of India.

**Chief Technology Officer Sivakumar Mahalingam** — Mahalingam is in charge of developing and implementing technology enhancements as well as day-to-day technology operations. Prior to joining ICTPH, he served as associate director in healthcare practice at Cognizant Technology Solutions. He managed delivery of large IT programs and projects across different technologies in legacy, client/server, and web platforms with peak revenue of \$50+ million USD. In addition, he has handled business development, finance, and operations for specific business portfolios. His areas of domain expertise include health insurance, benefits, claims adjudication, and pharmacy benefits management.<sup>24</sup>

**Chief Operating Officer Bejoy Daniel** — Overseeing recruitment, training, compliance, and logistics, Daniel is a dental surgeon by education and has also worked as a healthcare business consultant in medical devices. Previously he was the chief administrative officer at SughaVazhvu Healthcare, and oversees hiring and training of physicians, internal audit and compliance, and supply chain management. Prior to joining SughaVazhvu, Daniel worked at WNS Global Services as a group manager for operations and as a manager for research and analytics, where he was responsible for client liaison and project delivery. He has strong domain expertise in healthcare consulting and market research in the medical device industry and has been instrumental in building up a database for healthcare pharmaceuticals and medical devices in a unique and fragmented methodology. He had been involved in market research and business consulting projects involving regulatory approval, market access, competitive intelligence, pricing, and reimbursement, working with companies such as Frost and Sullivan and GlobalData. He also has over nine years of experience in practicing dentistry in rural parts of Kerala.<sup>25</sup>

**Head of Research and Advocacy Aparna Manoharan** — Head of research for internal and external initiatives, Manoharan is a biomedical researcher involved in the research and advocacy fronts of ICTPH. She obtained her master's (honors) degree in biological sciences from the Birla Institute of Technology and Science (BITS), Pilani, in 2003. She was admitted into the Interdisciplinary Program in Biomedical Sciences at the University of Florida College of Medicine, Gainesville, where she obtained her PhD working on poxviral proteins. As the head of research she drives data-analytics, outcome assessment, and research validation projects.<sup>26</sup>

Source: SughaVazhvu

While some of the leadership roles are clear-cut (e.g. chief operations officer), there is some ambiguity regarding the organizational alignment of others (e.g. research). There is also some ambiguity in the definition and demarcation<sup>24</sup> of ICTPH and SughaVazhvu and their activities. While ICTPH provides the funding for SughaVazhvu, several members of the SughaVazhvu leadership are also on the ICTPH board.<sup>25</sup>

The team operates much like a startup, but Johar continues to think about the relevance of each role and the organization it should belong to.<sup>26</sup> This apportioning of costs (and benefits) of each team member becomes more pressing as the board and the leadership team try to solidify the definition of success for ICTPH and for SughaVazhvu. This ambiguity serves them well at the moment because it is easier to have “all hands on deck” to complete pressing tasks regardless of organization structure. For example, in February 2014, as part of their SV 5000 Challenge, they set out to get to 5,000 patients and had all HQ members involved. They understand that organizational clarity will become more important as the team decides how to evolve and mature in the coming years.



## RMHC Strategy

SughaVazhvu's seven RMHCs in Tamil Nadu serve over 65,000 residents. Each clinic is positioned to serve six to eight villages within a five-kilometer radius; there are typically 10,000 to 12,000 residents in each village.<sup>27</sup> The clinics provide a variety of primary healthcare services including ophthalmology, basic dental hygiene, and cervical screening as well as acute and chronic disease management.

The establishment of each RMHC is based on a systematic evaluation of a set of criteria developed by the team (see **Table 1**). To ensure each RMHC is set up in the right location and to maximize its value to the local community and to the rest of the network, SughaVazhvu conducts detailed research in the areas of transportation, accessibility, and connectivity as well as the private and public healthcare provider topography. For example, the locations of RMHCs are chosen to ensure the exclusivity of services provided.<sup>28</sup>

**Table 1**  
**Checklist for RMHC Site Selection**

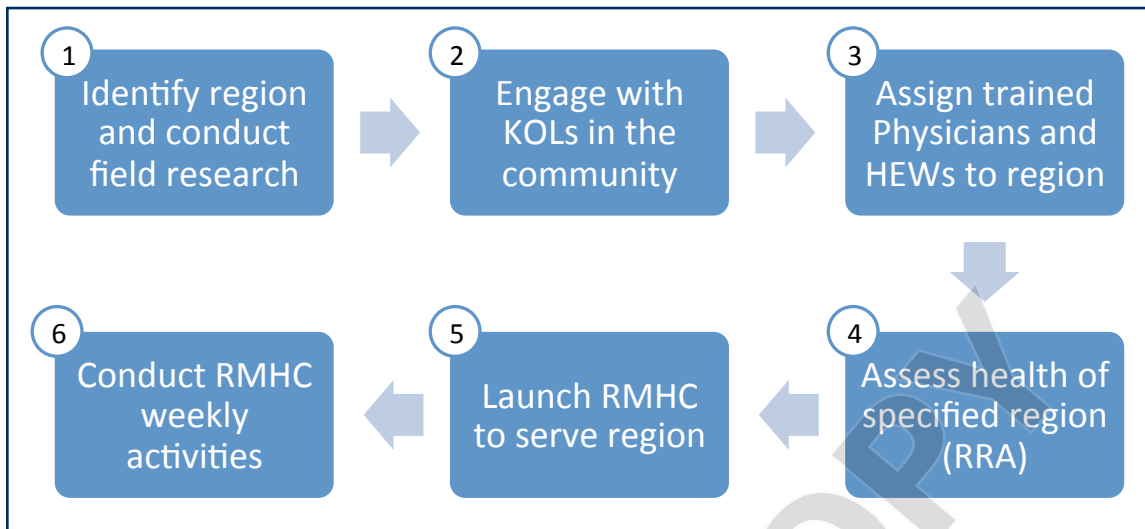
High density	Population of the catchment area (defined as the area within a five-kilometer radius of the site) should be greater than 10,000.
PHC not accessible	Serves a population to which a PHC is not accessible.
Visible and accessible	Should be in the central village identified and should be a gathering point for nearby villages (e.g. a market area).
Part of ecosystem	Works along with existing clinics (though not overlapping in the catchment area) for the supply chain to work efficiently.
Available transportation	Accessibility of bus transportation for physicians.
Available infrastructure	Proximity of the site to Kshetriya Gramin Financial Services for ease in cash management and Internet connection sharing.
Close to schools	Proximity of schools for community-based interventions.
Minimal modification needed	Availability of an existing site requiring minimal construction/modification.
Deep inside villages	Site should preferably be deep inside villages.

Source: SughaVazhvu

Once a location is selected, the SughaVazhvu team sets out to engage key opinion leaders (KOLs), such as the village leaders. Building trust-based relationships is a critical first step in establishing a RMHC, since these village communities tend to be very tight-knit. After aligning with KOLs and understanding the demographic structure in the community, the team assigns trained physicians and health extension workers (HEWs) to visit households one by one, for three key purposes: (1) to introduce the organization and clinic services, (2) to collect demographic data for the local population and record their healthcare conditions in the HMIS, and (3) to build relationships with families and earn their trust.<sup>29</sup> (See **Exhibit 4**.)

SughaVazhvu is now in the process of expanding beyond the RMHC concept into semi-urban health clinics, which will have the same resources as an RMHC, but also will provide services like periodic visits by ear, nose, and throat specialists, dermatologists, and others, as would happen with a secondary care provider. The ideal infrastructure will be a hub-and-spoke model, where a semi-urban clinic is central to several surrounding RMHCs. Semi-urban clinics will enable a cross-subsidization model where the (higher) fair market price charged to semi-urban patients will offset some of the costs of the RMHCs.<sup>30</sup>

**Exhibit 4**  
**RMHC Launch Process**



Source: Created by the authors of the case.

### RMHC Daily Operation and Activities

A typical RMHC is a 250-300 square foot rental property. It includes a patient waiting area, a physician consultation room, and a cervical screening room. Each RMHC is also equipped with a pharmacy closet and a refrigerator to keep essential medicines across 11 broad categories (see **Appendix A**).

#### Standard Operation Procedures at an RMHC

The SughaVazhvu's standard operating procedures (SOPs) were developed based on the SOAP note methodology (SOAP is an acronym for subjective, objective, assessment, and plan),<sup>31</sup> which documents the patient's complaint, vitals, diagnosis, and treatment. At an RMHC:

1. The HEW checks the patient in by looking up her or his record in the HMIS and updates it with any information that may have changed since the last visit.
2. If the patient does not have the most up-to-date basic health condition assessment data in the system, the HEW will measure weight, height, and blood pressure, collect vision details, and record the data in the HMIS.
3. The physician then consults the patient on the key symptoms or health issue he or she may have.
4. The physician conducts on-site assessments, such as blood glucose tests, and collects blood or urine samples if necessary. The results are recorded in the HMIS for future reference.
5. After completing the tests and diagnosis, the physician writes a prescription and updates it in the system. In the meantime, the HEW gathers the prescribed drugs for the patient. The physician then checks the patient out.

On average, it takes five to fifteen minutes for one patient consultation, depending on the ailment or the purpose for the visit. The SOPs enable the RMHC to operate efficiently and therefore serve more patients.



## RMHC Weekly Calendar

With the goal of delivering a great patient experience and care, SughaVazhvu needs to reach out to the local community, encourage clinic visits, manage patients at risk for cardiovascular disease, and persistently promote healthy lifestyles through health check-ups. To carry out these activities in an integrated and efficient manner, the team designed a weekly calendar to schedule required tasks (see **Appendix B**). The weekly calendar is a table with roles and responsibilities of the HEWs and physicians for each of the community activities, along with the outcomes expected for each activity.

Today, they have several community engagement activities, including community clinics, school-based programs, rapid risk assessment (RRA) days, and community-based disease management. By detailing the day-to-day responsibilities for both the physician and the HEW, the calendar attempts to establish consistency across the network clinics thus allowing the staff to focus on execution. Each day of the week is divided into morning, afternoon, and evening segments for both the physician and the HEW to undertake various action items. The HEW is allocated to community-based tasks such as RRA day, chronic care day, and patient mobilization day, while the physician spends more time at the RMHC.

## Community Clinic Day

Due to transportation challenges and a lack of awareness, some villagers are still unable to access a SughaVazhvu clinic. To help such people, SughaVazhvu designed mobile community clinics that are conducted once a week by each RMHC. Before each community clinic day, the HEW and the physician confirm the venue in the village for the mobile clinic. The HEW contacts the village KOLs, distributes brochures about the event and reaches out to patients with cardiovascular disease. Villagers with illnesses are able to consult the physician and receive any necessary medication, while those requiring specialized care or follow-up visits are scheduled to visit the RMHC at a later date. These community clinics not only provide convenient access to villagers, but also allow the physicians and HEWs to interact with potential patients and strengthen SughaVazhvu's brand. This is also a great way to promote SughaVazhvu's healthcare services in villages with extremely limited media for advertisement. As of May 2014, SughaVazhvu had served over 10,000 patients through 336 community clinics.

## School-Based Interventions

School-based interventions are included as part of the community clinic as a means to address the anemia epidemic in India.<sup>32</sup> By visiting schools to offer Hb tests, SughaVazhvu is able to identify patients and categorize their anemic levels into severe, mild, moderate, and normal groupings. SughaVazhvu developed its "We are butterflies" campaign to reach students ages 6-18. The team designed an animation video that uses a butterfly character to explain what anemia is, why it is harmful to children, and how to prevent it. Iron tablets are introduced to the children and physicians encourage them to schedule follow-ups to ensure compliance with the medication regimen. For a pilot in Karambayam, SughaVazhvu organized clinics in 11 schools and screened 546 children, identifying 524 anemic students and offering 196 tablet packages. To date, the organization has visited 50 schools and conducted almost 3,800 Hb tests, reaching almost 3,500 children, of whom over 80% were considered anemic patients.<sup>33</sup>

## Rapid Risk Assessment (RRA) Day

RRA day is one of the community-based activities SughaVazhvu conducts to create awareness around chronic disease. Once the program is launched at an RMHC, the HEWs work toward increasing the RRA footprint by allocating time via the RMHC weekly calendar. On RRA day, the physicians stay at the RMHCs. The HEW stays at the RMHC in the morning, but in the afternoon will visit each household in the community and register family members to record their height, weight, and history of illnesses, and determine a risk score

for each family member. This allows SughaVazhvu to identify people that already have or are at a high risk of developing chronic diseases such as cardiovascular disease, hypertension, or diabetes. After identifying at-risk patients, the HEW educates them about the importance of preventive healthcare and recommends that the patient get a blood test. Given the financial constraints, local traditions, and a neglect for healthcare by many rural people, personal outreach and communication are the most effective ways to help them understand the benefits of preventive healthcare. A typical RRA day usually reaches 15-20 families, which usually leads to eight to ten more patient visits at the RMHC. As of March 2014, SughaVazhvu had screened about 7,300 people for cardiovascular disease through RRA days and had touched 4,650 people with its cardiovascular disease diagnostic test. The goal is to reach 80-100 rapid risk assessments and diagnostic tests per month per RMHC.

### Chronic Care Day and Packages

As a way to introduce long-term chronic care management into the communities in which it operates and to open an avenue for continued patient visits, SughaVazhvu designed a bundled-sales model, which includes four different healthcare service packages featuring prices based on the number of services offered (see **Appendix C**). These include two diabetes prevention packages at different price levels (Gold and Silver), a hypertension package, and a hyperlipidemia package priced at a discount. These packages are also offered as subscriptions to ensure that patients continuously receive the services they need. This also creates a consistent revenue stream for SughaVazhvu. These offerings allow patients to manage their chronic conditions on a regular basis, rather than by visiting a doctor when there is a problem.

On chronic care day, the HEW spends all day in the field and a physician joins the HEW in the evening. HEWs can reach 15-20 different patients and follow up with five to seven patients they met during RRA day. The goal is to have three to five chronic care packages sold per day and eight to ten RMHC visits.

## Financial Analysis

### Revenue and Costs

RMHC revenue across the network of clinics consists of prescriptions, consultation fees, diagnostic fees, outpatient department (OPD) revenue, and chronic care packages. Of these, prescription revenue is the largest, accounting for 57% of SughaVazhvu revenue in 2013. Prescription drugs were sold to patients at retail prices. Diagnostics made up 35% of the organization's revenue while consultation fees made up most of the remaining 8%. Other revenue streams, such as the OPD products and chronic care packages, made up a very small percentage of the organization's revenue. SughaVazhvu's field activities also contributed to overall revenue. Other revenue external to the RMHCs, such as community clinics, were not included in the RMHC analysis.

Fifty-four percent of the organization's expenses went to physician salaries, HEWs, diagnostic bike runners, and diagnostic technicians. The next largest expense (27%) was variable costs — medical consumables like syringes, cotton and alcohol swabs; network movement associated with transporting diagnostics samples to the central lab; and medicines from the warehouse to the clinics and the like. The remaining 19% went to rent, utilities, and maintenance costs for the RMHCs.

### Financial Concerns and Future Initiatives

SughaVazhvu was not collecting enough revenue from its patients to cover costs. With its focus on low-cost care and scalability, it would be extremely difficult for it to decrease costs without diminishing the services provided (see **Appendices D, E, and F**).

When viewed in aggregate across all clinics, SughaVazhvu only receives Rs. 34 (\$0.57) per patient on average, due to discounts. The variable patient cost is Rs. 51 (\$0.85). If the organization received the full patient revenue of Rs. 60 (\$1.00), then the variable margin per patient would be Rs. 9 (\$0.15). While this variable patient margin is positive, the annual fixed costs for RMHCs are over Rs. 2.4 million (\$40,000). The organization would have to see nearly 23,000 patients per month in order to break even. This number far exceeds both the 16,000-plus patient visits in all of 2013, and the monthly record of 6,153 during the SughaVazhvu 5000 Challenge. (See **Appendix G.**)

In comparison, the cost/revenue picture that emerges from the analysis of the RMHC in Andipatti (SughaVazhvu's third clinic) is much more promising. Its 2013 per patient revenue of Rs. 67 (\$1.12) was higher than the network average while its variable cost was significantly lower at Rs. 42 (\$0.70). This profit per patient visit of Rs. 25 (\$0.42) brought the break-even point to a much more achievable 1,280 visits per month. Since SughaVazhvu targets about 10,000 to 12,000 residents per RMHC, this break-even can be achieved on average with about one annual visit per resident. However, this break-even number is still over four times the monthly number of visits recorded at the Andipatti clinic in fiscal year 2013 (see **Appendix H.**)

In the face of these challenges, SughaVazhvu is continuously evolving to become financially sustainable. Initiatives such as the semi-urban clinic, chronic care packages, and increased brand awareness should improve SughaVazhvu's financial stability. If the organization reaches its goal of 25 RMHCs, then the fixed costs, at 73% of total costs, can be spread across more clinics. Offering products such as the chronic care packages will stabilize and continue to improve the number of patient visits. Additionally, the semi-urban patients will pay more for their services than existing customers. Assuming similar variable cost per patient as before, but now with an increase in consultation fee from Rs. 15 (\$0.25) to Rs. 150 (\$2.50), the variable margin of semi-urban patients should be over Rs. 140 (\$2.33). The semi-urban patients can cross-subsidize the rural patients who struggle to afford full services.

As SughaVazhvu's brand awareness increases, it should attract more semi-urban patients. Over time, many rural patient families may become upwardly mobile and be in a stronger position to move into a semi-urban neighborhood. With SughaVazhvu's presence in semi-urban areas, the upwardly mobile families will be able to receive the same service they have grown accustomed to. These initiatives should place SughaVazhvu in a stronger position to balance its expenses.

---

## Way Forward

SughaVazhvu set out to tackle two significant challenges in rural India — the lack of primary healthcare and the lack of infrastructure and physicians/medical practitioners. Unlike other models that rely on telemedicine for cost efficiency, SughaVazhvu's team chose to build a network of brick and mortar clinics, which arguably is much more ambitious.

Since opening its first RMHC in Tamil Nadu the organization went through a phase of serious introspection. This led to the decision to pursue financial sustainability of the SughaVazhvu healthcare network as an important goal for the organization. Since then, the leadership team grew the SughaVazhvu network to seven RMHCs and, as of the writing of this case, is close to launching its first semi-urban clinic. But if the organization continues to grow, one unclear point is how the team defines, prioritizes, and measures its success. Continuing operations in a startup mode and taking advantage of business opportunities when they present themselves is effective at the current stage, but may be challenging in the future. The lack of clarity

regarding the organization's overall purpose also creates the risk of perpetuating the organization's state of experimentation, not progression.

The need for primary healthcare services is clear and unmistakable in India, both rural and urban, and in the vast majority of both the developing and underdeveloped world. The 65,000 patients that SughaVazhvu has treated at its clinics thus far and the revenue it has generated demonstrate the customer's willingness to pay for these services. The customer's willingness is highly influenced by discounts. Even if all RMHC patients pay Rs. 60 (\$1.00), the average price for their non-discounted service, the fixed costs of running the RMHC facility and weekly calendar operations still need to be covered. SughaVazhvu will have to consider other ways to alter its business model for RMHCs to not only be scalable, but financially sustainable.

## Growth Strategies

---

SughaVazhvu successfully developed a blueprint for the various mechanics involved with operating in the last mile of healthcare delivery. But as the analysis of its finances suggests, there is much work to be done for this to be transformed into a financially self-sustaining enterprise model. Capitalizing on the adjacent revenue opportunities, such as conducting field trials for healthcare equipment manufacturers, certainly has some promise.

But in markets like rural India, society and government can play a crucial role in helping startup organizations succeed. As SughaVazhvu expands within Tamil Nadu and into other parts of India, by itself or via partnerships with other organizations, it will need to secure additional funding to cover some of its costs. Society can bring positive impact by making private donations, grants, and other services and resources available. The government can make subsidies available based on the care administered or in the form of insurance like the Yeshasvini Cooperative Farmers Health Care Scheme.<sup>34</sup> This two-pronged support will provide a conducive environment for business models like SughaVazhvu's to continue to grow and succeed. And along with the evolution of the other tiers of healthcare delivery and the rest of the healthcare market, these models paint a very promising picture of making primary care available to those who live in India and can hopefully be introduced in other countries.



## Appendix

### Appendix A An RMHC



Appendix A (continued)





**Appendix A** (continued)



Source: The authors of the case.

DO NOT

### Appendix B RMHC Weekly Calendar

RESOURCE		Community Clinic Day (11:00am to 7:00pm)	RMHC based Day	RRA Day	Diagnostic Day (7:30am to 3:30pm)	Chronic Care Day	Patient Mobilization Day
Physician	Morning	-----					
	Afternoon						
	Evening				-----		
HEW	Morning	-----					
	Afternoon						
	Evening				-----		
Community Resource		KOL'S Follow-up patients CVD patients Schools	Schools RMHC Catchment	RRA Patients	C. Clinic Patients RRA Patients KOL's / Teachers	RRA Patients	KOL's Follow-up Patients CVD Patients Teachers
Outcome		<ul style="list-style-type: none"> <li>- 25-30 patients in the C. Clinic</li> <li>- 20-25 Hb tests in the School / Awareness Talk</li> <li>- 12-15 Sale of Anemia Packages</li> </ul>	<ul style="list-style-type: none"> <li>- 8-10 RMHC based Patients</li> <li>- 20-25 Hb tests in the School /Awareness Talk</li> <li>- 12-15 Sale of Anemia Packages</li> </ul>	<ul style="list-style-type: none"> <li>- 8-10 RMHC based patients</li> <li>- 15-20 RRAs in the Community</li> </ul>	<ul style="list-style-type: none"> <li>- 8-10 RMHC based patients</li> <li>- 15-20 Diagnostic patients</li> <li>- 2-3 Sale of Health check-up packages</li> </ul>	<ul style="list-style-type: none"> <li>- 8-10 RMHC based patients</li> <li>- 3-5 Sale of Chronic Package</li> <li>- 15-20 RRAs in the Community</li> <li>- 5-7 follow-up on RRA patients for Chronic packages</li> </ul>	<ul style="list-style-type: none"> <li>- 8-10 RMHC based patients</li> <li>- 20 – 25 Hb tests in the School</li> <li>- 15 Home visits / pamphlet distribution</li> <li>- 12-15 Sale of Anaemia Package</li> </ul>

Source: SughaVazhvu.

### Appendix C Chronic Care Package Details

Gold Package	Rs. 2400
11 clinic visits to Doctor	
5 home visits by Doctor	
Medication for 1 year	
15 times Blood Glucose test and BP check-up	
2 times HBA1C test	
Annual Health Check-up	
Eye and Heart Check-up by Specialist once in a year	
Physician and HEW always available on phone	

Silver Package	Rs. 1200
9 Clinic visits to Doctor	
Medication for 1 year	
9 times Blood Glucose testing and BP check up	
Physician and HEW always available on phone	

Hypertension Package	Rs. 1200
Every month doctor consultation	
BP check up	
Blood Glucose check-up in the beginning of the package	
Medicines for the entire year	
Patient education	

Hypertlipidemia Package	Rs. 1200
Every month doctor consultation	
BP check up	
Blood Glucose check-up in the beginning of the package	
Lipid profile	
Medicines for the entire year	
Patient education	

Source: SughaVazhvu.

**Appendix D**  
**SughaVazhvu Income and Expenditures, 2013 CY**  
(HQ and ICTPH figures not included, nor revenue from community clinics,  
walk-ins, OPD, and chronic care packages)

Revenue	Total (Rs)	Percentage	Andipatti (Rs)	Percentage
<b>RMHC Channels</b>				
Number of RMHCs	7		1	
Pharmacy	559,554	57%	76,608	33%
Consultation fee	75,337	8%	31,476	13%
Diagnosis revenue	341,980	35%	127,380	54%
<b>Total Revenue</b>	<b>976,871</b>	<b>100%</b>	<b>235,464</b>	<b>100%</b>
Total Cash Collected	522,698	54%	126,530	54%
Discount	454,173	46%	108,934	46%
<b>Costs (all 7 RMHCs)</b>				
<b>Fixed Costs</b>				
Rent	242,000	7.40%		
Electricity	109,085	3.30%		
Internet	132,313	4.00%		
Telephone	65,850	2.00%		
Salary	1,761,317	53.90%		
Repair and Maintenance	67,994	2.10%		
Other	36,610	1.10%		
<b>Total Fixed Cost</b>	<b>2,415,169</b>	<b>73.90%</b>		
<b>Variable Costs</b>				
Medical consumables	332,067	10.20%		
Network movement	533,473	16.30%		
<b>Total Variable Cost</b>	<b>865,540</b>	<b>26.10%</b>		
<b>Total Cost</b>	<b>3,268,620</b>	<b>100%</b>		
Total Cash Collected	522,698	16% (of Total Cost)		
<b>Total Cash Collected - Total Costs</b>	<b>-2,745,922</b>	<b>84%</b>		

Source: Created by authors for the case.

**Appendix E**  
**Income and Expenditure (Rs) per Patient, Average for All 7 RMHCs, 2013 CY**

Revenue	60
Cash Collected	32
Variable Cost	53
Discount	28

Source: Created by authors for the case.

**Appendix F**  
**Patient Visits to All 7 RMHCs, 2013 CY**

<b>Total Patients (HMIS)</b>	<b>16,236</b>
New Patients	8,778
Repeat Patients	7,458
<b>Patients by delivery channel</b>	
Community clinic patients	4,696
Clinic walk-in patients	11,540
<b>Other classifications</b>	
Chronic patients	2,004
Free patients	7,004
Diagnostic visits	5,084
Package visits	N/A

Source: Based on data from SughaVazhvu.

**Appendix G**  
**SughaVazhvu Financial Scenarios – All 7 RMHCs**

<b>CLINIC ONLY ANALYSIS (FY 2013 data)</b>		<b>Percentage</b>
<b>Patients Visits</b>	16,236	
Pharmacy Revenue	559,554	57%
Consultation Revenue	75,337	8%
Diagnostic Revenue	341,980	35%
<b>Total Revenue</b>	976,871	100%
<b>Cash Collected</b>	522,698	54%
<b>Fixed Cost (Clinic)</b>	2,415,169	74%
<b>Variable Cost (Clinic)</b>	835,371	26%
<b>Difference (Clinic Only)</b>	<b>-2,273,669</b>	
<b>Profit per patient (revenue)</b>	9	
<b>Profit per patient (cash collected)</b>	<b>-19</b>	

<b>Key Figures</b>	
Revenue/Patient	60
Pharma Rev/Patient	34
Consultation Rev/Patient	5
Diagnostic Rev/Patient	21
Cash Collected/Patient	32
VC/Patient	51



## Appendix G (continued)

	Scenario 1: 5,000 Patients / Month	Scenario 2: 10,000 Patients / Month
<b>Units</b>		
Annual Patient Visits	60,000	120,000
<b>Total Patient Revenue</b>	<b>3,610,018</b>	<b>7,220,036</b>
Total Cash Collected	1,931,626	3,863,252
Total Fixed Cost	2,415,169	2,415,169
Total Variable Cost	3,087,107	6,174,214
<b>Total Cost</b>	<b>5,502,276</b>	<b>8,589,382</b>
<b>Total Profits</b>	<b>-1,892,258</b>	<b>-1,369,346</b>

	Scenario 3: BEP*: 23,093 Patients/Month	Scenario 4: 30,000 Patients / Month
<b>Units</b>		
Annual Patient Visits	277,122	360,000
<b>Total Patient Revenue</b>	<b>16,673,590</b>	<b>21,660,108</b>
Total Cash Collected	8,921,601	11,589,756
Total Fixed Cost	2,415,169	2,415,169
Total Variable Cost	14,258,420	18,522,641
<b>Total Cost</b>	<b>16,673,589</b>	<b>20,937,809</b>
<b>Total Profits</b>	<b>1</b>	<b>722,298</b>
	<b>Break Even Point:</b>	
	277,122 patients/year	
	23,093 patients/month	

Source: Created by authors for the case.

\*The break-even point above represents the number of patient visits needed across the entire organization to avoid a loss. The average patient visits needed per RMHC is 39,589 per year and 3,299 per month.

**Appendix H**  
**SughaVazhvu Financial Scenarios - Andipatti Only**

Andipatti RMHC only (FY 2013 data)		Percentage
<b>Patients Visits</b>	3,508	
Pharmacy Revenue	76,608	33%
Consultation Revenue	31,476	13%
Diagnostic Revenue	127,380	54%
<b>Total Revenue</b>	235,464	100%
<b>Cash Collected</b>	126,530	54%
<b>Fixed Cost (Clinic)</b>	388,806	73%
<b>Variable Cost (Clinic)</b>	146,608	27%
<b>Difference (Clinic Only)</b>	<b>-299,950</b>	
<b>Profit per patient (revenue)</b>	25	
<b>Profit per patient (cash collected)</b>	<b>-6</b>	

Key Figures	
Revenue/Patient	67
Pharma Rev/Patient	22
Consultation Rev/Patient	9
Diagnostic Rev/Patient	36
Cash Collected/Patient	36
VC/Patient	42

Units	Scenario 1:	Scenario 2:
	1,280 Patients / Month	2 visits / Patient / year
Annual Patient Visits	15,360	20,000
<b>Total Patient Revenue</b>	<b>1,030,995</b>	<b>1,342,441</b>
Total Cash Collected	554,020	721,380
Total Fixed Cost	388,806	388,806
Total Variable Cost	641,932	835,848
<b>Total Cost</b>	<b>1,030,738</b>	<b>1,224,655</b>
<b>Total Profits</b>	<b>256</b>	<b>117,786</b>

<b>Break Even Point:</b>
15,350 patients/year
1,279 patients/month

Source: Created by authors for the case.

## Endnotes

- <sup>1</sup> IKP Trust. "IKP Trust - About Us." 2015. Accessed 1 June 2015. <<http://www.ikptrust.org.in/ikp-trust.html>>.
- <sup>2</sup> IKP Centre for Technologies in Public Health. "About Us." 2015. Accessed 1 June 2015. <<http://www.ictph.org.in/about.htm>>.
- <sup>3</sup> *Bloomberg Businessweek*. "Executive Profile: Nachiket M. Mor BSc, PGDM, Ph.D." 2015. Accessed 1 June 2015. <<http://investing.businessweek.com/research/stocks/people/person.asp?personId=1128670&ticker=598611&previousCapId=19691&previousTitle=CISCO%20SYSTEMS%20INC>>.
- <sup>4</sup> Rajshekhar, M. "Inside Nachiket Mor's Healthcare Laboratory." *The Economic Times*. 18 Mar. 2011. Accessed 1 June 2015. <<http://ictph.org.in/downloads/SughaVazhvu%20and%20Economic%20Times.pdf>>.
- <sup>5</sup> Rajshekhar.
- <sup>6</sup> IKP Centre for Technologies in Public Health.
- <sup>7</sup> Kumar, U. Anand. "India Has Just One Doctor for Every 1,700 People." *New Indian Express*. 22 Sep. 2013. Accessed 27 Apr. 2015. <<http://www.newindianexpress.com/magazine/India-has-just-one-doctor-for-every-1700-people/2013/09/22/article1792010.ece>>.
- <sup>8</sup> Johar, Zeena. Personal interview. 4 Mar. 2014.
- <sup>9</sup> SughaVazhvu Partnerships. "Partnerships." 2015. Accessed 1 June 2015. <<http://www.sughavazhvu.co.in/about-us-partnerships.html>>.
- <sup>10</sup> Rajshekhar.
- <sup>11</sup> Johar.
- <sup>12</sup> Rajshekhar.
- <sup>13</sup> Johar.
- <sup>14</sup> University of Pennsylvania School of Nursing. "Bridging the Healthcare Gap in Rural India — Penn Nursing and SughaVazhvu Healthcare." 11 Apr. 2014. Accessed 28 Apr. 2015. <<http://newswise.com/articles/bridging-the-healthcare-gap-in-rural-india-penn-nursing-and-sughavazhvu-healthcare>>.
- <sup>15</sup> Waist-Hip Ratio. 16 Oct. 2015. Accessed 14 Nov. 2015. <[https://en.wikipedia.org/wiki/Waist%E2%80%93hip\\_ratio](https://en.wikipedia.org/wiki/Waist%E2%80%93hip_ratio)>.
- <sup>16</sup> Ministry of AYUSH. "AYUSH eBook." 9 Nov. 2014. Accessed 1 June 2015. <<http://www.indianmedicine.nic.in/ebook/index.html#page/6>>.
- <sup>17</sup> University of Pennsylvania School of Nursing.
- <sup>18</sup> Johar.
- <sup>19</sup> Ministry of AYUSH.
- <sup>20</sup> Ministry of AYUSH.
- <sup>21</sup> Ministry of AYUSH.
- <sup>22</sup> Government of India. "Statewise AYUSH registered practitioners." 1 Jan. 2012. Open Government Data Platform India. Accessed 1 June 2015. <[https://data.gov.in/catalog/state-wise-and-sex-wise-ayush-ayurveda-naturopathy-unani-siddha-and-homoeopathy-registered#web\\_catalog\\_tabs\\_block\\_10](https://data.gov.in/catalog/state-wise-and-sex-wise-ayush-ayurveda-naturopathy-unani-siddha-and-homoeopathy-registered#web_catalog_tabs_block_10)>.
- <sup>23</sup> Collins, Jim. "Good to Great: Why Some Companies Make the Leap ... And Others Don't." 16 Oct. 2001. New York: HarperCollins.
- <sup>24</sup> Johar.
- <sup>25</sup> ICTPH. "Our Team." Accessed 7 Oct. 2015. <<http://www.ictph.org.in/our-team.htm>>.
- <sup>26</sup> Johar.
- <sup>27</sup> Johar.
- <sup>28</sup> Johar.
- <sup>29</sup> Johar.
- <sup>30</sup> Johar.
- <sup>31</sup> Physician SOAP Notes. Accessed 1 June 2015. <<http://www.physiciansoapnotes.com/>>.
- <sup>32</sup> Kaur, Kawaljit. "Anaemia 'A Silent Killer' Among Women in India: Present Scenario." March 2014. Accessed 1 June 2015. <<http://scholarsresearchlibrary.com/ejzr-vol3-iss1/EJZR-2014-3-1-32-36.pdf>>.
- <sup>33</sup> Johar.
- <sup>34</sup> Center for Health Market Innovations. Yeshasvini Cooperative Farmers Health Care Scheme. 2015. Accessed 1 June 2015. <<http://healthmarketinnovations.org/program/yeshasvini-cooperative-farmers-health-care-scheme>>.



Established at the University of Michigan in 1992, the **William Davidson Institute** (WDI) is an independent, non-profit research and educational organization focused on providing private-sector solutions in emerging markets. Through a unique structure that integrates research, field-based collaborations, education/training, publishing, and University of Michigan student opportunities, WDI creates long-term value for academic institutions, partner organizations, and donor agencies active in emerging markets. WDI also provides a forum for academics, policy makers, business leaders, and development experts to enhance their understanding of these economies. WDI is one of the few institutions of higher learning in the United States that is fully dedicated to understanding, testing, and implementing actionable, private-sector business models addressing the challenges and opportunities in emerging markets.