

Noora Health - Teaching those who care the most how to help those who need it the most

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Abstract:

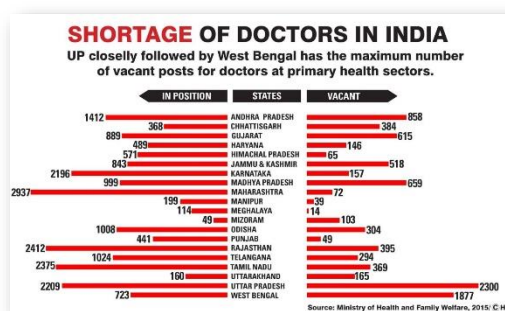
Follow-up care is a critical aspect of medical treatment’s success. It’s important to manage the disease and improve treatment outcomes by reducing hospital re- admissions due to the negligence of post-treatment care which can often result in fatality. Follow-up recommendations for day to day at-home care are equally important as treatment itself. For a heavily populous country like India, the healthcare burden is massive and is a challenge for the public and private sector to manage on their own. Not just in India, there is a massive doctor shortage across developing countries. As per WHO report in 2013, the world will be short of 12.9 million doctors by 2035 due to an aging healthy workforce and growing world population. Also, brain drain is a big problem in developing countries where doctors leave developing countries for better work and pay, which in turn puts more pressure on home country’s healthcare needs. Noora Health is one such organization which is training doctors and nurses in local hospitals in overall India to further train patient and group of family members on basic care techniques like checking pulse, physiotherapy, healthy diet, medication administration to name a few. This has led to better care management for the patient while not at the hospital and reducing the de-pendency on doctors. This initiative not just has the potential to empower patients and their families but forces us to look at health care differently and how we as the human take more charge and responsibility of our own health. In many ways it is like transformative entrepreneurship leading to better quality of life and health by reducing the conflict between poverty/resource poor’s and state of being in better health (Jutta M. Tobias, Johanna Mair, Celestina Barbosa-Leiker, 2013)!

Keywords — Follow-up care, hospital re-admission, Noora Health, Healthcare Resource Shortage, Basic Care Training.

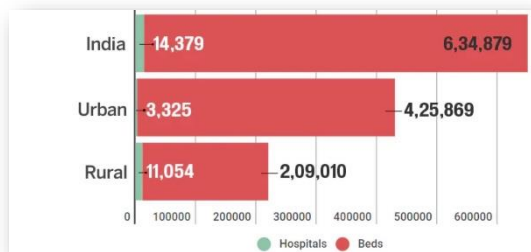
I. INTRODUCTION

India aspires to achieve universal health coverage by 2020 which seems to be challenged by lack of adequately trained and motivated healthcare workers (Prof Mohan Rao et al., 2011). Although the workforce of trained health workers has gone up in the past years, it has not been able to improve healthcare outcomes due to:

- Lack of even distribution of healthcare workforce as majority of them are concentrated in urban areas. The doctor and mid-wife ratio in India per 1000 people is 0.7 to 1.7 respectively which is much less as compared to other countries like the UK which is 2.8 to 8.8 respectively (WHO, 2015). This problem is more gravitated in the non-urban areas of India.



- Bringing qualified healthcare workers to the rural and under-served areas is a big challenge (Prof Mohan Rao et al., 2011). The projected shortage of 600000 based on the minimum doc-tor population ratio of 1,1000 set by high level expert group (Planning commission of India, 2011). Also, the health re-source distribution is highly un-even between rural and urban population. See the figure below:



Source: Ministry of Health and Family Welfare, 2015

- Rural poor have been relocating to urban slums. Lack of healthcare infrastructure in these areas leads to provision of sub-optimal care which is compromised (Benjamin Marx, Thomas Stoker, and Tavneet Suri, 2013) (See figure 17.1 in the appendix).
- These poor people also lack availability of healthcare related information which does not let them make informed decisions about their health.
- Due to massive burden of India’s public health system, there is always a financial pressure to discharge the patient early that leads to early discharge from hospitals and can compromise post-operative care (Kosecoff et al., 1990).

Also, since Noora Health operates in hospital set-ups, the key concern for them is also to make sure they implement the solution and transform the culture of care by keeping all the stakeholders and their needs in centre; and make it easy for everybody.

II. ORGANIZATION UNDER CONSIDERATION

Noora Health is a non-profit organization founded in 2014, whose headquarter is based out of San Francisco and is operating in India. 4 professionals from Stanford design school (2 doctors, 1 engineer, and 1 policy expert) started this initiative. Noora Health took below strategic steps to realize their vision:



Doctors/ Clinicians/Nurses	To impart health skill training to the family members of the patient
Design team	Responsible for teaching content design
Operations team	Responsible for implementing the training programs and talking to the hospitals
Monitoring and Evaluation team	checks quality and impact

III. METHODOLOGY

Primary Data Collection: In-depth interview with Noora Health Organization members and Operations Manager.

Secondary Data Collection: Traditional and non-traditional media reports, journal articles, Consumer reports, Public Research Report

IV. TARGET POPULATION

Patients and family members and caregivers of the patients accompanying them in the hospital and at home

V. NOORA HEALTH’S THEORY OF CHANGE

Noora Health is challenging the conventional healthcare system approach and is the first organization to formally engage the family members of the patient in the health system. This whole movement is about supplementing the physician with non-physician-based healthcare especially in the context of geographies which are resource poor and have the physician shortage. Some similar approaches have also been tried in South Africa for basic health practices and Indonesia for maternity care and have been very successful (World Bank, 2014).

Noora Health’s philosophy is ‘While health care systems are dried of cash, untapped resources like family members of the patients can reduce the burden of the healthcare system and physicians at a very low cost’. The market size for Noora Health’s innovation is huge as unmet healthcare needs are huge. See figure 17.3 in appendix depicting how a business model can tap on customer value proposition effectively as also done by Noora Health.

Noora Health does this by:

- Training doctors and nurses in local hospitals of India to train family members of the patients in basic follow-up healthcare like checking pulse, taking care of diet, exercises, physio-therapy, medication administration etc.
- Training of the family members happens at the hospital itself so that they can impart right care to the patient at home.
- There are 2 parts to the training – class room based theory and practical sessions available in different languages. Every class has almost 5 to 30 people and classes mostly take place in hallways, waiting rooms and wards in the hospitals.
- Noora Health also provides training material tutorials on the tablet for the family members to go through while at the hospital.
- Noora Health also designed a mobile application for android for patient tracking. Nurses use this application for training attendance, tracking completion of various components of the training, program graduation and discharge.
- They currently specialise in Cardiac post-surgery care, oncology, paediatric surgery and mother & child care. They are slowly planning to expand to other care areas as well.
- Through the innovative study material, Noora Health also tries to break the superstitious practices for treating a condition and tries to inculcate the right behaviour through their interactive audio-video content and written material.

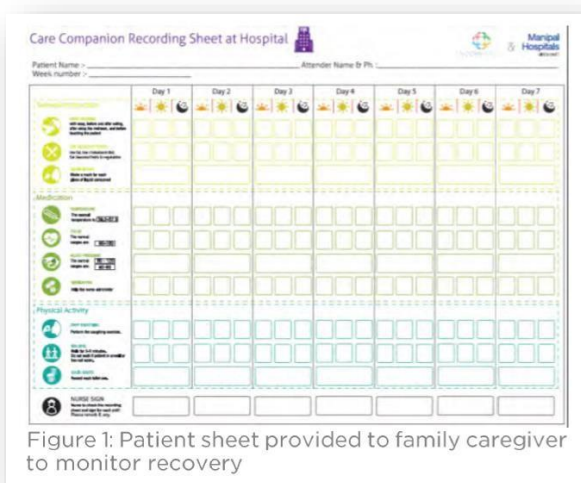


Figure 1: Patient sheet provided to family caregiver to monitor recovery

Strategic Innovation: Noora Health developed a radical new strategy to tap a totally untapped area, that is training family members in the hospital space and make them the skilled post discharge caregivers. They created a new market which did not have any direct competitor and hence disrupted the way healthcare delivery was looked at (Jamie Anderson, 2006).

Source: Noora Health, 2017

A. Noora Health’s Theory for Health Literacy and Patient Empowerment

The actions of Noora Health can be well understood through the theory of health literacy and patient empowerment. The fundamental concept of health literacy and patient empowerment is co-related (Peter Schulz, Kent Nakamoto, 2013). High degree of patient empowerment with literacy can pose serious dangers of adopting wrong choices

whereas the high degree of literacy without empowerment can lead to unnecessary dependence on medical professionals. Noora Health intelligently uses the balance of both by imparting healthcare literacy to the patient and their families to empower them to be able to take the charge of their health. This not just liberated them but also reduced the dependency on medical parctioners. Noora Health exercises it through following strategic approach:

- **Target non-urban hospitals** - They receive patients who need to be trained in post-discharge care.
- **Train the trainers** – The hospital doctors and nurses- Operationalise the program in hospitals so they know how to run it.
- **Utilising existing untapped resources (Train the families)** – Interactive skill-based training for the family members to train them in skills useful for post-treatment recovery at home.
- **User centred design and Iterative feedback process:** This approach is fundamental in the model of Noora Health. The team closely engages with the beneficiaries and evolves the program based on inputs received from clients and beneficiaries. As per Noora Health’s co-founder Shahed Alam- “We shared [the initial ideas] with people and started to get feedback on what might work”. The innovative teaching material is available in 4 local languages today. See the sample material in appendix, figure 17.5 for paper and digital material including Noora Health Education video links.
- **Provider on-going support** to the hospitals and act as auditors thereon.
- **Follow-up-** Noora Health also develops post-discharge instructions for the hospitals which includes- a pack of printed material for the patient and their families which is free of cost and some useful links to the u-tube tutorials. Some facility are also providing the video material in print at a low cost to the families (Noora Health India, 2016). After going home they can browse the videos and learn any time they want.
- Established in India in Bangalore in 2014, Noora Health’s impact and change has been so prominent that It was listed among top 50 most innovative organizations in the world in 2016 by ‘Fast Company’, a US business magazine focusing on technology, design and innovation.

VI. GOALS AND MEASUREMENTS

SOCIAL GOALS	ECONOMIC GOALS
<ul style="list-style-type: none"> ❖ Better healthcare treatment outcomes ❖ More empowered patient and their family ❖ Reduction in dependence on medical practitioners ❖ Lessening the healthcare burden of public health machinery 	<ul style="list-style-type: none"> ❖ Provides this healthcare education program for free to public hospitals ❖ Provides this healthcare education program for a licensing free to private hospitals ❖ Gets grant money from supporters globally ❖ As per the founder, the benefits of the program are much more than the investment in it but the actual numbers are not yet available for presenting the real impact (Edith Elliott, Huffington Post, 2015)

VII. VALUE PROPOSITION

A. Mutual Value for All Stakeholders

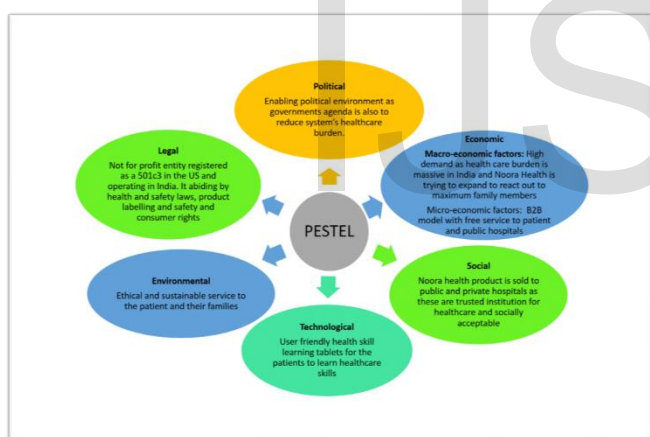
Stakeholder	Value for stakeholder	Value for Noora Health
Patient and Family Members	Empowerment through health skill training and being able to take care of themselves and their loved one’s	Being able to meet their vision of improving healthcare outcomes
Hospitals	Being able to reduce the care burden	Being able to assist hospitals in training patients and their families in health skills which will help Noora Health to realise their bigger goal of improving healthcare outcomes
Medical Practitioners/Nurses	Being able to share the healthcare burden with patient’s and their families and reduce dependency for follow-up care in resource constrained settings. Also reduce hospital re-admissions and mortality.	Being able to meet their vision of improving healthcare outcomes *Noora Health is working towards a certification for physicians and nurses for getting trained in their program which will be national recognised.
Government	Being able to reduce the disease burden and health care outcomes to abide by their healthcare goals and global sustainable development goals (SDGs)	Being able to realise their goal of improved healthcare outcomes through government machinery by implementing the program in public health sector and getting necessary government support
Supporter/Donors	Being able to align with their bigger goals related to fostering healthcare innovation and healthcare outcome improvement	Being able to get necessary monetary, knowledge and technology support from the supporters

B. 4A's (Acceptability, Affordability, Awareness, Access)

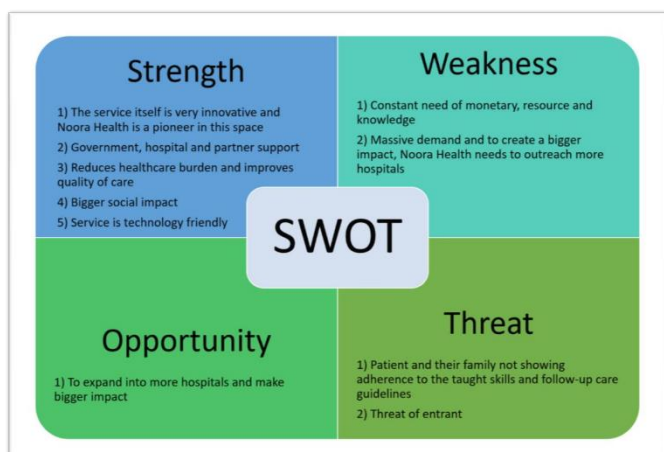
Noora Health tried to establish itself by playing around following 4 parameters:

Acceptability	Acceptability is high as the solution directly empowers patient and his family and they see their own health benefit in it that too free of charge.
Affordability	The solution is free for public health care system and for the patient. Its been purposely kept free for the public hospitals where majority of the poor and financially under-privileged people seek care as acceptance and perception of a health care service/product is greatly affected by its price. Even low cost interventions with a minimal user fee have been found hindering the out-reach of the intervention (Abdul Latif Jameel, Poverty Action Lab, 2011). See figure 17.6 for understanding the effect of pricing a service in developing countries.
Awareness	Noora Health has established ties with multiple partners in the field of healthcare delivery (public and private) and innovators (Ashoka, Healthcare innovators group etc. (see more details here - http://info.noorahhealth.org/) to create mass awareness among patients, families and hospitals.
Access	Noora Health tie up with public and private hospitals, government bodies and other community partners has made their pathway into the field easy.

B. PESTEL Analysis



C. SWOT Analysis



VIII. REVENUE MODEL

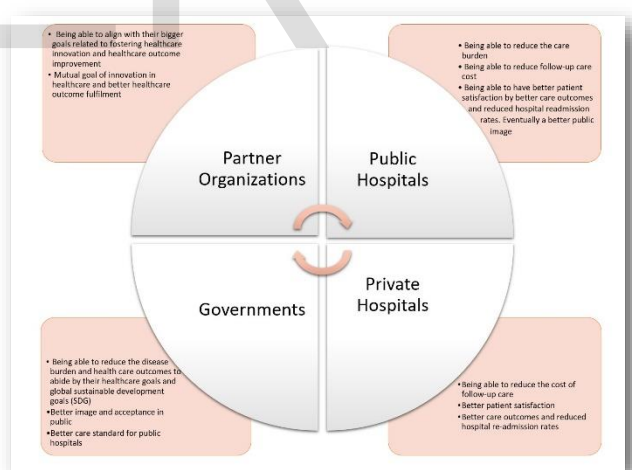
A. Expenses (Costs/Hidden Costs, Additional Data Collection-Costs)

- Expenses in training public hospitals as Noora Health provides this service free of cost to them
- Marketing expenses in terms of travelling and meeting new prospective partners
- Technology/Tablet expenses which patients use to learn health skills
- Various data collection effort, research etc. to assess the impact of services delivered by Noora Health
- Annual expenditure as of 2105 was US\$ 385000

B. Income Sources

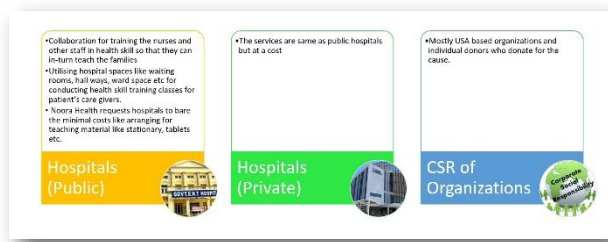
- Income from selling the training programs to private hospitals
- Donations/Grants from various national and international organizations (Ashoka, TedMed, Echoing green etc. List available here: <http://info.noorahhealth.org/>)
- Fund raising – Primarily done in the USA
- Government grants
- 90% income is through donations and 10% through revenue (Noora Health, 2015)

C. Value for All the Revenue Partners



IX. PARTNER MODEL

A. Partners



B. How and why these partners are important?

- Hospitals are key spaces to be target patient's family for imparting the training program
- CSR of organizations see their own health reform agendas being fulfilled in terms of improving healthcare outcomes glob-ally and hence they are happy to partner

X. SOCIAL ENTREPRISE MODEL

A. Who are the customers?

Public and Private hospitals in India, patients, and their families are the customers.

B. What is the solution?

Empowering patients and their families with health skills to be able to provide after discharge care for better healthcare outcomes. The solutions in delivered through hospitals where nurses are trained to delivery health skill training to the patients and their families.

C. Hoe they deliver the solution?

- Training nurses and doctors in the hospital which in turn train the patients and families
- Providing class room theory and practices activities in hospital hallways, waiting rooms and wards for families
- Printed material and on tablet material is provided
- Take home printed material package for the families to read at home so they adhere to the protocol. Training and material available in different languages.

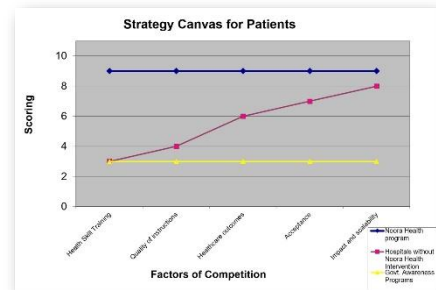
D. Fund Raising

Fund raising in done in the USA mostly or through interested in-dividual donors worldwide and operations are primarily based out of India. Noora health like Grameen bank also follows the 'triple bottom line' check before collaborating

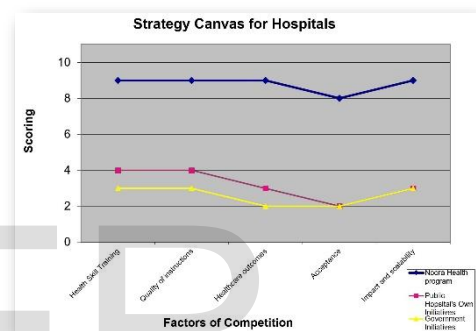
with any CSR in the USA for funds to make sure they don't have to compromise on their value (M. Yunus, B. Moingeon & L. Lehmann-Ortega, E. 2010).

E. Business Model Canvas

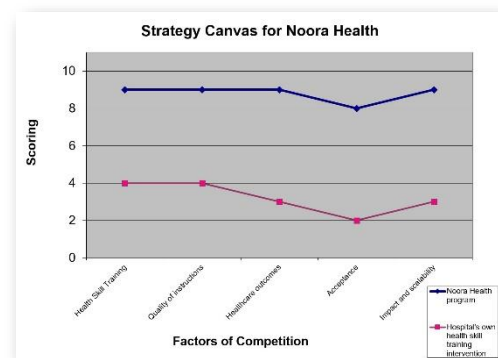
Strategy canvas for patients:



Strategy canvas for hospitals:



Strategy canvas for Noora Health:



F. Innovation

Having awarded as one of the most innovative non-profit organizations globally, Noora Health is ahead of its game in using technology for delivering the solution. Not just they have made their teaching curriculum available on tablets, they are currently working on an IVR (Interactive Voice Response) platform and mobile application to deliver

information to the patient and families in real time. This platform will support internal logistics related to training nurses for the skill teaching, feedback collection from the patient and their families and finally to disseminate information to the families for home care. In nutshell, Noora Health has balanced the human and technology component well!

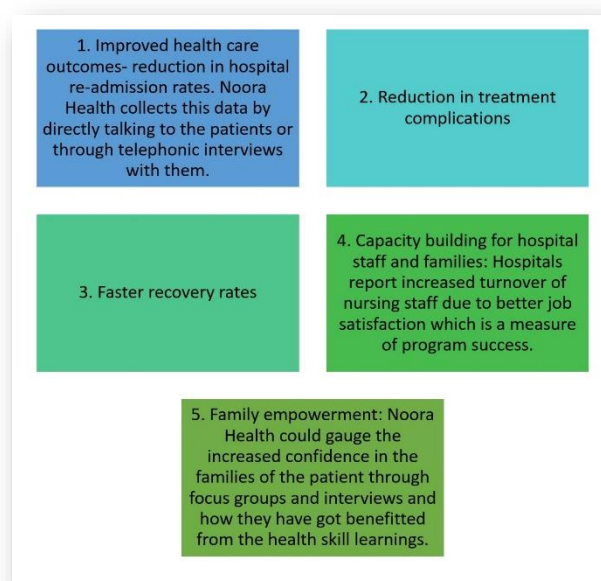
XI. SCALABILITY AND TRANSFERABILITY

Operations	Operations management, development, and content design is based out of India and fundraising is based out of United States. Technology and research is an ongoing process.
Engagement	Some of the major hospitals that Noora Health is working with is Narayana hospitals in Bangalore, Kolkata, Jaipur, Shimoga, Hyderabad; Manipal hospitals Bangalore, Sri Jayadeva Hospitals Bangalore etc. are current partners. Noora Health constantly working towards increasing engagement with other hospitals in India.
Scalability	<ul style="list-style-type: none"> Noora Health is currently in the mode of testing and optimising their model in existing locations before expanding to other states in India and further to other countries. The content of the training material is tailored in such a way that it's very specific to the context (which state and demographic/cultural profile) and is well received by the beneficiary. Constantly looking for new hospitals to scale up the initiative to a new context.
Sustainability	Right now, most of the activities are supported by philanthropic funding but Noora Health is constantly working towards developing a robust long-term sustainability model specifically a cross-subsidization model between private and public sector hospitals. It aspires to become a hybrid organization in the long run i.e. development logic and banking logic (Julie Battilana & Silva Dorado, 2010)

XII. IMPACT ASSESSMENT STRATEGY

Noora Health ran a pilot on post-surgery cardiac patients and recorded a 36% decrease in post-surgical complication and a 23% reduction in within 30 days re- admission in the hospital following the implementation of their health skill teaching program for the families of the patient. This further lead to 53% increase in patient satisfaction. Noora Health carries out

its impact assessment on the basis of following criterion or key performance indicators:



Noora Health: Impact so far



XIII. RECOMMENDATIONS

XIV. CONCLUSION

Noora Health's mission is driven by personal experiences of the founder members who face the difficulty of post-hospital discharge follow-up care and following complications. The disease burden in India is high. 2.2 million cases of Tuberculosis out of 9.6 million are in India (WHO). This just one example. It's a huge challenge for the government to manage the care of a population of over 1.3 billion people. Hence Noora Health's innovation is addressing the heart of the problem and is effective in reducing the burden of health care system. Having said that, it has to scale-up to the maximum possible hospital to see a large impact on a huge population which will be something to look forward to.

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