

# COMMUNITY-BASED HEALTH AND DEVELOPMENT PROGRAMS



## Mobilizing and Building the Capacity of Communities

Comprehensive community-based health programs have demonstrated success in improving the health and well-being of the populations they serve, especially impoverished women and children. These programs are particularly cost-effective because unnecessary sickness and more costly hospital care are avoided with prevention and early detection at the community level. They address the root causes of ill health through integrated programs in education, livelihood support, and water and sanitation. By building local capacity, these programs are not only highly effective but also cost-effective, transformative, and sustainable.

## Model in Practice: The Comprehensive Rural Health Project (CRHP) – Jamkhed, India

### AT A GLANCE

#### Problem

- In low-resource communities, millions of children and their families suffer from preventable and treatable illnesses
- Social, cultural, and economic barriers limit the ability of communities to address health needs and access proven, cost-effective tools (e.g., vaccines)

#### Solution

- Using a community-based approach, CRHP empowers communities to transform themselves and tackle key health and development problems
- CRHP addresses the root causes of poor health through education and development programs linked to primary and secondary health facilities

#### How it works

- Village Health Workers and community groups mobilize local and outside resources to overcome barriers and promote social and behavioral change
- Community-level activities are integrated with Mobile Health Teams, clinics and the CRHP hospital, and development initiatives

#### Reach/Scale

- From the initial 30 villages in the early 1970s, the project has expanded to serve a population of over 500,000
- More than 25,000 health workers from around the world have been trained at the CRHP Training Institute, introducing this approach to over 170 countries

### COST PER IMPACT PROFILE\*

~\$45,000 to implement the approach for a village (average village size is 1,500 people)

#### Representative impacts:

- Near elimination of child malnutrition (e.g., 1% in CRHP villages, compared to 46% in rural India)
- Improved child survival: for every 1,000 live births, ~50 fewer infant deaths in CRHP villages compared to rural India overall despite being an impoverished region. The infant mortality rate in CRHP villages is 8 per 1,000 live births compared to 55 per 1,000 for rural India
- Improved maternal outcomes: In CRHP villages, more than 99% of pregnant women receive prenatal care and have safe deliveries. The resulting maternal mortality ratio (annual deaths due to pregnancy causes per 100,000 live births) is 50% less than India overall.
- Sustained improvement in key development indicators including food security, women's economic and social status, and clean water and sanitation

\*SEE FULL CASE STUDY FOR SOURCE OF DATA



## COMMUNITY-BASED HEALTH AND DEVELOPMENT PROGRAMS: TRANSFORMATIVE, SUSTAINABLE, AND SCALABLE

What follows is a case study of one exemplary program — the Comprehensive Rural Health Project (CRHP) based in Jamkhed, India. CRHP pioneered this community-based approach and has led its expansion throughout the world through their Training Institute. For donors, comprehensive health programs like CRHP not only provide a great bang for buck but also achieve three key goals. They successfully:

### **Transform social, cultural, and behavioral practices:**

CRHP's community-based programs target and overcome the most seemingly insurmountable caste barriers, gender discrimination, and social taboos (e.g., working with leprosy and tuberculosis patients), leading to improved health and development outcomes for even the most disadvantaged groups.

**Sustain impact:** With CRHP's training and capacity-building, communities are able to sustain progress after "graduating" from the transformative process. CRHP has benefitted from committed donors who have supported the program through its learning and adaptation, growth, and scaling phases over a period of 40 years.

**Scale Impact:** CRHP has multiplied its impact using these reinforcing strategies:

1. **Organizational expansion** — addition of new project villages
2. **Functional expansion** — integration of additional sectors such as education and income generation into the model
3. **Teaching others** — training global health workers from around the world
4. **Influencing policy and public systems** — the lessons of CRHP have been incorporated into global policy and into India's public National Rural Health Mission, reaching hundreds of millions of people

### **BABAI SATHE: FROM OUTCAST TO VILLAGE HEALTH WORKER TO MAYOR**

#### ***Babies delivered to date: 200***

Illiterate and an outcast, Babai was married at the age of 9 to a much older man. As an outcast, she was not allowed shoes or to touch the village water pump, waiting all day for a kind upper caste woman to pump water into her water pot. After many years of abuse by her husband and in-laws, depressed and defeated, she was brought back to her parents in Jawalke.

Before long, she was seen assisting her Village Health Worker (VHW) and being part of the change that was occurring in Jawalke. With the support of the VHW and her Self Help Group (SHG), she had a new outlook on life.

In 1994, Babai was nominated to be the second VHW in Jawalke. Her new life as a VHW has inspired her to create many microenterprises. She was elected the Sarpanche (mayor) of Jawalke from 2006 to 2011. Fully dedicated to her role as VHW, she doubled her commitment to village development during her time as mayor.



*Village Health Worker in the village of Jawalke, Maharashtra, India*

*Image and story provided by CRHP, Jamkhed*

## MODEL IN PRACTICE: THE COMPREHENSIVE RURAL HEALTH PROJECT (CRHP) JAMKHED, INDIA

### Mobilizing and building the capacity of communities

#### The Problem

In many poor regions, the major causes of child sickness and death are due to problems that can be solved at the community level (e.g., dirty water, malnutrition, limited education, and a lack of self-worth among mothers). Some of the most significant barriers to improvement stem from deeply ingrained beliefs and traditional practices concerning birth and childcare. Social stratification and cultural taboos limit solutions that might challenge these norms. Finding doctors and nurses willing to work in remote rural areas like Jamkhed is equally challenging. Additionally, poor agricultural practices and limited economic opportunity reinforce the cycle of poverty, disease, and malnutrition.

#### The Context

Consider the drought-prone district where the Comprehensive Rural Health Project (CRHP) operates in Maharashtra, India. In 1970, health indicators and poverty in rural Maharashtra were among the worst in the world. Approximately 1 in 6 children died before their 5th birthday and more than 40% were malnourished. Less than 1% of the population had access to prenatal care, family planning, or skilled assistance during childbirth.

Infant mortality rates were pushed up by traditional but misguided practices such as delaying

**“Ours is not an innovation of technology but of innovating people, many forsaken to the lowest rungs of society, to invest in themselves and thereby, uplifting their communities from poverty and disease.”<sup>1</sup>**

breastfeeding. The ability to act collectively to solve problems like limited access to clean water was constrained by the extreme stratification of the caste system: women of the lowest caste (Dalits) were so powerless that a Dalit woman fetching water had to wait at the pump for a higher caste woman to take pity on her and fill her bucket — to touch the pump handle was forbidden. The idea that Dalits might be able to work together with members of higher castes in the village to solve a common problem was unthinkable.<sup>2</sup>

#### The Solution

Community-based health and development programs utilize reinforcing strategies to address the determinants of health and poverty on multiple levels. They empower marginalized individuals and engage all stakeholders in the community to find local solutions that address the root causes of ill health and under-development. They also provide



*Image provided by CRHP, Jamkhed*



## MODEL IN PRACTICE: THE COMPREHENSIVE RURAL HEALTH PROJECT

a credible source of knowledge and education about health-related issues to combat traditional practices detrimental to health and well-being. Importantly, these comprehensive programs also provide connections to health delivery systems and specialized treatment when serious medical needs arise.

### Nonprofit Agent

The [Comprehensive Rural Health Project](#) (CRHP) has been working with poor and marginalized communities in rural Maharashtra, India for the past 40 years. Founding Drs. Raj and Mabelle Arole pioneered a comprehensive approach to primary health care and development that centers on

community-level solutions and actors. The model focuses particularly on the female Village Health Workers (VHWs) as the transformative change agent for the community. CRHP's approach was developed at a grassroots level after the Aroles spent significant time living amongst villagers in Jamkhed, observing their situation firsthand, and learning from them.

CRHP is actively working in almost 40 villages, reaching a population of more than 40,000 with their community-level initiatives. This current reach is in addition to the thousands of other people in villages which have already “graduated” the CRHP development process and have demonstrated sustained impacts.<sup>3</sup>



*Image provided by CRHP, Jamkhed*

## MODEL IN PRACTICE: THE COMPREHENSIVE RURAL HEALTH PROJECT

### How It Works

CRHP inspires change through three main reinforcing components:

1. **Community Level:** The core of the model is centered on the local Village Health Worker (VHW), who is selected by their community and is the link between different community groups and Mobile Health Teams (MHTs). By empowering women predominantly from the lowest caste as the agent of change, these programs harness existing local human resources while overcoming traditional caste and gender barriers. VHW's:

- Provide essential primary care (e.g., prenatal care, deliveries, children's nutrition and development, and referrals for treatment)
- Educate, organize, and mobilize community members to identify barriers and actively develop solutions to public health problems

Through an intensive education and mentorship process, VHWs gain confidence and respect from the community and are able to empower their neighbors. The formation of groups such as farmers' clubs, women's self-help groups, and adolescent programs help to reinforce the essential role of these VHWs and support their work.

Community-level programs are expanded through training and demonstration initiatives addressing key areas such as improved agriculture, water and sanitation, women's banking services, and training in small enterprises. In this way, knowledge is shared and solutions are developed to address community priorities.



2. **Mobile Health Teams (MHTs):** Composed of a nurse, social worker, paramedic, doctor, and development specialist, the MHTs train VHWs and support the work of community groups. MHTs also serve as liaisons between communities, the CRHP hospital, and outside resources.
3. **Hospital and Training Institute:** Located on the CRHP campus, the Julia Hospital provides high-quality curative care for an underserved rural population of over 500,000 people. The 50-bed, low-cost secondary care center provides surgical, prenatal and delivery, emergency, and burn care. An additional 20,000 outpatients are seen annually at this facility.

Established in 1994, the CRHP Training Institute extends the Jamkhed model by training Indian and international workers in their community-based comprehensive approach to health and development.



## MODEL IN PRACTICE: THE COMPREHENSIVE RURAL HEALTH PROJECT

### Community Transformation: Building the capacity of communities

The CRHP model actively supports a village's transformation by promoting healthy behaviors and practices that foster sustained social development. On average, villages graduate from the prescribed stages of development in five years. While change in underlying attitudes and behaviors might take longer than five years, CRHP's results show that the benefits can last generations.

Change occurs through the training and capacity building of VHWs, community members, Mobile Health Teams, and investments in sanitation, water, and other critical community development basics.

Once basic programs are functioning, community members take on greater leadership roles and manage their communities' development moving forward. After CRHP exits graduated villages, it provides

ongoing support and training and continues to expand into new project villages. VHWs and community groups continue their work in the villages and are intermittently provided refresher trainings through the CRHP framework.

### Assessing Impact

The process for assessing change is itself a transformative process as communities are engaged in measuring their own impact. Farmers' clubs perform baseline surveys and follow-up surveys for demographics and health indicators (e.g., child deaths, malnourished children, households without access to clean water, etc.). VHWs register pregnancies, births, birth outcomes, and deaths as they occur. Findings are shared with the entire community to prioritize health needs.



## MODEL IN PRACTICE: THE COMPREHENSIVE RURAL HEALTH PROJECT

### Impact

Project data show that within the first five years, there was a rapid decline in infant death rates in project villages as a result of improvements in nutritional practices, increases in coverage for immunizations, provision of prenatal care and safe delivery services, and improved ability of mothers to care for children, in addition to other basic interventions (e.g., water and sanitation). These outcomes have been sustained over

a period of four decades by the villagers. According to internal statistics maintained by the communities themselves, there is almost universal immunization, prenatal care, and access to safe delivery. Malnutrition is basically non-existent with less than 1% of children malnourished in project areas compared to more than 40% malnourished in the rest of rural India.<sup>4</sup> (SEE TABLE 1.)

**TABLE 1: CRHP DATA COLLECTED OVER TIME FROM PROJECT VILLAGES<sup>5</sup>**

INDICATOR	DESCRIPTION	BASELINE CRHP 1971	CRHP 2004	INDIA <sup>6</sup> 2004
<b>INFANT AND CHILD HEALTH</b>				
<b>Infant Mortality Rate</b>	Number of infant deaths per 1,000 live births	176	24*	62
<b>Child Malnourishment</b>	Percentage of under-5 children who are malnourished	40	< 5	43
<b>Immunizations</b>	Percentage of children who have received DPT and Polio vaccines	0.5	83	70
<b>MATERNAL HEALTH</b>				
<b>Safe Delivery</b>	Percentage of deliveries attended by a trained provider	< 0.5	99	43
<b>Family Planning</b>	Percentage of couples practicing family planning	< 1	68	41
<b>Prenatal Care</b>	Percentage of pregnant women receiving prenatal care	0.5	99	64

\* By 2011, CRHP infant mortality rate had fallen to 8 per 1,000 live births.

## MODEL IN PRACTICE: THE COMPREHENSIVE RURAL HEALTH PROJECT

### Examples of Key Health Impacts

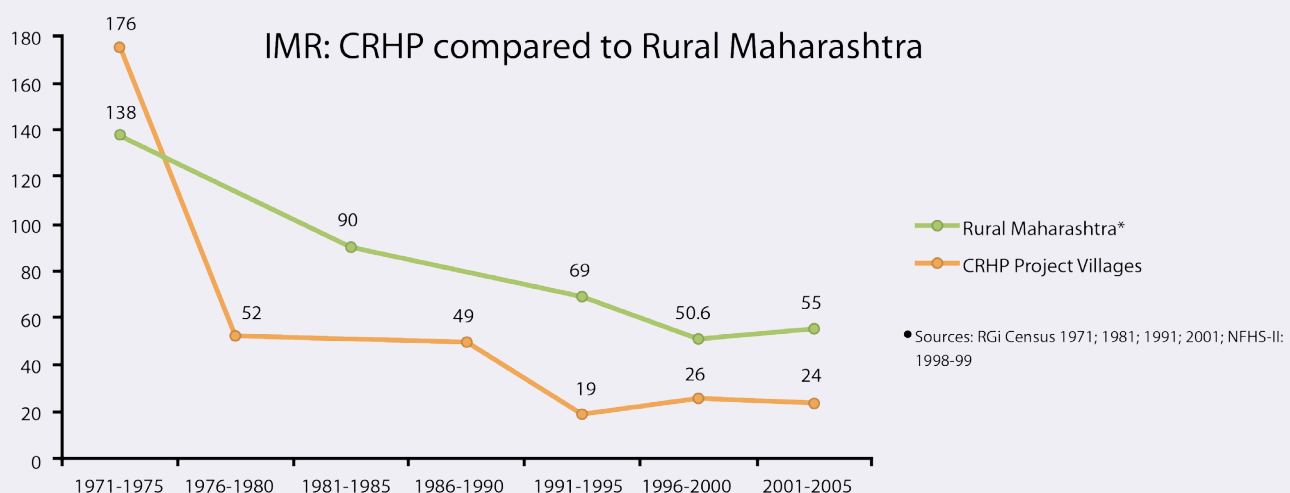
**Decreased child mortality:** Analyses of CRHP's vital events have shown sustained, significant reductions in the infant mortality rate (IMR) (the number of infant deaths per 1,000 live births). When CRHP began its work in Jamkhed in 1970, the IMR was 176 per 1,000 live births. By 2004, the IMR had fallen to around 20 per 1,000 live births, which was about half the death rate of similar populations in rural Maharashtra, India. (SEE FIGURE 1.) Recent 2011 project data show further declines in the infant death rate with an estimated IMR of 8 per 1,000 live births. (For comparison, the IMR for rural India was 55 per 1,000 in 2009.)<sup>7</sup>

A recently completed external study by researchers at the London School of Economics further demonstrates the impact of this model. The researchers found that child mortality (excluding the first month of life) during the 15-year period between 1992–2007 was 30% lower in the CRHP service area than in a surrounding set of comparison villages.<sup>9</sup>

**Improved maternal health:** Currently, virtually all pregnant women in the CRHP service area receive prenatal care and have access to safe deliveries and hospital births. This has resulted in decreased maternal mortality with the maternal mortality ratio now less than 80 per 100,000 live births.<sup>10</sup> Newborn tetanus also disappeared when women were immunized for tetanus and deliveries were hygienic.

**Other health impacts:** CRHP has diagnosed and treated almost 10,000 tuberculosis and 5,000 leprosy patients, resulting in decreased disease prevalence for both of these conditions in CRHP service areas. A comparative study showed social stigma associated with leprosy was much less in CRHP villages, allowing patients to re-integrate into village life.<sup>11</sup> In fact, a number of former leprosy patients now serve other patients in the role of health worker.<sup>12</sup>

**FIGURE 1: CRHP INFANT MORTALITY RATES COMPARED TO RATES FOR RURAL MAHARASHTRA<sup>8</sup>**





## MODEL IN PRACTICE: THE COMPREHENSIVE RURAL HEALTH PROJECT

Now that most infectious diseases have been controlled, health activities have been able to focus increasingly on disease prevention and management for diabetes, high blood pressure, and mental illness.

### Additional Social Impact

CRHP has achieved results across a wide spectrum of development indicators including watershed management, agriculture, and income-generation (especially for rural women). For example, through community participation, CRHP has planted over 1.5 million trees, leveled almost 1,000 hectares of land to improve rainwater absorption, and built almost 500 irrigation wells. Further, 6,300 soak pits have been built to reduce and filter stagnant water which acts as a breeding ground for water-borne illnesses and mosquitoes carrying malaria.<sup>13</sup>

Additionally, the process has had a transformative impact on the lives of VHWs and lower caste women in general. While such changes are difficult to quantify numerically, the real life stories of women such as Babai Sathe — from outcast to VHW to mayor of her village — provide testimony to the power of such transformation. (SEE PAGE 2.)

### Expansion and Scaling of Impact

Since CRHP began working in 30 villages in the early 1970s, the program has expanded to serve a population of over 500,000. The model has successfully been replicated in tribal regions across Maharashtra as well as throughout the Indian State of Andhra Pradesh, demonstrating the transferability of the CRHP approach across diverse settings.<sup>14</sup>

On a national level, CRHP's approach has been incorporated into the Indian government's National Rural Health Mission, which aims to cover 750 million people in rural and tribal areas of India. Before his death, Dr. Raj Arole, founder of CRHP, was appointed NGO representative to the Prime Minister's Committee that planned and oversaw the work of the National Rural Health Mission.

Beyond India, CRHP has had global influence as a pioneer of the community-based primary health care approach; it was one of the inspirations for the International Conference on Primary Health Care at Alma Alta in 1978, held up as a premier example of "Health for All" through accessible and affordable community-based primary health care.

**"The project [CRHP] does not view the process of scaling up from an organizational perspective. Rather, CRHP is working in the role of a trainer and facilitator to enable other community-based organizations and government agencies to implement such projects in areas where the need is apparent."<sup>15</sup>**

Founded in 1994, the CRHP Training Center has trained more than 22,000 Indian and 3,000 international health workers. The work of CRHP has been recognized by the World Health Organization and United Nations and has been introduced to over 170 countries across the world.<sup>16</sup>

## MODEL IN PRACTICE: THE COMPREHENSIVE RURAL HEALTH PROJECT

### Linking Cost and Impact

**Costs and resources required:** In 2011, the annual operating costs of CRHP were approximately \$550,000 including hospital costs. Expansion to each additional village costs roughly \$17,000 for the first year and decreases annually over a five-year period as the community plays an increasing role in its development. The approximate 5-year cost for a village to go through the development process is \$45,000, excluding hospital and capital costs. The average village in which CRHP operates has a population of 1,500 people.<sup>17</sup>

Historically, funding for the program has come primarily from private unrestricted donations in addition to some cost recovery from training and hospital care. CRHP has also received in-kind contributions from skilled volunteers such as physical therapists, burn specialists, and trainers.

### Cost Per Impact Profile

It costs approximately \$45,000 to transform a village over five years. During this period, Village Health Workers, local farmers' clubs, women's self-help groups, and Mobile Health Teams work together to achieve a broad range of health and development outcomes. Examples of impact include near-universal access to key health interventions (e.g., immunizations and prenatal care), significant gains in child survival and maternal health, decreased prevalence of infectious diseases (e.g., TB and leprosy), and the near-elimination of child malnutrition.

Through innovative training and demonstration programs as well as first-level referral hospitals, CRHP has sustained these gains over decades. CRHP continues to expand to new villages each year, and its impact is multiplied as it influences public health programs on a national and global level through training and policy.<sup>18</sup>

### Nonprofit contact

**Comprehensive Rural Health Project, Jamkhed**

Jamkhed, Dist. Ahmednagar

Maharashtra - 413 201, India

Email: [info@jamkhed.org](mailto:info@jamkhed.org)

Tel: +91 2421 221322

Fax: +91 2421 222892

[www.crhpjamkhed.org](http://www.crhpjamkhed.org)



*Image provided by CRHP, Jamkhed*

## TAKING ACTION: TAKEAWAYS FOR DONORS

---

1. *For donors looking for specific organizations that use a comprehensive, community-based approach, here are a few examples:* [CRHP](#), [Jamkhed](#), [BRAC](#) in Bangladesh and other countries, [Hôpital Albert Schweitzer Haiti](#), and [Partners In Health](#) (Haiti, Rwanda, Malawi, and others). There are innumerable others throughout the world. (SEE TIP 2 BELOW ON ASSESSING.)

2. *For donors looking to assess a rural health program not listed above, or for donors who are already engaged with an organization and are interested in supporting adoption of this approach, here are general characteristics that are shared by the most effective implementers. They:*

✓ Build the capacity of communities to address their own public health and development needs.

✓ Provide preventive care, early detection of problems, and treatment at the household level through outreach by community health workers and mobile clinics, and self-care by knowledgeable community members. In addition, links to quality clinics and referral hospitals mean more advanced care is available when needed (e.g., surgery to save a mother's life during complicated childbirth).

- They use some version of community health workers for routine home visits, community education, organization, and support.
- There is strong field supervision and ongoing training of community health workers.
- They have established relationships of trust with the community over a long period of time.

✓ Address social determinants of health and root causes of illness.

- Their programs target the social barriers and cultural taboos (e.g., caste system, gender discrimination, harmful traditional practices) preventing access to basic human needs such as food and clean water, and work to change attitudes and behaviors.
- Their programs address (either directly or through partnerships) the underlying causes of poverty through initiatives for improving livelihoods, water and sanitation, literacy, and agriculture.

✓ Build the capacity of the public system to ensure the long-term sustainability of their programs and impact. For example, the programs provide a training site for health professionals in the public system or they serve as proof of concept for the public system to learn to adapt the approach in the local context.

✓ Address local conditions such as ensuring access to consistent quality care in rural populations. They establish reliable supply chains and human resource networks. Their models are sustainable and scalable. Impact is expanded and sustained through behavior change, training others in the approach, and partnering with the public sector.



## TAKING ACTION: TAKEAWAYS FOR DONORS (CONT'D)

3. *For entrepreneurial donors looking to develop new approaches*, here are key principles that underlie this successful strategy:

### ✓ Create Linkages:

- Integrate multiple levels of care, such as care provided by Village Health Workers at the community level, Mobile Health Teams, hospitals and referral centers. CRHP found that approximately 80% of health issues can be addressed at the community level, with the rest supported through a strong referral network.
- Utilize a multi-sectorial approach to address broad community development needs with programs that span from health to education, agriculture, and livelihood promotion.
- Develop a strong network of partners that contribute resources through collaborative roles. In the case of CRHP, these partners range from local and global NGOs to government actors and community stakeholders.

### ✓ Mobilize and Empower Communities:

- Empower communities to take the lead and shape programs, focusing on the needs of the poor and marginalized as the starting point. CRHP's approach is not based on a technical model or a disease focus, but rather on changing behaviors and attitudes regarding caste status, gender discrimination, and poverty.
- Work with the most disenfranchised members of the community and invest in their human capacity over the long-run. CRHP is able to successfully overcome the shortage of doctors and nurses in rural areas by investing in local people to become health and development specialists.

### Contact Us

To learn more about this approach, contact our center staff at [impact@sp2.upenn.edu](mailto:impact@sp2.upenn.edu).



Image provided by CRHP, Jamkhed

## REFERENCES AND ENDNOTES

---

1. *CRHP Annual Report 2010-2011*. Retrieved June 6, 2012, from [crhpjamkhed.org/sites/default/files/files/AnnualReport20102011.pdf](http://crhpjamkhed.org/sites/default/files/files/AnnualReport20102011.pdf).
2. *CRHP Annual Report 2010-2011*.
3. Number of villages taken from *CRHP Annual Report 2010-2011*. Information on 'Stages of Development' and 'Graduated Villages' taken from CRHP, retrieved Dec. 4, 2012 from [www.crhpjamkhed.org/villages/stages\\_development](http://www.crhpjamkhed.org/villages/stages_development).
4. UNICEF. India statistics. Retrieved Nov. 31, 2012, from [www.unicef.org/infobycountry/india\\_statistics.html](http://www.unicef.org/infobycountry/india_statistics.html). Note: 'Child Malnourishment' refers to % of under-five children suffering from underweight (WHO), moderate and severe. CRHP project data from [www.crhpjamkhed.org/impact/impact](http://www.crhpjamkhed.org/impact/impact) retrieved Dec. 4, 2012.
5. CRHP data. Retrieved Nov. 31, 2012, from [www.crhpjamkhed.org/impact/impact](http://www.crhpjamkhed.org/impact/impact).
6. UNICEF. (2006). State of the World's Children 2006. Retrieved Nov. 31, 2012, from [www.unicef.org/sowc06/statistics/statistics.php](http://www.unicef.org/sowc06/statistics/statistics.php). Note: 'Child Malnourishment' refers to % of under-five children suffering from underweight (WHO), moderate and severe; 'Family Planning' refers to the prevalence of women in union using contraceptives; 'Immunization' refers to the number of children under the age of 5 who have received three doses of DPT vaccine and the polio vaccine; 'Prenatal Care' refers to the number of women who have received care at least one time during the course of their pregnancy.
7. CRHP data from: Comprehensive Rural Health Project. Retrieved Dec. 4, 2012, from [www.crhpjamkhed.org/impact/impact](http://www.crhpjamkhed.org/impact/impact). Comparison data for rural India from: Office of Registrar General, India. "Maternal & Child Mortality and Total Fertility Rates: Sample Registration System (SRS)." Published 7th July 2011. Available online at [www.censusindia.gov.in/vital\\_statistics/SRS\\_Bulletins/MMR\\_release\\_070711.pdf](http://www.censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR_release_070711.pdf).
8. CRHP data from: Comprehensive Rural Health Project. Retrieved Dec. 4, 2012, from [www.crhpjamkhed.org/impact/impact](http://www.crhpjamkhed.org/impact/impact). Comparison data for rural Maharashtra compiled by CHRP from: Registrar General India (RGI) Census and the National Family Health Survey-II 1998-99. Note: the data for rural Maharashtra are an estimate for the rural population with no more than a primary school education, which is analogous to the Jamkhed population.
9. Mann, V., Eble, A., Frost, C., Premkumar, R., & Boone, P. (2010). Retrospective comparative evaluation of the lasting impact of a community-based primary health care programme on under-5 mortality in villages around Jamkhed, India. *Bulletin of the World Health Organization*, 88(10), 727-736. doi: 10.2471/BLT.09.064469.
10. McCord, C., Premkumar, R., Arole, S., & Arole, M. (2001). Efficient and effective emergency obstetric care in a rural Indian community where most deliveries are at home. *International Journal of Gynecology & Obstetrics*, 75(3), 297-307. Retrieved June 26, 2012, from [www.ncbi.nlm.nih.gov/pubmed/11728493](http://www.ncbi.nlm.nih.gov/pubmed/11728493).
11. Arole, S., Premkumar, R., Arole, R., Maury, M., & Saunderson, P. (2002). Social stigma: A comparative qualitative study of integrated and vertical care approaches to leprosy. *Leprosy Review*, 73, 186-196.
12. Rosenberg, T. (2008, December). Necessary Angels. *National Geographic*. Retrieved June 26, 2012, from [ngm.nationalgeographic.com/2008/12/community-doctors/rosenberg-text](http://ngm.nationalgeographic.com/2008/12/community-doctors/rosenberg-text).
13. Luo, E., CRHP (2012, May 30). [Telephone interview].
14. CRHP data. Retrieved June 1, 2012 from [www.jamkhed.org/scalingup.shtml](http://www.jamkhed.org/scalingup.shtml).
15. Quote from CRHP. Retrieved June 1, 2012 from [www.jamkhed.org/scalingup.shtml](http://www.jamkhed.org/scalingup.shtml).
16. Public Health Foundation of India. "Comprehensive Rural Health Project Case Study." Pre-release version dated May 17, 2012.
17. Costing data from personal communication (E. Luo, CRHP – May 2012) and *CRHP Annual Report 2010-2011*.
18. *CRHP Annual Report 2010-2011*.

Please contact us if you would like to learn more about the Center's work, including opportunities to partner with us to identify and assess additional high-impact opportunities. You can send comments about this guide to the Center for High Impact Philanthropy at [impact@sp2.upenn.edu](mailto:impact@sp2.upenn.edu).

As the publisher of this report, we encourage the widespread circulation of our work and provide access to our content electronically without charge. You are free to share — copy, distribute, and transmit the work — or otherwise make our materials available to others provided that you acknowledge the Center for High Impact Philanthropy's authorship.

Copyright © 2012 Center for High Impact Philanthropy, School of Social Policy & Practice, University of Pennsylvania

## The Center for High Impact Philanthropy

School of Social Policy & Practice | University of Pennsylvania

3815 Walnut Street  
Philadelphia, PA 19104

**WEBSITE** [www.impact.upenn.edu](http://www.impact.upenn.edu)  
**EMAIL** [impact@sp2.upenn.edu](mailto:impact@sp2.upenn.edu)  
**PHONE** (215) 573-7266

**BLOG** [blog.impact.upenn.edu](http://blog.impact.upenn.edu)  
**FACEBOOK** [www.facebook.com/CenterforHighImpactPhilanthropy](https://www.facebook.com/CenterforHighImpactPhilanthropy)  
**TWITTER** [www.twitter.com/ImpactSP2](https://www.twitter.com/ImpactSP2)  
**LINKEDIN** [www.linkedin.com/groups/Center-High-Impact-Philanthropy-2015373](https://www.linkedin.com/groups/Center-High-Impact-Philanthropy-2015373)  
**YOUTUBE** [www.youtube.com/user/impactsp2](https://www.youtube.com/user/impactsp2)

