

CAMTech India's "Jugaad-a-thon" spurs promising innovations for maternal and child health

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CAMTech India along New Delhi based think-tank, **Public Health Foundation of India** and GE Healthcare organised 'Jugaad-a-thon', an event to test creativity in medical design which brought to the table 34 new solutions ranging from new tools for antenatal care to disruptive technologies for newborn asphyxia. These were designed and developed over two days by 250 clinicians, engineers and entrepreneurs representing the academia and industry.

The key objective of 'Jugaad-a-thon' held on similar lines of hack-a-thon event to develop new technology ideas was to find new solutions to pressing maternal and child health challenges in India. The event held at GE's John F. Welch Research Centre in Bengaluru.

Ahead of the hack-a-thon, PHFI and CAMTech partners organised a full day Clinical discussion that brought together physicians, nurses, healthcare workers, government and public health experts to identify pressing clinical needs and best practices in Reproductive, Maternal, Newborn & Child Health.

Speaking at the clinical discussion, Dr Priya Balasubramaniam, Senior Public Health Scientist and Director PHFI-RNE Universal Health Initiative said, "The Millennium Development Goals have committed developing economies like India to substantially reduce both child and maternal mortality. Well-designed innovative, low-cost medical technologies can act as a catalyst to improve maternal and child health outcomes by offering better treatments, better risk assessment, and more efficient strategies to get cost-effective healthcare to mothers and children. Initiatives like the PHFI- CAMTech India collaboration can make a tremendous contribution in utilizing innovative medical technologies across the continuum of care for (RMNCH) women and child health—by incorporating technologies to improve access to appropriate curative and preventive interventions, especially in the home, communities and primary health facilities in low resource settings, where over half of the more than 60 million births per year occur."

"The innovative thinking in this hack-a-thon surpassed any expectation. Over these 48 hours, we saw clinical challenges drive innovative ideas, which then spawned new life-saving technologies for women and children in India. The Jugaad-a-thon was open innovation at its best," said Elizabeth Bailey, Director, Consortium for Affordable Medical Technologies (c), Massachusetts General Hospital's Center for Global Health.

Judges awarded prizes at the close of the Jugaad-a-thon. The Top Prize: Team 'Baby Steps' received Rs.2,50,000 (USD \$4,100) for developing a unique and integrated mobile app for early diagnosis of developmental delays in children across India. The First Runner Up: Team 'Pel-Dia' received Rs.1,50,000 (USD \$2,500) for developing a solution to diagnose Cephalopelvic Disproportion (CPD) in pregnancies after 37 weeks by any healthcare worker. The Second Runner Up: Team 'Pregmatic' received Rs.75,000 (USD \$1,250) for the development of an affordable wearable device that reminds pregnant women about key milestones in pregnancy when they must see a medical professional.

All three of the cash prize winners also received three years of incubation support at the Mazumdar-Shaw Medical Center's Healthcare Technology Incubator.

There were also prizes awarded by three corporate sponsors. Anheuser-Busch InBev championed the cause of road safety technologies for children. Covidien offered several clinical problems in need of innovation, including newborn asphyxia, fetal/maternal monitoring and post-partum hemorrhage. Novartis Foundation came up with new approaches to diagnose Leprosy. Each winning team will receive Rs.50,000 and ongoing support from the companies.

Additional prizes included in-kind support from Dayanda Sagar Institutions (incubation services), InnAccel (acceleration services), and the Wellcome Trust (fundraising and grant writing mentorship).

"We have seen several creative ideas in just 48 hours that can change the way of reproductive, maternal health and infant care. It is a completely new experience for us and we believe co-creation of solutions can accelerate affordable healthcare innovation, said Vikram Damodaran, director, healthcare Innovation, India, and GE Healthcare South Asia.

Technology Hackathon for India's Poor

By [Bruce Einhorn](#) July 22, 2014



One of every three children in India dies before age five. Seventeen percent of all women dying during childbirth are in India, and mothers in India and other developing countries are 14 times more likely to die than their counterparts in wealthier countries.

In an effort to put some of that power to work to address those dismal health-care statistics, about 250 engineers, entrepreneurs, public health leaders and health-care specialists from India's startups and IT and drug companies are gathered in Bangalore, the nation's high-tech hub last week. They took part in a two-day hackathon organized by Boston's Consortium for Affordable Medical Technologies (CAMTech) in which teams compete to turn ideas into innovative prototypes for maternal and child health care. Supported by **Public Health Foundation of India** and General Electric which hosted the hackathon at GE's [R&D center named after Jack Welch](#).

By getting hundreds of people together in one place and challenging them to work quickly, CAMTech is trying to "take a great talent pool which is fragmented and [create a recipe for accelerated innovation](#) in 48 hours," says Smitha Gudapakkam, the consortium's manager for business development. At the hackathon's conclusion, teams made 3-minute presentations and a panel of eight judges handed out between 10 to 15 prizes, including a first-place award of 250,000 rupees (\$4,160).

This is the sixth hackathon sponsored by CAMTech since its launch two years ago. Part of Massachusetts General Hospital's Center for Global Health, CAMTech works with such partners as MIT and Harvard Medical School as well as organizations in India and Uganda. Operating in Uganda, notorious for [anti-gay legislation](#) championed by President Yoweri Museveni, is "not without its challenges," says Elizabeth Bailey, CAMTech's director. But it's in India where CAMTech has the most

potential, with the consortium enjoying what Bailey calls “exponential growth over the past year.” CAMTech has teamed with partners across the country, including [Glocal Healthcare](#), a Kolkata-based chain of rural hospitals, Public Health Foundation of India, a government advisory body, and [Narayana Health](#), a hospital operator in Bangalore focused on providing affordable care on a large scale.

With so much talent in Mass General’s backyard, why go across the world to India? “The guiding principle is co-creation,” says Bailey, adding that it’s important for people with first-hand knowledge of health care in developing countries to be part of the process. “The end-users need to drive the technology innovation process,” she says. “People on the ground know their problems certainly better than we do in Boston.”

Dr Priya Balasubramaniam from Public Health Foundation added, “Well-designed innovative, low-cost medical technologies can act as a catalyst to improve maternal and child health outcomes in India by offering better treatments, better risk assessment, and more efficient strategies to get cost-effective healthcare to mothers and children, a challenge which the country faces.”

Hack-a-thon and Clinical Summit by PHFI and CAMTech identifies gaps in Reproductive, Maternal, Newborn & Child Healthcare in India

Technology innovation galore, but un-used; start-ups seem to be a viable solution

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US based CAMTech and its Delhi based NGO partner Public Health Foundation of India along with GE and Kolkatta based Glocal, with funding from USAID, recently held a Hack-a-thon and Clinical Summit that identified gaps in Reproductive, Maternal, Newborn & Child Healthcare (RMNCH) in India.

The Clinical summit brought together physicians, nurses, healthcare workers, government and public health experts who debated on how cross-disciplinary collaborations across public health, technology and businesses drive innovation in RMNCH.

“This approach of ‘Co-Creation’ will help develop medical technologies that are not only technologically-disruptive and clinically-impactful, but also commercially viable in LMIC markets.” Said Elizabeth Bailey, CAMTech’s director

CAMTech India is a public private partnership (PPP) designed to accelerate medical technology innovation in order to improve reproductive, maternal, newborn and child health outcomes around preventable deaths in India.

Dr Priya Balasubramaniam, Senior Public Health Scientist and Director PHFI-RNE Universal Health Initiative said, “Developing economies like India need to substantially reduce both child and maternal mortality. It is through well-designed innovative, and low-cost medical technologies that can be catalysts to improve maternal and child health outcomes, offering better treatments, better risk assessment, and more efficient strategies to get cost-effective healthcare to mothers and children. PHFI through its existing affordable health technologies and research along with partners like CAMTech India, USAID and GE can make a tremendous contribution in utilizing innovative medical technologies across the continuum of care for women and child health.”

GE and Glocal Healthcare partnered with CAMTech India consortium to conduct a hackathon called ‘Jugaad-a-thon’. The Jugaad-a-thon is a first-of-its-kind project attempting to bring clinicians, hospitals and technologists under one umbrella, aiming is to provide affordable and innovative healthcare solutions by creative techno-geeks who were awarded prizes at GE’s John F. Welch Research Centre in Bengaluru. The ‘Jugaad-a-thon’ brought to the table 34 new solutions ranging from new tools for antenatal care to disruptive technologies for newborn asphyxia. These were designed and developed over two days by 250 clinicians, engineers and entrepreneurs representing the academia and industry.



CAMTech INDIA launches 'Jugaad-a-thon' with Glocal Healthcare and GE Healthcare

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USAID-sponsored 'hack-a-thon' to bring together global group of clinicians, engineers and entrepreneurs to crowd source innovations to improve the health of women and children in India

CAMTech INDIA—a new United States Agency for International Development (USAID/India) funded public-private partnership to accelerate medical technology innovation for reproductive, maternal, newborn and child health (RMNCH) in India—announced its first medical technology hack-a-thon in Bangalore on July 18-20, 2014. This inaugural hack-a-thon is being organised in partnership with Glocal Healthcare and hosted by GE Healthcare India.

The Jugaad-a-thon was preceded by a Clinical Summit, partnered by big-wigs such as New Delhi based Think-tank Public Health Foundation of India, which convened clinicians, healthcare workers, government public health experts and patients from across India to identify the most pressing RMNCH needs and best practices in delivering care. The summit will also include a Technology Showcase for early-stage and newly marketed medical technologies that aim to improve quality and access for RMNCH in India.

PHFI's Director for Universal Health Initiative Dr Priya Balasubramaniam while speaking at the Clinical Summit said "This summit attempts to provide greater understanding of the patient experience while accessing RMNCH care. Today's patient in India is still experiencing barriers in terms of access, quality and cost of care and sessions at the clinical summit will help gain insight into these challenges."

"The Jugaad-a-thon is a new way of elevating the experience and know-how of local experts, and using strategies from not just engineering, but also public health and business, to develop new tools to improve health," said Elizabeth Bailey, Director of the Consortium for Affordable Medical Technologies (CAMTech) at Massachusetts General Hospital's Center for Global Health. "We're focused on finding impactful, marketable, and innovative ways to provide care to women and children in India."

CAMTech INDIA's inaugural Jugaad-a-thon (derived from the Hindi word jugaad meaning an innovative fix or work-around) will be a 48-hour event where 250 clinicians, engineers and entrepreneurs collaborate on disruptive, new solutions for unsolved clinical problems. Cross-disciplinary teams addressing specific clinical challenges will work late into the night to develop functional prototypes and explore new business models to commercialise their innovations. Teams present their innovations to a panel of judges at the end of the event, and will be awarded a variety of prizes to help take their innovations forward.

To date, over 1,000 innovators have participated in CAMTech hack-a-thons across India, Uganda and the United States, and they have spawned a wide range of new technologies addressing intractable problems such as newborn asphyxia, postpartum hemorrhage and cervical cancer.

"As a healthcare provider to those most at risk for poor health and early death in India, hack-a-thons help us become a part of a unique community of innovators who share our vision of ensuring the

best health care is available to all,” said Soura Bhattacharyya, Glocal’s Chief of Medtech. “We see this effort as central to improving the lives of the millions we serve.” As one of CAMTech INDIA’s lead partners, Glocal Healthcare will provide on the ground expertise and resources for the program’s hack-a-thons and clinical summits.

The event will be hosted at GE’s John F. Welch Technology Centre in Bangalore, the company’s largest innovation center.

“With rising rates of infant and maternal mortality in emerging and underserved healthcare markets, maternal and child health forms one of our core pillars,” said Vikram Damodaran, Director, Healthcare Innovation, India, GE Healthcare South Asia. “This collaboration with CAMTech INDIA is meant to draw upon GE’s strategic intent to create an open innovation platform to accelerate development of affordable care solutions for this critical need. The John F. Welch Technology Center provides the perfect setting with high-end infrastructure, domain experts and access to world-class intellectual talent to act as mentors during the event.”

The hack-a-thon will conclude with an awards ceremony where top innovations will receive a range of prizes, including monetary and in-kind prizes to help push prototypes through to a marketable product. Sponsors of such awards include AB InBev, Dayananda Sagar Institutions, FICCI, InnAccel and several other corporations and organisations committed to supporting affordable innovation for maternal and child health in India. Teams will be judged by a panel of experts from public health, engineering and business, reflecting CAMTech’s cross-sector approach to innovation.