



Request for Impact Evaluation: Sales and Marketing Strategies Targeting Hospitals in India and East Africa (D-Rev)

D-Rev, a California-based nonprofit design company that works to close the gap in access to quality medical devices, seeks academic researcher to help design and evaluate strategies for marketing to bottom-of-the-pyramid customers.

The researcher would work with D-Rev to design a proposed study or studies, and submit the proposal (known as an “Expression of Interest”) to the Weiss Family Program Fund for consideration in a competitive grant process. Students and faculty from Harvard, MIT, BU, and UC Berkeley are eligible to apply.

The researcher’s proposal (“Expression of Interest”) to the Weiss Family Program Fund will need to include:

- Description of proposed project that would allow the review committee (comprised of senior faculty at the institutions above) to determine its feasibility and potential impact on development policy
- Outline of a research hypothesis
- Identification strategy (for empirical proposals intended to estimate a causal effect)
- Project timeline, budget narrative, and detailed estimated budget
- Explanation of availability of data to be used in empirical proposals

Research questions that could be answered through this work

- *What strategies can be employed to increase sales of affordable, high quality medical products to hospitals in some of the poorest states in India?*
- *What strategies can be employed to increase sales of affordable, high quality medical products to hospitals in East Africa?*
- *How do these strategies impact the availability of effective devices in hospitals in target markets versus availability of effective devices in hospitals in non-target (control) markets?*

D-Rev’s hypothesis is that through targeted marketing and sales campaigns, D-Rev and its India-based partner, Phoenix Medical Systems Ltd., can increase sales and thereby, availability of effective medical devices, in target markets in India and East Africa.

Ideas (projects) to be tested and evaluated

The projects that D-Rev would like to have evaluated relate to its deployment of Brilliance, a phototherapy device for treating neonatal jaundice. Brilliance was developed by D-Rev to make high-quality phototherapy devices accessible to hospitals that otherwise couldn't afford them. D-Rev did the design work on Brilliance, and has partnered with Phoenix Medical Systems Ltd, a Chennai-based medical device company, who manufactures, sells, and distributes the devices worldwide. The goal of D-Rev's work on Brilliance is to increase the prevalence of effective phototherapy devices throughout the world's hospitals. As of March 2015, over 850 Brilliance units have been sold and installed.



Nurse and doctor using D-Rev's Brilliance phototherapy device to treat a newborn with severe jaundice.

D-Rev has two discrete Brilliance projects planned for 2015-16, either or both of which would be appropriate for evaluation:

- **India Project:** Business development and marketing project targeting three key states in India. Thesis: We can increase sales of Brilliance in India through targeted sales and marketing, and this will result in increased prevalence of effective phototherapy devices.
- **East Africa Project:** Business development and marketing project targeting East Africa. Thesis: We can increase sales of Brilliance in East Africa through targeted sales and marketing, and this will result in increased prevalence of effective phototherapy devices.

D-Rev would like, but not require, assistance in designing the intervention to be tested and evaluated. D-Rev sees this as an opportunity to learn from the researchers and collaborate on designing, testing, and evaluating innovative strategies for increasing uptake of important, user-centered medical technologies. D-Rev is also open to the idea of an ongoing relationship with researchers interested in testing additional strategies and interventions.

Possible approaches to data collection and research

- India Project:
 - Potential sample size: 25 to 50 hospitals
 - Compare uptake of medical devices in Indian states/markets targeted with tailored sales and marketing strategy with uptake in Indian states/markets not targeted.
 - Gather data about availability of effective phototherapy devices (sufficient # of devices, minimum levels of irradiance) in target and non-target markets before and after intervention.

- East Africa Project:
 - Potential sample size: 25 to 50 hospitals
 - Compare uptake of medical devices in East African states/markets targeted with tailored sales and marketing strategy with uptake in East African states/markets not targeted.
 - Gather data about availability of effective phototherapy devices (sufficient # of devices, minimum levels of irradiance) in target and non-target markets before and after intervention.

Current data available

D-Rev's partner, Phoenix Medical Systems Ltd., based in Chennai, India, manufactures Brilliance, and also manages all Brilliance sales and installations within India. Relevant data from Phoenix available now and in the future include:

- All sales data (purchaser, location, contact information, unit quantities, sales date).
- Installations data for a majority of units sold (hospital names and addresses, installation dates, some hospital characteristics).

Research is also available on existing rates of access to effective phototherapy devices in Nigeria and India, by hospital location and source of funding.

Other resources available

- **Network:** D-Rev has a genial and productive relationship with key personnel at Phoenix Medical Systems, the manufacturer, seller, distributor, and installer of Brilliance. D-Rev is also very well connected in the fields of development engineering and international development.
- **Experience:** D-Rev has conducted extensive fieldwork throughout the world, including in India and East Africa.
- **Staffing:** D-Rev would be able to work closely with researchers to design and execute the study, while at the same time, respect the researchers' desire to produce independent and objective results. Objective truth-seeking and learning is D-Rev's goal.
- **Funding:** D-Rev has applied for additional funding to cover costs of East Africa evaluation, and may be able to undertake additional fundraising to cover costs.

About D-Rev

D-Rev is a 501(c)(3) nonprofit design company established in 2007, whose mission is to improve the health and incomes of people living on less than \$4 a day. We believe that everyone, no matter

their origin or income, deserves the very best in design, and should be able to choose the products they use. We develop radically affordable, user- and context-appropriate products that meet international standards and/or exceed the quality of the best products on the market, and use a market-driven model for distribution, sales, and scaling. Based in San Francisco, California, D-Rev is led by designer, engineer, and social entrepreneur, Krista Donaldson, PhD.

About Brilliance

One of the key areas D-Rev is focused on is Newborn Health, and specifically, neonatal jaundice, which every year affects 3 out of 5 infants globally. D-Rev, along with experts at Stanford University, have estimated that of the 24 million babies who require treatment each year for neonatal jaundice, a full quarter of them (6 million) are not receiving adequate treatment.¹ To address this need, D-Rev developed [Brilliance](#), an overhead phototherapy device targeted at district-level hospitals that retails at around \$400, less than a third of the cost of comparable devices. D-Rev has partnered with Phoenix Medical Systems Ltd. of Chennai, India, to commercialize Brilliance. Since the product's market launch in 2012, over 850 Brilliance units have been installed in hospitals in India and nine other low-income countries in Southeast Asia, sub-Saharan Africa and South America, treating more than 50,000 newborns with jaundice. In January 2015, D-Rev launched Brilliance Pro, a second-generation version of the device with enhanced features and capabilities. More information about Brilliance and its impact can be found here: <http://d-rev.org/impact/brilliance/>.

Brilliance and D-Rev have recently been featured in the following publications:

- “How a Design Firm Is Saving Lives by Sweating the Details” (WIRED, January 23, 2015). <http://www.wired.com/2015/01/d-rev-brilliance-pro/>
- “A Streamlined Device To Treat Infant Jaundice, Designed For The World's Poorest” (Fast Company, January 22, 2015). <http://www.fastcoexist.com/3041160/a-streamlined-device-to-treat-infant-jaundice-designed-for-the-worlds-poorest>
- “Designing for social impact: The D-Rev Story” (McKinsey & Company, June 2014). http://www.mckinsey.com/insights/social_sector/Designing_for_social_impact_The_D_Rev_story?cid=other-eml-alt-mip-mck-oth-1406
- “Light Bulb Moments for a Nonprofit” (New York Times, January 11, 2014). http://www.nytimes.com/2014/01/12/business/international/light-bulb-moments-for-a-nonprofit.html?_r=3

¹ B. K. Cline, R. Vilms, K. McGraw, K. M. Donaldson, V. K. Bhutani. Global Burden and Unmet Need for Hyperbilirubinemia Treatment. Poster session presented at Pediatric Academic Societies Annual Meeting; 2010 May 1-4; Vancouver, British Columbia.

Staff Bios

Sara Tollefson, Director of Impact

Sara Tollefson manages the collection, analysis and sharing of D-Rev's impact data. As Director of Impact, she integrates D-Rev's impact assessment requirements into product development strategy, and oversaw the design and launch of D-Rev's Impact Dashboards. Prior to D-Rev, she practiced law in New York City. Sara holds a BA in Political Science from Stanford University and a JD from New York University School of Law. Contact information: stollefson@d-rev.org, (415) 642-1143.

Krista Donaldson, CEO

Krista Donaldson, PhD, has driven innovation in product design, engineering, and international development for more than 15 years. As the CEO of D-Rev, Krista has led the design and scaling in emerging markets of Brilliance, radically affordable treatment for babies with jaundice, and the ReMotion prosthetic knee. Her leadership has won Krista acclaim as one of Fast Company's 50 Designers Shaping the Future, a TED speaker, and a World Economic Forum Technology Pioneer. Prior to D-Rev, Krista was an economic officer at the US Department of State where she worked on economic policy and the reconstruction of Iraq's electricity sector, and as a design engineer at KickStart in Nairobi, Kenya. She has also worked at the product design firm IDEO. Krista holds a BE in Mechanical Engineering from Vanderbilt University as well as a MSE (Product Design), MSME and a PhD from Stanford University in Mechanical Engineering design. Contact information: kdonaldson@d-rev.org, (415) 642-1143.

AJ Viola, Newborn Health (Brilliance) Project Manager

AJ's career path has taken him through both the private and nonprofit sectors. Before D-Rev he worked for McMaster-Carr, where he was most recently responsible for running warehouse operations and driving projects aimed at improving productivity and speed. Prior to this he worked for United Way Silicon Valley, helping assess business development strategies and performing quantitative analyses to maximize the effectiveness of fundraising resources. He has also worked with entrepreneurs in India, bringing to market a high-quality wheelchair at an affordable price. AJ holds a BA in Psychology from Stanford University and an MBA from Harvard Business School. Contact information: aviola@d-rev.org, (415) 642-1143.

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