# CAN PRIZES SOLVE PROBLEMS FACING VULNERABLE POPULATIONS?


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*Children's Prize Foundation*


*Salman defied the odds. Prior to his birth, his 40-year-old mother had endured seven newborn deaths and five stillbirths in 14 deliveries. While pregnant with Salman, she suffered from both acute anemia and high blood pressure, and yet she was determined to follow tradition and deliver at home. Fortunately for Salman, the nonprofit Vital Pakistan had recently started providing an evidence-based maternal, newborn, and child intervention package in his village, Rethri Goth, on the outskirts of Karachi, Pakistan. Vital Pakistan services include training community workers to identify at-risk pregnancies and to encourage families to use skilled birth services. Thanks to Vital Pakistan and Aga Khan University Hospital, Salman is thriving today.*

Salman is far from the only beneficiary. The neonatal mortality rate in Rethri Goth dropped 44 percent between 2013, the year before Vital Pakistan began offering services, and 2015. In absolute terms, neonatal mortality fell from 57 deaths per 1,000 live births in 2013 to 32 deaths per 1,000 live births in 2015. Pakistan's national neonatal mortality rate dropped only five percent in that period (from 47.4 to 45.5 deaths per 1,000 live births). Rough calculations based on Vital Pakistan's online progress report indicate that during the first two years of its operations, 51 infants survived the first month of life who otherwise would have perished.[1] The under-five mortality rate also fell in Rethri Goth due to the provision of services such as nutritional supplementation and immunizations. Salman's story is highlighted on Vital Pakistan's website and includes this heartbreaking quote from his mother: "I wish these services had come sooner."

Dr. Anita Zaid, the founder of Vital Pakistan, obtained her initial funding for the program in Rethri Goth by winning the inaugural $1,000,000 Children's Prize in 2013. She initially applied as an individual not affiliated with any nonprofit and, without a fiscal sponsor,[2] would have been ineligible for most grants. Foundations typically prefer to fund established nonprofit organizations capable of sustaining themselves.[3] Bank loans would also be exceedingly difficult to obtain in Rethri Goth, especially without collateral or a business plan. The Children's Prize filled the funding gap. Like many prizes, the Children's Prize accepts applications from individuals, nonprofits, and for-profits.

The Children's Prize Foundation tests the boundaries of philanthropy in two ways: how money is dispersed, and how projects are managed. Ted Caplow, an engineer and entrepreneur, created the Children's Prize after the birth of his triplets. Caplow was inspired by his belief that "all children are equally deserving of life and better health" and his desire to address the problem that "children and mothers die daily from preventable causes."[4] Caplow considered donating to existing, large foundations but was unconvinced that his donations would have much of an impact on reducing under-five mortality. He was also intrigued by the resurgence in science prizes, such as the Ansari XPRIZE for suborbital flight, which were yielding major breakthroughs. Caplow decided to design his own open global competition. Each year, the Children's Prize assembles a team of experts to pick the winners and then engages with the winners to support the projects. Funds are paid out in stages as quantifiable

1 Assumptions: (1) The 2,710 births between May 19, 2014, and April 30, 2016, were split into two intervals (with the second interval experiencing slightly fewer births because it contains three fewer weeks); (2) The imputed neonatal mortality rates in the absence of the program were calculated by adjusting the starting neonatal mortality rate in Rethri Goth in 2013 to fall annually by the same percentage observed for the national neonatal mortality rate; (3) The imputed 2014 neonatal mortality rate was used to estimate the number of neonatal deaths without the program for the period between May 19, 2014, and May 18, 2015, and the imputed 2015 neonatal mortality rate was used to estimate the number of neonatal deaths without the program for the period between May 19, 2015 and April 30, 2016. Neonatal mortality data for Vital Pakistan can be obtained at http://www.vitalpakistantrust.org/progress-report.php and national data for Pakistan can be obtained at http://www.indexmundi.com/facts/pakistan/mortality-rate.

2 According to Grantspace: "Fiscal sponsorship is a formal arrangement in which a 501(c)(3) public charity sponsors a project that may lack exempt status. This alternative to starting your own nonprofit allows you to seek grants and solicit tax-deductible donations under your sponsor's exempt status." For more information, see http://grantspace.org/tools/knowledge-base/Individual-Grantseekers/Fiscal-Sponsorship/fiscal-sponsorship.

3 Joanne Fritz, "6 Realities of Foundation Grants for Nonprofits: Grants Have Their Place, but Are Not a Cure-All," *The Balance* (August 21, 2015), available at http://www.thebalance.com/foundation-grants-for-nonprofits-2501773.

4 Children's Prize Foundation, "Our Story," available at http://www.childrensprize.org/our-story/.

milestones are reached. Given Caplow's technical background, it is not surprising that the Children's Prize wholeheartedly embraces the growing emphasis in the philanthropic sector on evidence-based programs. It requires "rigorous process accountability" and "insists on impact and data-driven rigor."[5]

## TRENDS IN PRIZES

The Children's Prize is among the growing wave of organizations offering prizes. Unfortunately, the last systematic review of prizes offering awards greater than $100,000 was conducted almost ten years ago by McKinsey & Company.[6] McKinsey reported that in 2007, 80 percent of the extant 219 large prizes focused on technical challenges (aviation and space, science and engineering, and climate and environment). Prizes for the arts and "other" (which includes social concerns, such as health, poverty reduction, and education) accounted for ten percent each. Following precedent in the prize literature, the terms "prize," "contest," "challenge," and "competitions" are used interchangeably. The McKinsey report noted that over 60 of the large prizes were created after 2000 and estimated that the total prize sector was worth "as much as $1 to $2 billion."[7]

The proportion of prizes that address social challenges may be growing as well. Following on the success of the Ansari XPRIZE in 2004, the XPRIZE Foundation has launched four prizes for social challenges (women's safety, water abundance, adult literacy, and global learning), as well as 11 more prizes for specific technical goals (such as lunar robotic exploration). In 2015, the foundation launched XPRIZE India to solve development challenges in energy, food, learning, shelter, water, waste, and social justice. Many organizations, such as the Knight Foundation and Ashoka Changemakers, also now offer multiple prizes to address broad social concerns. Online prize platforms, such as Innocentive, allow both for-profit and nonprofit organizations to post challenges for a variety of problems. Most of Innocentive's current 73 prize offerings focus on scientific achievement, such as the $100,000 challenge for "Culture of Select Poultry Viruses in Immortalized Cell Substrates," but others focus on social challenges, such as the $50,000 "LIFTed Prize 2017—Innovation in Postsecondary Learning."

President Obama encouraged government agencies to increase their use of prizes in 2010, and many have followed through.[8] As of March 3, 2017, the Challenge.gov website listed 750 active competitions. Although most of the prizes listed on Challenge.gov focus on scientific goals, such as the $295,000 Nail to Nail (N2N) Fingerprint Challenge, others, such as the $1.2 million Aspire Challenge, address a social need. Up to 16 Aspire Challenge winners will be awarded $75,000 each by the U.S. Small Business Administration to implement their proposals "to spur the development and provision of innovative entrepreneurial development and access to capital resources for formerly incarcerated individuals or those who are non-violent ex-offenders."[9]

To understand how prizes can address the needs of vulnerable populations, it is important to recognize that there are three main types of prizes.[10] The prize types differ in the order in which applicants receive funds, complete their work, and enter the prize competition:

- Resource Prizes: Winners are given an award before they complete their proposal (Children's Prize, Aspire Challenge, Innocentive's Postsecondary Learning).
- Incentive Prizes: Winners are given an award after they complete the goal (Ansari XPRIZE, Nail to Nail, Innocentive's Poultry Virus Challenge).
- Recognition Prizes: Winners are given an award for work completed before competition (Nobel Peace Prize, Pulitzer Prize, Ibrahim African Leadership Prize).

5 Ibid.

6 McKinsey & Company, "And the Winner Is: Capturing the Promise of Philanthropic Prizes" (July 2009), available at http://www.mckinsey.com/industries/social-sector/our-insights/and-the-winner-is-philanthropists-and-governments-make-prizes-count; The annual *Awards, Honors & Prizes*, published by Gale, does provide an extensive, but not exhaustive, list of all types of awards, not just prizes. For the past ten years, various editions have reported between 20,000 and 24,000 awards of all types.

7 McKinsey, "And the Winner Is" (July 2009).

8 Kathleen O'Neil, "Prizes and Competitions Spur Innovation in Government Agencies," American Association for the Advancement of Science (January 13, 2017), available at http://www.aaas.org/news/stpf/competitions-and-prizes-help-government-agencies-spur-innovation.

9 Aspire Challenge, "About the Challenge," available at http://www.challenge.gov/challenge/aspire-challenge/.

10 Renya Reed Wasson, "The Future of Prize Philanthropy," *Stanford Social Innovation Review* (Summer 2016), available at https://ssir.org/articles/entry/the_future_of_prize_philanthropy; McKinsey, "And the Winner Is" (July 2009).

Resource prizes are essentially technologically enhanced grants. Compared with grants, resource prizes typically are open to a wider audience, place a greater emphasis on measurement and outcomes, and are more likely to adopt a web-based prize platform to interface with applicants and to build an online community that promotes collaboration between current and past applicants.[11] Resource prizes can address broad social challenges, such as improving child and maternal health.

Incentive prizes, also known as inducement prizes, require the completion of a precisely stated specific goal to win an award. For example, the specific goal for the $10 million Ansari XPRIZE was "to build a reliable, reusable, privately financed, manned spaceship capable of carrying three people to 100 kilometers above the Earth's surface twice within two weeks."[12] Starting with the British government's Longitude Prize in 1714 for the first marine chronometer, incentive prizes have been used for centuries to spur technological breakthroughs.[13]

Recognition prizes, the last major type of prize, are awarded for work completed before the start of the competition. All three types of prizes can raise an issue's public profile and inspire future leaders.

Tiered-evidence provides another lens for viewing prize types. Borrowing from Feldman and Haskins' tiered-evidence grantmaking protocol, projects can be divided into three groups, depending on how much evidence is available, and each group can be mapped to an optimal prize/funding mechanism.[14] On the lowest step of the evidence ladder, development projects employ "high-potential and relatively untested practices." If these are relatively low-cost projects, or are conducted in industries with high earning potential, they could be designed as self-funded incentive prizes. If funding is an insurmountable barrier, development projects would need to be designed as resource prizes. At the next step of the evidence ladder, validation projects employ, "promising practices with existing moderate evidence," perhaps testing a proven practice in a novel environment or in a new bundle of services. These could be designed as incentive prizes, but if there is a strong profit potential, a prize sponsor would not be needed to facilitate the project. If a validation project needs to be offered as a prize to be completed, then it probably should be designed as a resource prize to cover implementation costs. Lastly, on the highest step of the evidence ladder, scale-up projects employ "replication of practices with existing strong evidence." Scale-up projects likely involve the adoption of a new long-term program and are best suited to contracts, rather than one-off prizes.

Thanks to the Ansari XPRIZE and other big prizes, much of the current hype surrounding prizes focuses on incentive prizes. Incentive prizes are great for achieving specific technological goals when applicants can either easily cover the cost of their activities themselves or find sponsors. However, they don't work as well for broad goals that insert subjectivity into the judging process, decrease the certainty of winning, and therefore increase risk for financial backers. Incentive prizes also do not work well when applicants do not have access to funds—a problem likely to plague projects that are unlikely to yield profits. As a result, many prizes aimed at broad social goals, such as the Knight Foundation's City Challenge (to make cities "more vibrant places to live and work")[15] or the Ashoka Changemakers' Co-Creating a Healthier World ("to spark the next generation of sustainable health solutions through collaboration with the business sector")[16] are resource prizes.

The XPRIZE Foundation has attempted to tweak its incentive prize model to make it applicable to broad social goals in areas where applicants are unlikely to be able to self-fund. In these situations, the XPRIZE Foundation focuses on technology-driven solutions that address a single aspect of a social challenge, and they offer a hybrid, multistage prize in which some rounds are paid for by XPRIZE. For example, applicants for the Adult Literacy Prize self-fund the development of a mobile literacy application in the first round. Judges select 15 semifinalists, whose software is field-tested for one year, with costs covered by the Barbara Bush

11 Wasson, "The Future of Prize Philanthropy" (Summer 2016).

12 Ansari XPrize, "About the Prize," available at http://ansari.xprize.org/.

13 Robert Lee Hotz, "Need a Breakthrough? Offer Prize Money!" *The Wall Street Journal* (December 13, 2016), available at https://www.wsj.com/articles/need-a-breakthrough-offer-prize-money-1481043131.

14 Andrew Feldman and Ron Haskins, "Tiered-Evidence Grantmaking," Evidence-Based Policymaking Collaborative (September 9, 2016), available at http://www.evidencecollaborative.org/toolkits/tiered-evidence-grantmaking.

15 Knight Cities Challenge, "About the Challenge," available at http://knightcities.org/.

16 Ashoka Changemakers, "About Co-Creating a Healthier World," available at http://www.changemakers.com/makingmorehealth.

Foundation in the second round. The team that posts the largest 12-month literacy gain is declared the Grand Prize Winner and receives $3 million.[17]

## PROS AND CONS OF EMPLOYING PRIZES

Resource and incentive prizes have enormous potential for addressing the problems that vulnerable populations face. As vividly illustrated by the Bill & Melinda Gates Foundation's Reinvent the Toilet Challenge,[18] a prize can shine a spotlight on problems that have plagued humanity forever, but are not necessarily very sexy. The toilet challenge was designed as a resource prize: From 2011 to 2013, winners were provided with funds to complete their proposals. By marketing their request for proposals as a "challenge" rather than a traditional grant, the Bill & Melinda Gates Foundation could piggyback on the excitement surrounding incentive prizes and tap into an innovator identity. Like most prizes, the Reinvent the Toilet Challenge awarded funds to a variety of applicant types, including universities, for-profits (Unilever), and nonprofits (RTI International). The Reinvent the Toilet Challenge also exhibited an emphasis on measureable outcomes typical of prizes. A prominent goal of the challenge was to create a toilet that cost less than $.05 per user per day despite being off the grid without access to water, sewer, or electrical lines.

While both resource and incentive prizes can add panache, publicity, openness, and technical emphasis to solving problems, incentive prizes offer several additional benefits. In an MIT Open Courseware publication,[19] Peter Diamandis, the entrepreneur who founded the XPRIZE, lists four benefits unique to incentive prizes:

1 Efficiency: Foundations pay the winner only once the goal is achieved.

2 Leverage: A well-structured prize can spur investment up to 40 times the size of the award.

3 Industry Creation: When multiple applicants work in parallel, numerous approaches can be explored, unleashing new possibilities. The for-profit private space industry was born from the Ansari XPRIZE.

4 Paradigm Change: A well-structured prize "can change what people believe is possible."

However, if an organization is trying to solve a problem for which applicants cannot self-fund, then it cannot offer an incentive prize and must offer a resource prize instead. Fortunately, organizations can design resource prizes to partially capture Diamandis' four benefits: 1) organizations can pay winners at various milestones, so that the total award is paid only once the goal is achieved; 2) organizations can promote their finalists as well as their winners and help them leverage their finalist/winner status for more funds from other sources; 3) organizations can include a first round in which they support multiple semifinalists so that numerous approaches can be explored; and lastly, 4) if an organization sets an ambitious-enough goal, then a resource grant also can change what people believe is possible. Good prize design is critical, and many possibilities for innovations still exist.

Despite a long list of desirable features, prizes are not without their critics. Kevin Starr, the managing director of the Mulago Foundation, complained that incentive prizes are a waste of time for nonprofit applicants who cannot afford to self-fund their work, especially if there is only one winner, and that prizes put too much emphasis on innovation instead of implementation.[20] Other critics complain that offering prizes can distract a nonprofit from its mission and does not help solve big problems.[21] Rick Cohen, a national correspondent for *Nonprofit Quarterly* prior to his death in 2015, warned of the danger of using crowdsourcing to judge

17 The mobile literacy applicants must show promise that they can substantially improve the proficiency of adult readers at or below the third-grade reading level within 12 months. The top five mid-year performers are selected as finalists and receive $100,000 each. Other awards are granted based on performance in native language categories and for cities that encourage the greatest participation. See http://adultliteracy.xprize.org/about/overview for more information.

18 Bill & Melinda Gates Foundation, "Fact Sheet: Water, Sanitation & Hygiene: Reinventing the Toilet Challenge," available at https://docs.gatesfoundation.org/Documents/Fact_Sheet_Reinvent_the_Toilet_Challenge.pdf.

19 Peter H. Diamandis, "Using Incentive Prizes to Drive Creativity, Innovation and Breakthroughs," Massachusetts Institute of Technology (2009), available at https://ocw.mit.edu/courses/engineering-systems-division/esd-172j-x-prize-workshop-grand-challenges-in-energy-fall-2009/readings/MITESD_172JF09_Diamandis.pdf.

20 Kevin Starr, "Dump the Prizes," *Stanford Social Innovation Review* (August 22, 2013), available at https://ssir.org/articles/entry/dump_the_prizes.

21 Maria Mottola, Gail Nayowith, and Jon Pratt, "Nobody Needs a 'Shark Tank' in Philanthropy," *The Chronicle of Philanthropy* (March 2, 2015); James English, *The Economy of Prestige: Prizes, Awards, and the Circulation of Cultural Value*, (Cambridge: Harvard University Press, 2009).

prizes.[22] Robert Lee Hotz, a science writer for *The Wall Street Journal*, has questioned whether prizes are just a marketing gimmick and has argued that incentive prizes allow organizations to take advantage of free labor.[23] Two other concerns that have received too little attention in the literature are:

1. Offering a prize is now easy and can be handled by a small organization, thanks to prize platform providers such as Skild and Big Ideas, but offering a prize is still not cheap. Running a successful prize requires considerable time and planning, communicating with applicants and judges, and working with both winners and losers.

2. Structuring an incentive prize and/or hybrid prize is very difficult to get right, even with months of planning and a deep field of experts. Several big incentive prizes have failed to produce a winner, including Robert Bigelow's $50 million America Space Prize, which expired in 2010.[24] The winning team of the Netflix Prize was awarded $1 million in 2009, but the company quietly announced three years later that it would not use the winning algorithm—Netflix had not sufficiently defined the parameters of its prize's goal.[25]

These criticisms can all be mitigated with good prize design, but, as evidenced by the Netflix Prize, good design is not easy or cheap.

## CONCLUSIONS

Prizes are trendy for a reason: They hold great promise for solving both technical challenges and problems facing vulnerable populations. Incentive prizes have a long, successful history and have become much more valuable and easier to run in the information age. Resource prizes can be thought of as "grants 2.0," harnessing the power of communication technology and borrowing elements from incentive prizes.

To realize the full potential of prizes, prize sponsors need a forum for sharing best practices in this rapidly evolving sector. Organizations need to be able to learn from each other which types of prizes and/or hybrid prizes work best for different types of problems. Establishing prize conferences, prize journals, and prize trade organizations would help maximize the positive impact of prizes.

Going forward, prize sponsors need to continue innovating the delivery of funds. Although crowdsourcing may not be ideal for judging, perhaps it could be used to raise funds for applicants. Prize sponsors could function as a vetting service to help philanthropists select which projects to support on platforms like Go Fund Me. Perhaps eventually, most prizes could be structured as incentive prizes so that sponsors could realize all of Diamandis' four benefits. Prizes offer organizations the opportunity to buy the biggest impact bang for their buck.

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22 Rick Cohen, "Contest Philanthropy at the Council on Foundations: A Troubling Dynamic," *Nonprofit Quarterly* (March 23, 2015), available at https://nonprofitquarterly.org/2015/03/23/contest-philanthropy-at-the-annual-meeting-of-the-council-on-foundations/.

23 Robert Lee Hotz, "The Science Prize: Innovation or Stealth Advertising?" *The Wall Street Journal* (May 8, 2009), available at http://www.wsj.com/articles/SB124173078482897809.

24 Kenneth Chang, "In New Space Race, Enter the Entrepreneurs," *The New York Times* (June 7, 2010), available at www.nytimes.com/2010/06/08/science/space/08space.html.

25 Casey Johnston, "Netflix Never Used Its $1 Million Algorithm Due to Engineering Costs," *Wired* (April 16, 2012), available at www.wired.com/2012/04/netflix-prize-costs/.