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Data to the Rescue: Smart Ways of Doing Good

By Nicole Wallace

For a long time, data served one purpose in the nonprofit world: measuring program results. But a growing number of charities are rejecting the idea that data equals evaluation and only evaluation.

Of course, many nonprofits struggle even to build the simplest data system. They have too little money, too few analysts, and convoluted data pipelines. Yet some cutting-edge organizations are putting data to work in new and exciting ways that drive their missions. A prime example: The Polaris Project is identifying criminal networks in the human-trafficking underworld and devising strategies to fight back by analyzing its data storehouse along with public information.

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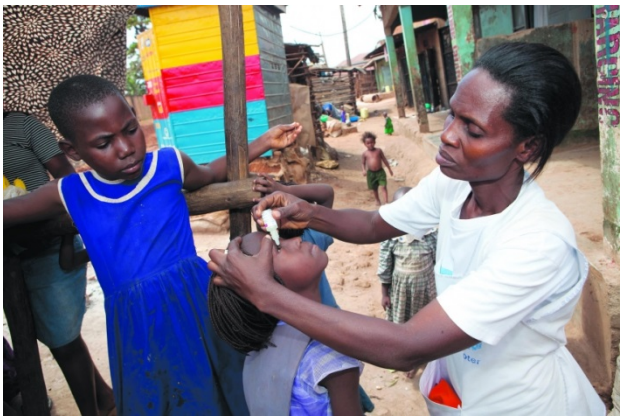
Other charities dive deep into their data to improve services, make smarter decisions, and identify measures that predict success. Some have such an abundance of information that they're even pruning their collection efforts to allow for more sophisticated analysis.

The groups highlighted here are among the best nationally. In their work, we get a sneak peek at how the data revolution might one day achieve its promise.

House Calls: Living Goods | Unraveling Webs of Wickedness: Polaris Project | Too Much Information: Year Up | On the Wild Side: Wildnerness Society

House Calls

With smartphones and a mobile-data system, a charity's field workers practice truly modern medicine.



Jake Lyell/Living Goods
DOOR-TO-DOOR Rx: A worker with Living Goods, an international health charity, works with a patient in Uganda.

Living Goods launched in eastern Africa in 2007 with an innovative plan to tackle health issues in poor families and reduce deaths among children. The charity provides loans, training, and inventory to locals in Uganda and Kenya — mostly women — to start businesses selling vitamins, medicine, and other health products to friends and neighbors.

Founder Chuck Slaughter copied the Avon model and its army of housewives-turned-sales agents. But in recent years, Living Goods has embraced a 21st-century data system that makes its entrepreneurs better health practitioners. Armed with smartphones, they confidently diagnose and treat major illnesses. At the same time, they collect information that helps the charity track health across communities and plot strategy.

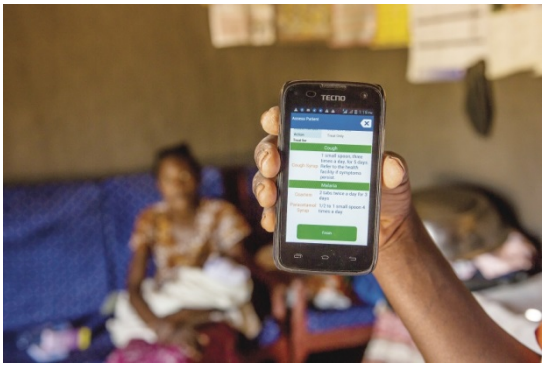
Phones with a specialized app are key to the organization's approach. When an agent suspects that a customer has malaria or another serious malady, she enters into an app the person's replies to a series of simple questions. The answers drive an algorithm that helps her make a diagnosis.

"The agent feels empowered by these tools," says Mr. Slaughter. "The customers look at that phone and they see it as the agent having a doctor in her pocket."

Agents also use the phones to document their visits and record illnesses and pregnancies. The charity's app sends messages with medication reminders for patients and health tips for expectant mothers. Agents, in turn, get a notice when it's time to check on pregnant women and people with severe illnesses.

The data collection sharpens the charity's operations as well. Supervisors can quickly spot if a health worker isn't making her rounds or doing follow-up visits. Previously, when the charity relied on monthly paper records, it was six or eight weeks before such problems surfaced.

"In this day and age, that's molasses," says Mr. Slaughter.



Georgina Goodwin/Living Goods
A DOCTOR IN MY POCKET: Living Goods arms its field workers with smartphones to collect data that saves lives.

The nonprofit moved to mobile because it wanted to collect information faster and reduce data-entry errors. It wasn't cheap. The group has spent several hundred thousand dollars — and there have been significant bumps along the way.

In 2013, Living Goods rolled out its first mobile system, which used flip phones, but it required agents to enter information using complicated codes. The nonprofit estimates that only about one-third of agents collected data by phone.

Upon making the leap to smartphones in 2014, the organization built three apps in-house designed to help agents collect family information, record pregnancies, and diagnose and treat diarrhea, malaria, and pneumonia. The agents found the apps helpful, but they grew frustrated when they had to enter the same family information into multiple apps.

For its third system, Living Goods teamed with Medic Mobile — a charity that builds mobile data-collection systems for international health groups — to create a single, unified app. Agents love the system because it's easy to use, says Mr. Slaughter. The fact that smartphones are a status symbol in poor communities doesn't hurt either.

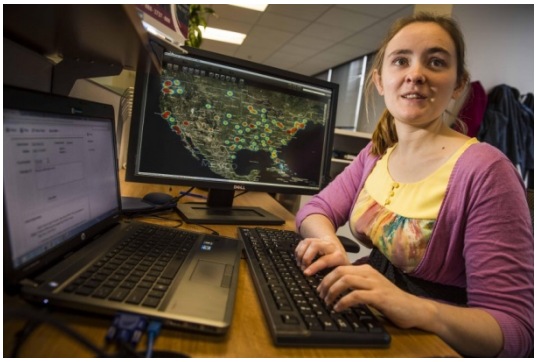
Synthesizing all the information health workers collect, Living Goods has uncovered hidden patterns in its work.

Because the app tags each entrepreneur's visit with a GPS stamp, the charity determined that 80 percent of agents' activities take place within half a kilometer of their homes. That was a key finding: Living Goods realized that its agents could live relatively close without cutting into each other's business.

"We can slice and dice those things very finely now," says Mr. Slaughter. "We don't have to do a separate study to answer that kind of question. We just have the data."

Unraveling Webs of Wickedness

A nonprofit uncovers networks of human traffickers by connecting seemingly random bits of information.



Jeffrey MacMillan
MAPPING TROUBLE: Jennifer Kimball of the Polaris Project says data helps the group identify the causes of human trafficking — and the traffickers' vulnerabilities.

Calls and texts to the Polaris Project's national human-trafficking hotline are often heartbreaking, terrifying, or both.

Relatives fear that something terrible has happened to a missing loved one. Trafficking survivors suffering from their ordeal need support. The most harrowing calls are from victims in danger and pleading for help.

Last year more than 5,500 potential cases of exploitation for labor or commercial sex were reported to the hotline. Since it got its start in 2007, the total is more than 24,000.

As it helps victims and survivors get the assistance they need, the Polaris Project, a Washington nonprofit, is turning those phone calls and texts into an enormous storehouse of information about the shadowy world of trafficking. By analyzing this data and connecting it with public sources, the nonprofit is drawing detailed pictures of how trafficking networks operate. That knowledge, in turn, shapes the group's prevention efforts, its policy work, and even law-enforcement investigations.

"Data is what allows us to actually understand the problem we're working on," says Jennifer Kimball, data-analysis director at Polaris. "It's what allows us to understand the nuances of human trafficking, the root causes, and its vulnerabilities."

Jeffrey MacMillan
CATCHING BAD GUYS: A Polaris heat map shows human-trafficking activity nationwide — information that comes from the organization's victims' hotline.

Partnerships with tech companies have been central to Polaris's burgeoning data work. Salesforce.com's philanthropic arm provided financial support to help the charity develop its hotline database on the company's platform. Up to 150 pieces of information can be documented on each call or text. The details — where the trafficking takes place, how victims are recruited, whether they have access to technology — are critical for the charity and for law enforcement; the system can predict assistance that victims might need if they flee, and it can help plan how to reduce or respond to threats of harm.

Another partner is Palantir Technologies. Using the company's data-analysis platform paired with the Salesforce database, hotline workers quickly call up resources close to the victim — whether shelters in Hartford, Conn., or law-enforcement officers in Butte, Mont., trained to handle trafficking cases. Previously, they had to search Word documents and an online database.

Thanks to the data-analysis tool, Polaris can also connect hotline information and outside data. For example, Polaris studied criminal enterprises that lure young people to sell magazines or other products door-to-door with promises of travel and fun but then abuse them with long hours for little pay. Such operations, which move frequently and cross state lines to elude detection, account for the second-largest number of labor-trafficking calls and texts to the hotline after domestic work.

Using Palantir and tapping public records, the nonprofit mapped out networks in the traveling-sales industry. It determined that in some cases a single company was operating under multiple names. Other times, an individual owned numerous companies.

With these network maps, Polaris is encouraging law-enforcement agencies to target the central players in the industry rather than low-level crew managers, says Ms. Kimball.

The portraits of trafficking that Polaris pieces together don't, for the most part, extend beyond the United States. But the nonprofit has shared its database with groups that run trafficking hotlines or provide services to victims in Bulgaria, the Czech Republic, Greece, South Africa, and Thailand.

Because countries aren't working together, the people fighting trafficking are always a step behind the traffickers, Ms. Kimball says. "We need to get to a place where we're able to look across the entire route that a case may take."

Too Much Information

After years of collecting every possible scrap of data, Year Up finds that some measures don't add up.

Evan Sung/Year Up
NUMBERS MATTER : Year Up analyzes reams of data to determine which markers will predict success for its budding professionals.

Year Up has a problem that many nonprofits can't begin to imagine: It collects too much data about its program. "Predictive analytics really start to stink it up when you put too much in," says Garrett Yursza Warfield, the group's director of evaluation.

What Mr. Warfield describes as the "everything and the kitchen sink" problem started soon after Year Up began gathering data. The group, which fights poverty by helping low-income young adults land entry-level professional jobs, first got serious about measuring its work nearly a decade ago. Though challenged at first to round up even basic information, the group over time began tracking virtually everything it could: the percentage of young people who finish the program, their satisfaction, their paths after graduation through college or work, and much more.

Now the nonprofit is diving deeper into its data to figure out which measures can predict whether a young person is likely to succeed in the program. And halfway through this review, it's already identified and eliminated measures that it's found matter little. A small example: Surveys of participants early in the program asked them to rate their proficiency at various office skills. Those self-evaluations, Mr. Warfield's team concluded, were meaningless: How can novice professionals accurately judge their Excel spreadsheet skills until they're out in the working world?

The review also has forced the charity to rethink at least one long-held assumption. Program participants go through intensive training to learn technical and professional skills, then spend six months in an internship with one of the nonprofit's corporate partners. In exchange for this support, participants sign a contract that outlines a code of conduct that includes promptness, a professional demeanor, and the like. Year Up has a point system to track how well students follow the code. Young people start out with 200 contract points. They can earn more by exceeding expectations or lose points by violating the contract. Get down to zero and you're out of the program.

The organization long believed that the point system was a critical indicator of who would succeed. But analysis of four years of data showed that contract points, while important, were not as strong a gauge as employees had assumed. A stronger signal: the participant's satisfaction two months into the internship.

The finding galvanized Year Up to action. It is now even more aggressive about stepping in when participants are unhappy in internships and helping devise a plan to improve the situation, says Mr. Warfield. The points analysis also reinforced the need for a review of the internship-matching process, which was already under way.

Mr. Warfield says Year Up has had to adjust after the data analysis proved the shortcomings of a number once thought critical. "People put a lot of stock in the contract points," he says. Still, he's excited to see what else his team's data review uncovers — and what measures get the ax.

"I wish we could skip the step of 'Collect everything, collect everything' and get down to 'Let's collect this limited set of variables and add on only as needed,' " he says. "But that takes an awful lot of planning and forethought and expertise."

On the Wild Side

A conservation group relies on a data-driven index to save animals in the wilderness.

Mason Cummings, The Wilderness Society
SAFE PASSAGE: The Wilderness Society aims to protect lands connecting central Idaho (above) and Yellowstone.

Without room to roam, wild animals and plants breed among themselves and risk losing genetic diversity. They also fall prey to disease. And that's in the best of times. As wildlife adapt to climate change, the chance to migrate becomes vital even to survival.

National parks and other large protected areas are part of the answer, but they're not enough if wildlife can't move between them, says Travis Belote, lead ecologist at the Wilderness Society.

"Nature needs to be able to shuffle around," he says.

Enter the organization's Wildness Index. It's a national map that shows the parts of the country most touched by human activity as well as wilderness areas best suited for wildlife. Mr. Belote and his colleagues created the index by combining data on land use, population density, road location and size, water flows, and many other factors. It's an important tool to help the nonprofit prioritize the locations it fights to protect.

In Idaho, for example, the nonprofit compares the index with information about known wildlife corridors and federal lands that are unprotected but meet the criteria for conservation designation. The project's goal: determine which areas in the High Divide — a wild stretch that connects Greater Yellowstone with other protected areas — the charity should advocate to legally protect.

With maps in hand, the Wilderness Society presses federal agencies and local stakeholders, says Rob Mason, who oversees the group's conservation efforts in central and eastern Idaho.

The data analysis lets advocates say, "These aren't just areas that we think are fun to go hike in. These areas are highly valuable for ecological purposes," says Mr. Mason. "It really helps to bolster that case of why we think these areas should be conserved. We haven't always had that in the past."

Send an email to Nicole Wallace.