Scaling Effective Causes: Cash transfers and AI/ML

GiveDirectly

Who is GiveDirectly?

GiveDirectly sends cash to those living in poverty with no strings attached

We're one of the **fastest-growing NGOs** focused on international issues

1.2M+	Recipients reached to date
$950M	Funds raised for recipients
11	Countries in which we've operated
19	Randomized controlled trials completed or ongoing

We're backed by **institutions, governments, corporates, and individuals** working to end poverty

Our approach

Owning the end-to-end program enables us to move quickly and efficiently while ensuring integrity of the whole process.

GiveDirectly manages the design, execution and evaluation of unconditional cash transfer programs

1: Design
2: Target
3: Enroll
4: Audit
5: Transfer
6: Monitor
7: Evaluate

GiveDirectly goal is to accelerate the end of poverty through cash transfers

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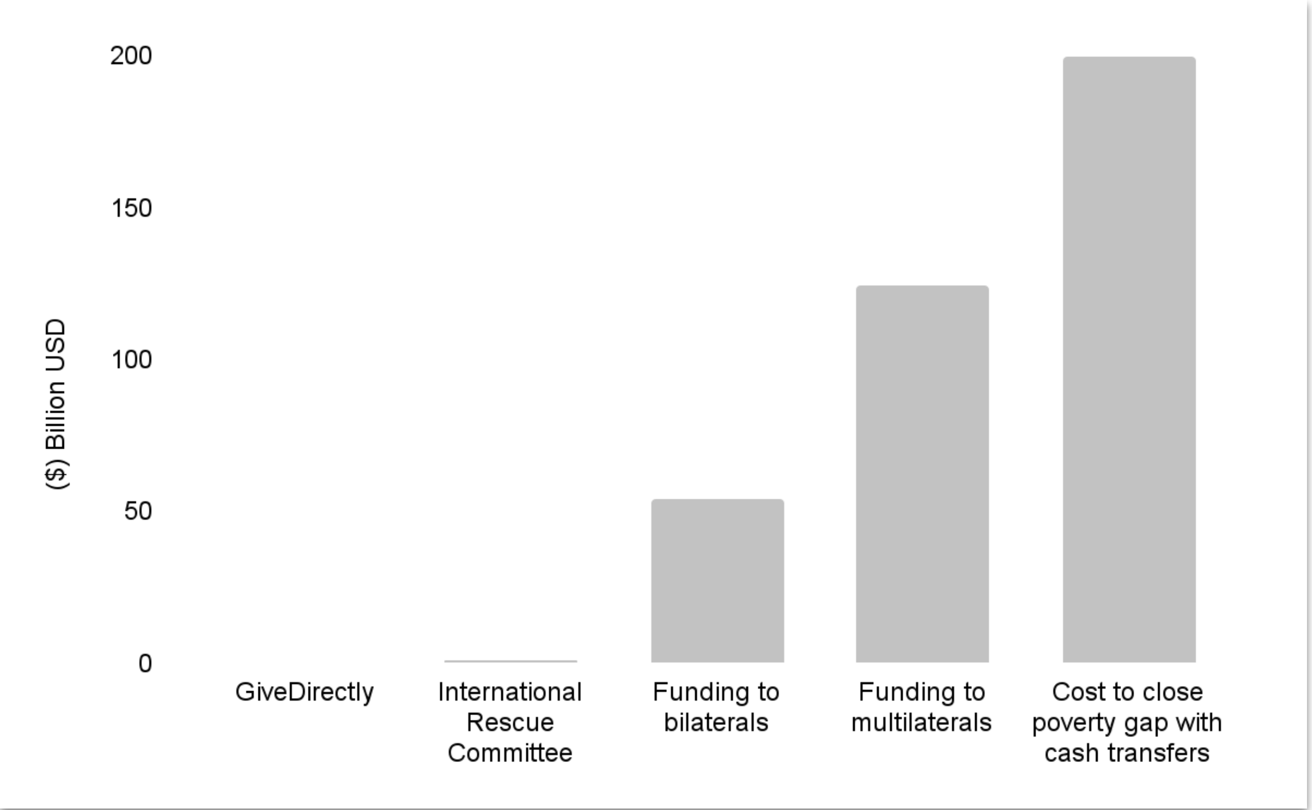
$950M Funds raised

11 Countries

19 RCTs



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We need to deliver support with scale, speed and accuracy

Scale

37M people have already slipped back into poverty - our response must be able to scale globally (674M)

Speed

Families need help today. e.g. 72% of GD recipients in Kenya have <2 days savings.

Accuracy

With limited resources, it's imperative we identify and prioritize those who most need aid

What are the bottlenecks to scale, speed, accuracy?

1: Design
2: Target
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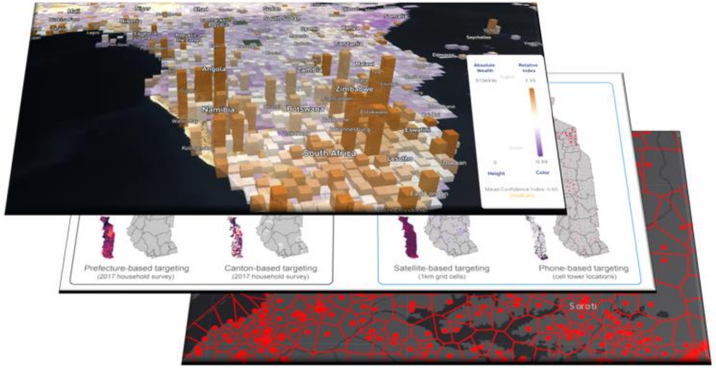
How do we define good targeting?

- **Inclusion** of the poor
- **Exclusion** of the non-poor
- **Efficient**
- **Fraud Resistant**



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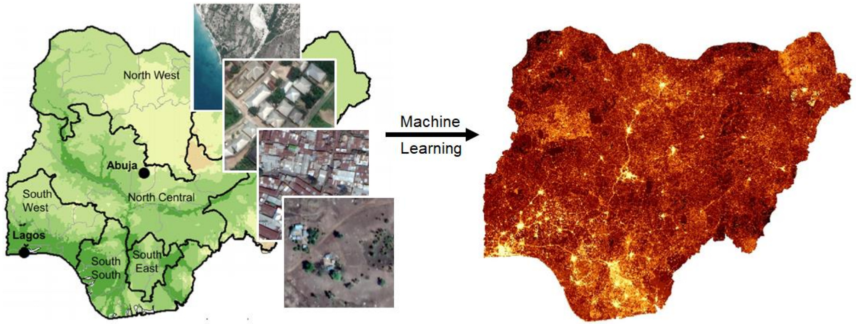
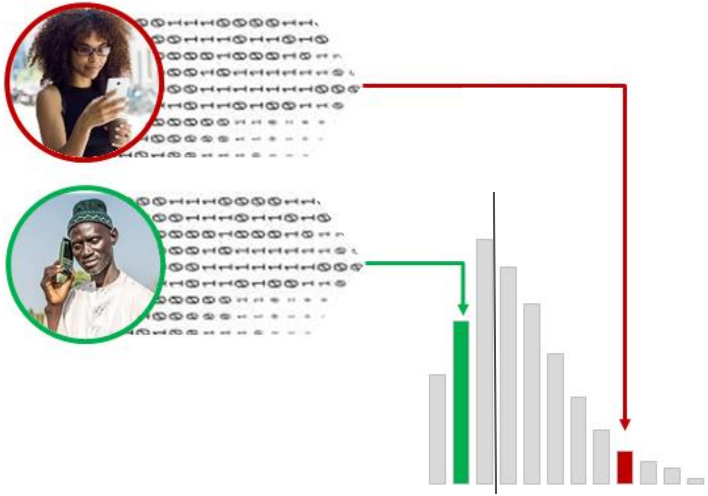
Scaling cash transfer delivery: AI/ML and Togo

In the midst of C-19 pandemic: Can we improve targeting with the latest in data science research?

Satellite imagery, processed with AI, can identify the **poorest neighborhoods** to prioritize for aid

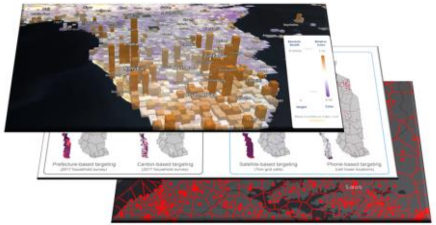


Mobile phone metadata can accurately **identify eligible beneficiaries**, using patterns of phone use



How did the program - GiveDirect-Novissi - work? There were three steps

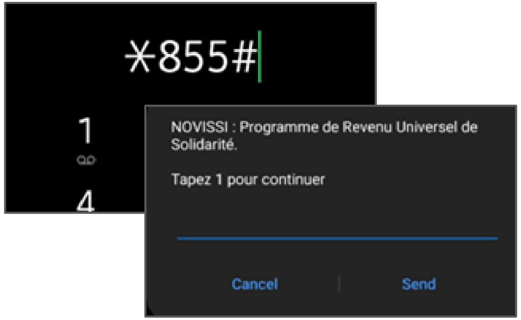
Step 1. Pre-identify & target



- **Find the poorest geographies** using satellite prediction
- **Identify poorest people** in those geos based on cell usage patterns
- **Whitelist cell phone numbers**

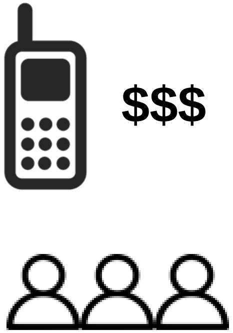
Step 2. Self-Enroll

Recipient front end



- In poorest geos, launch radio ads **inviting families to dial *855#**
- Applicant enters ID info
- On backend, **screen phone number and ID against whitelists**

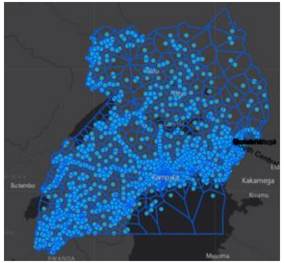
Step 3. Pay

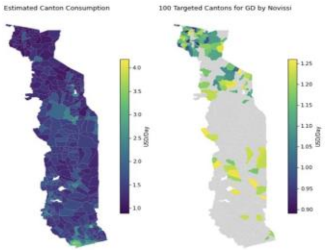


- **Pay white listed individuals instantly** via mobile money

In partnership with U.C. Berkeley, we brought expertise & $10M in funding to help the Gov. of Togo rapidly target and deliver cash to individuals in extreme poverty nationwide

Through **cross-sector partnership**, we built a program capable of fast scale-up.





Togo Ministry of Digital Transformation: Togo gov't had cash programming, existing management platforms and wanted to make platform more secure and integrate new targeting approaches

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GiveDirectly: Brought operational expertise in cash delivery, targeting, call center, data/protection and ethics expertise from previous remote cash programs

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Berkeley's Data-Intensive Development Lab: Deployed leading AI and machine learning research for creation of poverty targeting algorithm

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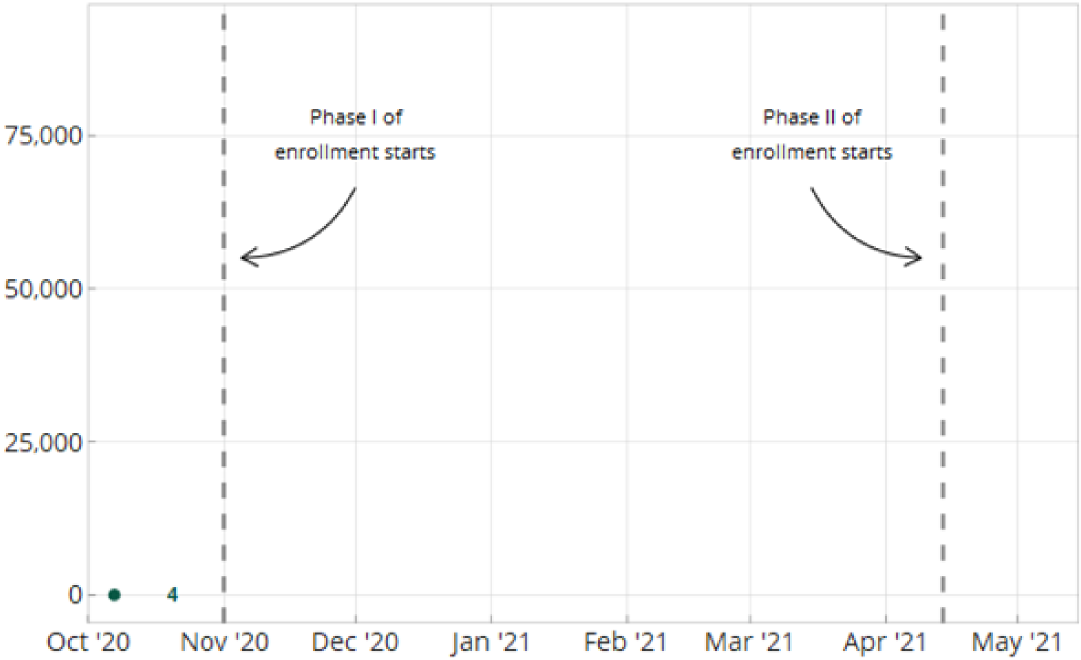
TED + Google.org + WB/IDA: GiveDirectly raised >$10M in private sector funding from TED Audacious challenge and to be deployed in Togo using this targeting approach. Google.org & WB/IDA supported research funding

Results: 140,000 individuals enrolled in the program in a matter of weeks

"This project was foundational for us in terms of how we can set up our social protection system in Togo..."

Shegun Bakari, Presidential Advisor
Government of Togo

Speed of cash delivery (# of beneficiaries)



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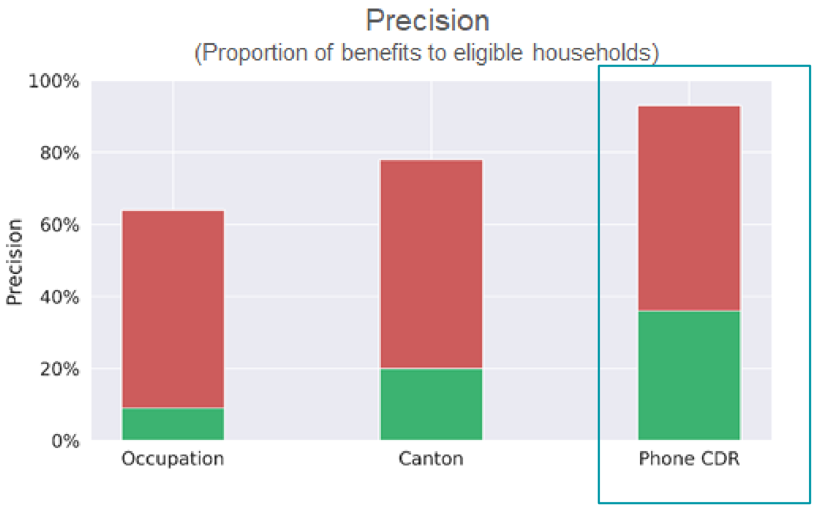
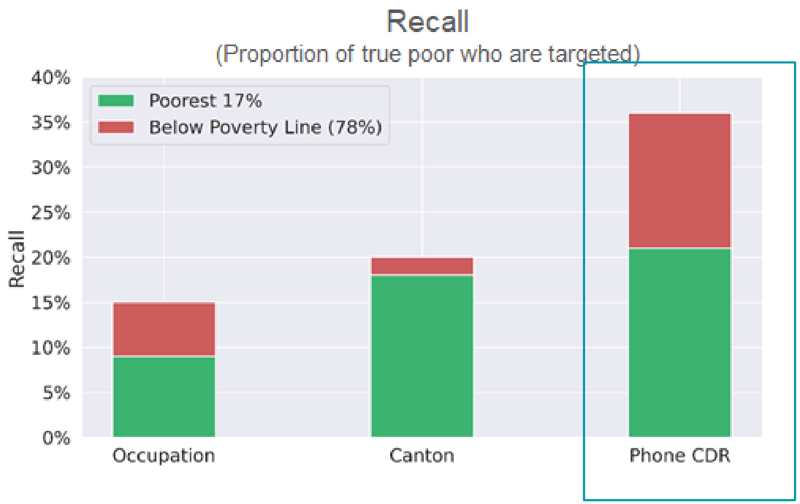
Research: using phone metadata was the most accurate targeting approach compared to other options

Phone-based targeting **was more accurate compared to the government's traditional targeting options** such as occupational or geographical based targeting





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Research: phone-based targeting was fair - it did not systematically exclude groups based on gender, ethnicity and other key demographics

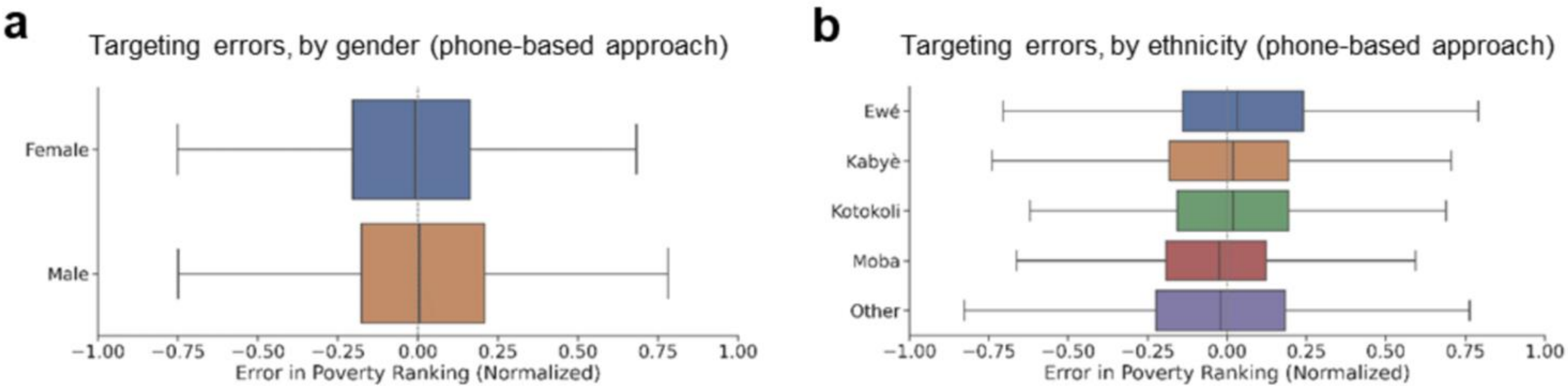

Figure 2 – Fairness of targeting for different demographic subgroups

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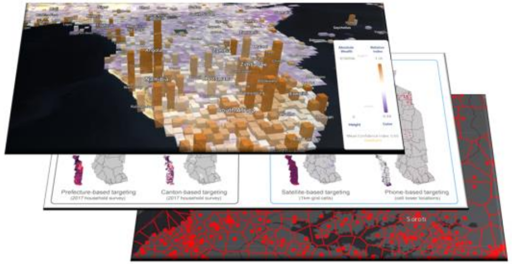
Where we go from here?

Beyond Togo: successfully scaled to the DRC, now we're expanding use cases / geographies

2020 Piloted MobileAid in Togo



Used a machine learning-based targeting models to identify the poorest people in Togo

2021 Expanded to DRC

50,000
Recipients paid total with 17,120 in first two days

45 seconds
The fastest recorded payment in GD's history

Provided technical support to Fonds Social to deploy "MobileAid" in Kinshasa

2022 /2023 Expand use cases

Apply MobileAid to large scale poverty alleviation, disaster responses, and social protection (Malawi, DRC Phase II, Bangladesh)

Our Vision: Transform the delivery of cash globally

We are partnering with governments, telcos and regulators to position countries to **deliver cash to millions within minutes**

Develop **precision targeting technology,** based on cutting-edge data science research

Set up automated enrollment and payment systems for delivering cash to the poor/those impacted by crises, without meeting them in person

Disseminate open-source technology**,** rigorous evaluation and documentation

Our Vision: Transform the delivery of cash globally

Faster humanitarian response

- Mobile Aid + Anticipatory action
- MobileAid + rapid disaster response

Large-scale poverty alleviation

- MobileAid + large scale programming
- Transitioning GiveDirectly programs to a MobileAid hybrid model

Technical assistance and social protection

- Working with government partners to develop MobileAid capabilities in-house + integrate with social protection programs

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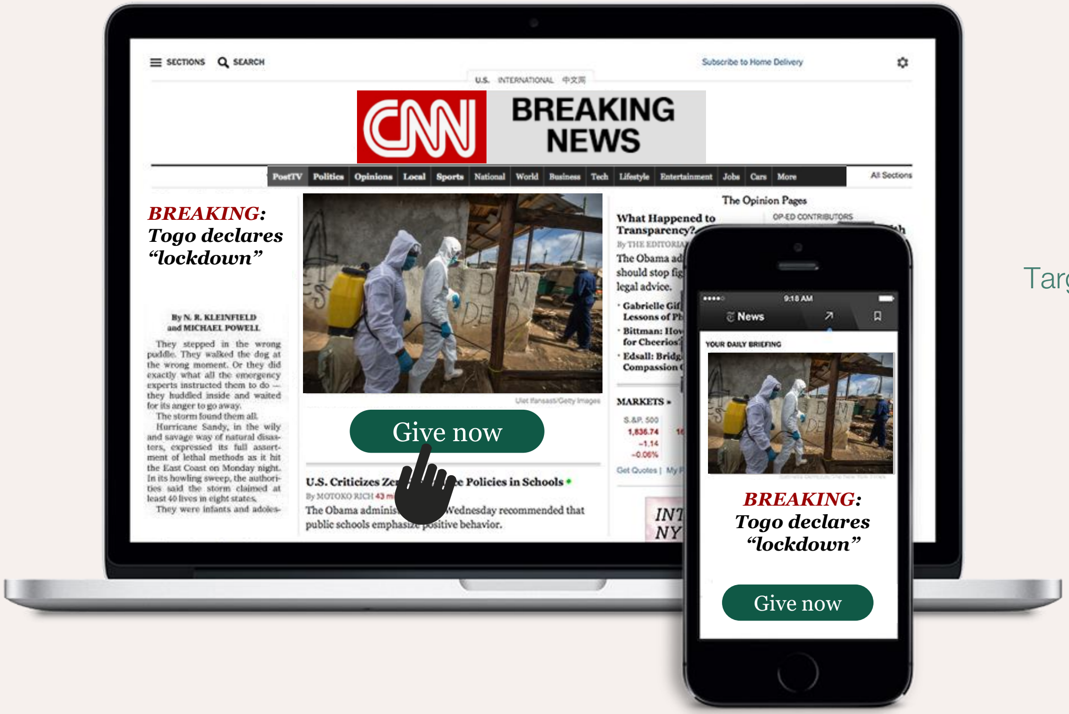
Setting up the digital infrastructure for remote targeting, enrollment and payments means that when a crisis hits…

…We can immediately send cash directly to those most affected



Target and send cash in minutes

Want to learn more?

Interested in learning more?

Try out our new donation experience

Give money directly and learn about our programs using our new pre-enrolment donation experience

Sign up for our newsletter

To stay up to date with our work, new project launches and giving opportunities

Learn about our research studies

Rigorous, experimental evaluation is rare among nonprofits - read more on what we've done in this space

We are hiring for high impact roles → GiveDirectly.org/jobs

Tech / Product

- Chief Technology Officer
- Director of Technical Program Management
- Software Engineers
- Senior Technical Program Manager

Growth / Donors

- VP, Business Development
- Director of Major Giving
- Director of Principal Giving

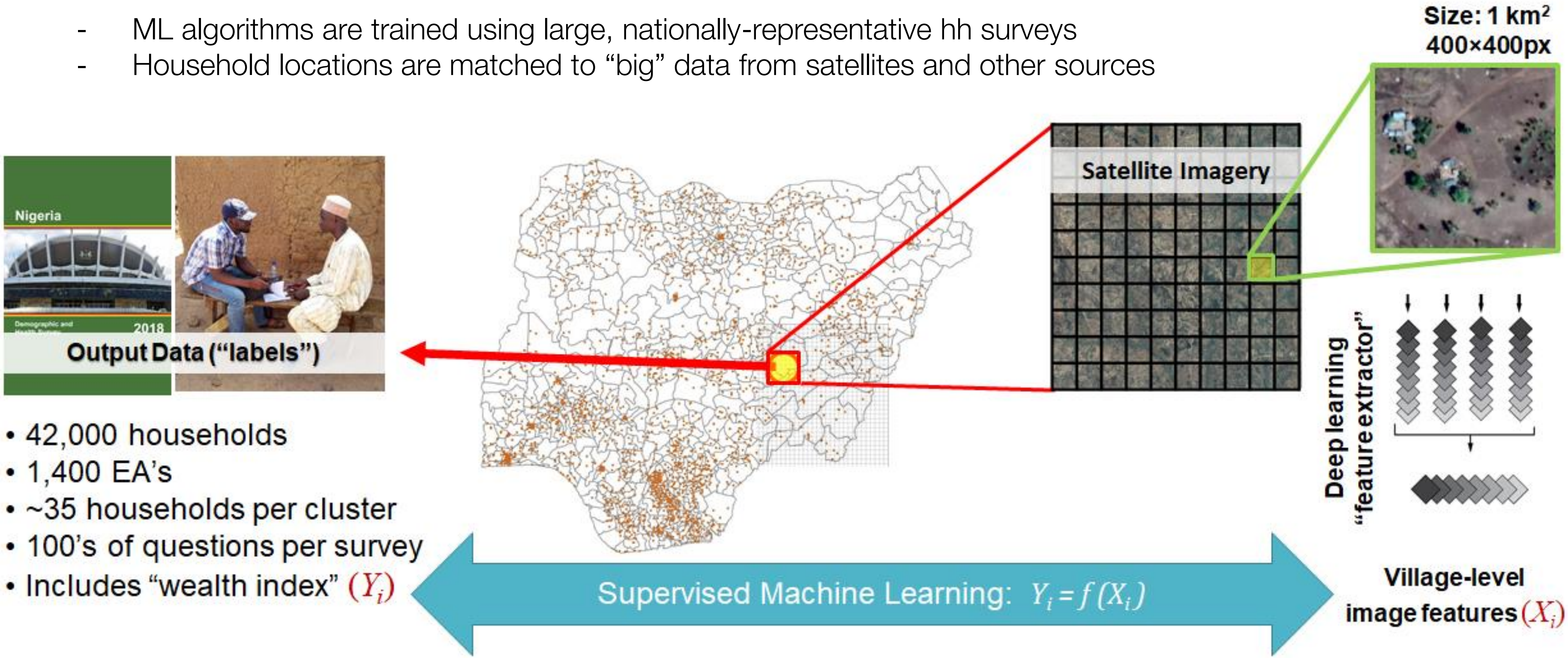
Field Operations

- Liberia Country Director
- Nigeria Country Director
- Regional Director
- Executive Director

Appendix

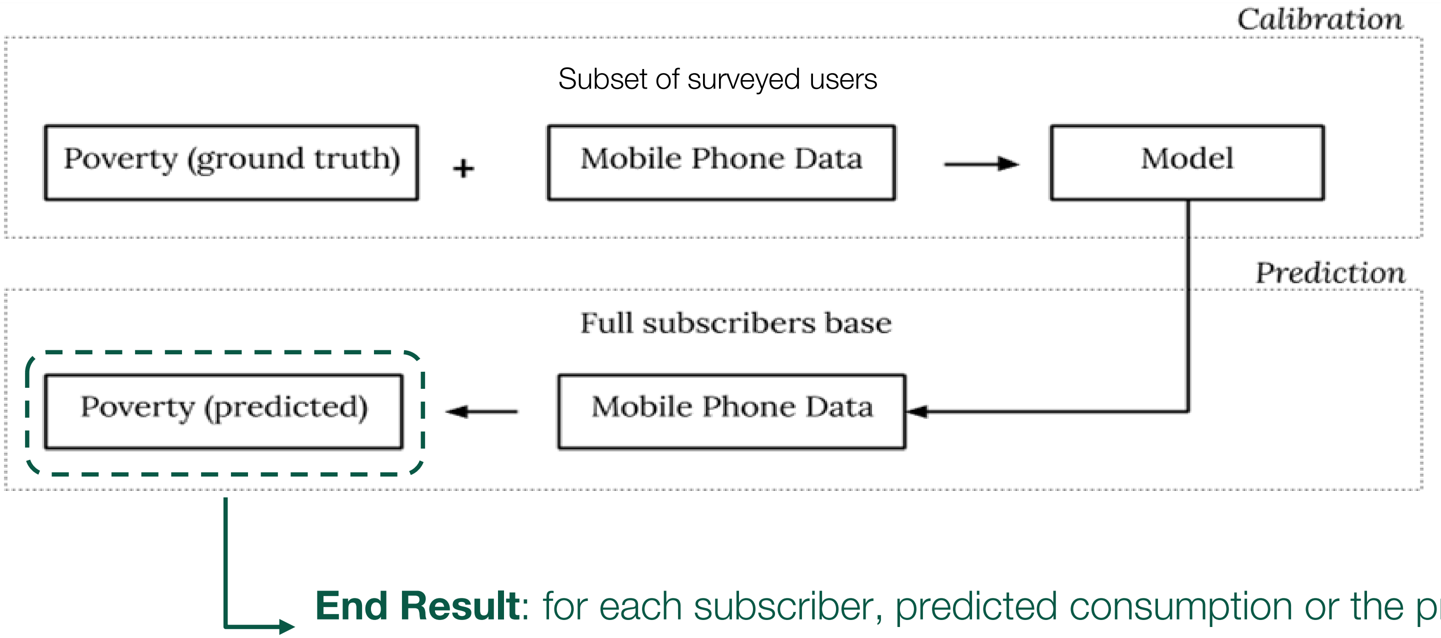
Satellite-based poverty maps: How does it work?

- ML algorithms are trained using large, nationally-representative hh surveys
- Household locations are matched to "big" data from satellites and other sources



Chi, G., Fang, H., Chatterjee, S., Blumenstock, J.E., 2020. "Micro-Estimates of Wealth for all Low- and Middle-Income Countries."

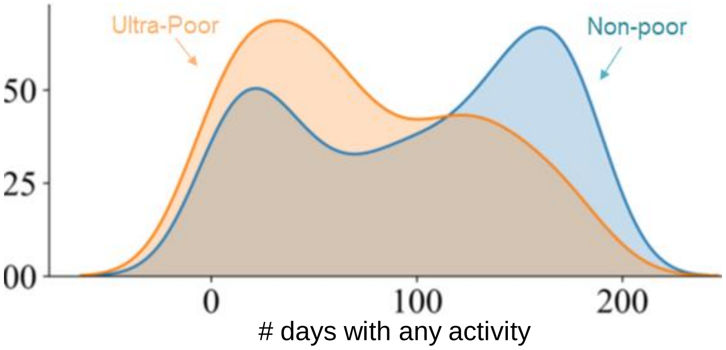
Phone-based targeting: How does it work?

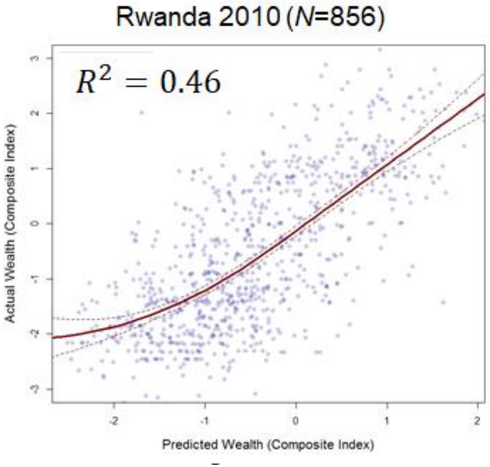


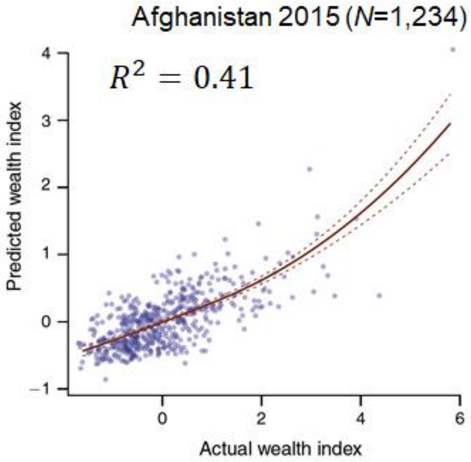
End Result: for each subscriber, predicted consumption or the probability of being eligible

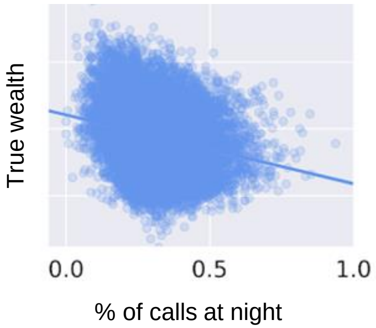
Phone-based targeting: How does it work?

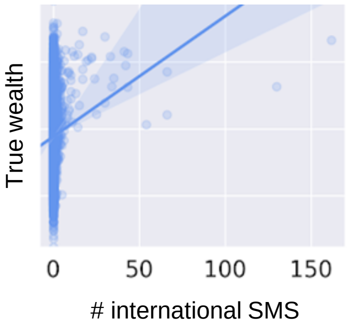
- Wealthy people use their phones differently from poor people
- ML algorithms, trained using surveys, identify these differences
- Across countries, CDR capture **40-50% of variation in wealth**











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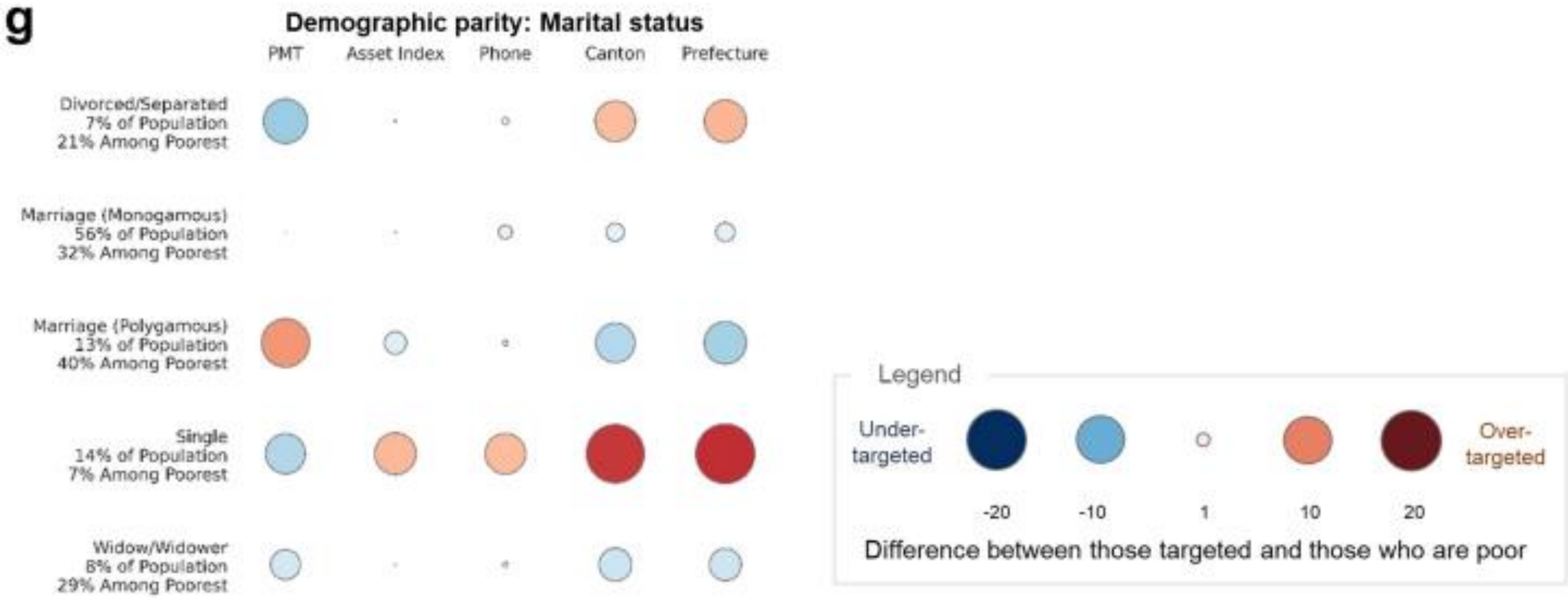


$25 ends my Coronavirus!

GiveDirectly

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