



SPIILLOVER RISK & BASELINE SUPERVISION

IDinsight • New Incentives Baseline • July 18, 2017

Agenda

- Spillover Risk
 - Context from the Pre-RCT results & maps
 - Overview of options
 - Estimating the magnitude of spillovers
 - Potential strategies for reducing spillovers
- Survey Supervision
 - IDinsight staffing plans
 - Data quality checks
 - Independent Field Manager
 - NI communication plans

There will be a risk of spillover operating in either 2 or 3 states.

- The expected effect of spillover would be to reduce the estimated impact of the program, making our estimate a 'lower bound' of the true impact.
- One goal of pre-RCT data collection was to determine reasonable buffer size for the RCT.
 - Currently, 97% of women are coming from settlements less than 5 kilometers away, as defined by being a journey that costs less than 200 Naira.
 - Furthest journey in the clinic records was 1000 naira to go 15 km.
 - The furthest journey in exit interviews was 300 Naira to go 8km.
- We do not know the effect of the measles incentives and more social marketing.
- New Incentives does not know how their settlement restriction criteria works.

Difficulty with settlement names makes evaluating efficacy of settlement screening challenging

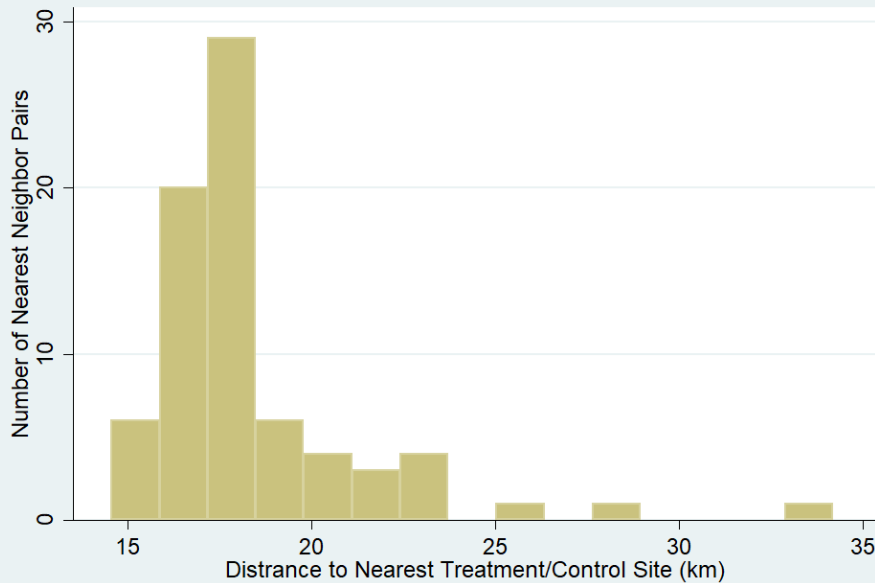
- 17% of mothers with All Babies IDs walked >20 minutes or took a bike >20 minutes.
 - 83% of those mothers are from Damri and Garni whose catchment areas are wide (up to 4km).
- 28% of those interviewed from Damri came from Sabon Gari, a town with a dispensary ~5 km away, but Damri interviews were conducted with all gathered mothers rather than beneficiaries.
- Two beneficiaries from Garni (out of 20 interviewed) walked two hours.
 - They listed their settlements as Garni and Kasuwayen respectively which are not two hour walks, but Garni Fulani or Kasuwayen Fulani may be.
- We could not definitively identify any clear cases of settlement fraud based on exit interview data.

Adding a third state would increase the buffer, but not dramatically.

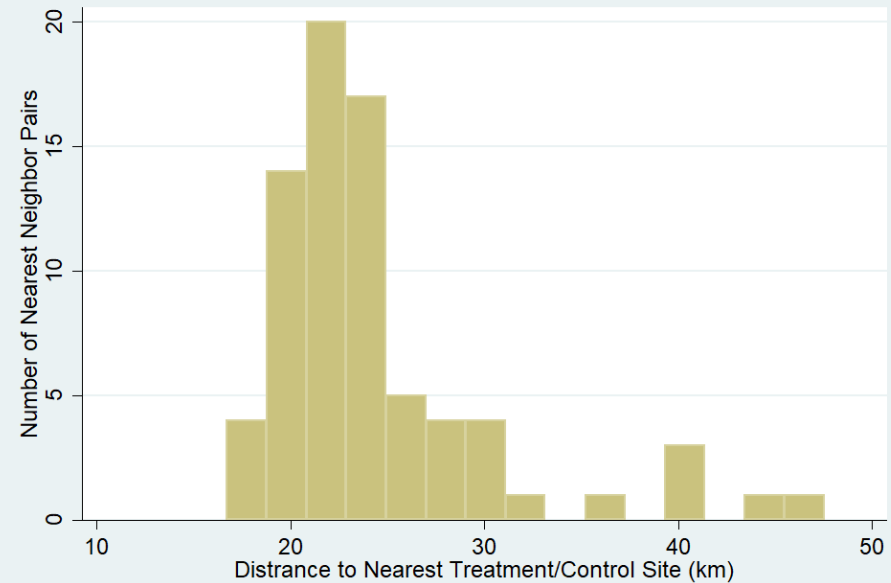
- Adding a third state would increase buffer sizes from roughly 9km (mean nearest neighbor 18km) to roughly 12km (mean nearest neighbor 24km).

Distance to Nearest Control ¹	Two States	Three States
Mean	18.3 km	24.5 km
10% Percentile	16.0 km	19.2 km
Minimum	14.5 km	16.7 km

Distribution of Distances with 2 States



Distribution of Distances with 3 States



¹ These distributions are based on us simulating a random selection of 75 treatment & 75 control clinics.

Less than 1% of clinics have a nearest neighbor included in our study.

- There is a low likelihood of a clinic's nearest neighbor (closest clinic) being a clinic that is included in our study. This holds even when you consider the 9 closest clinics.

# of Nearest Neighbors Considered	% of Clinics Included in Selection	Expected number of treatment/control neighbor pairs
9	13% (20 clinics)	6% (10 clinics)
5	2.5% (4 clinics)	1% (2 clinics)
1	.6% (1 clinic) ¹	.3% (.5 clinics)

¹ These are the two clinics that are close in distance but separated by a river. One of the two has other clinics nearer to it which is why the pair only represents only 1 clinic out of the 159.

A thought exercise on the risk of spillover.

- Let's assume catchments are of roughly equal population and geographic size.
- Let's also assume that for a selected treatment clinic, there are 9 nearest neighbors which are not included in our study (i.e. the control clinic is the 10th closest clinic).
- Next, let's say that 50% of the vaccination volume at the treatment clinic is from outside its catchment area.
- A rational assumption would be that people from nearby would be more likely to go to the treatment clinic than those from far away.
- Following this logic, at most 5% of the volume from outside the catchment would be from the control site. This is because a control clinic would not have a larger share of volume than neighboring clinics which are closer in proximity.
- Based on these assumptions, the effect found in a control site would be 10% of the effect found in a treatment site.
- The table below provides further detail on how this spillover would affect our study estimates:

True Increase in Coverage	Increase at Control Clinic	Impact Measured at Treatment Clinics
25%	2.5%	22.5%
10%	1%	9%

The benefits adding a third state do not appear to outweigh the risks.

Criteria	3 States (21km mean nearest neighbor)	2 States (17km mean nearest neighbor)
Timeline Risk	Medium: Biggest concern is delay in clinic screening or state approval would delay survey.	Low: 7 weeks of data collection planned which would allow us to finish before October.
Operational Risk	Medium: Need to scale across three states meaning there are more stakeholders to manage and clinics further apart.	Low: New Incentives has detailed plans for scaling and can use learning sites for an initial staff pool.
Spillover Risk	Medium: Traveling 16km for an incentive is possible, especially with a measles incentive greater than 2000 naira.	Medium: traveling 12km for an incentive is possible, especially with a measles incentive greater than 2000 naira.

There are other (potentially more effective) ways to reduce spillover beyond adding a third state.

- Clinic pairs with the highest spillover risk as identified during clinic screening can be randomized as a pair.
- New Incentives could quiz mothers who claim to be from a particular settlement with a randomly selected trivia question about that settlement.
- New Incentives could pay local leaders to come help identify mothers from their settlement during enrollment days (works better for clinics with fewer surrounding settlements).
- The measles incentive amount could be capped at 2,000 Naira (though we generally want to avoid modifying the program for the purpose of the study).
- New Incentives could periodically pay a female catchment audit team to track down women based only on the data New Incentives currently collects.
 - This may be easier than expected as we have been told local leaders generally know the names of every household head that lives in a community.
 - The photos of mothers would also be helpful.
 - The audit would be done for a sample BCG enrollees and the punishment would be being stripped from the program. Due to the BCG scar, re-enrollment would be difficult.

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We plan to be on the ground throughout baseline.

- We plan to have 2 full-time staff on the ground in Nigeria for the duration of baseline measurement.
 - [Redacted] (Associate) should arrive the last full week of July.
 - [Redacted] (Senior Associate) should arrive the first week of August.
 - Note: each will take ~1 nonconcurrent week of R&R. Each will also have days at a desk conducting data audits and checks (~5%).
- [Redacted] will be in Nigeria to supervise the 2 weeks of training and 1st week of data collection.
- [Redacted] may come to Nigeria during wrap-up. This decision will depend on post-baseline survey needs.
- [Redacted] will check-in daily with our team on the ground.
- Safety concerns would be the one major unknown that could cause adjustments in these plans. We will communicate any changes with GiveWell and New Incentives.

There are many checks built into our contract to ensure IDinsight can collect high data quality.

- The survey includes a 2 week training & pilot period with a trainer fluent in Hausa.
- 100% of enumerators and 50% of supervisors will be female.
- Back-check team must have >3 years of survey experience.
- IDinsight will code the survey in SurveyCTO.
- IDinsight maintains the right to fire any enumerator for tampering with data quality.
- IDinsight has real-time access to the raw data from all survey teams.
- Hanovia must also send daily survey progress reports and weekly supervisor reports which include the results of their checks on data quality.
- We have included a .5% penalty per day in the contract for delays and that the costs for all re-surveying is covered by Hanovia (decided by back-check discrepancies).

There are many checks we conduct to ensure high data quality throughout the duration of the survey.

- Spot-checks
 - Supervisors will complete a checklist when conducting spot checks.
 - Supervisors will spot check at least 10% of surveys.
 - All enumerators will receive period spot checks with struggling enumerators receiving more.
- Back-checks
 - 10% of surveys will be back-checked by an independent survey team.
 - The list of households is generated and shared by IDinsight directly to the back-check team.
 - We investigate all discrepancies to understand their validity (i.e. could be a difference in spelling).
 - For surveys with >15% discrepancy with back-check, we will re-survey.
- Random audio-recording-checks
 - We will program random audio-recordings to records approximately one question per survey (~2 min per survey), but we will adjust based on bandwidth.
 - These will check that enumerators are actually speaking to a respondent, correctly asking questions, and accurately recording answers in SurveyCTO.
- Data quality checks
 - We analyze the distribution of answers, the length of time spent on questions, and the distance between GPS coordinates to look for suspicious activity for 100% of completed surveys and back-checks.
 - We use this information to give daily feedback to field teams.

We plan to hire 2 independent field managers to provide an additional layer of field supervision.

- The field manager will work throughout the duration of training and baseline surveying.
- The field manager will provide real-time feedback to enumerators to ensure they are adhering to specified survey protocol.
- The field manager will conduct spot-checks and back-checks on both survey and back-check teams for approx. 2% of all surveys.
- The field manager will listen to 5% of audio recordings and report any issues to IDinsight.
- The field manager will work closely with IDinsight to identify and communicate effective and culturally sensitive solutions to issues identified through these checks.

We want to keep New Incentives in the loop. We also want to remain focused on data collection.

- Calls between New Incentives & IDinsight teams:
 - Every week until baseline measurement begins.
 - Every 2 weeks after baseline measurement begins.
 - Additional calls will be scheduled outside of this schedule as relevant.
- IDinsight will send a weekly email to update New Incentives on the progress of the survey (i.e. # of surveys complete, # back checks completed, # clinics completed, etc.).
- Survey circumstances may cause a change in plans outlined in these slides. IDinsight will communicate any changes directly with New Incentives if they occur.
- IDinsight will share a clinic anonymized data-set with New Incentives after the survey is complete.
- IDinsight will provide a preliminary update in September on administrative data accuracy and share more details in the baseline report.
- IDinsight plans to share a randomization do-file and preliminary data with a New Incentives technical advisor September 25th. If this date will be delayed we expect to inform New Incentives by September 8th.