

Summary:

An IDinsight team traveled to Nigeria in February 2017 to observe New Incentives' Conditional Cash transfer for routine immunization pilot program and visit where New Incentives plans to scale their program in Kebbi State.

While the visit was primarily focused on exploring different evaluation options and data sources, our clinic visits and stakeholder meetings provided insight into New Incentives' (NI) operations and the broader routine immunization (RI) system in Nigeria.

Specifically, the two week visit included:

- Visits to all three NI pilot clinics in Nasarawa state during their weekly immunization days as well as one clinic neighboring a pilot clinic.
- Visits to five clinics in Kebbi state, including one remote rural clinic.
- Visits to the five local government offices supplying vaccines to the visited clinics
- Meetings with a variety of stakeholders including New Incentives field staff and leadership, WHO national and state RI officials, CDC researchers, UNICEF consultants, CHAI RI experts, and officials responsible for RI at the federal, state, and local levels of Nigerian government.

IDinsight Staff:

- Steven Brownstone, Associate, IDinsight (Day 1-12)
- Daniel Stein, Senior Economist, IDinsight (Day 4-10)
- Maureen Stickel, Manager, IDinsight (Day 1-6)

Itinerary:

- Clinic visits in Nasarawa (Day 1-2)
- Meetings with stakeholders (Day 3)
- Clinic visit in Nasarawa (Day 4)
- Discussions with New Incentives (Days 5-6)
- Travel to Kebbi State and conduct clinic visits (Days 7-9)
- Meetings with stakeholders in Kebbi (Day 10)
- Meetings with stakeholders in Abuja and further discussions with New Incentives (Days 11-12)

New Incentives staff accompanying the IDinsight team on the site visit

- Svetha Janumpalli, CEO, New Incentives (Day 1-7)

Svetha is the Founder & CEO of New Incentives, an organization she started in 2011 after doing research at the Center for Effective Global Action with faculty who conducted evaluations of leading conditional cash transfer programs (CCTs). Svetha has previous experience in impact evaluation and field research.

- Patrick Stadler, Chief Strategy Officer, New Incentives (Day 1-12)

Patrick is New Incentives chief strategist. He is leading the organization's expansion efforts in North West Nigeria. Previously, he worked for the United Nations in New York and with the Swiss government. In addition to these roles, Patrick was a co-founder of Vaccinar a fundraising campaign in Switzerland to vaccinate children in developing countries.

Background Information on Routine Immunization in Nigeria

Nigeria's Government Structures and Routine Immunization

Nigeria is an incredibly diverse and populous country. Due to its size, the country's government is divided into four administrative levels: federal, zonal, state, and local government area (LGA). The federal, state, and LGA governments all play a crucial role in the Nigerian routine immunization system.

The national-level and thirty-six state-level primary healthcare development agencies, distinct from the ministry of health, coordinate vaccine distribution and strategy. These agencies are responsible for producing and analyzing Nigeria's data on routine immunizations. Nigeria's seven hundred seventy-four LGAs are responsible for direct supervision and stocking of the clinics. In particular, each LGA has a cold chain officer who maintains the fridges used to store the vaccine stock. As part of their supervisory role, LGAs are responsible for aggregating and analyzing clinic level immunization data transmitted to higher levels of government.

While zonal governments do not play a major role in the Nigerian immunization system, the zonal divisions are useful for dividing Nigeria into broad geo-cultural regions. For example, the North West zone, which includes Kebbi, is overwhelmingly Muslim and populated by the Hausa and Fulani peoples. The North Central zone, including Nasarawa, contains a mix of Muslims and Christians coming from a wide variety of ethnic groups. The South South and South East zones where New Incentives also operates pilot clinics are predominantly Christian and have large Igbo and Ibibio populations. In general, the North is considered to have the lowest vaccination rates in Nigeria, the South is considered to have the highest vaccination rates, and the North Central zone lies somewhere in-between. The quality of vaccination coverage data in Nigeria is low which makes drawing more definitive conclusions difficult.

Traditional leaders can also play a role in supporting routine immunization. The traditional leaders have influence at anywhere from a local to a zonal level. For example, the Sultan of Sokoto is influential across the North West while the Emir of Zuru's influence is limited to three LGAs in Kebbi state. These rulers can strongly influence the attitudes of the populations they traditionally lead. While their influence is most often used to influence voters, their influence has also been used to promote public health goals. In particular, traditional leaders have been enlisted to help change people's perception of vaccines as un-Islamic.

Current Status of Routine Immunization in Nigeria

While the administrative data might suggest adequate coverage, this data is considered deeply flawed. One fundamental problem with the administrative data is that it uses population numbers derived from the 2006 census. The 2006 census itself is considered to have had many inaccuracies. These census population numbers are considered so flawed that the polio eradication campaign, led by the polio emergency operations center (a joint effort of the Nigerian government and international partners), has begun to undertake its own micro-census to estimate the population for coverage calculations. Recent cluster sample surveys have found

alarming low coverage rates, particularly in Northern Nigeria¹. Additionally, measles epidemiological surveillance data shows that outbreaks are still common across the country with approximately 25,000 cases in 2016.

While the majority of donor resources supporting immunization in Nigeria are focused on the polio eradication campaign, there is also significant donor support for supply side of the routine immunization system especially in Northern Nigeria. The most common form of supply side support at the local level is providing vaccine fridges. We observed large numbers of both functioning and non-functioning vaccine fridges during our clinic and LGA visits. International partners, especially the WHO, are closely involved in routine immunization capacity building at all levels. In many Northern states, every LGA has a WHO supported immunization consultant, and every clinic has a WHO supervision book where consultants record operational advice on Routine Immunization (RI) given during their visits. UNICEF and the Clinton Health Access Initiative (CHAI) also play major roles supporting routine immunization in Nigeria. UNICEF focuses on communication and community mobilization while CHAI is more focused on supply side strengthening.

There are no large programs fostering demand creation through incentives to mothers. Existing demand generation activities are largely focused on community outreach and messaging either through existing clinic staff or special teams. One of the largest programs encouraging outreach is a World Bank performance based incentive program in some states, including Nasarawa where three pilot sites are located. This program pays nurses for fully immunized children. Anecdotally, it also seems to encourage nurses to more vigorously encourage vaccination in their communities.

UNICEF is currently piloting a small cash transfer program for maternal and child health in nine LGAs across multiple states in the North West. While the program includes incentives for immunization very similar to New Incentives model, the program has limited reach and is unlikely to expand in the near future beyond the pilot LGAs. UNICEF began operations with three clinics in Kebbi, a state where New Incentives will likely operate, in September and have had success encouraging vaccination and working with the healthcare facilities where they offer immunization. We heard anecdotally from an LGA immunization officer that one of the clinics in which UNICEF operates the pilot has seen sevenfold increases in immunization. The success to date of the UNICEF program increases confidence that New Incentive's program can work in Kebbi.

The CDC is also planning on starting a pilot of in-kind incentives to encourage routine immunization in three LGAs in Sokoto state, where New Incentive may scale after Kebbi state. The CDC is currently conducting detailed qualitative research which they have agreed to share with the New Incentives team. Given the strong cultural similarity between Sokoto and many states in the North West including Kebbi, this research may provide further evidence on the potential impact of New Incentives program in the North West.

Individual Attitude towards Routine Immunization

There are a number of possible causes of low immunization coverage in Northern Nigeria. As the supply side continues to improve through donor support, it is becoming increasingly apparent that insufficient demand for vaccines is a major driver of low coverage rates. Why individual mothers do not vaccinate their children

¹ The 2015 UNICEF led SMART survey reported 17% coverage for DTP-3 and 22% coverage for Measles in North West Nigeria in 2015. The DHS survey in 2013 reported 14% coverage for DTP-3 and 22% coverage for measles in the North West.

when a clinic with vaccine stock is available remains an open question. During the scoping trip, we heard a wide variety of explanations:

- Mothers do not have the resources to pay for travel to the clinic.
- Mothers do not have the time or patience to wait at vaccination days.
- Vaccination is perceived as un-Islamic.
- Vaccination is seen as a political act showing support for the current government.
- Mothers forget about the timing of follow-up visits.
- Mothers do not understand the health benefits of vaccines.
- Mothers are disturbed by the pain and scaring associated with vaccination.
- After their child receives one immunization during a polio or measles campaign, mothers think their children are sufficiently immunized.
- Mothers do not like the nurses at their local health facility.
- Mothers do not want to travel to a health facility and find that vaccines are temporarily unavailable.

New Incentives Model

New Incentives (NI) hopes to overcome individual barriers to vaccination by offering mothers a conditional cash transfer for vaccinating their babies. NI hopes that providing incentives for each vaccination visit will encourage more mothers to fully vaccinate their babies. NI also hopes that these small cash transfers will provide material benefit to new mothers from poor communities, at the very least fully compensating mothers for time and transport costs.

NI currently operates nine pilot clinics across three states. These clinics were selected for their basic supply side readiness and median retention rates. Retention in this context refers to the number of babies who start the vaccination schedule that complete the schedule nine months later.

NI plans to focus their expansion in North West Nigeria where vaccination coverage rates are assumed to be among the lowest in the country. For NI's North West expansion, the selection criteria will be focused on a basic supply assessment and baseline retention rates will not be assessed.

Below is a detailed description of NI's current model in the pilot sites. The description is structured around the necessary steps for organizing an incentive distribution day. NI plans to operate the same model in the North West with only minor changes (noted in the text).

Step 1: New Incentives Staff Collect Cash

The first step to prepare for an immunization day is New Incentives' field staff collecting cash. NI leadership centrally calculates how much cash each fieldwork should collect based on previous expenditure and the number of mothers due for different vaccines. The cash is often collected the day before the vaccination day so that staff are not late to the clinic because of long bank lines. At scale, NI hopes to work with local banks to ensure their staff have streamlined access to cash. NI has provided backpacks and fanny packs for field staff to carry the cash as well as lock boxes for storing the cash at home. The staff is instructed to vary their routes to the clinic so that they are less of a target. That said, NI feels their field staff's strongest source of protection is the respect they earn in the community. One field officer reports that when she travels around

the community people call her “mama cash.” Remarkably, NI has yet to have cash stolen from field staff (one staff member did have their NI provided smart-phone stolen).

Step 2: Supply Side Checks

On each vaccination day, New Incentives staff perform a brief supply-side check to verify the vaccine cold chain has not been broken. This involves checking the vaccine vial monitors and also verifying the vaccines in stock have not expired.

Step 3: Mothers Arrive at the Clinic

As mothers arrive they are given numbers which will determine the order in which their babies will be vaccinated. While offering numbers is not a standard procedure across all Nigerian clinics, NI encourages this system to better organize the crowds of mothers that arrive at program clinics. Technically any caregiver can bring an eligible baby to the clinic, but in practice almost all babies come with their mothers since babies and caregivers generally spend multiple hours at the clinic.

Mothers enrolled in the program are reminded to come to the clinic for their child’s next vaccine with a series of three reminder text messages sent to the number provided on their child health card. Although these phone numbers are often for the mother’s husband or another relative, the hope is that whoever has the phone will inform the mother. New Incentives currently does not advertise their program to new mothers. The only form of advertising is a small poster immediately outside the clinic. New Incentives relies on word of mouth for information about the program to spread. That said, overtime the program seems to become community knowledge. In some cases information about the program can travel quite far. Mothers sometimes traveled from ten kilometers away having heard about the program from friends or relatives who work in the town where the clinic is located.

Step 4: Mothers Attend a Health Talk

Before the vaccinations begin, the clinic staff give the waiting mothers a health talk. As part of this general discussion on child health, New Incentives’ field staff announce the program. The field staff broadly explain the eligibility criteria, but they try to be a little vague to prevent mothers from leaving after the talk without vaccinating their children.

Step 5: Mothers Vaccinate their Babies.

Mothers are called in the order of the cards they were given at the beginning of the day. Nurses begin by filling out the clinic child health register and the baby’s child health card, which the mother is supposed to keep at home between visits. If the mother has lost her baby’s child health card, she is issued a new one using the information in the child health register or a duplicate card kept at the clinic. The child health register contains a child’s complete vaccination history as well as a phone number and follow-up address.

In addition to the child health cards and child health registers, nurses also tally vaccine doses given on a tally sheet. This tally sheet data is aggregated through the LGA and state levels to determine coverage rates. Additionally, babies at some clinics are also weighed and measured when they are vaccinated. In general, the effect of bringing more babies to the clinic on general health status is a major open question.

Once the registering nurses complete the necessary paperwork, the mothers are referred to the nurses administering the vaccine. The nurses administering the vaccine apply a dot using a gold pen on the baby's child immunization card to prevent babies from going directly to the incentive table skipping the vaccination station. In some clinics, the incentives table is located next to the immunization station, in other clinics the table is located in an adjacent room.

Step 5: Mothers Enroll in the Program or Receive Payment

To be eligible for enrollment, the mothers must either have never vaccinated² or have record of receiving BCG, the first vaccine on the schedule, at the clinic where New Incentives is operating. Currently, as long as mothers received BCG at that clinic, they can enroll in the incentive program at any stage in the vaccination schedule, assuming their child has been fully immunized up to that point. However, to reduce fraud and complexity in verifying eligibility at scale, NI plans to only enroll babies when they receive BCG.

When new mothers are enrolled, they are issued a card which illustrates the incentive structure and has their unique ID code. This unique ID code is also placed on the mother's child health card. Returning mothers must have their child health card with evidence of previous vaccinations to be eligible for the incentive. In the event the mother loses the child health card, they can still receive the incentive if the child's previous vaccinations can be verified using the child health register kept by the nurses.

Once the NI field staff member confirms the baby's eligibility, the staff member pays the mother the appropriate amount and records this figure three times: electronically using a smartphone, on a paper tally sheet, and by taking a photo of the mother with her cash. The field staff member also takes a photo of the mother's child health card so that other NI staff can verify that the field staff is correctly determining eligibility. Before the mother leaves, the staff member applies a blue dot to the child health card to guard against double payment.

During the payment process, field staff are instructed to congratulate the mothers for protecting their babies with vaccinations. Focusing on the health benefits of vaccination is also how field staff are instructed to handle conversations where they inform a mother she is not eligible. However, these interactions are rare as nurses often identify ineligible women from other clinics and direct them away from the NI staff member's table.

Step 6: Cash Reconciliation and Debriefing with Nurses

After all the mothers have received their incentives, the field staff counts their remaining cash and records information from the vaccination tally sheet, child health register, and nutrition registers. The field staff also validates the data from five randomly selected child health cards against the child immunization register. This process of checking records may be an opportunity for field staff to encourage better record keeping by the nurses.

New Incentives is concerned about keeping the nurses motivated despite the increased volume of patients. Periodically, the field staff provides nurses with refreshments and meet with them to discuss the project and preliminary results. NI is currently exploring other options to recognize and encourage the nurses working in their clinics. Ideas include small gifts during major holidays or certificates of appreciation. Overall, NI does

² This can be easily verified by the absence of a BCG scar

not plan to offer monetary incentives to nurses as they believe this would be unsustainable, disrupt local health systems, and lead to a higher volume of fraud.

Clinic Visits

A spreadsheet detailing the clinics visited on the scoping trip can be found [here](#).

Process for Selecting Clinics

In Nasarawa state, the team visited each of New Incentive's three pilot clinics. We also visited one nonpilot clinic whose coverage area was adjacent to a NI's pilot clinic. Nasarawa state was selected given its proximity to Abuja.

In Kebbi State, New Incentives had previously randomly selected clinics to conduct reviews of administrative records and assess supply side readiness as part of their scale-up. NI selected a subset of these clinics that were logistically feasible for the team to visit. In addition to the randomly selected clinics, we visited a few health facilities near the selected ones to increase the total number of visits.

Observations about clinics in Nasarawa state

PHC 1 Garaku in Kokona Local Government Area (LGA)

- **Location:**
 - Garaku is a small town served by two primary healthcare facilities in a rural part of Nasarawa.
- **Clinic:**
 - The clinic consisted of treatment rooms and offices clustered around a covered open courtyard with benches. Mothers waited for and received vaccinations in this courtyard.
 - We observed three nurses working:
 - 1 nurse was giving immunizations
 - 1 nurse maintaining the tally sheet and child health register
 - 1 nurse weighing and measuring babies and maintaining the nutrition register
- **Mothers:**
 - There was a large crowd of mothers at the start of the immunization day (~60) at 9:00am. By 2:00pm the crowd dwindled and by 3:00pm immunizations were complete.
 - Mothers come from the town and surrounding rural areas.
 - Rural mothers heard about the program when they are in town for work or market days.
 - Some nomadic Fulani people are also served by the clinic.
- **Impact on Neighboring Clinics:**
 - Kokona LGA officers noted the program had reduced immunization rates at the second facility serving Garaku which is walking distance from the pilot site.
 - This facility only offered vaccination days monthly (versus weekly) so also had a lower volume historically.

PHC Nyanya in Karu LGA

- **Location:**
 - The clinic is just over the Nasarawa state border from Abuja and is part of the broader Abuja metropolitan area. Many people commute to Abuja daily from Karu LGA.
 - Since the clinic is part of a large urban agglomeration, there are a number of nearby health facilities serving the community.
- **Clinic:**
 - The clinic had a small waiting room with benches for about 20 women and an uncovered courtyard surrounded by treatment rooms and offices.
 - Vaccinations and payments took place in the courtyard, although customarily the NI field staff are given a small office to process payments.
 - We observed approximately 4 nurses working:
 - 2 managing the child health register.
 - 2 offering immunization.
 - The issuing of child health cards and nutrition activities took place in a separate room.
- **Mothers:**
 - The approximately 80 mothers waiting at 10:00am made the clinic crowded.
 - Clinic invests in attracting mothers and keeps detailed records since a World Bank program pays the clinic for every fully immunized child with proper record of immunization.
- **Clinic Charges:**
 - Clinic charged 200 Naira (approximately 40 cents) for mothers to buy 2 child health cards (one for them and one to store at clinic).
 - Clinic charged 50 Naira per vaccination.
- **Impact on Neighboring Clinics:**
 - See PHC Karu

PHC Karu in Karu LGA

- **Location:**
 - 1.5 km from PHC Nyanya
- **Clinic:**
 - The clinic had a large recently built hall with benches to hold immunization days.
 - Immunizations had finished by the time we arrived so couldn't observe staffing.
- **Mothers:**
 - Around 80-100 mothers per vaccination day including the most recent one.
 - The officer in charge of the clinic and LGA officials claim anecdotally the number of women vaccinating their children at the clinic has reduced because of the program in PHC Nyanya.
 - According to the officer in charge, in the urban environment mothers often do not limit themselves to clinics within their catchment area .

- One reason mothers visit different facilities is because of perceived differences in service quality.

PHC Angwan Waje in Keffi LGA

- **Location:**
 - Located in Keffi a town of about 100,000 people and served by multiple health care facilities.
- **Clinic:**
 - Facility about three times as large as the other pilot sites:
 - Main clinic building contained treatment rooms, smaller waiting rooms, and a large hall with benches for vaccination days, all indoors.
 - Highest volume of all of New Incentive's pilot sites with two rather than one NI field staff present to process payments.
 - Approximately nine nurses were working with others supporting periodically:
 - 2 nurses vaccinating babies.
 - 4 nurses filling child health cards, child health register, and tally sheet.
 - 3 nurses weighing and measuring babies and recording the information on the nutrition register
- **Mothers:**
 - Some mothers drawn in from areas surrounding Keffi to receive vaccinations at the clinic.
 - Women heard about the program from friends and relatives who worked in the town.
- **Fraud:**
 - NI staff noted this clinic had the highest incidence of fraud and other irregularities.
 - One nurse was suspended for taking bribes from mothers who wanted to skip ahead in the que.
 - Witnessed field staff identifying cases of fraud involving a forged child health card.
 - NI staff recognized a woman who had come in recently, but the women claimed the baby was her sister's and provided a child health card indicating eligibility for payment.
 - NI staff then noticed the health card looked new even though the woman was due for measles (the cards look worn after nine months) and attempted to verify the data on the card against the register.
 - No record of the child could be found in the clinic register so the mother was denied payment. The mother didn't protest this decision.

Observation about Clinics in Kebbi

New Incentives currently has no operations in Kebbi state, but the state will most likely be part of their expansion to the North West and thus also one of the sites of a potential impact evaluation. Rather than

discussing the many brief clinic visits in detail, the following section highlights key contextual factors that may impact NI's operations and the potential study.

- **Settlement Pattern:**
 - Densely populated, walled villages surrounded by large areas of grazing and agricultural land.
 - In-between settlements, the nomadic Fulani people seasonally migrate setting up temporary camps. These nomadic people tend to be the hardest for surveyors and clinics to reach.
 - Vaccination outreach at Alelu dispensary was to a Fulani enactment. The outreach was organized by a special UNICEF funded team so it is unclear how these communities are normally served and would interact with NI's program.
- **Structure of Routine Immunization Program:**
 - Due to clinics catchment areas being made up of a number of distinct communities, regularly scheduled outreaches play a major role in many clinics' RI strategy. This is unlike Nasarawa where NI stopped working at outreaches due to their inconsistency and infrequency. The most remote clinic we visited, PHC Bagura Hausawa, conducted only one vaccination day at the clinic per month. The other vaccinations days were held as outreaches rotating amongst the settlements in the catchment area.
 - We only witnessed one vaccination day and saw low volume relative to Nasarawa
 - In the early afternoon, Birnin Malam Dispensary had only a slow trickle of mothers with one man in charge of the record keeping and vaccinations.
 - The site was may been more crowded earlier in the morning.
 - Average volumes are 15-30 mothers per vaccination day in contrast to the 80-130 mothers NI serves daily in Nasarawa
 - Unlike most states, BCG coverage rates in Kebbi are lower than other vaccines.
 - High rate of home births (none of the clinics visited offered delivery services even if they had rooms) may result in women bringing their babies to clinics later than two weeks after birth, the recommended timing of BCG vaccination.
 - We discovered some confusion at the clinic and state level regarding the official guidance to give BCG up to 11 months of age.

LGA Offices

- **Reaction to the Program:**
 - LGA officials were generally supportive of the program.
 - The Kokona LGA cold chain officer, who is in charge of the LGA's vaccine fridges and vaccine supply chain, said he would consider funding our program over refrigerators if given the choice.
 - Officials, including the aforementioned cold chain officer, felt that even the small incentives offered by NI would materially benefit the women in their LGA.
 - Officials cited high poverty levels and the current recession in Nigeria.
- **Supply Side Capacity:**
 - CHAI is providing capacity building to some cold chain officers including the provision of a laptop used for an electronic stock management platform.

- All LGA's, even those with computers, kept large ledgers books.
 - Books summarize stock and doses given at each clinic.
 - Records are sent to the state level and eventually digitized.
- Every LGA visited had sufficient refrigeration capacity to meet its needs.
 - We witnessed many broken fridges which had been replaced rather than repaired.
 - Clinics mainly had un-replaced broken fridges, but some clinic fridges in Kebbi were operational.
 - Keffi LGA strategically placed their cold chain fridges in a clinic near an electric substation to reduce the need for power from generators.

Stakeholder Meetings

Abuja Stakeholder Meetings

In Abuja, we met with a wide variety of stakeholders in the Nigerian routine immunization system. We also met with the director of the national unconditional cash transfer program. While most of these meetings were focused on deepening our understanding of the existing routine immunization system in Nigeria and accessing relevant data sources, we also solicited thoughts on New Incentives models from partners.

In Abuja we met with following RI stakeholders (individuals' names have been removed):

- Deputy director of vaccines and deputy program director, at the Clinton Health Access Initiative.
 - Conversation focused on expansion plans in the North West as they had met with NI before.
 - Brief discussion of the sustainability of the program as well as supply side capacity.
- The RI coordinator at the National Primary Healthcare Development Agency.
 - The conversation focused on data sources as he had met with NI before, but he briefly expressed his general support for the program during our meeting.
- Two individuals from the WHO Routine Immunization Team.
 - Conversation focused on RI data sources, but also covered concerns about incentives impact on motivation.
- A behavioral scientist and an epidemiologist, from the CDC.
 - Discussed the CDC pilot program for strengthening RI demand.
 - Discussed the important role state and even LGA governments play in RI in Nigeria.
 - Long discussion on the social psychology of incentives for health behavior change.

In general, stakeholders were very positive about New Incentives program. However, there were three recurrent concerns. Stakeholders emphasized that demand creation only works if clinics have the vaccines in place to serve the women coming to the clinic. Stakeholders were also concerned about the sustainability of the program. Finally, stakeholders asked how incentives would change mothers' motivation for vaccination.

New Incentives' response to the first issue regarding the supply side constraint is that other partners, especially the Gates Foundation, WHO, and CHAI, have invested significant resources in strengthening supply side systems. New Incentives sees itself as complimenting those efforts. There is also a perception that the supply side of Nigerian routine immunization efforts has improved significantly in recent years. The trips

to clinics and LGA vaccine cold chain offices where refrigerated vaccines are stored, supported New Incentives assertion that there are a large number of LGAs with good supply side infrastructure.

The response to the second concern about sustainability has two parts. First, New Incentives does not envision the incentives ending in the medium-run. Instead, they hope that the program will generate interest in the program in the short-run. This interest they hope to catalyze into the Nigerian government taking over funding the program after GiveWell funding ends.

Nigeria's current president, Muhammadu Buhari is clearly interested in cash transfers. Buhari established a national cash transfer task force who we met briefly with. This task force is trying to catalyze the use of cash transfers for social protection in Nigeria and has already begun to pilot a program of monthly payments in some states for vulnerable people identified through a World Bank community based targeting scheme.

The third concern, effects on mothers' motivations, stems from the argument that incentives monetize vaccinations. Taken to the extreme, monetization could mean that in the future mothers would only be willing to vaccinate their children if they receive an incentive and would stop vaccinating their children if incentives were removed. NI believes that by keeping the incentive amounts small and combining the incentives with health messaging, they can ensure that mothers are both intrinsically and extrinsically motivated to vaccinate. The CDC behavioral health expert we spoke to about the motivation issue largely agreed with the NI perspective that combining intrinsic and extrinsic motivation will contribute to developing a culture of vaccination.

Kebbi Stakeholder Meetings

As New Incentives does not operate yet in the North West, the stakeholder meetings in Kebbi began by introducing the program and proposed randomized controlled trial. Once we achieved some buy-in, we refocused the meetings on obtaining access to administrative immunization data.

The director of Kebbi state's primary healthcare development agency was very positive about the New Incentives model. He felt that the supply side situation is improving as a result of help from other partners; demand, though, remains an unaddressed issue. He sees the incentives as a way to reduce the need for supplementary campaigns which from his perspective are unsustainable. He also thought the program would encourage mothers to retain their child immunization cards which is an important part of the routine immunization monitoring system. He enthusiastically granted us access to all of the state's administrative immunization data.

The local head of the WHO in Kebbi also found the New Incentives model promising, but emphasized the need for continued supply side support. He also emphasized that the government should play the lead role in sharing data, even if it is collected by the WHO, and coordinating between partners, even if the activities are carried about by the WHO. The policies reinforced the importance of cooperation from state officials.

Key takeaways

Challenges

The biggest measurement challenge is the movement of mothers between clinic catchment areas and how to ensure that program results are indicating new vaccination, not displaced vaccination. The team has brainstormed ways to address this measurement issue including coverage surveys within a clinic's catchment

area or looking at volumes overtime across all clinics surrounding a treatment clinic. A note outlining different measurement strategies will be presented to GiveWell in the coming weeks.

While there are still concerns about mothers traveling between catchment areas in Kebbi, in general the clinics we visited in Kebbi were significantly more rural and isolated than those NI operates at in Nasarawa. Catchment areas are unlikely divided by settlements and fewer clinics are likely to be within easy walking distance of each other. Furthermore, since rural communities are assigned in their entirety to a specific clinic, the spread of information about the incentives to other communities will likely be slower.

Mothers frequenting clinics outside their planned catchment areas is also an issue from a health systems perspective. Increased patient volume means nurses need to work longer hours and facilities may not be equipped to handle more patients. NI plans to address this by scaling up in clusters of nearby clinics, but there will always be some nearby clinics who are not part of the program. For example, in border areas of Kebbi state some clinics already serve patients who travel from Niger.

Another major measurement challenge is the low-quality target population data that is used to calculate administrative coverage levels. Clinic and LGA staff both recognize that the administrative targets are flawed, and thus adjust vaccine stock levels based on previous consumption. We observed a dramatic illustration of flawed coverage rates in one clinic in Kebbi state where the clinic staff had used whiteout to graph a coverage rate far exceeding 100%.

Opportunities

A remarkable amount of administrative data on immunization is produced at the clinic and LGA levels. Tally sheets, child health cards, and nutrition registers all contain relevant information on mothers' visits to a clinic. Further, these data sources could potentially be cross-referenced against each other. The tally sheet data on the number of doses given is digitized and available for all clinics in Kebbi state. Similar digitized data should be available for all states in Nigeria, but data for clinics in some LGAs in some states may be missing. The data in paper form should be available universally. The LGA cold chain officers also keep detailed records, which are also digitized, on the vials distributed. This information could be used to validate the dose information.

We discovered that some clinics had conducted micro-censuses involving an enumeration of every house in their catchment area as part of the polio eradication effort. The data from these polio micro-censuses likely provides much more accurate settlement level population data than the census. This settlement level population data could be used to calculate more accurate coverage rates using administrative data. Data on consumption of the oral polio vaccine during campaigns could also provide another relatively reliable estimate of the population of children in a given settlement.

Annex 1: IDinsight thoughts on New Incentives' Operational Capacity

The New Incentives program in Nigeria is well thought out. It is obvious the intention and energy the team has put into each aspect of the model and resulting operational decisions. NI has several years of experience at this point running cash transfer programs in Nigeria and seems to have adapted well to changing circumstances. Below we outline a few higher level takeaways that we hope to discuss on the call with GiveWell. The promising aspects detail parts of NI operations that we saw working well. The risks outline

areas that we think NI needs to continue to think critically about. Overall, we would recommend moving forward with the learning phase thus giving New Incentives the opportunity to work through the operational challenges of scaling.

- **Promising Aspects of New Incentives Operations:**

- Detailed operational protocols help ensure consistency in implementation and reduce the risk of fraud.
 - Field officers highlighted in interviews that working for NI had taught them meticulous attention to detail.
- Extensive use of technology and mobile data entry streamlines operations.
 - New Incentives can monitor and address operational issues on a daily basis.
 - Cash discrepancies can be quickly addressed.
 - Impressive systems in place to allow NI leadership to manage field staff remotely.
- Freelancers and online training platforms help New Incentives scale operations quickly.
 - To hire junior expansion officers in North West Nigeria, New Incentives used a freelancer to screen online questions and then trained the staff using a web training platform.
 - The officer we met in Kebbi seemed quite capable.
- New Incentives leadership can operate successfully in Nigeria.
 - Svetha has years of experience implementing cash transfer programs in Nigeria.
 - Experience from experiments with many different iterations of cash transfer operations in Nigeria. She determined both biometrics and mobile money were not suited to the Nigerian context.
 - Experience addressing fundamental operational issues such as HR compliance and transferring money while complying with strict capital controls.
 - Patrick has a talent for negotiating with stakeholders, especially government officials.
 - Has a patient but persistent negotiation style.
 - Draws on years of experience at the UN Department of Political Affairs and conducting strategic dialogue for the Swiss government.

- **Operational Risks as New Incentives Scales**

- Limited local managerial capacity.
 - Praytush, New Incentives' COO, directly manages all NI field staff.
 - Another layer of management between field staff and NI leadership is needed.
 - Previous experiment with this role in an earlier program iteration was unsuccessful.
 - NI is training its most promising field and expansion officers, but it is unclear if any strong managers will emerge. Also, NI will likely need more staff beyond this pool.
- New Incentives' leadership team is not permanently based in Nigeria.
 - Svetha and Praytush travel to Nigeria as needed.

- Patrick spends a significant portion of the year in Nigeria (approximately six months).
- NI believes leadership not being based in Nigeria is sustainable.
 - Robust systems and the flexibility to return to Nigeria on short notice is sufficient to allow operations to run effectively.
 - Even if leadership was based in Abuja or Lagos, remote management of field staff would always be necessary.
- There are risks stemming from leadership being based abroad such as:
 - Not knowing full on-the-ground context beyond the operations of their clinics. (Example: local government strategy shift, other partners entering the vaccination space, etc).
 - Difficulty selecting and mentoring staff as they have increasing managerial responsibility.