Memo: This document is meant to serve as a detailed guide through all phases of project planning and implementation, by using the experience of the SMS pilot in Senegal for future mobile phone initiatives. The following major themes will be addressed:

I.   Ministry Partnership
II.   Collection of Baseline Data
III. Design of Census
IV.   Defining Project Needs for SMS intervention
V.   Logic Circuit of SMS Communications
VI.   Complementary Tools
VII. Trainings
VIII. Follow-Up Strategies
IX.   Feedback Loops
X.   Targeted Supervision and Focus Groups
XI.   Project Extension

I.   Ministry Partnership
   o   Partnering with the Ministry of Health is critical.
   o   It is important to build a mutual consensus about the project needs with the national, regional and district levels of the health system. An initial "launch" workshop helps to establish project objectives and engages health officials as stakeholders in the project outcomes.
   o   The "launch" workshop served to introduce the mobile technology components of the strategy. Advocacy for this type of progress should insist on:
      ▪   Improved data quality
      ▪   Faster transmission time of activity reports
      ▪   Better record keeping
      ▪   Improvement of transparency at the local level
      ▪   Offers new channel of communication with mothers and children
      ▪   Standardization of nutrition protocols through supportive feedback
      ▪   Treatment of Vitamin A as an essential medicine
   o   The "launch" should highlight the multiple sectors that can benefit from mobile strategies including health, agriculture, education, and mobile banking. Moreover, this builds data skills in local ministries.
   o   Tips for dealing with the Ministry of Health:
      ▪   Include Ministry partners from the outset of project planning
      ▪   Be specific with what support needs HKI is seeking from administration
      ▪   Provide a plan of action for the project before the first evaluation to deliberately include ministry of officials in each phase.
      ▪   Set a clear per diem policy to avoid confusion for displacement, overnight supervision, and participation in workshops.

II. Collection of Baseline Data

- o Baseline data is collected to show the initial coverage of Vitamin A in each intervention and control district. After the intervention, a final survey collects the same information by using a cluster random sampling method to have a representative sample of the children who should have been reached by the activity. Set up to collect 7 children aged 7-10 months in each of 30 clusters. Replacement clusters or surrounding communities can be used in there are not enough children resident in a cluster.
- o Most valuable questions on the survey
    - ▪ **Age of the child** *(difficult to measure , ideally a official child health card is identified or distributed during the intervention)*
    - ▪ **Supplementation** *(to determine of the child received a dose of Vitamin A outside of the mass campaign)*
    - ▪ **Location of supplementation** *to determine if the health post has an available supply of Vitamin A, or the activity is accomplished in a door-to-door method*
    - ▪ **Occasion of supplementation** to *determine if the activity was part of the mass campaign or a routine activity.*
- o Questions to add to the questionnaire.
    - ▪ Does this household have a mobile phone?
    - ▪ How many mobile phones in this household?
    - ▪ What features do you use on your mobile phone? (Voice, SMS, Internet)
    - ▪ How much money do you spend on credit per month?
- o Selection of your field team.
    - ▪ For this phase of data collection, each district identified and trained a survey team for the baseline evaluation. Two survey teams were established, with one supervisor to oversee two interviewers.
    - ▪ The baseline needed to work in 30 clusters, each team was responsible for conducting questionnaires in 15 clusters over 5 days. On average teams completed 3 clusters per day, or 11 children per interviewer. A threshold of 210 children per district was set, but only 184 children needed to participate to have a statistically viable sampling.
    - ▪ **TIP:** Micro-planning with the survey teams during the day of training is very important. Micro-planning assigns tasks to each team, facilitates supervision in the field, established a working logic for how to work through clusters, and allows for the coordination of transportation for the teams.
    - ▪ **TIP:** Do not allow teams work in their own neighborhoods to avoid biasing their household selection. Establish a deliberate method for selecting households, every 3 houses in a rural setting, and every 5 houses in an urban setting.
    - ▪ **TIP:** Building a "team" mentality is very important. The field team needs to be flexible, handle unexpected realities in the field, feel comfortable deferring to supervisors and work well under pressure.
    - ▪ This age range of 7-10 months was chosen to measure children over 6 months of age who were not "of age" during the previous bi-annual mass campaign.

Theoretically, all children who are supplemented in this age range, would have received the service in a routine activity.

▪ The age range 7-10 months, can make it very difficult to find the appropriate respondents. Supervision during both baseline and final evaluations needs to be strategic about how to overcome a small sample population in data collection, especially in small districts.

III. Design of Census

o Collecting Phone Numbers from Beneficiaries under the age of 6 months.

o *The paper based census posed a huge data entry task, which took 10 days to complete.*

o **This activity could be much for efficient if mobile data collection was used. Tip**: Design a pilot that uses all of your baseline data, or a system that can remain active through periodic enrollment with complementary activities

o **Tip:** A dynamic census is the most efficient way to build a sustainable register of targeted children, and can be done largely at the health post during early vaccination appointments or monthly weigh-ins. To complement this strategy, health workers should be allowed to work in the field to add children who may be "hard-to-reach."

Need	Design	Implementation	Lessons
Identify target population	Children aged 0-6 months were included in the census	A two page questionnaire was designed to collect demographic, geographic and contact information for each child	Two phone numbers were collected. This second number was not used during the pilot, and should be taken advantage of if possible as a second reminder message. Case assignment should have been delivered by the same health worker conducting the census to maintain a personal connection.
Training Health Workers for Data Collection	The population was estimated using published national figures. The health workers were trained on the following major themes: 1) the benefits of Vitamin A, 2) the Vitamin A protocol, 3) the objective of the SMS communications,	The census was designed to be conducted over 5 days. CHW's were responsible for going door to door to identify targeted children and collect their information. 75 CHW's were trained in Mbacke (semi-rural) and Dakar	The census was not complete after 5 days. Many villages were completely missed by the census .Commonly cited barriers were a lack of funding for transportation and difficult of access to remote villages. .Other posts would cite problems of "running out of" paper based forms. .The quality of the data was impacted by the literacy of the data collectors. Difficult to maintain a rigorous standard, used available district resources.

	4) the questionnaire for data collection	(urban) 50 CHW's were trained in Thionck Essyl (rural) smaller district	.The census had to be undertaken during a very busy period in the district and be managed among other priorities .Data of entry of the census was VERY SLOW.
Informed Consent and introducing the project objective	All participants were informed that by participating in this questionnaire they would be enrolled for a reminder at their child's 6 month date	A copy of the informed consent was left behind at each household. CHW's were instructed to write the specific date on a piece of paper and their personal contact number	A major challenge was informing people whose phone numbers were collected but were not present during the interview. Having a structured "informational" flyer would be one method to create a lasting source of clarification and help identify the appropriate point of contact.
Determine availability of cell phones by population	Up to two cell phone numbers were collected for the child	We left the contact of this cell phone very general, it could be: The mother, the father, the head of the household, a sister, a brother, cousin, neighbor or friend.	**The most indicated person for a child's health is the mother.** A secondary contact with the father or head of household was also good. The more distance between the contact and the child the less likely the reminder would be effective. Often the SMS contact would travel and not mobilize the child.
Collect active phone numbers	Two cell phone numbers were collected to avoid loses in communication	During the census phone numbers were collected and 9 boxes were created to avoid having incomplete phone numbers Incomplete numbers should be identified/verified by the field supervisor.	"Beeping" the phone number was one way to confirm that the phone number was active. Free use of phone: where you call and hang up. This posed a serious problem over time. Often SIM cards are lost, stolen or become in active causing a breakdown in communication.
Identify community health worker responsible for future follow-up	During the census, the CHW who was collecting the data during the census was recorded	In practice this data was not fully exploited.	The CHW who identifies the child is the most indicated to follow-up the child. This was problematic because more CHWs were used in the

			census than during the project. Exploiting that data would improve case management.
Keeping the census information up to date	A structured formula was designed to do a "snapshot" census for children missed during the initial survey. Allowed the SMS system to identify: 1) The name of the child 2) The name of the mother 3) The date of birth for the child 4) The village/location of the child 5) A phone number contact	This allowed for a dynamic census, and allowed for more robust project activity.	It is important to have active data management so that the children collected during the census can also be programmed for a reminder. Another possibility is that this "ADD" feature could replace/ revise an incorrect number. A 0-6 months census is only useful for 6 months. A dynamic census allows for the target population to grow, children who move in or out the zone to be removed or added. An initial census is ok for a pilot launch, but not sustainable over time.

IV. Defining Project Needs – SMS Considerations

- o Duration
- o Number of Phones
- o Number of Health Posts
- o Health Workers
- o Phone Credit
- o Telephone Operators

Need	Design	Implementation	Lessons
Cell Phone Server	An android phone was established to send and receive text messages using a local SIM card	An android phone was established for the 2 major telephone operators in each health district.	In Telerivet, each project (district) needs at least one cell phone. Six Android phones were purchased. 5 Duo SIM phones were purchased. The Telerivet App could not handle determine which SIM card to use. A single SIM card was used as a result.
Tracking Server	Used the available tools provided by the	The Telerivet system offers a simple dashboard to	There were several limits to the Telerivet Server:

Performance	Telerivet System	measure: • the connectivity of project cell phones • the volume of incoming and outgoing messages by day with a frequency chart • the mobile application installed on the Android phone and the web-based platform can be used to track server performance.	• It is not possible to verify the reception of the message. The message will have one of 3 statuses (Sent, Queued, Failed) • Problems with wireless connections. The server phones were kept in the HKI-Senegal office and set up to use a wireless internet connection. Problems with power or internet reliability would delay messages, no messages were lost. • The mobile application is not designed for active data management, all significant work must be done on the web-based platform.
Cell Phone Choice	Simple cell phones were selected for this project Cost and Scalability improve with low-end phone	Every health post was given a simple Samsung phone that cost 11,000 francs ($22). The phone was set to be kept at the health post, and was accessible by all of the health workers The phone was used to send a weekly stock report, the only SMS requirement from the head of the heath post.	All of these phone numbers were set up with a local Orange SIM card for consistency. These phones sent the majority of messages during the project.
Health Worker Phone	The Telerivet system was a purely SMS system. This means that any simple cell phone can take advantage of the system. An individual can use their personal phone for all project activities.	All of the health workers in the project were the owners of a cell phone with an active SIM card.	Many health workers phones were off brand (Chinese phones, Arabic keyboards), had variable user interfaces and required one-on-one teaching to make sure each health worker could navigate the menu and send SMS messages. Several problems arose: Phone numbers could be lost or stolen, SIM cards change often. The best solution was to assure at least one cell phone (put in place by HKI) was available at each

			health post if the individual's phone was out of service.
Cost of Text Messages	Text messages can be sent to any number collected by the census to take advantage of available technology.	Four major operators work in Senegal with varying coverage. Determine the predominant operators in a district and establish a phone on their network.	A text message on the same carrier costs 20 francs (4 cents). A text message between two different carriers 75 francs (15 cents). Being strategic about phone operators can significantly control the cost of text messages.
Case Reporting	Each health worker is tasked to send a report confirming a case once a child receives their dose of Vitamin A.	In practice, a structured formula is used to collected the following data points: - Health post - Village/Locality - Name of the Child - Type of Report - Date of Supplementation - Contacted by SMS (yes or no) - Received a health card (yes or no) Each data point is separated by a pound sign (#). In data analysis these messages can be parsed into columns.	The collection of a structured string variable allows many data points to be collected in a single message. Other useful data points that could be added: - Name of mother - Date of Birth of child - Active cell phone # - Name of the CHW sending the message (for performance monitoring) The question "contacted by SMS" may have some reporter bias. Many beneficiaries were contacted without being aware they had received the message
Data Quality for Structured Reports	A formula was developed to provide structured reports on Vitamin A supplementation and the availability of Vitamin A capsules.	Because the formula was written in a text message with several symbols it could take 2 minutes for a new user to type a single message.	During the training each participant was registered in the Telerivet system. To verify the phone number a "test formula" was sent to all the participants. These test formulas were saved in their phones. Using the "revise draft" feature health workers could simply complete the standard formula on a case by case basis. To improve data quality, a form based data report would be able to control for "errors" and make sure all the data fields were complete.
Reporting Errors	The SMS system is designed to provide useable, individual	In the project design, an SMS contact point was recruited to monitor	Incomplete reports were often resolved with a second report that would include all of the data

	specific and "real time reporting" on field activities. The "errors" needed to be identified in a systematic manner, that Telerivet could not handle.	incoming messages from their district and follow-up. Reasons for local feedback: • Incomplete SVA report • Missing stock report • Respond to AIDE message • Coordination of social mobilizations	points. This was a very manual process. It was difficult to keep the turnaround time to a predictable interval. Sometimes a correction would arrive the same day, sometimes many days later, sometimes a correction would never arrive. The SMS contact point became a much larger responsibility than originally expected. And the role of this facilitator should be re-visited for future pilots, with an individualized training module for supervision. Doubling of reports became common, and inflated the cost of SMS communications
Pre-Financing Credit	Each health worker has a varying case load. Large districts / health posts may have between 10-20 children a month. Small districts may have a varying caseload month to month. Hard to predict credit "need" in advance	The initial design wanted to take advantage of the USSD feature in the Telerivet system, which allows a specific sum to be transferred directly to the users SIM card. The interval for these transfers was difficult to determine. Weekly? Monthly?	Transferring credit is logistically complicated: • Requires calculating usage • tracking who has received a USSD transfer • adding bulk credit • AND CREDIT EXPIRES– if the money is not used rapidly the operator will reclaim the transferred credit. Solution for the pilot: Reimbursed credit at the end of the 3 months to the order of 2 dollars a month (1000 francs) the smallest value for a card. Health workers were asked to provide pre-paid cards to justify the expenditure.
Controlling the cost of SMS messages	SMS text messages can become very costly, especially at scale. Strategies to minimize costs need	To avoid losing credit from expiration, credit was added on an "as needed basis." Often pre-calculating the message load at the	*Avoid losing credit to expiration:* *Orange* will take credit often in less than 10 days. *Tigo* credit lasts 30 days. *Expresso* credit lasts 60 days

	to be experimented.	beginning of the week (by phone) would help inform decisions. Denominations between 1000 francs and 10000 francs were used. This is a manual process.

Adding 10,000 francs results in a promo of 2,000 francs free. | Larger denominations of credit have a longer expiration period

Using promotion days to reduce costs is effective for sending messages, but promo credit cannot be transferred to other phones. (Promo 50%, 100% days come several times per month) |
| Timing of SMS Message | A child was scheduled to receive a text message the day they reach 6 months. | Each child with a birth date from the census was programmed in the Scheduler feature of Telerivet and set to send the reminder to the primary contact phone number.

Due to the month-by-month programming of reminders the hour of the day varied throughout the project.

Focus Group feedback from health workers suggested changing the timing of the message. | Many women would receive the message after they had already received the supplement (it would arrive at 11 am and they would have visited the clinic at 8 am). Other women would receive the message too late in the day to plan a visit.

THE DAY BEFORE IS THE BEST TIME SEND A REMINDER TO ALLOW WOMEN TO PLAN FOR A VISIT TO THE HEALTH POST |
| Number of SMS Reminders | A child received a SINGLE reminder to go to the health post | The primary contact was programmed into the Scheduler

The initial logic circuit planned to have a follow-up reminder sent to the primary contact. This became logistically impossible to manage. Problems with message validation, and slow mobilization by beneficiaries. | **TWO MESSAGES SHOULD BE PROGRAMMED**:
• To use both phone numbers collected
• To increase the number of adults implicated in the activity
• Helps overcome communication barriers/ inactive SIM cards
• Initiate contact:
 1) the day before
 2) early in the morning of |
| Content of SMS Reminder | The content of the SMS reminder was designed to provide specific data collected from the census. | The SMS Reminder would include:
➢ The name of the child
➢ The closest health post to the child | An unexpected feedback was that recipients would not recognize the phone number that sent the message. Some would regard it as spam and ignore it. |

		The content of SMS reminders needs to be • ***pre-tested in each intervention district.*** • ***iteratively adapted based on local comprehension***	It would be worthwhile to consider some kind of "branding" to help identify the source of the message. A LOGO SHOULD BE DEVELOPED AND APPROVED BEFORE THE PROJECT STARTS. Another feedback was that recipients would sometimes go to a different health post, or would ask for the location of the health post. Each health post should help draft a standardized reply message for their patients to inform them of the "location" and "contact number" for each health post.
Language of SMS Reminder	The SMS reminder was sent in French. However, the predominantly spoken local language in Senegal is Wolof.	**Example of a reminder message:** « Attention: *Ibrahima Laye* a 6 mois aujourd'hui, doit se rendre au poste de santé *Yoff Village* pour recevoir une dose de supplémentation en Vitamine A. »	Feedback from program participants suggested that writing messages in local languages would not improve comprehension. Wolof is not a widely written language. Many problems with literacy arose, largely based on limited education. Voice messages or a call back voicemail could help overcome some of the literacy barriers.
Follow-Up	If a child does not receive a confirmed report within {X} days a follow-up is triggered via SMS.	In the initial design this follow-up would have been programmed into the Telerivet system. This was technically difficult as an "alert feature" was not included in the platform. Instead, health workers were instructed to make a household visit after 3 days.	Use a more sophisticated platform which monitors each patient profile. After a threshold (3-7 days) a follow-up reminder should be sent to the responsible health worker or health post. This cyclic feedback would avoid "missing" cases.
Calling Beneficiaries	This project was designed to test SMS communications.	In the development of the health posts register, the primary cell phone contact	This biased the effectiveness of the SMS communications.

	The dominant method of communication by mobile phone is voice. There is a cultural tendency to call people rather than text.	of the child was recorded. Often health posts would buy credit to call the beneficiary repeatedly, sometimes before the 6 month reminder was sent, to arrange an appointment.	It is impossible to monitor if the supplementation was a result of the SMS reminder or follow-up strategy (household visit or phone call). Phone calls are significantly more expensive!!!
Beneficiaries Calling the Mobile Server	The phone number established by Telerivet used a local SIM card.	The phone server was established purely to coordinate the sending and receiving of text messages. In practice, when a large batch of text message reminders was sent out, the phone server would consistently ring with people calling back to find out …. (who was calling, what to do …)	To know more about why people called back a small focus group with beneficiaries would provide more confidence in answering the "why" people callback. In practice, this could be an opportunity to have some kind of voice feature integrated into the system. It also suggests that people do in fact receive the text messages that are being sent.

Active Data MGMT	The data that comes through the mobile cell phone server needs to be processed in a timely manner	The pilot used several of Telerivet features to develop some platform organization.
		Each message was labeled after arriving online for its
		  1. type of message
		  2. corresponding health post
		As a result of this labeling, all of the messages for supplementation could be viewed together, or all of the messages with an error could be viewed and managed on one page.
		
		Another method used was the "star" feature. All new messages would be "starred". Once the message was processed the star would be removed .
			This was the most significant shortcoming of the platform.
			
			The "star" and "labels" features were very manual and highly time consuming and inefficient.
			
			A more robust platform would have these capacities built in.

Performance of Health	Monthly evaluation of each health posts	Each health post received a printed copy with a	This process was entirely manual in the Telerivet system, and

Posts	activity compared to census data.	summary of their SMS reports Each health post was evaluated on: Stock Reports: Completed weekly (Y/N) Formula accurate (Y/N) Alert level (x<20 capsules) Help Reports: SMS content was included to communicate challenges back to health post. Supplementation Reports: # of children expected # of children confirmed # of children to follow up # prelim. Coverage % Individualized feedback including details on high performers, problems with report format, missing reports, suggestions for further improvement	required downloading all of the incoming messages in the previous 30 day interval. A sample performance report is available in Appendix I. Each health post had their own progress report distributed to the head of the health post, and added to the project manual to track progress. It was difficult to do individual health workers performance evaluations due to varying case loads, problems with personal cell phones (the HKI phone was used predominantly), some health workers were more comfortable with SMS reports then others In a more sophisticated system, these indicators could be programmed and generated automatically. Charts over time would be relevant in a longer term pilot.

V. **Design of Logic Circuit –**
  o **SMS Case Reports** (Appendix II)
    ▪ The volume of these reports was determined by the number of children identified in the census or who visited the health post during the intervention period
    ▪ The keyword: **SVA** was used to identify supplementation reports
    ▪ Structured Formula for Feedback
        • 4 Types :
            1) Confirmed   key word #CONF
            2) Non Confirmed follow up   key word #NON #SUIVI
            3) Non Confirmed non resident   key word #NON #RESIDENT

            4) Non Confirmed – refusal   key word #NON #REFUS

    ▪ Key Indicators

- Was the child contacted by SMS?
- Was the child given a health card to confirm the reception of their dose?
  o **SMS Stock Support** (Appendix III)
    - **Weekly reports were designed**
      - The key word: **CAPSULES** was used to identify these reports
      - The following formula was used
          CAPSULES #child supplemented #initial stock #final stock #request
      - The sequence of these variables could be evaluated. Some posts would change the order.
      - A stock monitoring sheet was developed as part of the project guide to allow for paper based monitoring to complement SMS reporting.

The SMS reports are currently being evaluated.

A large over-arching conclusion is that the data collected through Telerivet is very raw, and requires a significant amount of management during the course of the project to meet project goals. The system worked well at collecting data, but could be streamlined for better efficiency.

VI. Complementary Tools

No SMS strategy should be introduced in isolation. The SMS Pilot in Senegal introduced a package of strategies to reinforce the supply, and stimulate demand for routine Vitamin A Supplementation. These tools were developed prior to the SMS strategy and significantly enhanced the ability to conduct interpersonal communication with beneficiaries.

The lessons learned about the use of these traditional communication tools were largely collected by 11 focus groups conducted during month 2 of the intervention.

Need	Design	Implementation	Lessons Learned
A tool to communicate directly with mothers	Brochure (Appendix III)	Two versions of the brochure were distributed. The front of the brochure uses the same image from the poster and shows a happy baby wearing a Vitamin A at 6 months outfit. The first version contains a picture of post-pregnancy supplementation The second version provides a picture of locally available nutrient rich foods.	Brochures were a favorite with CHW's who like using a highly visual tool when explaining the project's objectives. They often expressed interest in going a step further and truly integrating VAS at 6 months into the vaccination calendar. The brochure was plasticized. CHW's felt that it made it more durable and that woman would often ask for a copy to keep.

		The inside of the brochure contains the most recent Vaccination calendar with the benefits of Vitamin A clearly written.	
A tool to raise awareness and visibility of the project at the health post	Poster (Appendix IV) *The poster contained the following key images:* • Baby Vitamin A (healthy and happy) (center) • Vitamin A logo (center right) • Health worker providing dose to baby in mother's arms (top right) • Baby looking sickly with 6 moons (top left)	Each health post was given 10 posters. These posters were meant to be displayed in: • The patient waiting area • The vaccination room • The ICPs office • The entrance to the health center • Local schools • Smaller health clinics (cas de santé)	Positive Feedback: Mothers would ask how their child could look happy like the baby on the poster. Mothers could grasp message without reading. Posters faced several challenges (durability): • The yellow background on the poster would fade when exposed to direct sunlight. • Using glue to stick up the poster posed a problem in the heat. • Children would often play with or tear down posters if they were within reach. **TIP:** Posters need to be framed and kept indoors to improve their durability.
A tool to notify the delivery of the service	Health Card (Appendix V) Designed to integrate all of a child's health visits from conception to 18 years of age. The health card is colorful and illustrated 68 page resource developed as the result of a long term partnership with MoH, where HKI	Children were distributed a child health card on their 6 month visit for Vitamin A free of charge. The health card has a row to notify the reception of a dose of Vitamin A and specifies the date. This is the first official notification of this service. The health card also contains a colorful "vaccination calendar" which prominently features the Vitamin A contact between 14 weeks and 9	All three districts agreed that the health card was A) An improvement over all other available options B) Complete and informative C) Cost conscious for patients because it integrated numerous health cards into one D) Provided additional information that was relevant to the health of the child E) Mothers were highly interested in receiving

	agreed to print the first impression of the health card.	months.	these cards. Some would ask for their child to get Vitamin A just to receive one. This is a tool that needs to move to national scale in the immediate future.
A tool to track the availability of stock	Stock Monitoring Sheets (Appendix VI) A stock monitoring sheet was developed to track the availability of two of the major supplies: health cards and vitamin A capsules.	A paper stock sheet was provided in the project guide for each week of the intervention. The stock sheet followed the structured SMS report, so that simply filling out the form would allow the head of the health post to send a correct message.	There should have been specific training on how to complete the stock sheet. Specific guidelines needed to be made as an introduction. Or even a sample completed sheet to serve as a reference. For some posts, the order of the items on the stock sheet was confusing. Other posts would fill out the form on a monthly rather than weekly basis. Posts that successfully filled out the paper form had more accurate stock reports and did not feel it was an excessive task for their workload.
A tool to increase awareness of the project at the community level	Social Mobilizations Interpersonal communication in a community setting is a key method of passing knowledge to beneficiaries KEY OBJECTIVE: To reach woman, grandmothers, husbands and other influential community members to discuss the benefits of Vitamin A, the need for a diverse and nutritious diet, discussion about exclusive breast	• During the initial training best practices for social mobilization were introduced. • A structure for appropriate expenses was established. • A sample budget was presented. • The responsibility of organizing the event was left to the community health workers at the supervision of the head of the health post. • Each health post was supposed to organize at least one social mobilization. • Financial hurdles were	It was difficult to determine a good calculus for who should do social mobilizations, when and where. Often one large health post could have 5-10 times the target population of a smaller health post. This is a responsibility that needs to be managed and supervised by the local district team. Getting budget justifications from the field to the country office proved to be a financial nightmare and resulted in gridlock for further financing of project activities. Many health posts were forced to pre-finance the activity and

	feeding and the introduction of complementary foods	the most common reason for not planning a social mobilization.	caused tension during implementation. The most successful mobilizations were interactive. • Scheduled at a time when many community members could participate. • Were organized in a location that was central to town, or at the health post. • Offered simple refreshments or tea to draw participants. Social mobilizations were hard to organize and ineffective in the urban setting.
Alternative methods of communication with the community (reaching the 'hard to reach")	• Radio Spots • Integrated Communication with other Health Post activities • Working with local and religious leaders	Many communities, especially in rural areas, felt that a "causerie" would be more effective than a large social mobilization. One health post in the district of Mbacke had experience working in radio communications and would host hour long on air conversations about nutrition and the benefits of Vitamin A. Other health posts would go directly to their local leaders to pass the message during religious gatherings.	One method that was highly effective was discussing Vitamin A during other health activities. For example during already existing health post activities. This integrated approach may provide a new method for integrating Vitamin A into the vaccination calendar. The 6 month contact point was also useful for introducing other complementary strategies: including family planning counseling, nutritional counseling etc….

VII. Trainings
- o District Strategic Planning
- o Census Training with CHWs
- o SMS Training with CHWs
- o Interpersonal Communication Training with CHWs

Need	Design	Implementation	Lessons Learned
District level Strategic Plan to support ongoing project activities	Work with the "equipe cadre du district" to assign roles and responsibilities, determine an SMS contact point, the district financial administrator (gestionaire) Build a communication model (list-serve, phone list) for approving project activities, supervisions, budget monitoring.	Under-developed in the pilot. Room for improvement evident. In districts that had previously partnered with HKI, the working relationship was stronger than in new intervention districts. (Best- Thionck Essyl, Christian Tendeng had worked with the district for 5 years).	This plan will strengthen the local partnership and allow for the local health team to get positive recognition for their accomplishments. HKI-Senegal should continue to work on VAS activities in these regions to continue the positive work accomplished during the pilot period. Plan ahead! Give at least a week notice before scheduling a project activity.
Training for the Census (1 Full Day)	I. Introduced Project Objectives II. Overview of Nutrition Benefits III. How to determine age of the child (limited to children aged 0-6 months) IV. The importance of collecting valid phone numbers V. Questionnaire and Informed Consent (most significant part of training)	These trainings were conducted immediately prior to the Journees Locales de Supplementation (JLS), mass campaigns planned for the month of December.	Many villages were missed because the training was rushed and micro-planning was absent. -Needed to breakdown by team or health post to create a detailed of plan of action for the census. The skill level of the CHWs was low (especially in Mbacke) and trained interviewers may have offered better data quality.
Training for SMS Reporting (3 hours)	I. Pre-Test for Literacy II. Collect each participants name, phone number, health post. Enter into server. III. Introduce: Benefits of Mobile Phones, Logic Circuit and example reminder	**It is essential that all participants can send a text message**. If they cannot pass the pre-test, 2 simple questions about Vitamin A (that they have already been trained on during the census) and their name they are not a good	**Age is strongly correlated with SMS skills.** Start the training by giving each participant "start-up" phone credit. **Add phone credit together.** This is the most basic

	messages. IV. Explain how to use the dial pad of a phone for text messages V. Send test formula using Telerivet during training to verify numbers VI. Save server number in cell phones VII. Help Participants send a sample SVA report VIII. Send "thank you" messages for each valid report	match for this project and should be replaced by another health worker. All participants need to have their personal cell phone during the training. It is important to be trained using the phone that you will continue to use.	type of text message possible and essential to maintain and active and functioning phone. Many older health workers had never sent a text message in their life. Used their children as an outside resource to learn the skill. Leave the other objectives: nutrition and interpersonal communication to the end of the day to avoid being rushed for time.
Training for Communication on Nutrition Protocols (2 hours) *During the focus groups similar questions were asked and they provided responses demonstrating "mastery" of the material.*	Key Nutrition Messages were reinforced. Train participants on complementary tools: • Health card • Brochure • Posters • Project guide Group brainstorm on Vitamin rich foods, everyone contributes a different food, with a focus on locally available foods.	Nutritional objectives focused on: 1. Why at the age of 6 months 2. Exclusive breastfeed 3. Where to get Vitamin A in your diet 4. Vitamin A fortified foods 5. Curative versus Preventative supplementation 6. Vaccination calendar	It was important to have the monitoring resources (project guide) with a walk through. More time should have been spent on how to use the tools, especially in the head of the health post training. These nutrition objectives were discussed TWICE. During the census training AND the SMS intervention roll out. Understanding why the project is happening is critical to effective communication.
Training for Interpersonal Communication (1 hour)	-Discuss best practices for organizing a social mobilization, and carrying out a social mobilization. -How to use the complementary tools in a household setting.	Distribute "complementary tools" Discuss potential cultural barriers that exist in the district and how they should be addressed.	CHW's were very dynamic and engaged. Carrying out this part of the training in local language relaxed the atmosphere and allowed quiet participants to actively

			Identify key community resources for spreading the message.	participate.
	-Role-Play several scenarios with a beneficiary in local language			

VIII. Follow Up Strategies

Need	Design	Implementation	Lessons Learned
Child needs to come to the health post for their first dose of Vitamin A	SMS Reminder	Initial Design: a follow-up text would be sent to the designated CHW to make a household visit after 7 days. Reality: After 3 days CHW's were instructed to follow-up with the household.	The **specific household location** was collected during the census but not included in the register due to limited space. This made it very difficult for CHWs to locate children. First, 7 days was too long to wait. Second, the follow-up SMS became difficult to program, many children were in fact supplemented within 7 days.
Problems with SMS reminders in mobilization	Unknown at outset of project	The most frequent barriers to understanding the reminder: • Literacy – inability to read • Thought message was spam • Not familiar with reading text messages • Distance to health post • Difficulty finding time to come to health post • Difficulty finding transport to health post • No "incentive" • Mothers thought it was "not important"	Lessons Learned: Ideally home supplementation could be notified in the new health card which could be introduced at birth instead of at 6 month, allowing CHW's to complete the task. Overcome issues of distance by pairing Vitamin A supplementation with other existing health interventions Overcome issues of comprehension by continuing communication by CHWs
Addressing Delays in visits for SVA	SVA Case Report	No alert system was available in the Telerivet platform.	These alert capacities are availability on more

		Reports for "non-confirmed" cases were designed to show that the health post was actively resolving the case. If a child was determined to be a non-resident, the health post had to report their displacement and the case was marked as complete.	sophisticated systems (Dimagi).
If child does not come to health post, follow-up needs to be used	Call Mobile Number Follow-Up	Unintentional: Would use phone number provided in the register to call the contact. Often phone number /contact would be: • out of service • not know the child • not be aware of the project	Providing the phone number to the health post allowed them to have more control of the patient follow-up and avoid household visits in some cases. In many cases a phone number was not enough. Some health posts would call 5-6 times without success. Sometimes they would call and people will still miss appointments. To avoid "calling" in the future may need to store the phone numbers internal to the project server.
If child does not come to health post, follow-up needs to be used	Household Follow-Up	Many household visits would allow for an additional opportunity to communicate on the projects objectives. Also the KEY strategy to overcome cases that "refuse" the service. Often a problem of understanding. Often the first time the husband was involved in the project. Allowed for the use of project tools like the brochure.	Often people would want to receive the service at their household once the health worker was in place. **"Task shifting"** The mothers were already accustomed to household visits during mass campaigns and didn't understand why their child couldn't just wait 2-6 months. Health workers would have liked a copy of the health card to use in their communication too, but the stock was very limited.

IX. Feedback Loops (Engagement and Performance)

Need	Design	Implementation	Lessons Learned
Make data collected actionable in "real-time"	Designation of a local SMS contact point to validate incoming messages	Very challenging in practice During implementation, it is important to identify the "value- added" for the health worker to maintain their engagement	Standard indicators need to be established prior to implementation Staff needs to be dedicated to data management.
Correct invalid messages to improve data quality over time	SMS responses from the Telerivet server by SMS contact point or HKI team	Invalid SMS reports were corrected during 1) Reply SMS 2) Phone Call by SMS contact point 3) Targeted Supervision	Data quality improved over time. Turn-around time needs to be improved.
Provide assistance to health worker in "real time"	"AIDE" open ended feedback	A wide variety of feedback was collected and demonstrated the gaps in the system. Common messages: 1) Problems with credit 2) Problems with phone numbers or birth dates 3) Asking for a stock replenishment 4) Q's about "hard to reach"	This form of feedback was at times difficult to respond to, the questions were difficult to understand. The data they were asking for was hard to find. This was primarily interesting to see what kind of feedback health workers were willing to share.
Confirm reception of a valid report	"Thank You" messages	Thank you messages were designed to be automatic at the outset of the project. The Telerivet system was not advanced enough to validate messages automatically, and	There was universal consensus that "thank you messages" were well received and desired by health workers. If a health worker didn't

		would respond indiscriminately respond with a thank you This process had to become manual.	receive a "thank you" they would often resend messages awaiting a confirmation. Consensus that a thank you for each individual message was expensive, but a weekly thank you confirmation may be an alternative.
Demonstrate the ability to use SMS communication at different skill levels in the health system	Specific responsibilities were established for - District supervisor - Head of Health Post - Community Health Worker	The head of health post was responsible for sending stock reports. The community health worker was responsible for sending vitamin A supplementation reports. Skill level was not a significant barrier	The method of sending structured formula based data was accepted and mastered.
Provide data collected back to health worker	Monthly progress reports	Specific SMS data was returned to the health post by paper	This system could be developed to send weekly SMS reports on their progress.

These themes will be developed in the coming weeks.

X.   Targeted Supervision and Focus Groups
XI. Project Extension (integration with the Vaccine calendar)
XII. Determining best "districts" for performance