SAHAN IVR Concept Note and Partnership Proposal

Introduction

The MoH and PSI are implementing the Demand Creation for Health Services component of DFID's Somali Health and Nutrition Programme (SHINE) programme dubbed SAHAN (Somali Advocates for Health and Nutrition). SAHAN is the first ever, large-scale dedicated demand creation programme being implemented in the Somali context.

Under this programme, the MoH and PSI aim to increase access to and utilisation of reproductive, nutrition, child, and maternal health services and to promote healthy behaviour change. We are using an adaptive, evidence-based, participatory design to better understand the persistent barriers to uptake of health services and health-seeking behaviour and develop and test innovations in demand creation that target the external factors which influence individual behaviour to improve the health of Somali women and children.

SAHAN's strong learning agenda is to influence the global community of practice (CoP)'s development of reproductive, maternal and child health and social and behaviour change programmes and policies in contexts like Somalia and Somaliland. SAHAN also wants to influence the use of innovative methods like human-centred design (HCD) and social network analysis (SNA) for promoting behaviour change in addition to adaptive learning and management in the Somali context.

SAHAN Program Approach

This program approach involves several rounds of immersive research, which is followed by ideation, design and co-creations activities to produce prototypes. The prototypes designed are then tested and iterated until the user finds them suitable. They are also tested for scalability, desirability and feasibility, the results of which determines if and how they will be piloted. The piloting activities are carried out at a modest population scale, just large enough to provide evidence that will inform country wide scalability, and also influence the international community of practice on key learnings and best practices.

The end products from SAHAN will be used by multiple stakeholders working within the Somali context and beyond, hence proper capture, packaging and documentation of all the processes within SAHAN is of vital importance.

Design Journey: Interactive Voice Response (IVR)

It remains a known fact that change in behavior involves taking advantage of motivational triggers and uncovering and addressing potential barriers. Following several rounds of immersive research on the barriers to the utilization of maternal and child health services, some of the most reoccurring feedback from Somali women of reproductive are:

1. The lack of knowledge on the importance of such services.
2. The lack of awareness on the where to source these services.
3. The perception that such services are expensive.
4. Busy schedule of Somali mothers resulting in the inability to keep clinic appointments.
5. Perceived negative outcomes of modern healthcare.
6. Lack of skill to initiate or maintain healthy behaviors.
7. High rate of illiteracy which makes written messages ineffective to majority of the population.

Prototype Evolution

The IVR is an automated mobile telephone system technology that interacts with the callers, gathers the required information and routes the calls to the particular appropriate recipient. The IVR prototype evolved from the integration of three different prototypes which were designed to address different aspects of some of the challenges highlighted above. These were:

a. Foldable Card: An information booklet that would remind pregnant women of the breathing exercises, dangers in pregnancy, provide nutrition tips as well as remind them their 4+ ANC visits.
b. ANC Reminder: A woman would receive a phone call or an SMS to remind her of her next ANC appointment.
c. Waiting Room Testimonials: Patients would be given headphones with pre-recorded/informative "infomercials" for them to listen to while in the waiting room; content was primarily regarding birth spacing and the voices were those of prominent advocates like doctors and sheikhs.

After several rounds of testing and iterations, it was discovered that these services could be provided via a single platform and can be used across several health areas rather than restricting each to either BIRTH SPACING or ANC. Mothers can receive automated phone calls that highlight key health messages, to remind them of the ANC, PNC, Birth Spacing or immunization appointment. Testimonials by religious, medical or cultural advocates can also be delivered through this platform. These can all be accessed by the Somali women at no cost in the comfort of her homes and at their own convenient time.

The prototype testing rounds also revealed that mothers appreciated the phone calls which sought to educate and remind them of their clinic appointments. 81% of clients we tested with responded to the "call to action" in the messages by visiting the clinic for antenatal (ANC) services. The inception phase research uncovered that husbands, mothers and mothers-in-law were key influencers in decision making for Somali women. This prototype (intervention) was thereby also tested among husbands and mothers-in-law who also reacted by encouraging their wives and daughters-in-law to attend the antenatal care (ANC) clinics. This result from the influencers further confirmed the outcome of the Social Network Analysis (SNA) which describes the husbands and mothers/mother in-laws as key players in the decision-making process of a Somali woman. The IVR technology provides a unique platform by which the key influencers of a woman will be encouraged to reinforce key health messages and follow up on targeted actions. This testing results significantly triangulated with a similar M-Health intervention implemented by PSI and HPA from 2015 to 2016 in Sahil region of Somaliland.

It remains a known fact that change in behaviour involves taking advantage of motivational triggers by uncovering and addressing potential barriers to the desired change. Somalia has a population mobile phone penetration of 48.3% despite its post conflict context. This is higher than its peers like Djibouti (39.0%) and Ethiopia (37.7%)[1]. The assumption that mobile phones are owned by the mature population (15 years and older i.e. 57% of the population[2]) puts mobile penetration among adults at 84%. The IVR platform therefore provides an opportunity to not only educate mothers and their family members on antenatal care (ANC), in-facility delivery and birth spacing, but also to provide testimonials and calls to action by influencers which will be embedded on the platform to promote behaviour change. The possibility of automated appointment reminder calls will also be explored.

Strategic Partnerships

Testing activities also revealed the high cost that will be required to pilot or scale this intervention which also put its sustainability and scalability under question. However, the existence of a similar service being provided to the Somali people as a Corporate social responsibility by TELESOM has potential to reduce testing and piloting costs as well increase the possibility of a sustainable model in the future.

SHAAFI

Shaafi is an Interactive Voice Response, mobile telecommunication-based health information intervention that gives mothers and their influencers an opportunity to receive health information at no fee to the caller. It's interaction with the caller helps to gather information and routes the calls to the specific information requested by the caller. These services have previously been provided in

[1] https://www.helgilibrary.com/indicators/mobile-phone-penetration-as-of-population/somalia/
[2] https://www.indexmundi.com/somalia/demographics_profile.html

form of text messages by Telesom, (a mobile telecommunication company) as part of their corporate social responsibility (CSR) program. An average of 23,000 unique and repeat subscribers use the Shaafi service monthly[3]. However, illiterate women who form about 60% of the Somaliland female population have been completely excluded due to their inability to read text messages. 40% of women in Somaliland are literate and literacy status varies greatly by area (54% in urban areas vs. 27% in rural areas)[4].

Shaafi service currently has 12 sections from pregnancy signs up to the early stage of Childcare. Customers can dial Shaafi short code (119) and select one of the options available and listen to the health message. Shaafi service can be accessed from all around Somaliland and from any mobile or Landline phone.

Proposed Partnership

PSI wishes to take advantage of the existing Shaafi program to expand the scope and access to health information to women across Somaliland and Somalia. Series of meetings have revealed that a form of partnership is possible with shared responsibilities between Telesom company and PSI.

Modalities for the proposed partnerships are as follows.

1. PSI to expand the scope of health messages to include ANC, Facility delivery, PNC, Birth Spacing appointment reminders and testimonials from influencers and satisfied users. Possibility of including immunization, and other child health will be subsequently explored after the first cycle..
2. To facilitate a seamless intervention, PSI will advice and contribute to the IVR design primarily to meet the following expectations.
   a. A quick and easily accessible IVR site.
   b. Good listenership by optimizing the quality and length of messages to be listened to (not too short and not too long).
   c. A reporting/feedback system that can help SAHAN track performance and improve the system to attain maximum reach.

IVR Architecture

The following is our proposed system architecture:
Please seek to get from the regulator an easy to remember USSD IVR access code like 2 out of 3 or 3 out of 3 or consecutive numbers. The IVR tree should be short with a maximum of 5 items per node. Total number of nodes not to exceed 4.

Step 1: Menus

1. *Listen to ante-natal care messages*
2. *Listen to Birth Spacing messages*
3. *Listen to Maternal and Child Nutrition messages*
4. *Exit*

Step 2 Menus

1. *For each menu mentioned above, there will be a maximum of 5 messages (meaning the whole IVR content will be a maximum of 15 messages)*
2. *Each message will be in Wav or MP3 format*
3. *Each message will have a length of not more than 3 minutes*
4. *Please provide for option of speaking to an agent or to be called back for more information*
5. *Provide for an option for listening again*
6. *Provide for back to previous messages or HOME menu*

[3] Telesom 2018 SHAFI Summery Report
[4] Somaliland Multiple Indicator Cluster Survey (MICS), 2011

Reporting

SAHAN would like to receive reporting on:

1. Total number of unique customers who accessed the IVR menus (ANC, Birth Spacing and Nutrition)
2. Report of unique numbers to be provided by region (aggregate by Base Transceiver Station (BTS) to get region total). If BTS can be identified by urban or rural, it will be preferred.
3. Report total calls by 4-hour time bands:
    a. (6-10 am),
    b. 10am -2pm),
    c. 2-6pm),
    d. 6-10pm,
    e. 10pm-6am)
4. Report messages fully listened to:
    a. Fully
    b. More than 50%
    c. Less than 50%
5. Total minutes of use per message
6. Extract of MSISDNs (not to be given to SAHAN) until a customer data protection policy agreement has been made. We would use these numbers for outbound customer satisfaction and feedback calls

Duration of Pilot

According to the program approach highlighted above, PSI anticipates a 3 months piloting period would be sufficient to gather enough evidence that will inform the modalities for a countrywide scale up as well transfer to partners and other ministries of health.

COST SHARING MODEL

The primary cost drivers for a Telecommunications based Interactive Voice Response are as follows:

i. Platform cost
    a. Hosting hardware resource
    b. System Development and maintenance
ii. Monthly recurrent costs
    a. 60 Active Channels
    b. Maintenance costs
    c. Dedicated switch board
    d. Per minute cost of calls

A pilot budget has therefore been costed based following conclusions:

1. The SAHAN IVR will be 50% - 50% a cost sharing project between Telesom and PSI.
2. The services will be provided at no cost to customers.
3. The SAHAN IVR will leverage on the existing Telesom CSR short code platform (SHAFI) in order to increase the potentials for coverage and sustainability.
4. The IVR service will be rolled out on an initial 3 months Pilot project.
5. Telesom will explore the potentials of using the same short code across Somaliland, Puntland and the rest of Somalia and advice on the best modalities for expansion at no additional costs.

SAHAN IVR 3 Months Pilot BUDGET				
Description	**Frequency**	**Unit Cost**	**Prorated for 3 Months**	**Comments**
Platform Cost				
Hosting hardware resource	Annually	$ 12,000.00	$ 3,000.00	Prorated for 3 months pilot period
System Development and maintenance	Annually	$ 15,000.00	$ 3,750.00	Prorated for 3 months pilot period
Monthly Recurrent Costs				
60 Active Channels	Monthly	$ 1,600.00	$ 4,800.00	
Maintenance costs	Monthly	$ 900.00	$ 2,700.00	
Dedicated switch board	Monthly	$ 200.00	$ 600.00	
Per minute cost of calls	Monthly	$ 2,160.00	$ 6,480.00	Based on the assumption of an estimated 20,000 Callers monthly seeking 3 messages each.
		Total	**$ 21,330.00**	
PSI Contribution			$ 10,665.00	Based on 50% - 50% cost sharing agreement
Telesom Contribution			$ 10,665.00	

Conclusion

Upon concurrence by both parties, a memorandum of understanding will be signed to initiate the first pilot cycle. This will help build a body of evidence that will determine the scale up model as well as the potential for sustainability.