Implementation of ITN barcode scanning

Experience and Lessons Learnt

Background & Context

- Scanning of bednets/ bales was a capability that was planned to be developed in April 2024 as a part of DIGIT HCM (DIGIT Health Campaigns Management platform)
- This development was pulled back to November 2023 and was rolled out to test out the functionality in Gaza, Mozambique to understand the on-ground realities and challenges
- The scanning capability was expected to support traceability and verification
- Given the risks due to non availability of enough time to do a thorough field test and training of this new capability, scanning of the bednets was kept optional for the frontline health workers

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Overview of the Scanning Feature

- GS1 compliant 2D code scanner added to HCM mobile application
- Extracts data attributes from ITN codes for traceability
- Distributor scans ITN code during distribution, links attributes to transaction
- The scanning capability can also be used to track bales movement from national warehouse

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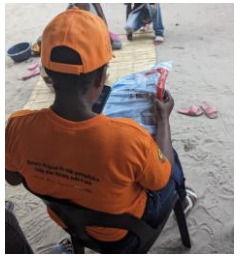
Learnings from the Field

Reasons for low adoption

Inadequate Training

- Time spent on training this capability was reduced drastically due to delays in the training schedule
- The team did not use an actual bed net to train the end users

- End users scanned the wrong codes - the ones on the bag rather than the one on the net
- End users struggled to focus the camera on the code



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Learnings from the Field

Reasons for low adoption

Damaged Codes

- The stickers with the code was folded during the packing of the nets which damaged the code
- The net's mesh was imprinted on the stickers resulting in more wrinkles on the code

- Neither DIGIT HCM application nor other third party applications were able to read the codes
- DIGIT HCM scanner was not optimized to read such codes

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Learnings from the Field

Reasons for low adoption

Increased time for service delivery per household

- The scanning functionality was adding an additional 2-3 mins per household for service delivery
- Teams were focused on reaching coverage targets

- Teams stopped using the functionality as it was non mandatory and there was an option to skip

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Key insights from the Field

- Only 1.32% of total bed nets and 17% of total distributors used the bed net scanning features
- While a few phones were not able to scan the damaged codes, the same codes were successfully scanned by phones with higher configuration and specifications
- There was an increase in the number of nets scanned during the course of the campaign owing to interventions from NMCP

Recommendations (Scanning functionality):

- Improved training for frontline workers -
  - Better training content to distinguish between valid and invalid codes
  - Include practical scanning use cases during training and analyze training records to assess adoption rate of the feature and identify areas with lower adoptions and focus during distribution
  - The training should include how to use the scanner, focus/ refocus on the code and common troubleshooting in cases of scanning failures.
- Report on scanning coverage to be included in the daily review meetings to enable course corrections early-on
- A one pager refresher document should be created and circulated before distribution.

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Recommendations (Scanning functionality):

- Measures to ensure quality of codes on stickers
  - The stickers on the bales are not smudge or tear proof and hence more prone to damage
  - There is just one code available on the product to scan which, if damaged, makes it difficult to scan that product

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Recommendations (Product):

- Optimization of HCM scanner for poor quality codes
  - To scan and accept poor quality codes (128 Barcodes and 2D matrices along with QR codes)- *Already implemented and currently under testing. Will be released into production for the Liberia ITN campaign*
- Auto-focus in scanner to reduce user efforts
  - *Already implemented and currently under testing. Will be released into production for the Liberia ITN campaign*
- Resize the scanner's focus
  - *Implement resizable scanner UI for flexibility, enabling users to switch between square (for QR codes and 2D matrices) and horizontal rectangle (for 128 barcodes)*
- Extensive field test before going live

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What next?

- Liberia is implementing a nation wide bed net campaign in this quarter
- There is a plan to enable tracking of bales from national warehouse till the distribution points using the bales scanning functionality
- The improved scanning capability, based on our learnings from Mozambique, will be used for this roll out
- We will be working with the country team to identify and finalize the SOPs for operation. Examples include scanning only incoming stock, stacking the bales in appropriate manner to enable ease of scanning etc

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Thank You