

Benin's experience using electronic data capture for onchocerciasis mass drug administration (2021-2022)

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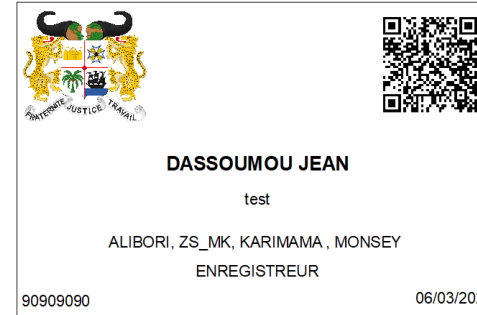
History of electronic data capture (EDC) use during health campaigns in Benin

- Result of actual government decision to digitize many programs and public services.
- Started in 2019 with the digitalization of two malaria program campaigns: mosquito net distribution, seasonal malaria chemoprevention.
- In 2020, the Government instructed the MOH to digitize the onchocerciasis mass drug administration (MDA) campaign.
 - **Use of population data collected during previous malaria campaigns,**
 - **Update database with OV MDA specific variables,**
 - Have one consolidated database for all health campaigns across the country.

Use of EDC during MDA: preparation phase

- Appropriation of NTD program functioning by CRS team,
- Estimation of equipment & human resources needs for successful pilot implementation,
- Design and insertion of OV MDA data collection forms in the smartphones,
- Finalization of field actors' training schedule and material dispatching process.

Identification badges



100 High-Capacity Solar Chargers + power bank



Smartphones



03 Tripp-lite Charge Stations, charge up to 49 phones simultaneously

Use of EDC during MDA: training and supervision tools

1. Training of central level NTD program and partners' staff on EDC tools.
2. Training of intermediary and periphery level NTD program staff: Simultaneous training of supervisors in all targeted districts,
→ Design of MDA supervision plan, creation of communication means (WhatsApp groups).
3. Training of community drug distributors (CDDs): Nurses assisted by CRS team members and mixed NTD program/partner's teams.

Training modules:

- **MDA data collection forms** previously inserted in smartphones (all levels).
- **Supervision data collection forms** (central and intermediary levels).
- **CAT platform (pilot phase), ArcGis platform (extension phase):** for MDA data management and drug distribution supervision (central and intermediary levels).

EDC use during MDA: household identification, data collection/update and drug distribution



- 1 List of available households appears based on geo-hierarchy information
- 2 Households list refreshes automatically as CDD is moving around
- 3 Search for household using head of household's name (complete or partial)
- 4 Confirm head of household's information
- 5 Confirm, if possible, the information of two household's members

The screenshot displays the EDC mobile application interface. At the top, there is a status bar with the time 20:14 and battery level 64%. Below the status bar is a red header with a back arrow, a logo, and a search icon. The main content area has a search bar labeled "Rechercher" and a checkbox for "Chercher à Proximité". Below the search bar are two tabs: "Statut" and "Type". The results are listed in three sections, each for a household head: "F: ADOUN PARFAIT", "F: AFFETO BRUNO", and "F: ARAWO AGATHE". Each section shows the household name, address, gender, age, and a date/time stamp. There are also buttons for "Non Visité" and "VISITE". At the bottom, there is an orange banner for "NOUVEL ENREGISTREMENT" and a footer with technical information and a "Plateforme de démo" label.

Statut	Type
F: ADOUN PARFAIT	Non Visité
GLAZOUE,SOKPONTA,CAMATÉ	
Homme N/A 2 mars 2021 16:54:07	
N/A	VISITE
[DGKNHY] ADOUN PARFAIT, Homme	
[DGKNHY-1] EVELYNE, 28, Femme	
[DGKNHY-4] HORTENSE, 3, Femme	
[DGKNHY-2] KONSTAN, 10, Homme	
[DGKNHY-3] YARIUS, 6, Homme	
F: AFFETO BRUNO	Non Visité
GLAZOUE,SOKPONTA,CAMATÉ	
Femme N/A 2 mars 2021 16:54:07	
N/A	VISITE
[DGNMLE] AFFETO BRUNO, Femme	
[DGNMLE-1] AUGUSTINE, 22, Femme	
[DGNMLE-2] EZEKIEL, 2, Homme	
F: ARAWO AGATHE	Non Visité
GLAZOUE,SOKPONTA,TCHAKALOKÉ	
Femme N/A 2 mars 2021 16:54:07	
N/A	VISITE
[DKXDPJ] ARAWO AGATHE, Femme	
[DKXDPJ-1] AGANATON, 10, Femme	

NOUVEL ENREGISTREMENT

marius | 10.126.30.54 | 3b194a743bf59696 [111111]
v3.29.1b (Build:3029012) beninhcmsdemo.crcat.com

Plateforme de démo

EDC use during MDA: household identification, data collection/update and drug distribution

➤ Update household's members biodata

- Name (if incorrect), Sex, Telephone number, Date of birth (or age if unknown), and Height.

➤ Update household's composition if applicable: add a new member or delete one (moving, marriage or death).

➤ Possibility to add new households if not found (fill new forms).

➤ Synchronize the telephone as much as possible to upload collected information.

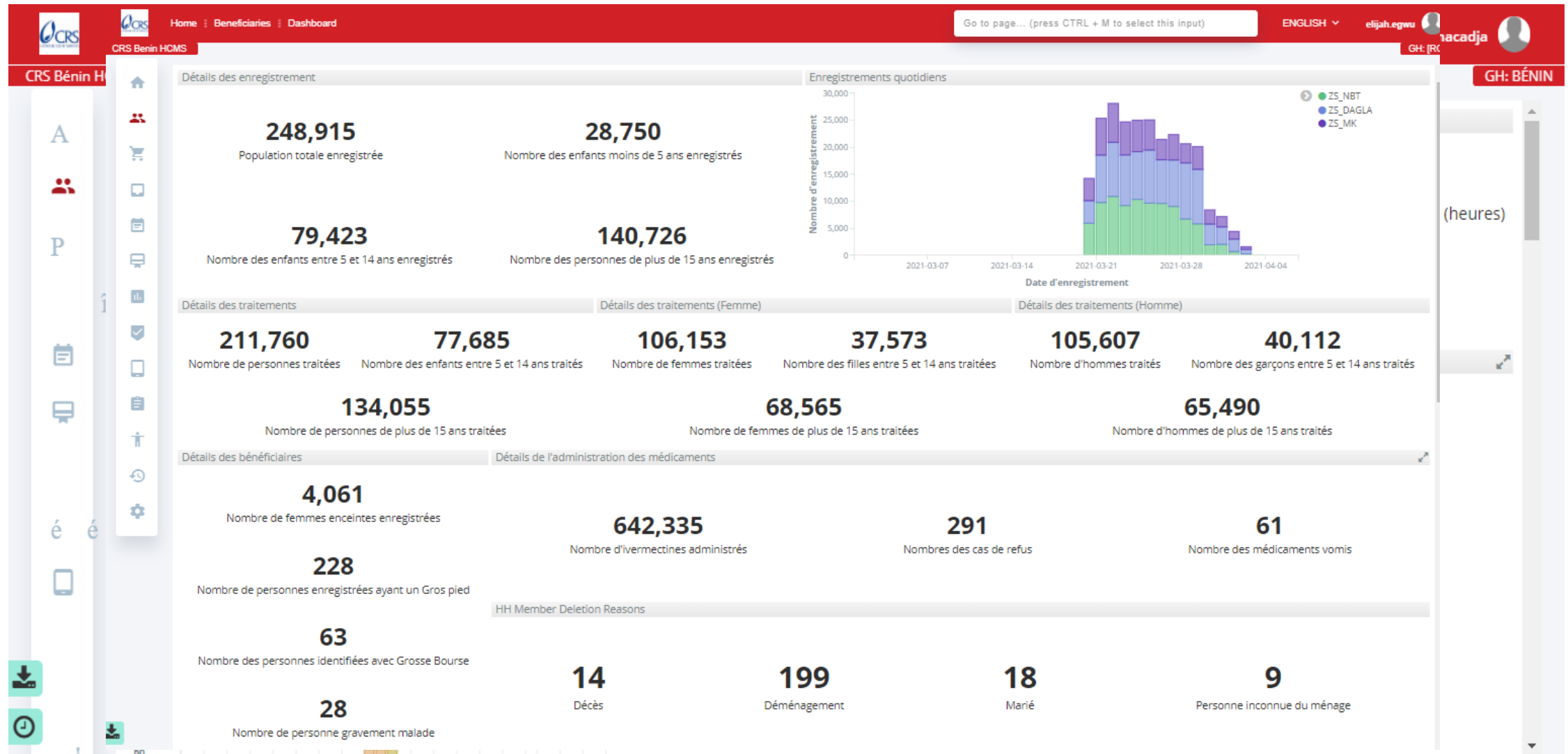
➤ Drug stock management forms are embedded within RedRose.

The screenshot shows the 'Administration de Médicament' screen in the RedRose app. At the top, there is a red header bar with a back arrow, the RedRose logo, and a settings icon. Below the header are two buttons: 'PRÉCÉDENT' (Previous) in blue and 'SUIVANT' (Next) in green. The main content area is titled 'Administration de Médicament' and contains several sections:

- Détails du Membre de Ménage:** A light blue box containing the text 'Name1 Name2 Surname', 'Homme, Chef', and 'Âge: 33 Taille: 174'.
- Dose:** An orange box with the text 'Veuillez Administrer **4 doses** à cette personne!'.
- Le Médicament a été Vomi?:** A light blue box with two radio buttons, 'Oui' (selected) and 'Non', and the text 'Veuillez Sélectionner Oui ou Non'.
- Le Médicament a été Refusé?:** A light blue box with two radio buttons, 'Oui' (selected) and 'Non', and the text 'Veuillez Sélectionner Oui ou Non'.

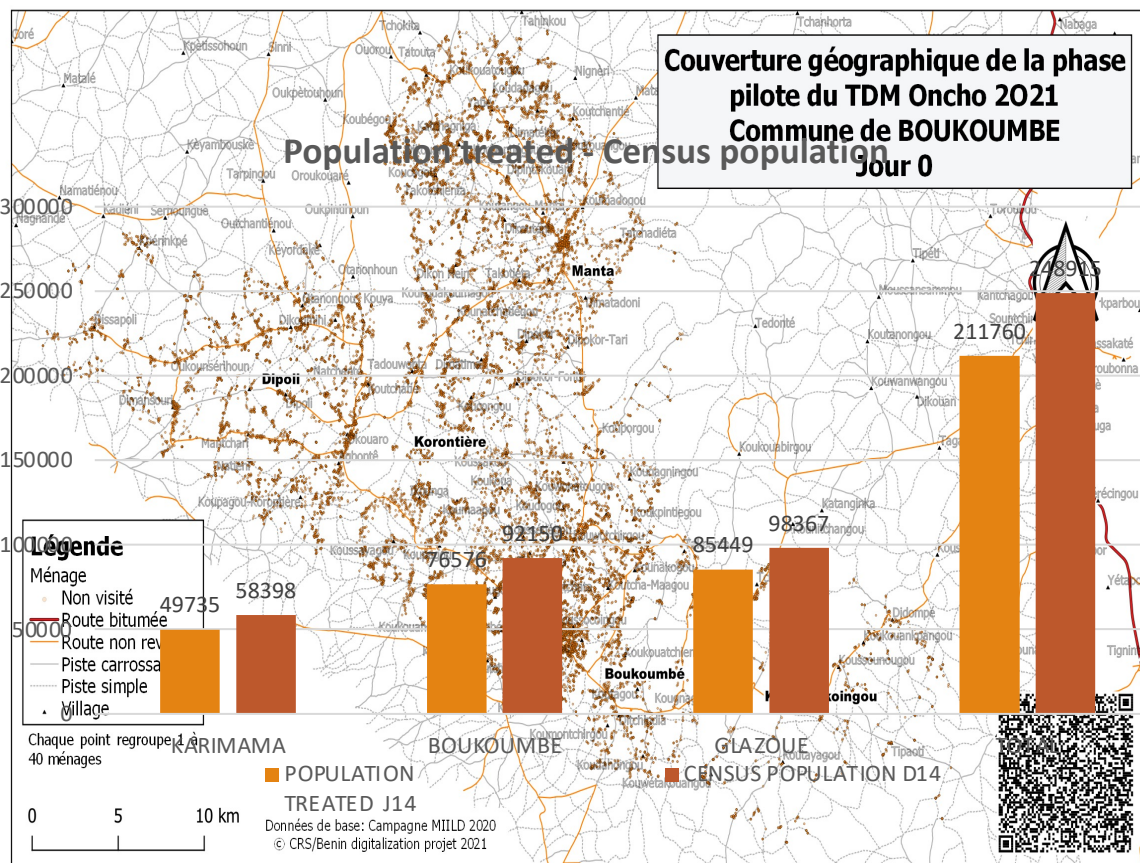
At the bottom, there is a black footer bar with yellow and black diagonal stripes on the sides. It contains the text 'benin | 192.168.0.195 | c50c2c77246f7783 v3.28.2 (Build 3028020) oneplatform.redrosecps.com' and 'Plateforme de démonstration'.

EDC use during MDA: training and supervision tools

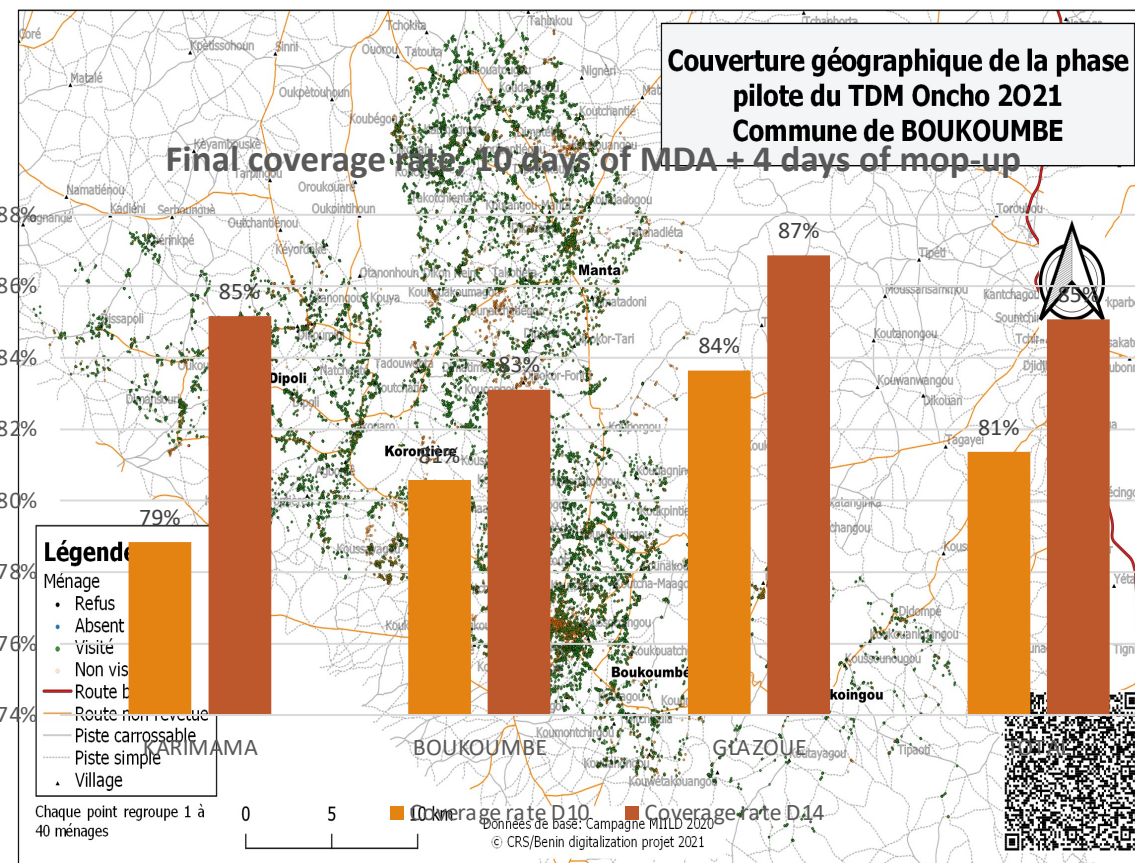




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REPUBLIQUE DU BÉNIN



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MDA campaign results: pilot phase, CAT platform results

Nouveaux ménages

137748

Ménages

654842

Ménages mis à jour

512015

A revisiter

4321

Refus

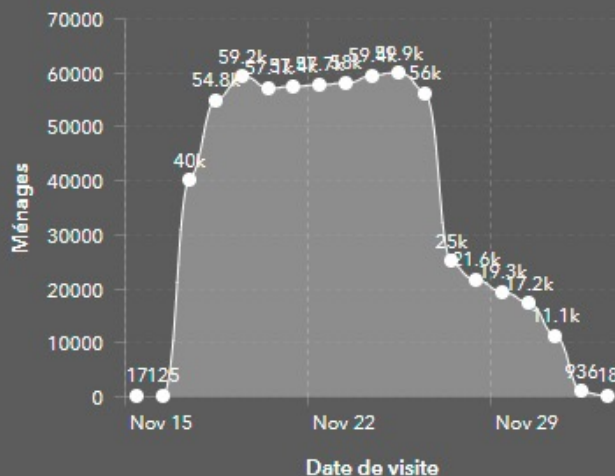
758

Personnes traitées

2656783

Comprimé

8191291



Couverture géographique

Densité

Taux de couverture

Indicateurs

MDA campaign results: extension phase, ArcGis results

Benefits of EDC use during MDA: data collection, transmission and quality/safety

Data collection related benefits:

- Smartphones are light, last many years,
- Easier to identify a household using the GPS function (no one is missed).

Data transmission related benefits:

- Data collected instantaneously available on the platform and accessible from any place,
- MDA reports available a week after the MDA

Quality and safety related benefits:

- Quality control checks embedded (those who are not targeted cannot be treated),
- Avoid data loss especially with staff turnover rate,
- Noticeable impact on program coverage rate,
- Supervisors alerted whenever uploaded information does not make sense.

Benefits of EDC use during MDA: drug administration process and supervision

Drug administration processes followed, and drug stock management improved

- Impossible to proceed without entering critical individual's information, to change number of drugs that must be given or guess it,
- **Directly-observed treatment is strictly followed**, and revisits performed for absents,
- Drug stock management automatic, no additional computing required.

Supervision (more efficient than SCT)

- Allows **virtual supervision of CDDs' work** and assessment of supervisors' work effectiveness,
- Extensive area supervised compared to SCT tool,
- Uploaded data analyzed daily, and results help nurses in real-time (including decision to conduct mop-up or not).

Challenges related to EDC use during MDA

Cost-related challenges

- Smartphones and other equipment, equipment insurance,
- Additional personnel required to ensure training and supervision, additional training days required,
- Higher amount of remuneration requested by recorders.

Data collection-related and other challenges

- Require CDDs with a higher literacy level and internet access to upload data.
- Each CDD must be endorsed (equipment cost is high).

Supervision-related challenges

- Good knowledge of smartphone use, ability to analyze graphs sent daily and use them to assist teams,
- Require additional attention/time from the supervisors.



Thank you for your attention!



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