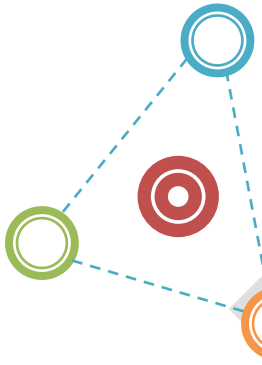
## Technical report for PillDrop application

PillDrop is a mobile application which connects patients with healthcare facilities (pharmacies, clinics and medical practice). Chronic patients will be registered on the application at the healthcare facilities (pharmacies, clinics and medical practice). The registration process will require demographic details of the patients and at the facility link the pharmacy; clinic dispensaries will link the patient medication through a bar-coding system.



**Patient details**
- Demographic
- GPS coordinates
- Preferred clinic
- Link patients to motorists

**Healthcare Facilities**
- Patient ICD10
- Treatment
- Barcode scanning
- Link of treatment to PillDrop
- Registration Booth

**Motorists**
- Current location in respect to healthcare facility
- GPS coordinates
- Preferred clinic
- Link of motorist to patients
- Vetting

### PillDrop application main-frame

PillDrop main-frame will collect data about patient demographics, conditions (ICD10) and motorist details in the different healthcare facilities and the information classify stratified according to the patients' treatment details and the date of collection. This data will be used to quantify number of patient served by programme and their disease categories. PillDrop will automatically send information of the next group of patients due for medication to the respective healthcare facility informing them to prepare the medicine packages and a list of registered PillDroppers. A barcoding system will be utilized to allocate unique identifier for PillDroppers. PillDroppers will be extended to healthcare workers, because they live in communities where some of the chronic patients live. The data collected through the programme will be used assist pharmaceutical services to plan and budget for the following year of operation.

### Healthcare facility functionality for PillDrop

The main function for PillDrop in the healthcare facility is to link the patient PillDrop profile with the patient therapeutic treatment. The dispensary in the different healthcare facilities will use barcode scanning to link the patient treatment. In addition to the scanner, the healthcare facilities will have PillDrop Booth outside the dispensaries to assist with opening profiles for patients and PillDroppers. The application will also pre-allocate collection dates for the patient treatment dates and continuously alert the patients of their date for treatment. The scheduling function will only activate the patient collection date within the pre-allocated week. Outside these times, the patient cannot initiate a parcel pick-up. Further additional information will be pharmacovigilance function which allows patient to report adverse drug reactions (ADRs).

**Patient PillDrop Function**

The patient will be allowed to log a request to motorists, requesting the PillDropper to collect the patient's chronic medicines from their healthcare facility. The application will triangulate and locate a registered motorist from the patient community who is at the time to the call is nearby the healthcare facilities. If the motorist accepts the Drop the application will send an electronic pick up note to the health facilities and a confirmatory message to the patient with an estimated delivery time. PillDrop's customer satisfaction function will be the centre of the programme and patients will be asked five simple questions:

1. How was the service of the PillDropper?
2. Will you recommend the PillDropper to your family and friends?
3. Will you recommend PillDrop to other patients?
4. Has PillDrop improved your access to your medicines?
5. How can we improve our services?

These five questions will be asked at the end of every service offered to the patient by a PillDropper.

**Motorists "PillDroppers"**

The key function of PillDropper is to pick-up chronic medicines for patients in healthcare facilities to deliver them to the patients. The PillDroppers will be required to register to deliver within their community to not greater than five healthcare facilities. PillDroppers will be vetted and issued with contracts of fee for service. PillDroppers will only be transporting prepared patients parcels and not boxes of stock. Therefore a PillDropper will be allowed to transport a certain number of parcels at a time. A GPS tracking system will be employed to track the position of the parcel at any point in time during its transportation.