PATIENT EDUCATION AND SUPPORT IN NURSE-LED DIABETES AND HYPERTENSION CARE

MEDECINS SANS FRONTIERES

(MSF MANICALAND NCD PROJECT TOOLKIT-MODULE 3 OF 3)

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ANNEXES

Glossary

DM	Diabetes Mellitus
DRTB	Drug Resistant Tuberculosis
DSD	Differentiated Service Delivery
DSMES	Diabetes Self-Management Education and Support
HbA1c	Hemoglobin A1c
HIV	Human Immune-Deficiency Virus
HTN	Hypertension
LMICs	Low and Middle Income Countries
MoHCC	Ministry of Health and Child Care
MSF	Médecins Sans Frontières
NCD	Non-Communicable Diseases
RIC	Retention in Care
SMBG	Self-Monitoring of Blood Glucose
TB	Tuberculosis
WHO	World Health Organization
VL	Viral Load
XDRTB	Extensively Drug Resistant Tuberculosis

1. Briefly share experiences in developing and implementing a diabetes and hypertension patient education and support package adapted for a resource limited setting (rural context) (Part 1)
2. Develop recommendations to implement a similar patient package in a similar context (Part 2)

Background

From 2016 to 2020 Médecins Sans Frontières (MSF) collaborated with Ministry of Health piloting a nurse-led diabetes and hypertension management program in rural Zimbabwe (Chipinge district, Manicaland province)[1]. The pilot aimed to develop an accessible and cost effective diabetes and hypertension model of care, adapted for a resource limited setting through;

- development of simplified and standardized clinical guidelines for nurses,
- use of effective, safe, and affordable medicines, and
- a patient education and support package adapted to context

Twelve health facilities participated in the pilot; 11 health facilities in Chipinge district (9 primary healthcare facilities, 2 secondary facilities), and 1 tertiary facility in Mutare (Mutare Provincial hospital). More than 40 MoH nurses were mentored on diabetes and hypertension management during the 4 years of pilot implementation. Eighty six percent of the 28 mentee nurses evaluated by end of 2020 were deemed competent to deliver NCD services

Health facility	Patients enrolled (cumulative)	DM only	DM and HTN	HTN only	Handover to MoH
St Peter's Mission hospital	1011	56	174	781	Q4, 2020
Chibuwe	294	13	46	235	Q4, 2020
Rimbi	342	17	41	284	Q4, 2020
Mutema	202	9	27	166	Q4, 2020
Zamchiya	170	5	13	152	Q4, 2020
Tanganda	169	5	17	147	Q4, 2020
Chipinge District Hospital	496	51	125	320	Q4, 2019
Junction Gate	172	6	20	146	Q2, 2019
Kopera	138	7	8	123	Q2, 2019
Mabee	174	6	12	156	Q2, 2019
Mtandahwe	106	2	9	95	Q2, 2019
Mutare Provincial hospital	1082	236	846	NA[1]	Q4, 2020
Total	**4356**	**413**	**1338**	**2605**	
Percentage	**100%**	**9.5%**	**30.7%**	**59.8%**	**>75% of DM have HTN**

Table 1: *Cumulative number of patients accessing diabetes and hypertension services as at end of 2020*

1 PATIENT EDUCATION AND SUPPORT PACKAGE IMPLEMENTED IN MSF MANICALAND NCD PROJECT

We describe our experience implementing patient education and support.

1.1 Pillar I: Health Education and Support

The need for patient education and support in the effective management of chronic conditions such as diabetes and hypertension is well researched[2, 3, 4]. However, there are limited documented effective models of patient education and support for NCDs adapted for rural and resource limited contexts. We adopted lessons learnt from patient education and support from our own ART programs, and widely available data in published research in designing and implementing this NCD package. The concept of Diabetes Self-Management Education and Support (DSMES) [5,6,7] was the main basis in formulating both diabetes and hypertension tools, and method of delivery.

Pillars	Steps/Activities
A. Health education and support	• Development of educational and counseling tools • Designing the service and client flow • Training and/or orienting healthcare workers and lay counselors • Task sharing with expert patients • Offering the service o Education and counseling on HTN o Diabetes Self-Management Education and Support (DSMES)
B. Differentiated service delivery models (DSDs)	• Strengthening ART DSDs to decongest facilities • Developing and implementing NCD DSDs; o Facility based Clubs, o Community NCD Refill Groups, o Fast Track Refills, o Family Refill Groups • Task sharing with trained expert patients • Peer to peer support in DSDs

Table 2: *Two main pillars of the package*

1.1.1 Development of educational and counseling tools

We reviewed available tools in the MoH system and no standard patient education tools for diabetes and hypertension was available. Tools were developed and designed from other MSF NCD projects (MSF NCD project, Embu, Kenya), and what was available from the internet. We collaborated with key local stakeholders such as MoH health promoters, hospital nutritionists, and dieticians in MoH to adapt information on healthy diet, exercise, and language to local context. Client feedback was also sought and incorporated. Tools developed include;

- ***My Diabetes companion:*** *for both patients and healthcare workers*
- ***Hypertension counseling and education guidelines:*** *mainly for healthcare workers*
- ***Pamphlets:*** *Diabetes and hypertension, Healthy diet, Covid-19 awareness*
- ***Posters and flipcharts:*** *for health facilities, on diabetes and hypertension, healthy plate*
- ***Diabetes Counseling form:*** *for diabetes patients not achieving the target*

1.1.2 Designing and offering Patient education and support

The launch of the pilot and availability of free medication resulted in overwhelming response by patients with previously diagnosed diabetes and hypertension beyond the catchment area of the facilities. The description of how patient education and support service was developed is divided into 2 phases according to the evolution of the model of care.

Phase I

This is early in the pilot with less organized facility and patient flow; facility staff not yet trained and mentored fully, NCD consultations only offered once per week coinciding with MSF mentoring team visits, large number

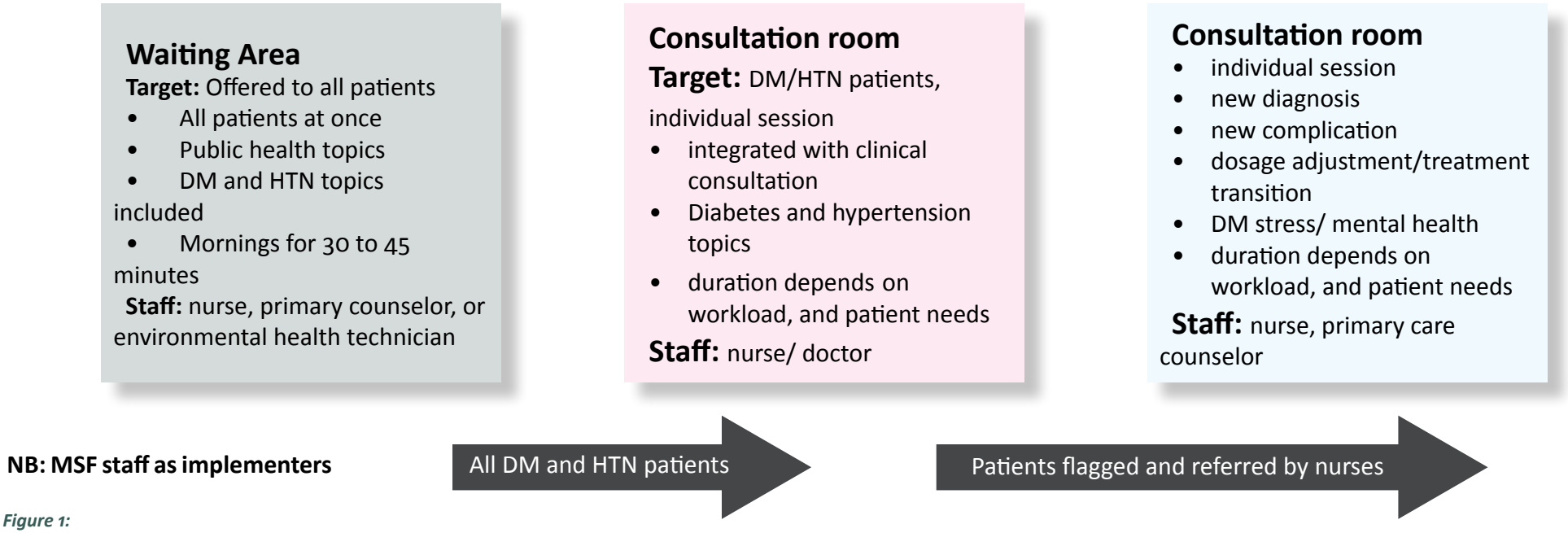

Figure 1:

of patients per consultation as 1 day per week only, patient education and counseling tools not yet fully developed and adapted to context. At this stage MSF nurses are substituting MoH staff to allow mentoring. Patient education and counseling is less structured and mainly offered at 3 points.

We incorporated diabetes and hypertension education in the existing health education and promotion sessions. All MoH facilities in Zimbabwe offer health education and promotion to all clients in the waiting area attending the health facility. These sessions are offered in the morning, 30 to 45 minutes long, and cover public health topics such as TB, HIV, immunization, family planning etc.

Challenges

Patient participation was limited, time inadequate; and no follow up of patients to ensure all essential topics are covered was done. No patient level documentation was done, except tallying of patients attending the health education session.

Note:

Addition of DSDs, and expert patients reduced impact of challenges such as HR shortage, workload, etc. See Pillar 2

Individual sessions allow each patient to address concerns and questions that need more time to address.

Group sessions are platforms where patients can provide peer support to each other and exchange practical tips on challenges faced.

Phase II

At this stage, services at facility are more organized with both ART and NCD consultations spread throughout the week; MoH staff are more competent to offer NCD services with less support, MSF nurses no longer substituting MoH staff, patient support tools are available, NCD differentiated service delivery models are implemented.

Group sessions for patients with diabetes and/or hypertension were being offered allowing active participation of patients. Topics covered were documented in patient files to track progress and ensure all material is covered. Facility diabetes clubs were also formed, the same group of patients met regularly at the facility and benefited from guidance from nurses and expert patients. Sessions ran with much richer interaction and involvement of patients.

Note:

Newly initiated patients were given individual literacy sessions in combination with individual adherence and life style counseling. This was done by a nurse or a counselor.

Flipcharts on basic knowledge about DM and HTN were also (See annexure 1) used as visual aids.

The methodology was participatory with active discussions.

We observed DM patients needed more support and education, and in 2019, the methodology of administering the education and counseling sessions was improved and standardized, and the project developed context adapted DSMES.

The first DSMES sessions were offered to 140 adherence club members from 6 HF in Chipinge district in May 2020. Every DM patient regardless of type and condition had to receive these sessions. The 3 sessions were given once a month for 30 -45 minutes per session, in groups of less than 10 persons.

Patient education and adherence counseling on HTN	Diabetes Self- Management Education and Support (DSMES)
• functioning of the cardiovascular system • definition of blood pressure and HTN • diagnosis of HTN • dangers of untreated HTN • individuals at risk to develop HTN • chances of developing serious complications when blood pressure is high • lowering high blood pressure through life style changes and through adherence to treatment (not for stage 1 patients) • treatment regimen and potential side effects of HTN medication (not for stage 1 patients	• DM overview and behavioral change • Diet and exercise • Management of DM complications Main topics • Introduction to DM • Lifestyle – eating and exercise • Living with DM and behavioural change, coping skills • DM complications and comorbidities • Insulin management • Self-monitoring of blood glucose

Table 3:

i. Training and/or orienting healthcare workers and lay counselors

We orientated healthcare workers and lay counselors for at least half a day to familiarize them with patient education tools and basic presentation skills. This was reinforced by on-the-job support by MSF mentor nurses. Tools were distributed to facility as reference material.

Later, expert patients were identified and trained to share some tasks, see Pillar II.

1.2 PILLAR II: Differentiated Service Delivery (DSD) for NCDs

1.2.1 What is differentiated service delivery and how it was applied in NCD care?

Differentiated care (also called differentiated service delivery – DSD) is a client-centered approach that simplifies and adapts HIV services across the cascade of care to reflect the preferences and expectations of various groups of people living with HIV (PLHIV) while reducing unnecessary burdens on the health system. By providing differentiated care, the health system can refocus resources to those most in need[8]. DSDs have been proven to increase ART clients' retention in care and treatment outcome, while decreasing the pressure on the health service[9]. Increasingly the HIV models of care are being adapted to the growing numbers of patients with other chronic conditions. In Kenya, for example, medication adherence clubs (MACs) were introduced by MSF and MOH in Kibera Project that operated in an urban informal settlement[10]. These groups offered care to registered stable HIV and/or DM/HTN members that gathered at health facility level for group discussions and medication refill. In Zimbabwe,

DSDs are widely promoted by MOH within the HIV program since 2017[11]. In 2019, the NCD care pilot in Mutare started to implement NCD DSDs for a number of practical reasons;

- To simplify and adapt medical care for chronic care patients aiming at reducing unnecessary visits to the HF and improving retention in care and clinical outcomes
- To decongest health facilities and reduce healthcare worker workload
- To create a platform for further patient education and support
- To task share activities with expert patients
- To respond to patient needs and adopt DSDs as demanded by patients

Note:

NCD DSDs were not evaluated on clinical outcomes and retention in care at project closure due to short duration of implementation (less than 9 months) and short project life cycle.

HIV DSDs were further strengthened from 2018 to 2020 through collaboration with ZNNP+ (Zimbabwe National Network of People living with HIV). The lessons learnt in this process were used to design and implement the NCD DSDs. Whilst HIV DSDs were implemented/supported in all 11 MSF supported facilities in the pilot, NCD DSDs were only implemented in the 6 remaining facilities by 2019.

A number of NCD DSDs types were formed spontaneously by patients to meet their needs, and the pilot adopted these and together with patient and healthcare worker input, adapted and adopted the models. Examples include **the Family refill, the Community NCD refill, and groups of patients who travelled together for security reasons.**

Type of DSD	Number of people	Venue	Description
NCD club	Group (5 to 10 persons)	Facility based	Patients come to the health facility every 3 months to have group discussions and medication refills (no clinical consultation).
Fast track refills	Individual	Facility based	Patients come to the health facility every 3 months to pick up pre-packed medications (no clinical consultation) from assigned cadres
Community NCD refill groups	Group (5 to 10 persons)	Community based	Group members take turns to go to the health facility to collect medications for self and others. Medications are distributed to the members in the community.
Family refills	Group (2 to 10 persons)	Community based	Similar to Community NCD refill groups. A group consists of family members.

Table 4: *Differentiated service delivery: model options and definition*

Patients in NCD DSDs (sites with DSDs)	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020
Total number of active patients registered (Cohort)	1814	1214	1208	1288	1203
Adherence club (6 sites)	14	24	118	203	223
Fast track refills (2 sites)	21	32	84	182	208
Community NCD refill group (1 site)	6	6	5	5	5
Family refill (1 site)	11	11	56	85	94
TOTAL	52	73	263	475	530
As percentage (%) of total cohort	2.9	6.0	21.8	36.9	44.1

Table 5: *DSD Cumulative enrolment in 6 MSF-supported HF, Chipinge District*

1.2.2 Task sharing with expert patients

An expert patient is a person with a chronic condition(s)[diabetes, hypertension, and/or HIV] whose knowledge and experience about it empowers him/her to play a part in its management, and are motivated to share selected tasks with healthcare workers at both facility and community level.

The concept of task sharing emanated from the burden of HIV/AIDS in Southern African as a way of rapidly expanding human resource capacity. This refers to the delegation of medical and health service responsibilities from higher to lower cadres of health staff, in some cases lay healthcare workers. We implemented the expert patient strategy, first to strengthen and expand ART DSDs in the 11 supported health facilities where it worked very well, with more than 600% increase of patients joining DSDs.

The following were the key roles that expert patients played:

- sensitization and enrolment on DSD
- recording of attendance and booking of patients in the appointment register
- supporting other group members with experience exchange
- educating fellow patients on Diabetes mellitus and Hypertension.

Whilst patient empowerment was not the core objective of the pilot, it certainly started the patients towards that goal by educating them, encouraging them to take more responsibility for their own health, and participating in the healthcare system for themselves and their peers.

1.2.3 How were patients involved in NCD care in Manicaland?

NCD DSDs were started in a couple of sites (Tanganda and St. Peter's Mission hospital) because patients had self-organized to form NCD DSDs. The sites performed well in ART DSDs and the nurse-led NCD mentoring program. NCD DSDs were further adapted and replicated in 4 remaining facilities. Clinics with large cohorts had 2 expert patients, whilst clinics with small cohort had 1 expert patient.

Selection criteria for expert patients were the following:

- Living with DM/ HTN and/or HIV
- Stable on treatment at selection : diabetes (HbA1c <7% or fasting blood sugar <7mmol/L), HTN (<140/90 mmHg), ART (viral load < 1000 copies/ mL) commitment to and willingness to keep good lifestyles)
- Willingness to discuss conditions to support others
- Volunteer minded

Training and support for expert patients:

Nine expert patients had a two-day classroom training in May 2020 where an expert patient training curriculum was used.

Adaptations were made to the curriculum to meet needs of lay persons:

- Simple and easy to understand for the lay-cadre.
- The learning content had lots of visuals to facilitate easy understanding.
- The training was mainly interactive with few slides.
- Practical demonstrations done to impart skills.

Clinic nurses gave on-the-job support at facilities when expert patients reported to their respective facilities. Expert patients presented at health facilities at least 2 days a week and/or during club days. They submitted monthly reports to the District Health Promotion Office through the clinic nurse in charge informing on health education, DSDs enrollments, peer counseling and support offered.

They received a monthly stipend/allowance of US$20 funded by MSF. The mentoring team visited the facilities weekly (high volume sites) or two weekly (low volume sites) to develop further the capacity of the expert patients in collaboration with the clinic nurses. Quarterly review meetings were held under leadership of clinic nurses and MSF mentors as platform of experience sharing for the expert patients.

Lesson learnt:

Expert patients staying far from facilities dropped off from the system due to time and travel costs. These were replaced with patients staying close to facilities.

2 HOW TO SET UP AND IMPLEMENT PATIENT EDUCATION AND SUPPORT ACTIVITIES

2.1 Recommended minimum package

Patient empowerment activities should be integrated into NCD care throughout the patient's treatment journey. From our experience in Manicaland, Zimbabwe, our recommendations on the minimum package consists of 2 pillars:

1. Health literacy and counseling
2. Differentiated Service Delivery

Each context may have different challenges to address. Additional activities could be added on top of the minimum package if resources allow. Moreover, content of each activity could be adjusted according to the guidelines and capacities of respective contexts

	HTN	DM	Differentiated Service Delivery
Initiation	Basic facts on HTN and adherence counseling	DSMES - session 1 (My DM companion)	
Month 2	Life style changes	DSMES-session 2 (My DM companion)	
Month 3	Beyond basics	DSMES-session 3	
Month 4 and onwards	Targeted individual education and counselling	Targeted individual education and counselling	Inform, sensitize on DSDs
Month 7			enroll as per patient's preference; initial consultation
Onwards			3-monthly refills; 6-monthly consultations

Table 6: *Patient support activities in standard clinical follow up*

2.2 Pillar 1: Health literacy and counseling

2.2.1 What to implement?

- For HTN patients provide structured group and individual literacy sessions from time of treatment initiation. In addition, distribute Information, Education and Communication (IEC) materials to educate and develop patient skills to cope with diabetes and hypertension.
- For patients with DM, offer DSMES (annexure)
- For both DM and HTN patients conduct individual counseling and education sessions to address any incidental issues for patients on treatment. These may include treatment adherence, complications, medicine dosage change or side effects and lifestyle change issues. Recommended session structure is shown in the following table;

Condition	Session 1: Day of initiation	Session 2: Week 2	Session 3: Month 1
	Group/individual sessions	Individual session	Individual session
HTN	Functioning of the cardiovascular system • definition of blood pressure and HTN • diagnosis of HTN • dangers of untreated HTN • factors associated with HTN • treatment regimen, dose and time-management and potential side-effects • adherence to treatment	Making lifestyle changes: • Adapt the adherence plan according to challenges met • Adapt daily diet to their chronic condition • regular exercise in their daily life • managing stress • reducing or quitting tobacco or alcohol	Review of lifestyle changes: • Identify barriers to implement adherence and lifestyle changes • Identify adapted strategies to overcome barriers
DM	DM overview and behavioral change • Basic information on DM • Adherence plan – motivation for staying healthy, treatment follow up schedule, reminder, appointment, • support system, • common medication side effects	Diet and exercise • Education on DM • Adherence plan review • Travel plan • Life style plan – dietary plan, exercise, smoking, stress management	Management of DM complications • Further education on DM • Review lifestyle plan review • Common DM complications and how to manage them at home, and when to seek help • Topics based on patients' needs – to enhance patients' understanding of DM and adherence

Table 7: *Timing and content of health education/counseling sessions*

2.2.2 Who is eligible?

- All the diabetes and hypertensive patients
- Caregiver, guardian or relatives of patients

2.2.3 What resources are needed?

- Trained health care workers and expert patients
- Optimized patient flow (good booking system required to manage the workload)
- Materials
- Literacy/counseling tools: Flipchart e.g. DM & HTN flipcharts, literacy session guides e.g. my DM companion, counseling guide e.g. Kibera HTN counseling guide.
- Recording tools: chronic condition monitoring card, patient handheld booklet, counseling form e.g. high A1c

2.2.4 What happens upon patients' visits?

1. Patients arrival at the clinic, have their files retrieved.
2. Patients have BP and height checked.
3. Triaging of patients
4. Expert patient/ nurse / primary counselor orientate patients on what to expect.
5. Group session initiated by expert patients, nurse or counselor in attendance, utilizes the appropriate educational tools.
6. Nurse consults patients and refers complicated cases to the doctor.
7. Individual session offered to patients by nurse or counselor and schedules follow up.

2.2.5 Monitoring and evaluation of the activity

Optional according to availability of staff

- Number of patients who attended literacy sessions
- Number of patients who have completed counseling sessions 1 and 2

Develop/ adapt material 	• Visual materials (e.g. flipchart) for literacy sessions are developed • Simple and visualized patient booklet can be also developed • Counseling guide and forms are adapted according to context specificity • Pre-test should be conducted before finalization
Define patient flow 	• Patient flow is defined according to clinic/ hospital structure (E.g. space for literacy where there is no disturbance) • The flow may be defined depending on who to provide the services (nurse, counselor, expert patients, …) • Clinic staff will be briefed about the flow • Patients should be aware of the services available, where and when to access them
Training for clinic staff and expert patients 	• Develop or adapt training curriculum • Concerned cadres are trained to play respective roles (how to use the materials, how to conduct participatory sessions, soft skills for counseling)
Implement	• See below the practicalities of running the different DSD options
Monitoring and evaluation 	• Documentation of topics covered/issues addressed in the patients handheld booklet • Longitudinal follow up of the measurements of BP and glycemic parameters in the chronic condition monitoring card (see annex…) • Flagging of patients records for patients not achieving targets and referral to clinician/ counselor/expert patients

Table 8: *Steps for implementations*

(Primary care/lay) counselor	• Offers health education on DM and HTN • Supports patients to understand the treatment modalities and psycho-social issues of DM and HTN • Supports families on expected adjustments when surviving with DM and/or HTN. • Counsels patients and families failing to achieve treatment goals
Nurse	• Does the triaging of patients on arrival and gives file to patients • Does the clinical management of the patient at the day of planned consultation or of needed • Offers health education in individual and group format (condition, complications, lifestyle adjustments and medicines, monitors effectiveness and side effects) • Supports patients experiencing psycho-social challenges and how these affect their condition. • Provides linkage to care to counselor and doctor if needed.
Doctor	• Attends to patients presenting with complications and all patients referred by the nurse. • Health educates and psychologically supports patients about the condition and lifestyle adjustments needed.
Expert patient	• Organizes the patients before the session • Orients patients what to expect and how they will be assisted. • Organizes and arrange educational aids that will be used (stationary, visual aids) • Offers health education and support

Table 9: *Roles and responsibilities*

2.3 Pillar 2: Differentiated service delivery

Key components to consider;

2.3.1 What to implement?

The following four models can be implemented:

Type of DSD	Number of participants	Venue	Advantages	Disadvantages
NCD club	Group (5-10 persons)	Facility based	• Peer to peer support • High patient participation/empowerment • Could be empowered to raise awareness about NCDs in their families and surrounding communities • Continuous group empowerment under leadership of HCW possible • Professional monitoring of vital signs • Access to targeted individual consultations and counseling • Differentiated care possible by sub groups	• HF congested (pharmacy/reception area) • Need for well ventilated space to conduct the clubs
Fast track refills	Individual	Facility based	• Suitable for both urban and rural context • Reduces workload for HCWs by reducing clinical consultations • Reduces patient time at HFS • Individual based, easier for patients and to implement .	• Might not be effective at PHCs with 1 nurse doing both consultation and dispensing the medications • Difficult to document (we feel this is not true, see next column) • HF congested (pharmacy
Community NCD refill groups	Group (5-10 persons)	Community based	• Reduced travelling cost and time including indirect cost • Less congested facility/reduces workload • Peer to peer support • High patient participation/empowerment • Could be empowered as a group raise awareness about NCDs in their families and surrounding communities	• Monitoring of BPs and sugars in community a challenge: the challenge is the equipment, not the skills • Patients needing clinical consultation might be missed, resulting in complications • More difficult to get approval from moh • Less likely to work in an urban set-up according to our experience with CAGS • Trust issues/accountability about handling of medication among peers can arise
Family refills	Group (2-10 persons)	Community based	• As with ncd community refills, see above • High trust at level of family	• Monitoring of BPs and sugars in community a challenge see above • Patients needing clinical consultation might be missed, resulting in complications

Table 10: *Description of DSD models*

The type of model to be implemented depends on the context (needs and capacity). Facility based models are easier to implement and guarantee closer clinical monitoring. Having multiple models of care will provide more options to patients and motivate them to be enrolled. When and where possible, these models can be integrated in existing HIV DSDs where patients with co-morbidity can receive ARVs and NCD medications at the same time.

Activity	Task	When	Where	Who
Education and sensitization of patients about DSD models	Education on models of refill on site. enrollment and recording of patients in DSDs	Everyday	Facility waiting rooms	Expert patients
BP monitoring	Checking BPs on NCD patients Referral to clinic	Every 3 months	Every 3 months	Every 3 months
NCD medicines refilling	Pre-packing and distribution of medicines Retrieval of files Adherence support Referral if needed	Every 3 months	Community Facility	Nurses Expert patients
HbA1c monitoring	1. Venous blood sample for conventional Lab 2. A1C test using POC machine	Every 3 /6 months Every 3 /6 months	Facility Facility	Nurses
or FBS	1. Venous blood sample for conventional Lab 2. Finger prick blood sample for glucose meter measurement	Every 3 /6 months Every 3 /6 months	Facility Facility	Nurses Nurse or other trained facility staff
Clinical Consultation	NCD medicine prescription Clinical monitoring	6 monthly	Facility	Nurses Doctors
Creatinine clearance monitoring	Creatinine clearance test using finger prick blood sample and POC device or conventional lab machine	12 monthly	Facility	Nurse or other trained facility staff

Table 11: *The building blocks of DSD models for DM and HTN*

2.3.2 Who can participate?

Any NCD clients who are clinically stable (no clinical complication) and preferably meet target as well.

If possible and if the DSD group members agree, members of the patient support system should also be included.

The following tables show recommendations on inclusion criteria. Less strict criteria could be applied for facility based models for DM patients as this will embrace patients that have not yet met their target yet, but who can be followed up by clinicians.

Models of care	Clinically stable based on clinicians assessment	HbA1c <7% or FBS <7mmol/L	Creatinine clearance >45 ml/ min (if available)	Treatment>6 months
NCD club	Required	Not required	Not required	Required
Fast track refills	Required	Required	Required	Required
Community NCD refill groups	Required	Required	Required	Required
Family refills	Required	Required	Required	Required

Table 11: Recommended inclusion criteria for DM patients

Models of care	Clinically stable based on clinicians assessment	HbA1c <7% or FBS <7mmol/L	Creatinine clearance >45 ml/ min (if available)	Treatment>6 months
	Controlled blood pressure on day of inclusion	Creatinine clearance >45 ml/ min (if available)	Treatment >6 months	Required
NCD club	Required	Not required	Not required	Required
Fast track refills	Required	Required	Required	Required
Community NCD refill groups	Required	Required	Required	Required
Family refills	Required	Required	Required	Required

Table 12: Recommended inclusion criteria for HTN patients[3]

2.3.3 Monitoring and evaluation of the activity (indicators)

- (%) patients enrolled in DSD models vs. the entire cohort
- Retention in Care 12 months after the enrolment
- (%) patients who meet target 12 months after the enrolment (e.g. Hba1c<7, controlled BP)

Setting up models of care	• Needs assessment (what models do clients need?) • Resource assessment (what models can we implement looking at resources clinic and community have) • List up materials we will need (See below recommended materials)
Sensitization among clinic staff and in the community	• Introductions of models of care to be adopted in health facilities • Note: it is important to sensitize all the staff working in the health facilities including non-medical staff (e.g. receptionists, general hands, nurse aides) • Community actors (including traditional and religious leaders) can be sensitized for acceptance and promotion of the services
Training for clinic staff and expert patients	• Training for health care workers (Annexure: Training materials) • Note: If your locations already implement DSD models for ART clients, the same nurses could operate DSD for NCD patients.
Promotion of DSD	• Health care workers/ Expert patients explain and promote DSD during group literacy sessions • Distributions of pamphlets/ posters (Annexure) can be done
Recruitment of patients	• NCD patients are assessed if they meet the criteria. • Those who meet the criteria are given opportunities to join any DSD models which are operated in the health facility and meet their preferences. • Once patients are enrolled in a model, patients are given an appointment date.
Practicalities of models	• See below “what happens during review dates?”
Monitoring and evaluation	• Documentation of topics covered/issues addressed in the patients handheld booklet • Longitudinal follow up of the measurements of BP and glycemic parameters in the chronic condition monitoring card (see annex…) • Flagging of patients records for patients not achieving targets and referral to clinician/counselor/expert patients • DSD register to record the patients enrolled in the different forms of DSDs

Table 13: Steps for setting up and implementing DSDs

2.4 How is each model operated?

2.4.1 NCD Club

What happens before and during review dates?

Before review dates

- Check in the appointment diary the patients due for refill and consultation.
- Retrieve chronic care cards for the group.
- Prepare for the education session for the club a day before by preparing quiet venue, chairs, visual aids, stationary, Club registers and methodology of delivery.
- Nurse and expert patients pre-pack medicines for the group.

During review dates

1. 5-10 members attend the club
2. BP measurements done
3. Attendance register completed.
4. Member introductions done and subject of group discussion introduced.
5. Session is facilitated by nurse with expert patients assisting.
6. Checking patients due for investigations (HbA1c ,CrCl done)
7. Next appointment date given
8. Patients receive pre-packed medicines from expert patients/nurse
9. Record in club registers (attendance list)and individual chronic care cards

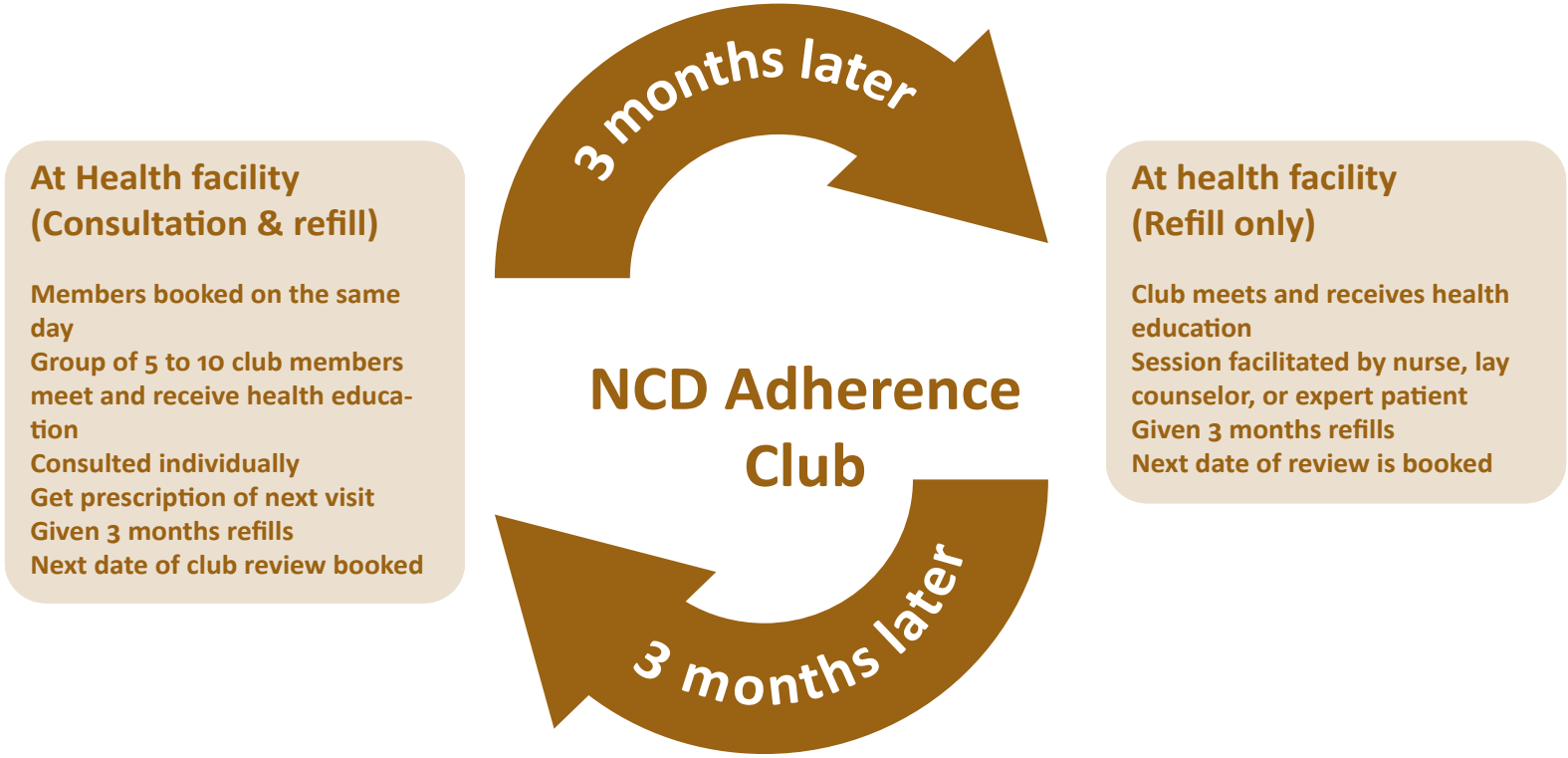

Figure 2: *What happens in NCD clubs?*

Benefits of this model

- Peer support given among members
- Continuous literacy sessions provided by trained cadres
- Possible close clinical monitoring as it takes place in health facilities

Expert patients	• Assist in doing vital observations (blood pressure checks, weight). • Retrieve chronic care cards for the patients due for refill or consultation. • Record in the appointment diary on the next review dates. • Offer continuous support on adherence and lifestyles. • Distribute pre-packed medicines to patients.
Nurses	• Screen patients and offer the model to those patients eligible. • Arrange 3 monthly refills and a 6 monthly consultation reviews, and record in patients cards • Do blood investigation (CrCl and HbA1c) for patients due. • Adjust medication as required • Attend to patients presenting with illnesses. • Refer patients for counseling services for those in need and those failing to remain on treatment targets.

***Table 14**: Roles and responsibilities*

Club registers/ attendance list	To record the members' attendance and record activities done
Appointment registers	To manage patient booking
Visual aids	DM and HTN flip charts, food dummies, healthy plate poster
Pharmacy register	To record medication dispensed to patients
Pre-packed medicines	It will be faster if medications are pre-packed for individuals
Stationary and furniture	Notebooks, pens, markers, etc.

***Table 15:** What materials are needed?*

2.4.2 Fast track model

What happens before and during review dates?

Before review (refill or consultation) dates

- Check the appointment diary for the patients coming for refill and consultation
- Retrieve chronic care card for patients due.
- Pre-pack medications

During review dates

1. Patients receive individual chronic care card at reception
2. Go straight to dispensary point for refill
3. (BPs checked every 6 monthly during consultation)
4. NCD refill done and recorded in pharmacy registers and patients booklets.
5. Patient is reminded of next appointment date.

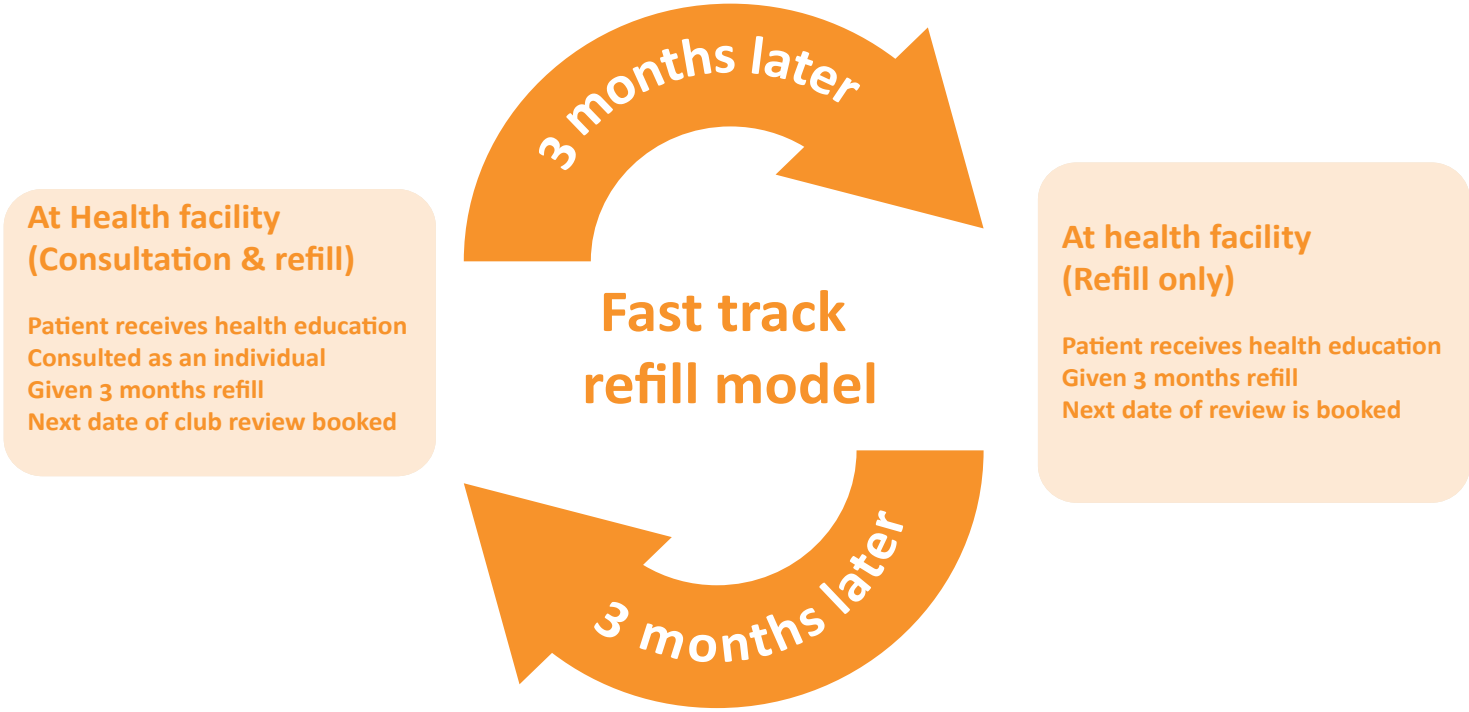

Figure 3: *What happens in an individual fast track model?*

Benefits of this model

- Minimal time spent in health facilities
- Individual model (flexible in timing and confidential)
- Convenient for access to clinical consultations (for NCD and others)

Expert patient	• Assist in doing vital observations (blood pressure checks, weight). • Retrieve chronic care cards files for the patients due for refill or consultation. • Record in the appointment diary on the next review dates. • Offer continuous support on adherence and lifestyles. • Distribute pre-packed medicines to patients. (also could be done by other assigned cadres)
Nurse	• Screen patients and offer the model to those patients eligible. • Arrange 3 monthly refills and a 6 month consultation reviews in patients cards • Do blood investigation (CrCl and HbA1c) for patients due. • Attend to patients presenting with illnesses. • Refer patients for counseling services for those in need and failing to remain on treatment targets.

Table 16: *Roles and responsibilities*

Appointment diary	To know who is coming on specific dates
NCD Chronic Condition Monitoring Card	To record individual level consultation
Pharmacy register	To record medication dispensed to patients
Pre-packed medicines	It will be faster if medications are pre-packed for individuals

Table 17: *What materials are needed?*

2.4.3 Community NCD Refill Group

What happens before and during review dates?

Before review (refill or consultation) dates

- Patients meet at a common place in the community.
- NCD focal person checks Blood pressure for the group and completes the registers.
- Patients have peer to peer support including sharing of experience living with condition
- Patients give the one coming to the health facility all the patients treatment cards

During review dates

1. 5-10 patients in the group.
2. Patients located in hard to reach areas but close to each other
3. One member collects NCD medicines for others.
4. Convene in community, check Bps, and brings the Community NCD Refill register to the facility.
5. Nurse/expert patient checks the NCD refill register and dispenses for members at home.
6. Next appointment date given and recorded at white board at HF

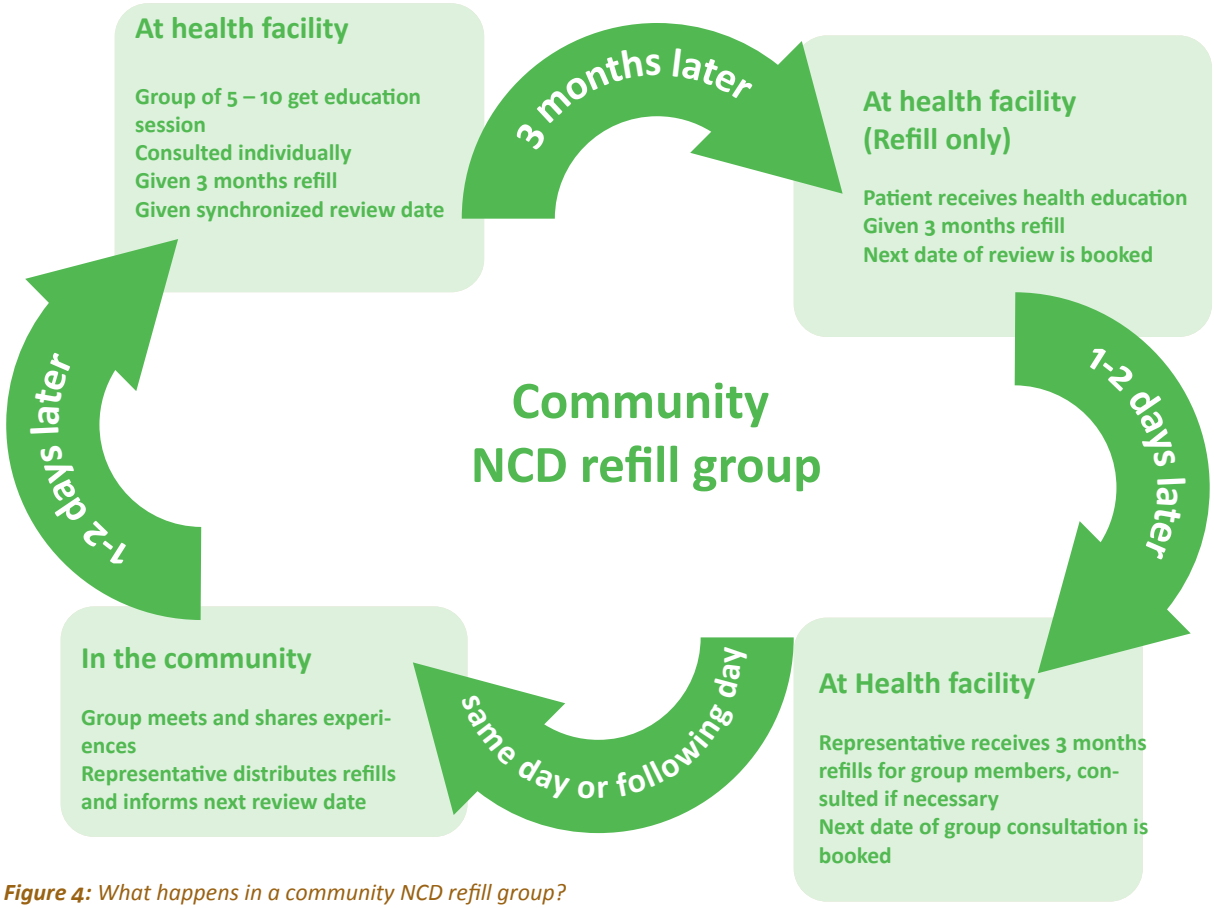

Figure 4: *What happens in a community NCD refill group?*

Benefits of this model

- Peer support given among members
- Reduce frequencies of individual clinic visits

Expert patient	• Organizes meeting with peers in the community at a central location • Do blood pressure checks and weight to the patients. • Collects patients' booklets and identify patients to attend refill at the health facility. • Expert patient records the next review dates for the group in appointment diary.
Nurse	• Checks the community NCD register and advise accordingly • Dispenses medicines for the group. • Reminds the person coming for refill about the patients due for blood investigations. • Records the next review dates for the group in appointment diary.

Table 18: *Roles and responsibilities*

Appointment diary	To know who is coming on specific dates
NCD Chronic Condition card	To record individual level consultations
Pharmacy register	To record medication issues
Pre-packed medicines	It will be faster if medications are pre-packed for individuals
Community NCD refill register	To record patients' attendance and refill history

Table 19: *What materials are needed?*

2.4.4 Family Model; What happens before and during review dates?

Before review dates

- Group meets in the community
- Focal patient does blood pressure checks to her/his family members
- Patients have peer to peer support including sharing of experience living with condition
- Identifies patient to collect refill at health facility especially the one not on BP target or sick.

During review dates

1. Family members convene at home and check BPs with the help of a trained member.
2. Trained member records BPs in a simplified family refill register
3. Family member collects NCD refill for others every 3 months.
4. Brings all the family member booklets and the family model register.
5. Family members feeling unwell or those due for HbA1c encouraged coming for refill.
6. Nurse checks register and updates
7. NCD refill done by expert patient/Nurse, appointment date being given.

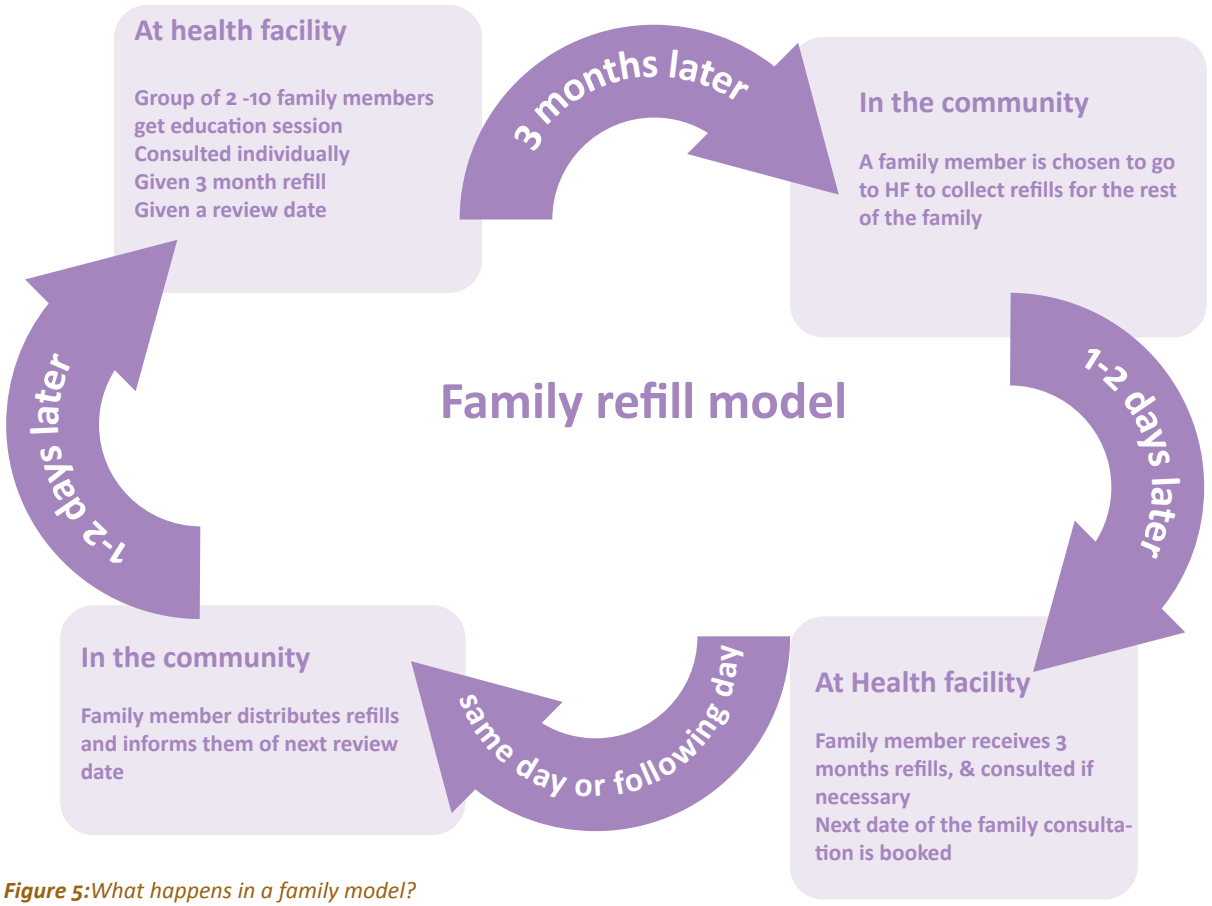

Figure 5:*What happens in a family model?*

Expert patient	• Organizes meeting with peers in the community at a central location • Do blood pressure checks and weight to the patients. • Collects patients' booklets and identify patients to attend refill at the health facility. • Expert patient records the next review dates for the group in appointment diary.
Nurses	• Checks the community NCD register and advise accordingly • Dispenses medicines for the group. • Reminds the person coming for refill about the patients due for blood investigations. • Records the next review dates for the group in appointment diary.

Table 20: *Roles and responsibilities*

Appointment diary	To know who is coming on specific dates
NCD Chronic Condition card	To record individual level consultation
Pharmacy register	To record medication issues
Pre-packed medicines	It will be faster if medications are pre-packed for individuals
Family refill register	To record patients' attendance and refill history

Table 21: *What materials are needed?*

Propose ideas to patients	• Introduce ideas to patients, discuss and agree on detailed roles of patients and limitations (Define terms of reference) • See what can motivate patients to play the role (fixed term, certification after the term) • Clarify what can be provided (e.g. transport allowance)
Discuss and officially appoint expert patients	• Look for patients who are willing to volunteer • Appoint patients in an official way (during group session)
Induction training for the appointed expert patients	• Prepare the training material (example: annexure) • Invite the appointed expert patients for training • Training should include simulations and role plays
Collaborate with patients in conducting activities (literacy sessions, DSD implementation, events)	• Engage expert patients as per pre-defined ToR • Health care workers co-facilitate sessions until expert patients feel confident in doing it alone • Make sure that resources and materials are available for expert patients to perform their tasks
Onsite technical supports conducted by health care workers	• Provide technical supports regularly (at least weekly) • Revisit ToR to check if tasks shared are as per agreement • Health care workers identify technical and programmatic challenges – conduct meeting or refresher training to address challenges

Table 22: *Steps for implementation*

2.5 Working with expert patients

2.5.1 What to implement?

- Provide roles to patients who are willing to participate.
- Empower them with knowledge and skills to play the roles
- Involve them in reviewing activities and service provisions as representatives of patients

2.5.2 Who can become expert patients?

- DM or hypertensive patients with/without HIV who are open enough about their condition.
- NCD patients who are stable and coping well with their NCD condition.
- NCD patients who have a clear understanding of their condition and healthy lifestyle required.
- NCD patients with good communication skills.
- Willing to work on a volunteer role.

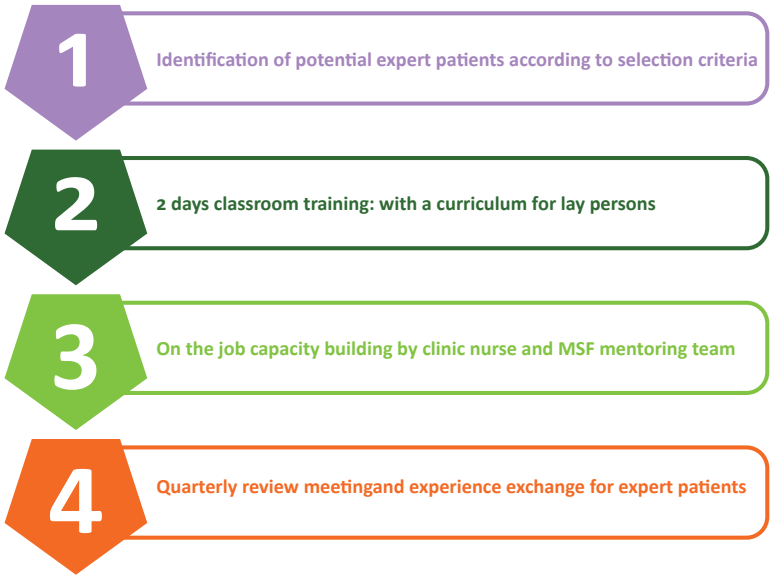

Figure 6: *Steps to empower expert patients*

Example of ToR for expert patients

- Raise awareness of NCD DSD models among patients
- Recruit patients into the different NCD DSD models available according to patient preference
- Facilitate on-site DSD formation
- Lead peer to peer counseling
- Conduct treatment literacy education on HTN, and DM
- Share other tasks with HCWs e.g medicine pre-packing, BP measurements on site, complwting appointment diaries.
- Updating monthly DSD registers
- Establishing linkage between community and health facility

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3 ANNEX

3.1 My Diabetes Companion booklet

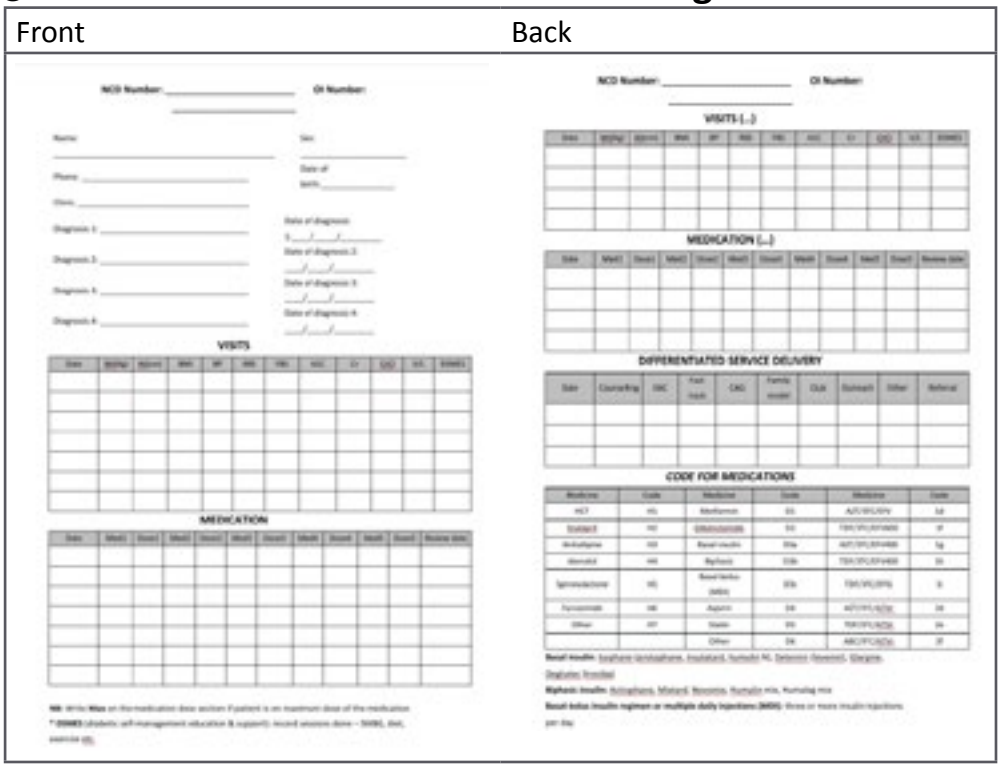
Cover page

Contents page 1 of 2

Contents page 2 of 2

3.2 NCD Chronic Condition Monitoring Card

Front	Back



3.3 High A1C Counseling form

NCD Number: Name of Health Facility

Date of Registration in NCD Project Phone No.

Year of diagnosis: Diabetes Hypertension HIV

First Name: Surname:

Date of birth: Sex: ☐M ☐F

HBA1c					BMI		
Date					Date		

Current NCD/ARV Medication

Date	Diabetes Mellitus		Hypertension		ART	
	Medication	Dosage	Medication	Dosage	Medication	Dosage

Health promotion and Counseling sessions	Date	Done Yes/No	Comments
Group Literacy session (health promotion)			
1. What is Diabetes Mellitus			
2. Lifestyle modification			
3. Adherence: medicines, lifestyle			
Individual counseling session			
Session 1. What is Diabetes Mellitus			
Session 2. Lifestyle modification:			
i) Dietary changes			
ii) Exercises			
Session 3. Adherence:			
i) Medicines			
ii) Lifestyle changes			
iii) Family support groups			

Possible causes of high HbA1c

1) Failure to follow correct diet ☐	2) Poor adherence to treatment ☐
3) Disease progression ☐	4) Lack of adequate exercises ☐
5) Reaction to oral medication ☐	6) Lack of motivation for insulin ☐

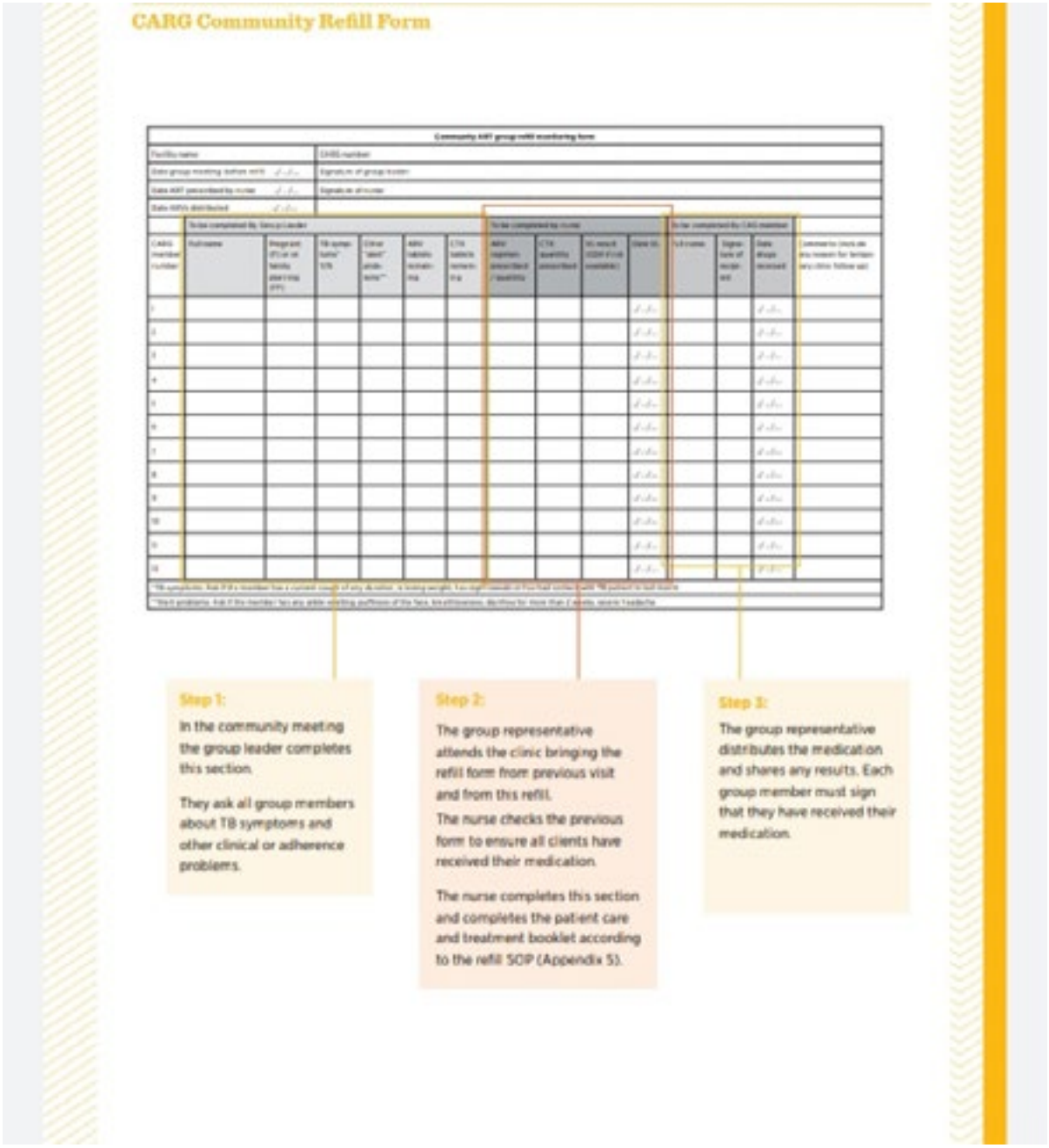
Action taken:

Further counseling- SAs (clients ready to change behaviour) ☐ Date Commence Insulin ☐

SRs (clients not willing to change) ☐ Date Date

Chipinge Team Nov 2019

3.4 Community ART Refill Group form[4]



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