

Integrated Care Cascade Toolkit

AN IMPLEMENTATION GUIDE TO SCREENING, TREATMENT & FOLLOW-UP FOR HIV & NCDS



For more information about any of the programs described here, contact us at malawi.info@pih.org

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Partners
In Health



Abwenzi
Pa Za Umoyo



Neno District Council
Health Sector

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Part 1: Introduction

1. OUR CONTEXT: NENO DISTRICT, MALAWI

The Integrated Care Cascade was developed in Neno District, Malawi over two years of collaboration between Partners In Health and the Ministry of Health (MOH).

Neno District is an extremely rural district in southern Malawi. The majority of the 165,000 people are subsistence farmers, and only 3.7% have electricity.^{1,2} The MOH operates two hospitals—a district hospital and community hospital—and 12 health centers.

PIH began working in Neno in 2007, and the HIV care program quickly blossomed, with active screening initiatives, treatment decentralized to all health facilities, and a robust system for tracking patients with missed appointments.³ At the end of 2014, 7,100 clients were enrolled in HIV care, representing an estimated 75% of HIV cases in the district.

Meanwhile, care for non-communicable disease (NCD) patients remained limited: case-finding was low, treatment was only available at the two hospitals, and there was no system to follow-up with missing patients. At the end of 2014, just 1% of estimated hypertension and diabetes cases were enrolled in care.

The primary challenge was the disproportionate allocation of staff and funding to HIV care. The Neno solution was to integrate care across screening, treatment and follow-up systems, leveraging the success of the HIV program to improve NCD outcomes.

Through strategic leveraging of the strong HIV platform, including staff, space, and other resources, Neno was able to fully integrate NCD care. This toolkit highlight this success, including screening, treatment, and follow-up systems for our Integrated Chronic Care Clinic.

1. Malawi National Statistics Office. 2008 Population and Housing Census: Population Projections. Available: <<http://www.nsomalawi.mw/2008-population-and-housing-census.html>> ; 2008 Accessed 05.17.17.

2. Malawi National Statistics Office. 2015-16 Demographic and Health Survey.

3. E.B Wroe, et al., Leveraging HIV platforms to work toward comprehensive primary care in rural Malawi: the Integrated Chronic Care Clinic, Healthcare (2015).

2. THE INTEGRATED CARE CASCADE AT A GLANCE

The Integrated Care Cascade consists of **screening** for various conditions— at the household level (CHWs), in the community (SHARC), and in the facility (SHARF)—referral for **treatment** at the Integrated Chronic Care Clinic (IC³), and **follow-up** for missing patients (TRACE).

Community-Based Screening

Screening for Health and Referral in the Community (SHARC)

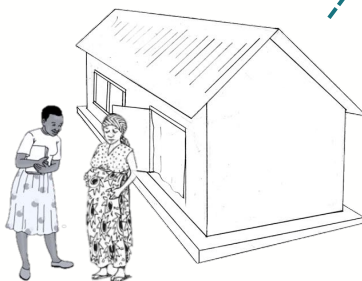
A mobile team visits hard-to-reach villages and designated hot spots to screen for conditions such as HIV, diabetes, hypertension, TB, malnutrition, and family planning needs.



Community-Based Screening and Follow-up

Community Health Workers (CHWs)*

Every household is assigned a CHW—a trained and paid member of the community who screens family members for potential health issues, accompanies them to care, and provides ongoing psychosocial support.

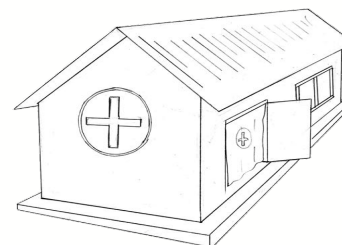


**Note that the CHW program is not addressed in this toolkit; please contact malawi.info@pih.org for additional information.*

Facility-Based Screening

Screening for Health and Referral at the Facility (SHARF)

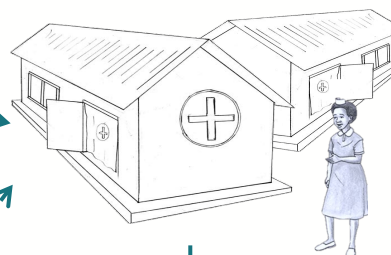
Outpatients presenting at a health facility are offered screening for HIV, diabetes, hypertension, TB, malnutrition, family planning needs, and cervical cancer before seeing a clinician.



Facility-Based Care

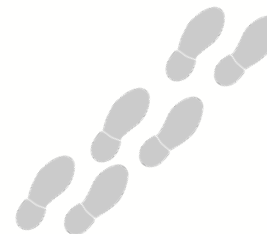
Integrated Chronic Care Clinic (IC³)

All patients with chronic conditions, including HIV, hypertension, diabetes, asthma, epilepsy, congestive heart failure and mental illness, receive treatment and additional health screening through IC³, a centralized clinical team that visits all health centers according to a fixed schedule.



Tracking Retention and Client Enrollment (TRACE)

CHWs and staff members make home visits to IC³ patients who have missed an appointment and patients referred from SHARC or SHARF who never attended IC³, in order to bring them back to care.



3. THE BENEFITS OF INTEGRATED CARE

Malawi, like many countries, faces a dual burden of communicable and non-communicable diseases. HIV remains prevalent (8.8%)², and NCDs are on the rise, with hypertension and diabetes affecting 32.9% and 5.6% of the population (age 15-49), respectively.⁴

This challenge is often addressed with vertical disease programs, but while these initiatives offer the convenience of targeted funding and interventions, they fail to move health systems towards a model of comprehensive primary care. As such, integrated care has emerged as an efficient strategy to address complex burdens of disease.^{5,6}

Integrating care leverages successes in one area to improve performance in another area, raising the standard of care across the health system. For example, integrating HIV, TB and STI services has been shown to facilitate screening and linkage to care.⁷ Similarly, the Integrated Management of Childhood Illnesses (IMCI) model, which integrates care for conditions such as pneumonia, diarrhea, and malaria, has demonstrated long-term cost-savings and reductions in mortality.⁸ This more holistic approach to patient care requires careful and innovative planning, but has the potential to do more with less.

In Neno, PIH has worked with the MOH to integrate HIV and NCD screening and treatment, creating a one-stop-shop for patients for whom the opportunity cost of seeking healthcare is often prohibitive. Integration has addressed the simultaneous challenges of maximizing the efficiency of financial and human resources, increasing the program's geographic coverage, and improving quality of care.

4. K.P. Msyamboza, B. Ngwira, T. Dzwola, et al., The burden of selected chronic non-communicable diseases and their risk factors in Malawi: nationwide STEPS survey, PLoS ONE. 6(5) (2011) e20315.

5. K. Greene, N. Sakolsky, J. Daly, et al., Key principles to accelerate progress in noncommunicable disease care and treatment. Discussion Paper, National Academy of Medicine, Washington, DC.

6. F. Temu, M. Leonhardt, J. Carter, et al., Integration of non-communicable diseases in health care: tackling the double burden of disease, PanAfrican Medical Journal. 18(202) (2014).

7. D.A. Walton, P.E. Farmer, W. Lambert, et al., Integrated HIV prevention and care strengthens primary health care: lessons from Haiti, Journal of Public Health Policy. 25(2) (2004).

8. J.R. Armstrong Schellenberg, T. Adam, H. Mshinda, et al., Effectiveness and cost of facility-based Integrated Management of Childhood Illness (IMCI) in Tanzania, Lancet. 394(9445) (2004).

9. World Health Organization. Health Financing for Universal Coverage.

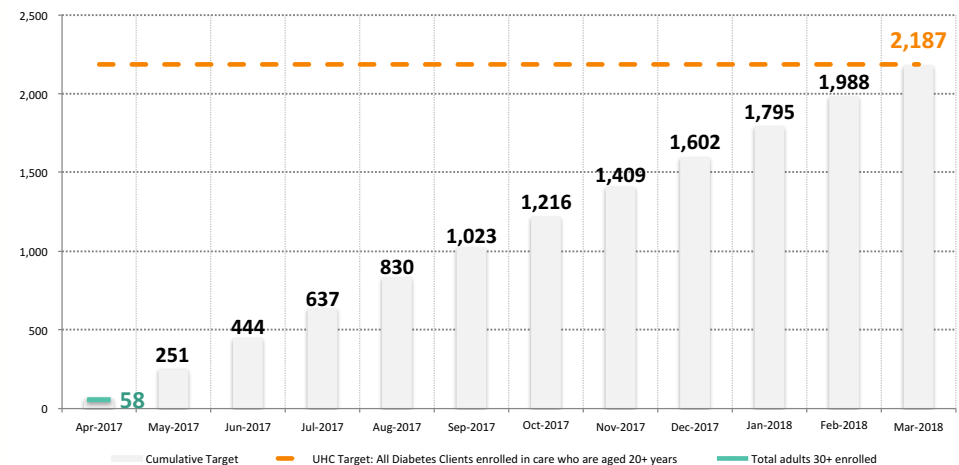
Available:(http://www.who.int/health_financing/universal_coverage_definition/en); 2017 Accessed 05.31.17.

4. INTEGRATED CARE & UNIVERSAL HEALTH COVERAGE

According to the WHO, Universal Health Coverage (UHC) “means that all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.”⁹

The Integrated Care Cascade is designed to move the needle towards UHC for HIV and NCDs by increasing case-finding, providing decentralized access to high-quality care, and retaining patients in care. To measure progress towards this goal, we have translated the UHC definition into a set of district-level targets that use population data and disease burden estimates to determine the expected number of people who should be in care to reach Universal Health Coverage. For example, given Neno's adult population aged 30+ and the estimated prevalence of diabetes in Malawi (5.6%⁴), we expect to have 2,187 diabetes patients enrolled in IC³. Currently, 58 patients are enrolled, underscoring the importance of ongoing case-finding through SHARC and SHARF.

Total Adults aged 30+ Enrolled in Diabetes Care

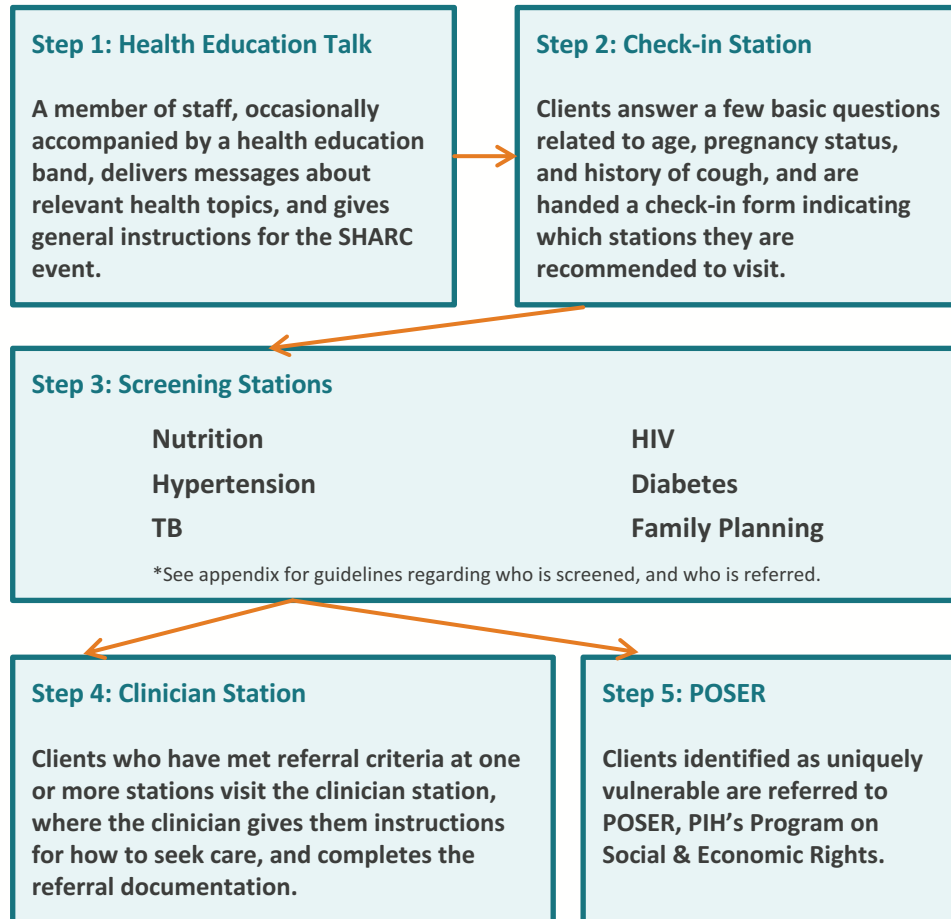


Legend: Cumulative Target (dashed orange line), UHC Target: All Diabetes Clients enrolled in care who are aged 20+ years (dashed orange line), Total adults 30+ enrolled (solid grey bars)

PART 2: Community-based Screening: SHARC

Screening for Health and Referral in the Community

1. PATIENT FLOW



A note on staffing: For all programs, staff is primarily provided by PIH, with supplemental staffing from MOH and other partners. SHARC is a mix of a central team (based at the nearest hospital or PIH office) and staff based at the nearest health facility (noted in parentheses).

Step 1: Health Talk

Staff:

- Community Programs Assistant

Instructions:

The staff member provides the audience with health education messages. A health education band, and dance and drama groups may provide additional support.

Step 2: Check-in Station

Staff:

- Community Programs Assistant
- POSER Assistant

Supplies:

- Check-in forms

Instructions:

The staff member asks the client their age, pregnancy status and history of cough, and, using the check-in form, ticks the appropriate box(es) indicating which stations the client should visit for screening.



SHARC stations set up under trees

Step 3a: Nutrition Station

Staff:

- Attendant
- 3 community volunteers (i.e. CHW)

Instructions:

Clients receive appropriate nutrition screening (body-mass index or MUAC). Results are recorded in the client's health passport, check-in form and the screening register. Refer to the clinician if client meets the referral criteria in the clinical guidelines.

Supplies:

- Height board/tape
- Scale
- MUAC tape
- BMI wheel
- Calculator
- Screening register
- Clinical guidelines

Step 3b: Hypertension Station

Staff:

- Integrated Clerk (nearest facility)

Instructions:

Use the BP machine to measure each client's blood pressure. Record the result in the health passport, check-in form and screening register. Refer to the clinician if client meets the referral criteria in the clinical guidelines.

Supplies:

- BP machine
- Batteries
- Screening register
- Clinical guidelines

Step 3c: Diabetes Station

Staff:

- Lab Assistant

Instructions:

Conduct a glucose test for each client. Record the result in the health passport, check-in form and screening register. Refer to the clinician if client meets the referral criteria in the clinical guidelines.

Supplies:

- Glucometer
- Glucosticks
- Lancets
- Alcohol swabs
- Safety box
- Gloves
- Screening register
- Clinical guidelines

Step 3d: HIV Station

Staff:

- 3 HTS Counselors (2 from hospital + 1 from nearest facility)

Instructions:

Provide individual or group counseling, and conduct an HIV test for each client. Record the result in the health passport, check-in form and HTS register. Refer reactive clients to the clinician.

Supplies:

- HIV test kits (stored in cooler box)
- Lancets
- Alcohol swabs
- Safety box
- Gloves
- HTS register (MOH)
- Clinical guidelines



Nutrition screening at SHARC

Step 3e: TB Station

Staff:

- Integrated Clerk (nearest facility)

Instructions:

If the client is producing sputum:

The client should submit sputum in a sputum collection bottle, and take a second empty sputum bottle home to be returned to the nearest facility the next day. Record client details in the screening register, cough register, and complete TB control forms.

If the client is coughing but unable to produce sputum:

Record client details in the screening register and refer the client to the clinician.

Supplies:

- Sputum bottles
- Stickers for sputum bottles
- Markers
- Sputum collection box
- Masks
- Gloves
- Screening register
- TB (cough) register (MOH)
- TB control forms (MOH)
- Clinical guidelines

Step 3f: Family Planning Station

Staff:

- Nurse

Instructions:

Counsel clients on the value of family planning, and the different options available. If the client opts for a method that is available at SHARC, provide family planning on-site. Otherwise, refer the client to the facility to receive their method of choice.

Supplies:

- Family planning methods (oral contraceptives, depo-provera contraceptive injections, etc.)
- Safety box
- Gloves
- Screening register
- Family planning register (MOH)
- Clinical guidelines

Step 4: Clinician Station

Staff:

- Clinician (can be Medical Assistant or Clinical Officer)

Instructions:

Review the client's screening data, examine the client if necessary, and use the referral form to refer the client to the appropriate program(s) at the nearest facility for further assessment and care.

Supplies:

- Referral forms
- Clinical guidelines
- IC³ Schedule

Step 5: POSER Station

Staff:

- POSER Assistant

Supplies:

- Assessment forms

Instructions:

Clients identified at any of the previous stations as particularly vulnerable (i.e. malnourished with no food in the house) are referred to the POSER station, where the POSER team may provide emergency cash assistance or evaluate for long-term socioeconomic support.

Overall Staffing Needs

- **8 staff from hospital:** CP Assistant + POSER Assistant + Attendant + Lab Assistant + 2 HTS Counselors + Nurse + Clinician
- **3 staff from nearest facility:** 2 Integrated Clerks + 1 HTS Counselor
- **3 community volunteers**

See SHARC Report (see appendix) for complete checklists of personnel and supplies.

2. DOCUMENTATION SUMMARY

Health Passport Book

Patients bring their MOH-issued health passport books, where screening data from each station is recorded for the clients' personal records.

Check-in Form

Clients each receive a check-in form at the triage station, where a staff member ticks which stations clients should visit. Each station then uses the check-in form to record screening data and whether the client was referred. Clients return the forms before they leave.

Screening Register

The screening register sits at the nutrition, TB, hypertension, diabetes, and family planning stations to collect data for internal reporting. Note that there are additional MOH-issued registers for HIV (HTS), TB (cough) and family planning.

Referral Form

Referral forms are filled out at the clinician station for any client that has been referred to the facility for additional care.

Reporting Form

The report form contains personnel and equipment checklists, as well as data reporting tools to be filled in at the end of the SHARC event using registers and collected check-in forms.

3. EVENT FREQUENCY AND LOCATION

Frequency

In Neno District, SHARC is organized once per week by each hospital team, or twice per week in total.

Targeted Approach

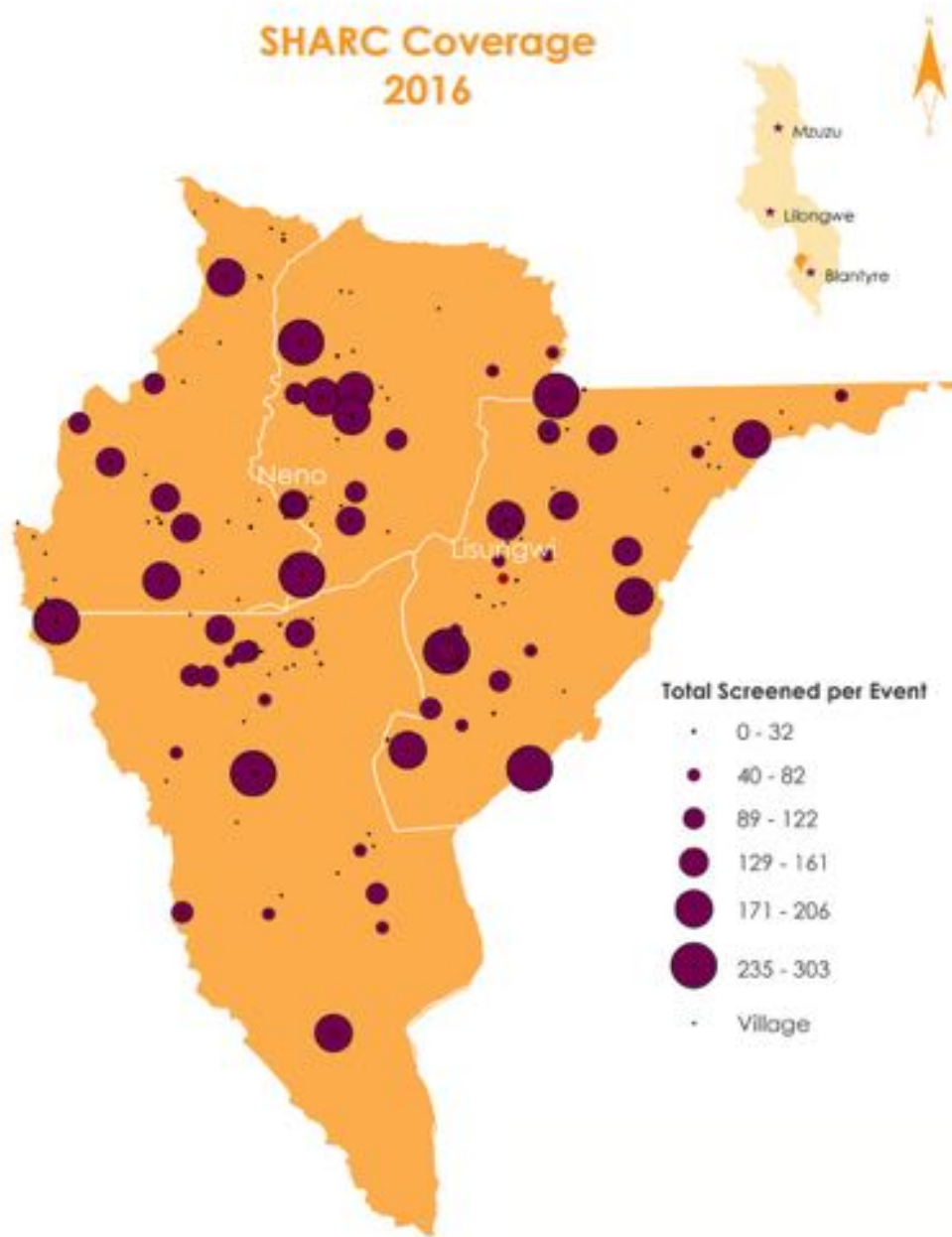
Generally, SHARC targets hard-to-reach or underserved areas. As such, villages are prioritized for SHARC events using a targeted approach. If a village has fewer-than-expected enrollments for a given condition (usually HIV, but the principle can be applied across conditions), that village is recommended for a SHARC event.

Venue

SHARC can take place in any available open space, including but not limited to schools, churches, and football pitches. Note that HIV and family planning stations are prioritized for any available private spaces due to confidentiality concerns. If private space is not available, these services may be offered in the vehicle.

Community Mobilization

Once the location and date of the event has been fixed, community mobilization efforts begin. Though there are many different strategies for this; PIH has had success with notifying community leaders (chiefs, teachers, clergy, etc.), and advertising on the local radio station. It's also important to inform and collaborate with the health facility nearest to the SHARC event.



4. MEASURING PROGRESS

In 2016: 15,080 clients were screened at SHARC

Nutrition

- Adults: 9% malnourished, 12% overweight
- Children: 4% malnourished, 1% overweight

HIV

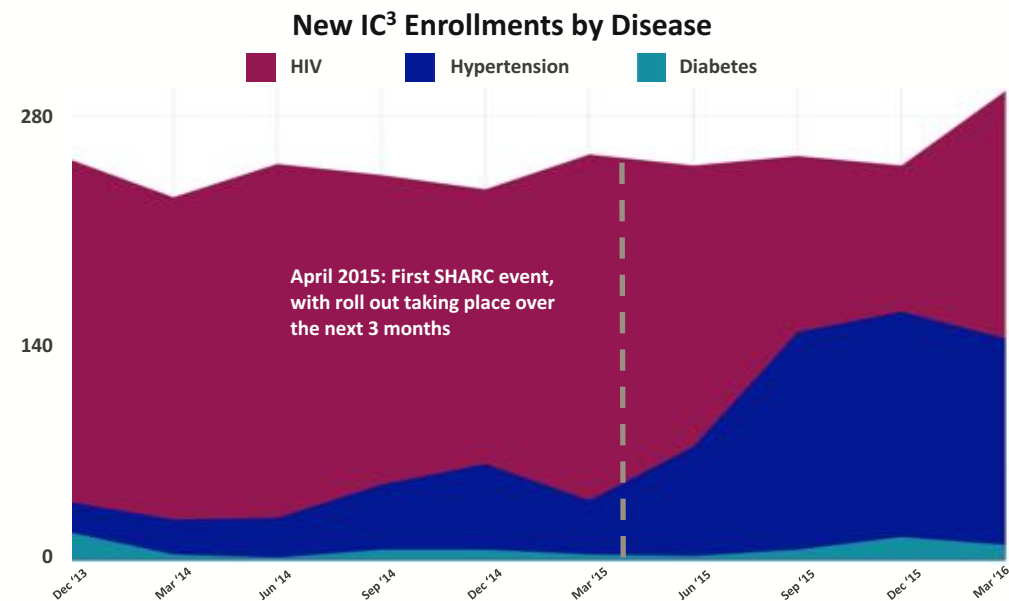
- 3,481 clients tested at SHARC (over 1 in 5 of whom had never been tested), 1.2% tested positive

Hypertension

- 4,940 clients screened at SHARC, 9% referred for hypertension

Diabetes

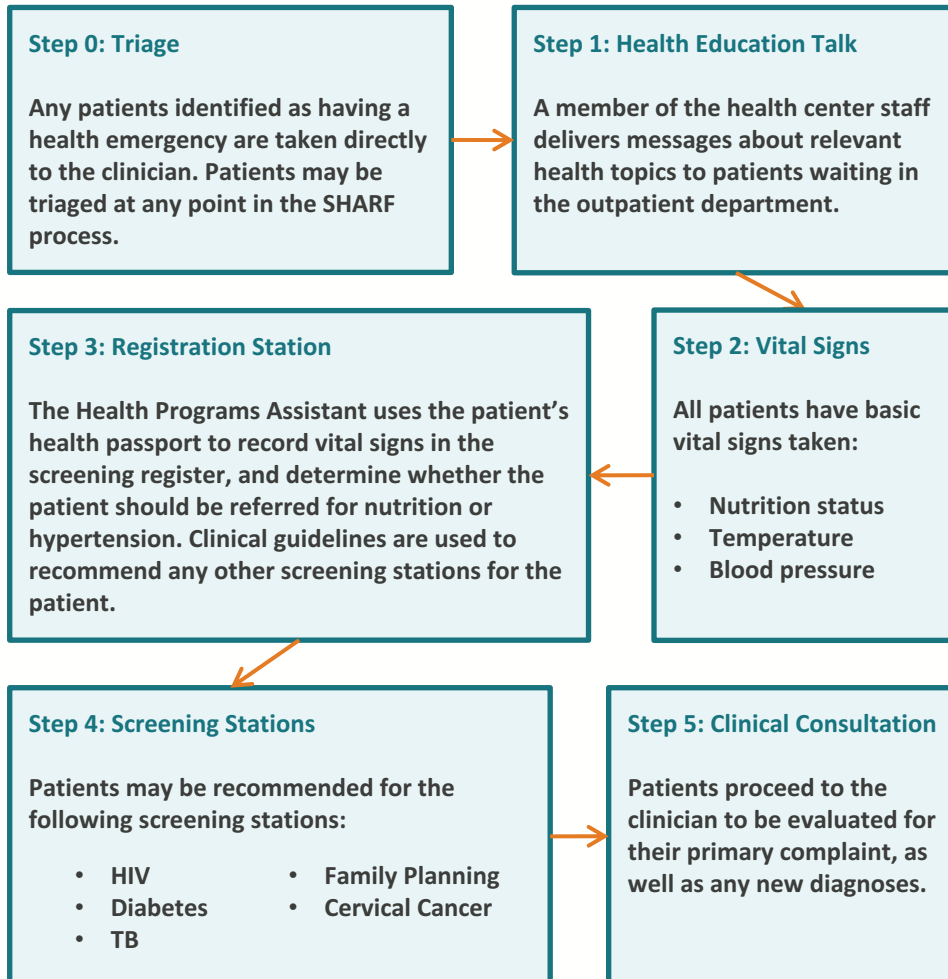
- 2,469 clients screened at SHARC, 2.4% referred for diabetes



Part 3: Facility-based Screening: SHARF

Screening for Health and Referral at the Facility

1. PATIENT FLOW



Patient Profile

Ruth Luciano visited Neno's Dambe Health Center with her daughter, who had a fever. Both Ruth and her daughter went through the SHARF process, and even though Ruth was not the primary patient, she left the health center with a new family planning method and knowledge of her HIV status.



Step 1: Health Talk

Staff:

- Any health center staff

Instructions:

The staff member provides the audience with health education messages and explains how SHARF works.

Step 2a: Height & Weight Station

Staff:

- Guard or Ground Laborer

Instructions:

Measure the height and weight for all patients. Record in the patient's health passport book.

Supplies:

- Height board
- Scale
- Hanging scale

Step 2b: MUAC, Temperature and BP Station

Staff:

- 2 Attendants

Instructions:

For ages 6 months - 18years:

Measure MUAC and measure temperature. Record in the health passport book.

For ages 19 years and older:

Calculate BMI using height and weight already recorded in the health passport book. Measure temperature and blood pressure. Record all screening data in the patient's health passport book.

Supplies:

- MUAC tape
- Calculator
- BMI chart
- Thermometer
- BP machine
- Batteries

Step 3: Registration Station

Staff:

- Health Programs Assistant

Supplies:

- Screening register

Instructions:

Transfer all screening data from the patient's health passport book to the screening register. Use the SHARF clinical guidelines to refer the patient to HIV, diabetes, TB, family planning and cervical cancer screening as needed.



Step 4: Screening Stations

The screening stations for HIV, diabetes, TB, family planning and cervical cancer are typically already built into the health center's systems. Patients are referred directly from SHARF to those services, rather than a SHARF-specific station. For example, most health centers already have an office for HIV testing, so patients simply visit that office.



Ruth elected to have an Implanon inserted at the family planning station

Step 5: Clinical Consultation

Staff:

- Clinician (Nurse, Medical Assistant or Clinical Officer)

Instructions:

The clinician addresses the patient's primary complaint, and reviews all screening data in the health passport book in order to make any necessary referrals for additional screening or enrollment in care.

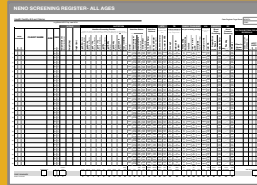
2. DOCUMENTATION SUMMARY

Health Passport Book

Clients bring their MOH-issued health passport books, where screening data from each station is recorded for the clients' personal records.

Screening Register

The screening register sits at the registration station to collect screening data regarding nutrition, hypertension, and diabetes. It also collects information on whether the patient was referred for HIV, TB, family planning and cervical cancer. Note that there are additional MOH-issued registers for HIV (HTS), TB (cough) and family planning.



Monthly Report Form

The report form contains data reporting tools to be filled in at the end of each month using the screening and TB (cough) register.



3. HEALTH CENTER MENTORSHIP

PIH has incorporated a mentorship component into SHARF to ensure that all health centers are functioning in a standardized fashion and at a high-quality level. Once a week, the clinical mentor (based at the district hospital) visits each SHARF site to ensure that the team has up-to-date guidelines and sufficient supplies, and help with general trouble-shooting.

4. MEASURING PROGRESS

Dambe Health Center

Dambe Health Center opened its doors in April 2016, and was utilized as a pilot and model site for SHARF. The following data represents the average monthly impact of SHARF over the first six months of operation:

Average Monthly Impact of SHARF at Dambe HC

OPD attendance	1,615
# of patients screened for nutrition	1,315
- % of patients referred for moderate malnutrition	4.8%
- % of patients referred for severe malnutrition	1.2%
# of patients screened for hypertension	969*
- % of patients referred for hypertension	2.9%*
# of patients tested for HIV	428
- % of patients who had never been tested	53%
# of patients referred for family planning	66

*Note that while SHARC screens only adults, SHARF was screening all patients (including children and adolescents) in the above data set. The guidelines have since changed.

Part 4: Facility-based Care: IC³

Integrated Chronic Care Clinic

Patient Profile:

In 2006, 54-year-old Teleza Mutsayo fell terribly ill and was diagnosed with HIV. She began ART, but continued feeling sick, rapidly losing weight and frequently urinating. In 2007, she went back to the clinic, where a urine test revealed that she had diabetes.

For over ten years now, Teleza has had separate appointments at the ART Clinic and Chronic Care Clinic at Neno District Hospital, but in 2015, life was made easier when she was informed that the new IC³ program would now address both of her conditions at a single visit instead of the usual two separate visits.

“I felt like a heavy weight in my heart had been lifted. . . For a woman my age, this is more convenient.”



1. PATIENT FLOW

Step 1: Circulating Station

Patients sign in and receive their folder.

Step 2: Screening Stations

Patients cycle through the following screening stations:

- Nutrition
- Hypertension
- Diabetes
- TB
- HIV

Step 3: Registration Station

All necessary patient documentation is completed.

Step 4: Clinician Station

The clinician examines the patient, provides counseling and prescribes medication.

Step 5: Nursing Station

The nurse dispenses medication and counsels the patient. Family planning and cervical cancer screening are also offered.

The IC³ facility at Neno District Hospital



Step 1: Circulating Station

Staff:

- 2 Clerks or Expert Patients
- CHW

Supplies:

- Patient files
- Appointment Report
- Sign-in sheet

Instructions:

The day before the clinic, the clerk at the health center uses the appointment report to pull the files of patients expected to attend and insert them into an unmarked folder. On the clinic day, clients write their name on the sign-in sheet in the order in which they arrive, with the CHW's assistance if needed. The clerks give the patient his or her folder, which contains the patient's master card, screening record and all past lab work. If the appointment report indicates that the patient is due for lab work (i.e. viral load or EID test), a red indicator page is placed in the folder.



Patient folders

Step 2a: Nutrition Station

Staff:

- Clerk or Expert Patient or CHW

Instructions:

For all patients, measure the patient's height (length for babies) and weight. For adults, calculate BMI; for children, measure MUAC. Record the result in the patient's health passport book, and provide counseling to malnourished or overweight patients. For malnourished patients, refer to appropriate program for treatment.

Supplies:

- Height board
- Length board
- Scale
- Hanging scale
- MUAC tape
- BMI wheel
- Calculator

Step 2b: Hypertension Station

Staff:

- Clerk or Expert Patient

Supplies:

- BP machine
- Batteries

Instructions:

For all patients, measure blood pressure, record the result in the patient's health passport book, and provide counseling if the patient has high blood pressure.

Step 2c: Diabetes Station

Staff:

- Clerk

Instructions:

For diabetic patients:

Every visit, measure A1c and record result in the patient's health passport book.

For all other patients:

If eligible (annually in most cases, see screening record for details), measure blood glucose and record result in the patient's health passport book.

Supplies:

- Glucometer
- Glucosticks
- A1c machine
- Test strips
- Lancets
- Gloves
- Safety box

Step 2d: HIV & TB Station

Staff:

- Clerk

Instructions:

HIV:

If patient is not known to be reactive and is eligible (every visit in most cases, see screening record for details), refer patient to the HTS office for testing.

TB:

Place TB stamp in the patient's health passport. Ask the patient the questions on the stamp, and tick for their responses.

Supplies:

- TB stamp
- Sputum bottles
- Stickers for sputum bottles
- Markers
- Sputum collection box
- Gloves
- TB (cough) register (MOH)
- TB control forms (MOH)

If the patient has responded yes to the first question (reports having a cough for over 2 weeks, OR reports having a cough for any duration if HIV+), the patient should submit sputum for testing. Give the patient two sputum bottles—one to be submitted the same day and stored in the collection box until it can be taken to the lab, and one to be submitted the following day. Fill out the TB (cough) register.

If the patient's cough is unproductive, or has responded yes to any of the other questions on the stamp, the clinician may order a chest X-ray.



Collecting a blood sample for screening

Step 3: Registration Station

Staff:

- Clerk

Instructions:

Copy the screening data from the patient's health passport book to the screening record and master card.

If the patient has a red indicator page in their folder, refer them for a the appropriate lab work (i.e. viral load or EID test). If a new patient arrives, or an existing patient has a new diagnosis, add the patient to the ART or NCD Register, and create a new master card for the patient.

Supplies:

- ART Register (MOH)
- NCD Register
- Blank Master Cards
- Viral Load Forms
- Folders

Step 4: Clinician Station

Staff:

- 1-2 Clinical Officers

Instructions:

Review the patient's screening data, examine the patient, provide counseling as needed, and write any necessary prescriptions on the patient's master card. Assign the patient their next appointment day (usually in 3 months unless the patient needs to be seen sooner). If the patient has been newly referred to IC³, or referred for a new condition within IC³, review screening data and enroll the patient.

Supplies:

- Clinical guidelines
- Stethoscope

Step 5: Nursing Station

Staff:

- 2-3 Nurses

Instructions:

Provide health education, dispense medication and counsel for how to take the medication. If the patient is eligible, distribute condoms, offer family planning and refer for cervical cancer screening.

Supplies:

- Medications
- Condoms
- Family planning methods
- Safety box
- Gloves
- Family planning register
- VIA stamp

Overall Staffing Needs

Staffing of the stations is a bit flexible based on available cadres of healthcare workers, and the ability to task shift.

- 1+ CHWs
- 0-2 Expert Patients
- 4-7 Clerks
- 1-2 Clinical Officers
- 2-3 Nurses

The day-to-day operation of IC³ also requires the IC³ Coordinator and the Integrated Data Technician, who are not included in a specific station.



2. DOCUMENTATION SUMMARY

Health Passport Book

Patients bring their MOH-issued health passport books, where screening data from each station is recorded for the clients' personal records.

Appointment Report

The appointment report, which is generated by the Electronic Medical Record (see next page), shows a list of patients expected to attend a specific clinic day. It also flags any patients who require specific care (e.g. need lab work or have new lab results).

Patient Name	Appointment Date	Appointment Time	Appointment Type	Appointment Status	Appointment Location	Appointment Reason	Appointment Notes
John Doe	2023-10-26	08:00	ART	Completed	Station 1	ART	...
Jane Smith	2023-10-26	09:00	ART	Completed	Station 2	ART	...
...

Master Card

Each patient's folder contains their master card (MOH), which collects information related to their diagnosis at each visit. There are unique master cards for HIV (EID, pediatric ART and adult ART), chronic lung disease, mental health, epilepsy, and hypertension & diabetes.

Section	Field	Value
Patient Information	Name	John Doe
	Age	35
	Sex	Male
	Address	...
Diagnosis	HIV	...
	Chronic Lung Disease	...
	Mental Health	...
	Epilepsy	...
	Hypertension	...
	Diabetes	...

Screening Record

Each patient's folder also contains their screening record. This form includes the screening data from each of the screening stations for each visit. This form is the same for all patients regardless of diagnosis.

Station	Station 1	Station 2	Station 3	Station 4	Station 5	Station 6	Station 7	Station 8	Station 9	Station 10
Screening Date
Screening Result

Registers

When patients are first enrolled, they are entered into the ART Register (MOH) or NCD Register (MOH). After the initial enrollment, these registers are only updated if the patient has a change to their outcome status (i.e. died or transferred to a different district).



Entering master cards into the EMR

Electronic Medical Record System

In Neno, PIH uses an Electronic Medical Record (EMR) system to electronically store patient data from the patient Master Card and Screening Record. An EMR station is located after the nursing station so that patient details can be entered into the EMR before being returned to the circulating station. At the EMR station, the Informatics Technician enters data from the patient's master card and screening record.

Patient data are used long-term for generating the Appointment Report and TRACE Report (next section). A summary of the patient's electronic record is also pulled whenever an IC³ patient is admitted to the hospital, often offering a more complete history than the patient's health passport book. Finally, the EMR allows for easy tracking of indicators such as cohort size and patient retention.

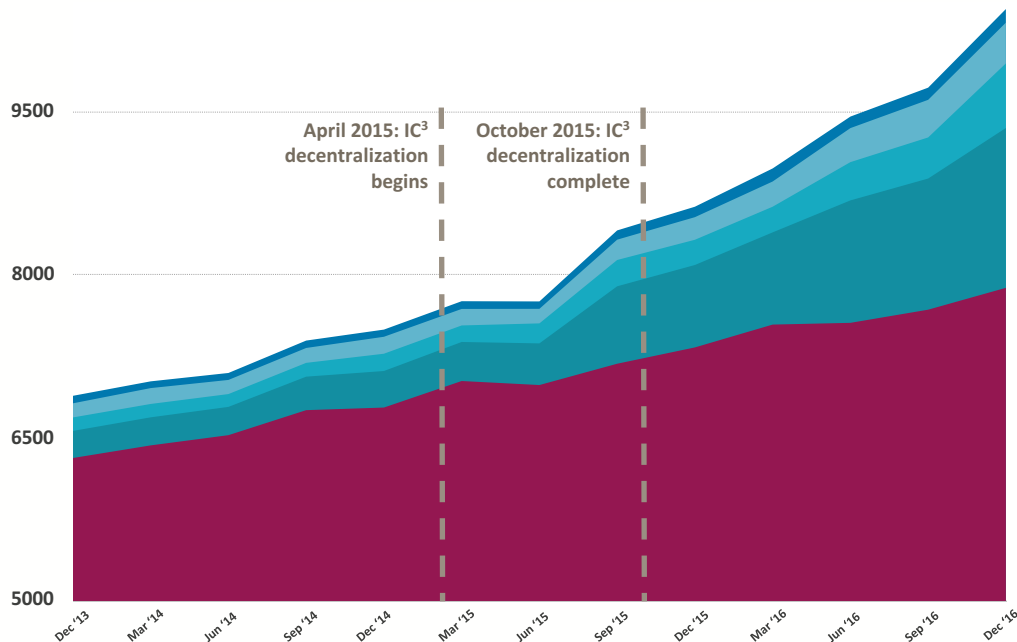
3. MEASURING PROGRESS

IC³ is run by two mobile teams—one based at each of Neno’s hospitals. They have fixed clinic days at each hospital and health center, with each facility having 1-8 clinic days per month depending on the cohort size.

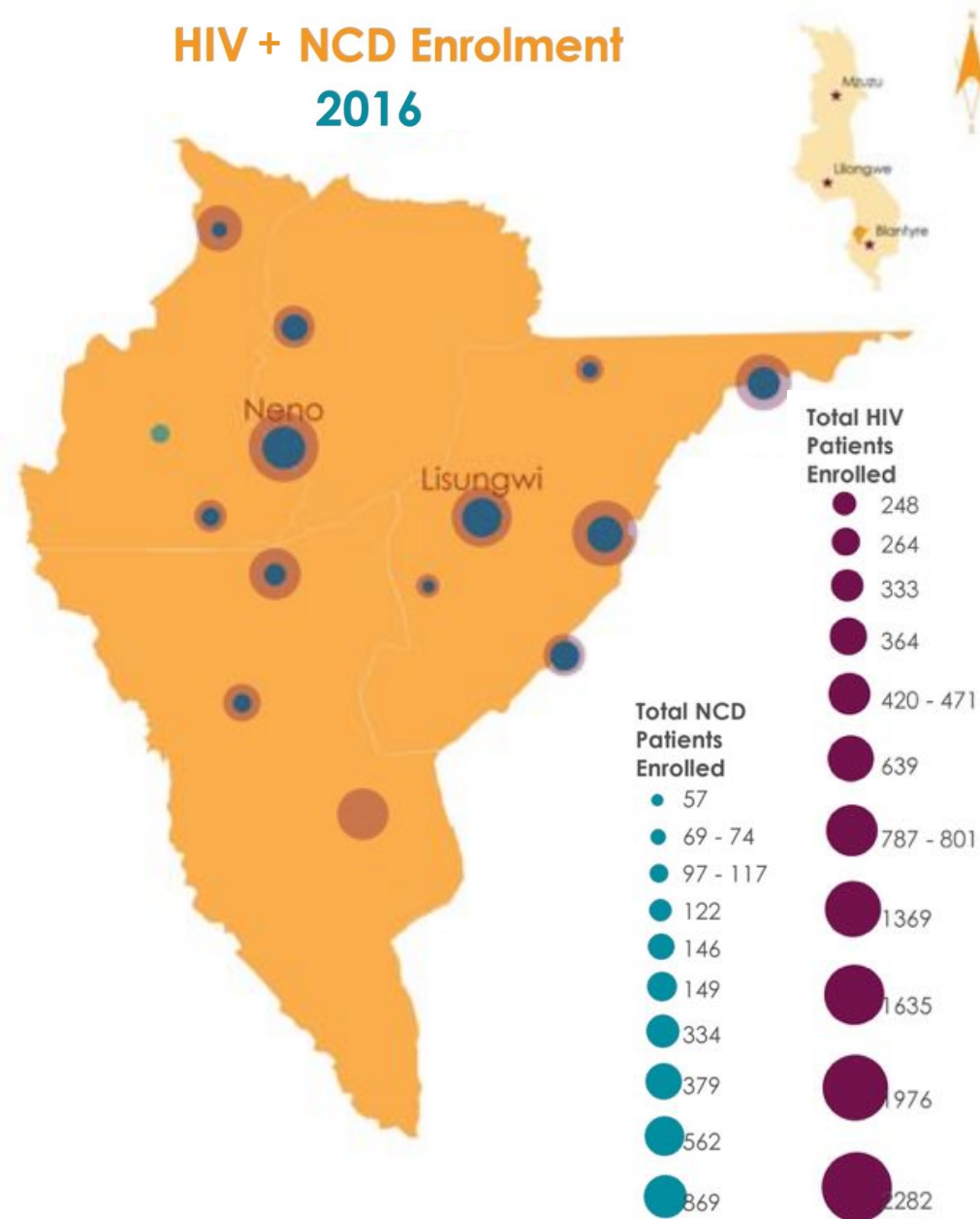
A time-motion study found that patients spend about 2 hours at each IC³ appointment, a challenge that we are working to address. The most common bottlenecks were the clinician and nursing stations, so increasing the number of staff (and available space) may be of help. Additionally, assigning patients appointment times may be useful, as wait times were longer in the mornings, when more patients were present.

Total Diagnoses by Disease

■ HIV ■ Hypertension ■ Asthma ■ Epilepsy ■ Diabetes



HIV + NCD Enrolment 2016



Part 5: Community-based Follow-up: TRACE

Tracking Retention and Client Enrollment

1. MISSED APPOINTMENTS

TRACE is PIH's system for following up with patients who miss an IC³ appointment, and it is currently also used for patients who need to visit the health facility for lab work or results, as well as TB and nutrition patients with a missed appointment. It is a two-tiered system in which first CHWs and later the HIV Coordinator visit patients and bring them back to care. The TRACE cycle operates twice per month, beginning with printing and distributing the TRACE Report, which contains the list of patients who need to be followed, and ends when the reports, filled in with patient outcomes, are returned two weeks later so that patient records can be updated before the next cycle begins.

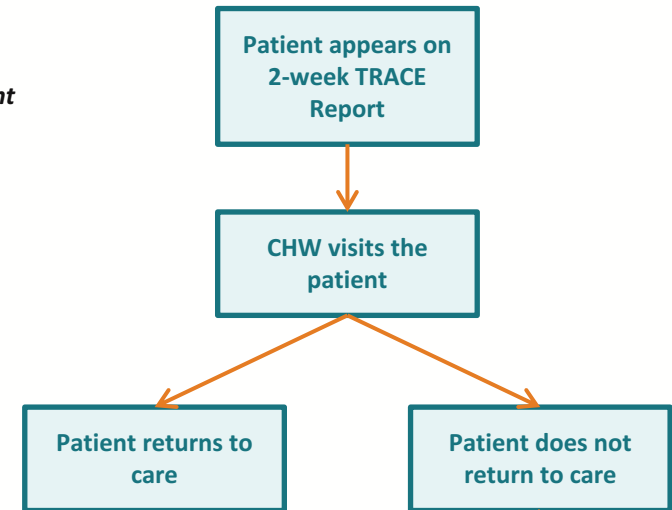
2. DOCUMENTATION SUMMARY

TRACE Report

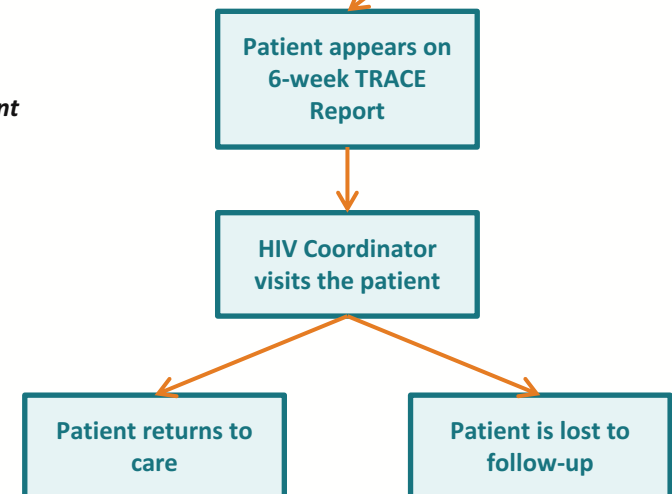
The TRACE Report, which is generated by the EMR, contains a list of all patients who need to be visited due to a missed appointment. Patients are also included if they are due for lab work (i.e. viral load test), or have a new, urgent lab result (i.e. positive EID test).



Tier 1:
2-5 weeks since
missed appointment

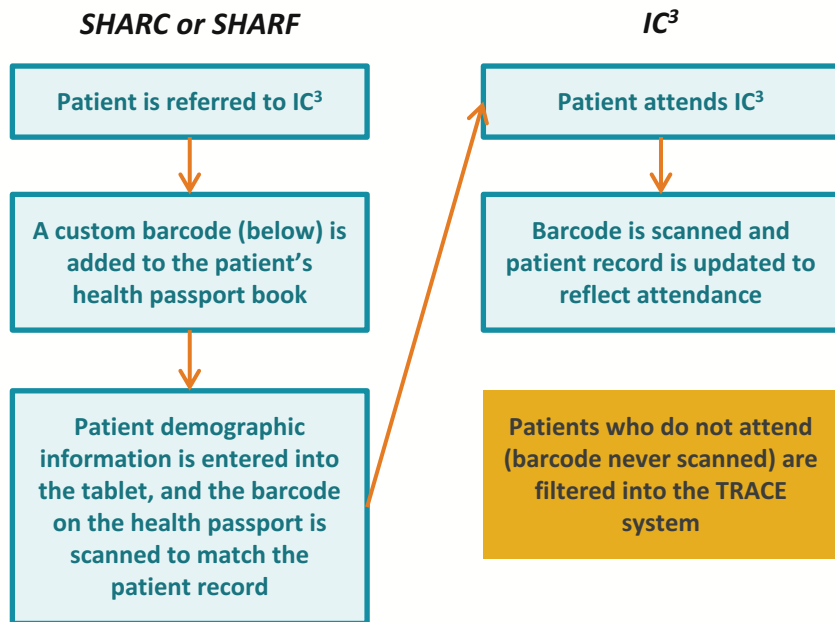



Tier 2:
6-11 weeks since
missed appointment



3. LINKAGE TO CARE

As PIH informatics systems have become more sophisticated, the capability of TRACE has grown to include additional categories of patients. We recently introduced a tablet system to measure linkage to care from SHARC and SHARF to IC³ to know whether patients referred actually go to the health facility and enroll in care. This data allows us to include patients from SHARC and SHARF in TRACE if they do not attend their appointment.



SHARC REFERRAL FOR:	
	<input type="checkbox"/> Blood Pressure <input type="checkbox"/> TB <input type="checkbox"/> Diabetes <input type="checkbox"/> CMAM <input type="checkbox"/> HTC follow up <input type="checkbox"/> Other : _____
00000001	
Muzabwere pa tsiku ili ku chipatala:	_____
Dzina la Chipatala :	_____

4. PRIORITIZING PATIENTS

Due to staffing and transport limitations, it is not feasible to visit all patients who would normally be eligible for Tier 2 of TRACE. In order to ensure that the HIV Coordinator visits the most critical patients, PIH has designed a prioritization mechanism based on the clinical consequences—in terms of disease progression and medication resistance concerns—of missing an appointment. Patients meeting the following criteria are considered high-priority, and are eligible for Tier 2:

- HIV patients (all)
- Hypertension patients IF BP ever greater than 180/110
- Diabetes patients IF on insulin
- Asthma patients IF severity classification was “severe persistent” at last visit
- Epilepsy patients IF reported over 5 seizures per month at last visit
- Sickle cell disease patients (all)
- Chronic kidney disease patients (all)
- Rheumatic heart disease patients (all)
- Congestive heart failure patients (all)



Part 6: Appendix

1. SHARC

- a. Job Descriptions
- b. SHARC Clinical Guidelines
- c. SHARC Check-in Form
- d. Screening Register
- e. SHARC Referral Form
- f. SHARC Reporting Form

2. SHARF

- a. Job Descriptions
- b. SHARF Clinical Guidelines
- c. Screening Register
- d. SHARF Monthly Report Form

3. IC³

- a. Job Descriptions
- b. NCD Job Aids
- c. HIV & NCD Master Cards
- d. TB Stamp
- e. VIA Stamp
- f. Appointment Report Template
- g. NCD Register
- h. IC³ Integrated Screening Record
- i. IC³ Publication

4. TRACE

- a. Job Descriptions
- b. TRACE Standard Operating Procedure
- c. TRACE Process Flow Chart
- d. TRACE Report Template
- e. Master Card Update Form

Please contact PIH at malawi.info@pih.org for instructions on how to access the files listed here.

Acknowledgements

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