



Implementing NCD Programme in Myanmar: Developing health information systems for managing control programme of NCDs

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Introduction

- Myanmar is the second largest country in South-East Asia.
- Population- 51,486,253 (Census 2014)
- Ongoing epidemiological transition increasing the burden of NCDs.
- 68% deaths due to NCDs (WHO-2017).
- 94% adults live with at least 1 risk factor of NCDs (STEPS 2014).
- Limited capacities for research, policy, programming for prevention and control of NCDs.



Objectives of the Project

- The University of Public Health Myanmar, University of Medicine 2, Help Age International and Thammasat University Thailand collaborating for public health capacity building project through triangular collaboration.
- Supported by the European Union under strengthening public Health Institutions Programme.
- The objectives of this project are:
 - To strengthen the University of Public Health for enhanced evidence based policy analysis and providing research evidence based on international scientific knowledge and supported by local research.
 - To build public health capacities of the larger health system for addressing disease transition specially through integration of NCD services at primary healthcare level.

Major Strategic Components of the Project

Research

- Assessment of research gaps and developing priority research agenda
- Enhanced research to inform policy and programmatic response to address health transition

Policy

- Increased policy dialogue and consultation
- Enhanced evidence based policy analysis
- Developing National Strategic Action Plan on NCDs

Strengthening Public Health Capacity to Respond to Myanmar's Disease Transition

Capacity Building

- Greater knowledge and skills among policy makers and public health implementers
- Capacity building for PEN expansion
- Stronger UPH to deliver high quality teaching and research

Communication

- Wider dissemination of research evidence through workshops, publications and different communication media for awareness and policy initiatives

Activities

- **Conducted trainings for faculty and researchers on NCDs focussed research, policy development and policy analysis.**
- **Assessed available research evidence on NCDs, identified the gaps and developed draft prioritized research agenda.**
- **Conducted learning exchanges for UPH faculty, researchers and officials from MOHS to show first hand experiences.**
- **Organized five advocacy workshops with concerned stakeholders.**
- **Developed for the Ministry of Health and Sports a national strategic plan on prevention and control of NCDs (2017-2021).**











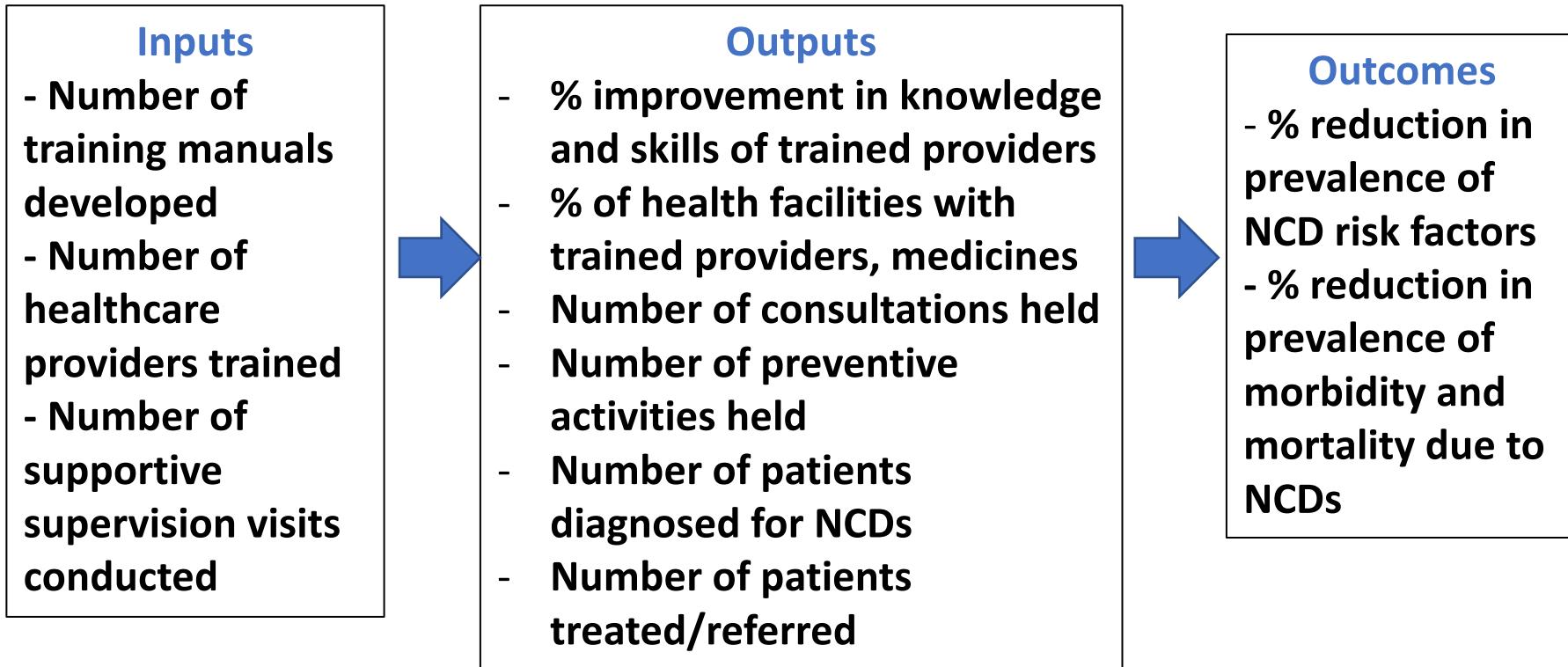
Activities

- Developed, pre-tested and finalized two training manuals for training of lower and medium-level health care providers in prevention and integration of NCD services into primary healthcare.
- Conducted training for central training team and regional training teams.
- Conducting training of township medical officers and other medical/public health officers on PEN interventions (990 TMOs/MOs from 330 townships)
- Training of basic health staff on PEN interventions by TMOs/MOs.
- Developing health information system for NCDs prog.
- Conducting action research during the roll-out of the training.



Indicator Framework

- Indicator framework for progress monitoring and impact measurement of NCD prevention and control



Tools and Processes

- Patient registries, individual patient screening and treatment records
- Referral records
- Facility registers with daily summary reports,
- Monthly summary reports
- Quarterly summary reports
- Data entry in electronic formats
- Data processing, report generation and feedback

Annex (17) Clinical Record for NCDs Patient (NCD လူနာမှတ်တမ်း)

Health Facility Name _____ Patient Name _____

Age _____ Registration No: _____

Gender: Male or Female _____ Income per month _____

1. History / Complaint

2. Investigations

Medicines and daily dose				
Referral reasons (within code number)				
Feedback from higher level	Yes	No	Yes	No
	Yes	No	Yes	No

လူနာ၏ရာခေတ်နှင့် မြတ်သပ်စီမံအာဏ်များတွင် အောက်ဖော်ပြပါအာဏ်များမှ
တစ်ခုစွဲ ရှိနေပါက အထူးကုန်းနာရီများများ / အထက်အဆင့်သို့ လွှာပြောင်းပေးရန်အတွက်
ကုမ္ပဏီပါတ် (Code No.) များ:

အလျင်အမြန် လွှဲပို့ရမည့်လူနာ

(၁) သွေးပေါင်ချိန် 200 / 120 mmHg အထက်

(၂) အသက် ၄၀-နှစ်အောက် လူနာများတွင် သွေးပေါင်ချိန် 140 / 90 mmHg (သို့မဟုတ်) 140 / 90 mmHg အထက်

(၃) ရှုတ်တရဂ် ရင်ဘတ်အောင့်ခြင်း (သို့မဟုတ်) ရင်ဘတ်အောင့်မှာ ပိုမိုဆိုင်ရာ လေဖြန်းခြင်း (သို့မဟုတ်) လေသင်တုန်းဖြတ်ခြင်း။

(၄) ကိုယ်တွင်းအရိုး ထိခိုက်ခြင်း (Organ failure) [ဥပမာ - နှုလုံးစူးအောင့်ခြင်း (Chest pain) | နှုလုံးအလုပ် ကောင်းစွာမလုပ်နိုင်ခြင်း (Heart failure)]

(၅) အသစ်တွေ သွေးချိန်ချိန်ရောဂါရိ လူနာ (သို့မဟုတ်) အသက် ၃၀-နှစ်အောက် လူနာများတွင် ဆီးအတွင်း ကိုတုန်းမီတ် (၂ +) သွေးအတွင်း အဆီမီတ် (Total cholesterol) $> 8 \text{ mmol/L}$ ကျော်နေလျှင်

(၆) ဆီးချိန်သွေးချိန်ရောဂါရိများတွင် ပြင်းထန်စွာရောဂါးဝင်ခြင်းနှင့် (သို့) ခြေထောက်အနာရှိလျှင် သွေးချိန်းချိန်ရောဂါရိများတွင် ရှုတ်တရတ် အမြင်ချို့ယွင်းမှုဖြစ်လျှင်

အလုပ်အမြန်မဟုတ်သော်လည်း လိုအပ်သောကုသမံယူနိုင်ရန်အတွက် လွှဲပြောမည့်လုပ်မှုများ

(၈) နှလုံးခုံန်သံတွင် အသံပိုပါခြင်း။ (Cardiac Murmurs)

(၉) သွေးတိုးကုသဆေး ၂-မျိုး (သို့မဟုတ်) ၃-မျိုး ပေးသော်လည်း သွေးပေါင်ချိန် $\geq 140 / 90$ mmHg (သွေးချိန်သံနှင့်သွေးတိုးကုသဆေး ၁၃၀ / ၈၀ mmHgကြောင်း)၊ သွေးချိန်သံနှင့်သွေးတိုးကုသဆေးတွင် ဆီးအတွင်း အသားဓာတ်ပါခြင်း။

(၁၀) သွေးချိန်သံနှင့်သွေးတိုးကုသဆေးတွင် Glidazide ပါသည်ဖြစ်စေ၊ ပပါသည်ဖြစ်စေ Metformin အမြင်းဆုံးနှင့်၊ သောက်နေသော်လည်း သွေးအတွင်း အချိမှတ် 14 mmol/L (250 mg/dl) ထက် ကျော်နေလျှင်

(၁၁) (၂)နှစ်အတွင်း မျက်စိ စစ်ဆေးထားခြင်း မရှိလျှင်။

(၁၂) နှလုံးသွေးတိုးကုသရောဂါ ဖြစ်ပွားနိုင်ခြေ (Cardiovascular risk) မြင့်မားလျှင် ($>20\%$)

Annex (18) Referral Form in TOT PEN Manual

1. Name _____

2. Age _____ yrs

3. Gender _____ (M or FM)

4. Registration No: _____

5. Date: _____

6. Current Diagnosis _____

7. Current Medication _____

8. Reason for the referral (please check all what applied)

9. Feedback form from higher center

1. Date _____

2. Diagnosis _____

3. Current Medication _____

4. Follow-up requirements _____

5. Remarks _____

Annex (19) NCD රෙඛා රුග්‍රා ප්‍රෝටොලං වෙළුම් මුද්‍රා මූල්‍ය මාර්ග මුද්‍රා මූල්‍ය මාර්ග

Participants' Registry for NCD Screening

မြို့နယ် တိုက်နယ်/ကျေးလက်ကျွန်းမာရေးဌာန/ဌာနစွဲ ခန့်စီ ၈

- *A-Non smokers, non tobacco chewers (refrain from all type of tobacco during last year) B-Smokers, tobacco chewers (*A - လွန်ခဲ့သောတစ်နှစ်အတွင်း ဆေးလိပ်မသောက်သူ၊ ဆေးရွက်ကြီးမပုံသူ B - ဆေးလိပ်လည်းသောက် ရှုံးဆေးရွက်ကြီးလည်းပုံသူ)
- **A- Abstainers (drunk alcohol during last year), B-Drinkers (being drink last month), C-Heavy alcohol (drinking alcohol 4 days or more in a week) (**A - လွန်ခဲ့သောတစ်နှစ်အတွင်း အရရ်မသောက်သူ B - အရရ်သောက်သူ လွန်ခဲ့သောတစ်လအတွင်း အရရ်သောက်ခဲ့သူ C - အရရ်အလွန်အကျိုး သောက်သူ (အရရ်ဂို့တစ်ပတ်လျှင် အနည်းဆုံး လေးရောက်သောက်သူ)}
- When indicating the Blood Pressure (BP), mark whether systolic or diastolic as above the indicated values. {ကော်လ (၁၁) တွင် လူတစ်ဦး၏ သွေးဖြားကို ဖော်ပြရ တွင် ကော်လ (၁၁) တွင် ပါရိုသော systolic (သို့) diastolic အေးများထောက် များရမည်။}
- When indicating suspected cancer, mention as breast lump, oral leukoplakia, oral ulcer, VIA positive, Growth at cemix, Ulcer cervix etc.

NCD ရောဂါရာဖွံ့ခြုံခေါ်ဆေးခြင်း နှင့်စဉ်မှတ်တမ်းအကျဉ်းချုပ်

Daily Summary of the NCD Screening Activities

မြို့နယ် တိုက်နယ် / ကျေးလက်ကျွန်းမာရေးဌာန / ဌာနခွဲ

Year Month Day

1. Place of NCD Screening	2. Male / Female / Total	Result of NCD Screening										13. Referral													
		3. No. of new eligible clients (ရောဂါရာဖွံ့ခြုံစဉ်ဆေးမှု ခံယူရန် အကျိုဝင်သူများ)	4. No. of Smokers	5. No. of chewing tobacco users	6. No. of Alcohol Users (B+C)	7. Body Mass Index Kg /m ²		8. Blood Pressure mmHg	9. Fasting Plasma Glucose Level mg/dl	10. Random Blood Suger mg/dl		11. CVD Risk													
Township / Station / RHC / Subcenter	Male					< 18.5	18.5 - 24.9	25 - 29.9	≥ 30	≥ 140 / 90	≥ 160 / 100	100 - 125	≥ 126	< 200	≥ 200	< 10 %	10 % < 20 %	20 % < 30 %	≥ 30 %	12. Suspected Cancer (Oral / Breast / Cervical)	Township / District Region Central				
	Female																								
	Total																								
Mobile Clinic	Male																								
	Female																								
	Total																								

Note - B - Drinkers (being drinking during last month), C-Heavy alcoholics (drinking alcohol 4 days or more in a week)

{B-အရက်သောက်သူ(လွန်ခဲ့သော တစ်လအတွင်း အရက်သောက်သူ), C- အရက်အလွန်အကျွဲ့သောက်သူ (အရက်ကို တစ်ပတ်လျှင်အနည်းဆုံး လေးရက်သောက်သူ)}

- This could be used to fill the monthly summary sheet (NCD ရောဂါရာဖွံ့ခြုံစဉ်ဆေးခြင်း နှင့်စဉ်မှတ်တမ်း အကျဉ်းချုပ်ဖြည့်ရာတွင် အသုံးပြုရန်)

သားမြားဆရာမ/လက်ထောက်ကျွန်းမာရေးဌာန

တိုက်နယ်ဆရာတော်လက်မှတ်

Date

NCD ရောဂါရာဖွေစစ်ဆေးခြင်း လစဉ်မှတ်တမ်းအကျဉ်းချုပ်

Monthly Summary of the NCD Screening Activities

မြို့နယ် တိုက်နယ် / ကျေးလက်ကျွန်းမာရေးဌာန / ဌာနခွဲ

Year Month

1. Place of NCD Screening	2. Male / Female / Total	Result of NCD Screening										13. Referral								
		3.No. of new eligible clients (ရောဂါ ရွေ့စွဲ စစ်ဆေးမှု ခံယူရန် အကျိုးဝင် သူများ)	4. No. of Smokers	5. No. of chewing tobacco users	6. No. of Alcohol Users (B+C)	7. Body Mass Index Kg/m ²		8. Blood Pressure mmHg	9. Fasting Plasma Glucose Level mg/dl	10. Random Blood Suger mg/dl	11.CVD Risk									
Township /Station/ RHC/Sub center	Male					< 18.5	18.5 - 24.9	25 - 29.9	≥ 30	≥ 140/90	≥ 160 / 100	≥ 126	< 200	≥ 200	< 10 %	10 % < 20 %	20 % < 30 %	≥ 30 %	12. Suspected Cancer (Oral / Breast / Cervical)	Township District Region Central
	Female																			
	Total																			
Mobile Clinic	Male																			
	Female																			
	Total																			

Note –

- B - Drinkers (being drinking during last month), C- Heavy alcoholics (drinking alcohol 4 days or more in a week)

{B-အရက်သောက်သူ(လွန်ခဲ့သော တစ်လအတွင်း အရက်သောက်ခဲ့သူ), C- အရက်အလွန်အကျိုးသောက်သူ (အရက်ကို တစ်ပတ်လျှင်အနည်းဆုံး လေးရက်သောက်သူ)}

သားဖွားဆရာမ/လက်ထောက်ကျွန်းမာရေးမှူး

တိုက်နယ်ဆရာတ်မှတ်

Date

NCD ရောဂါရာဖွံ့ခြုံခေါ်ဆေးခြင်း (၃) လပတ် အခိုရင်ခံစာ

Quarterly Report of the NCD Screening Activities

မြို့နယ် Year Quarter

1. Place of NCD Screening	2. Male / Female / Total	Result of NCD Screening										12. Suspected Cancer (Oral / Breast / Cervical)	13. Referral						
		3. No. of new eligible clients (ရောဂါရာဖွံ့ခြုံခေါ်ဆေးမှု ပုဂ္ဂန် အကျိုးဝင် သူများ)	4. No. of Smokers	5. No. of chewing tobacco users	6. No. of Alcohol Users (B+C)	7. Body Mass Index Kg/m ²		8. Blood Pressure mmHg		9. Fasting Plasma Glucose Level mg/dl	10. Random Blood Suger mg/dl	11. CVD Risk							
Township /Station/ RHC/Sub center	Male					< 18.5	18.5 - 24.9	25 - 29.9	≥ 30	≥ 140/90	≥ 160 / 100	100 - 125	≥ 126	< 200	≥ 200	< 10 %	10 % < 20 %	20 % < 30 %	≥ 30 %
	Female																		
	Total																		
Mobile Clinic	Male																		
	Female																		
	Total																		

Note –

- B-Drinkers (being drinking during last month), C-alcoholics (drinking alcohol 4 days or more in a week)
{B-အရက်သောက်သူ (လွန်ခဲ့သော တစ်လအတွင်း အရက်သောက်ခဲ့သူ), C- အရက်အလွန်အကျိုးသောက်သူ (အရက်ကို တစ်ပတ်လျှင်အနည်းဆုံး လေးရက်သောက်သူ)}

သားဖွားဆရာမ/လက်ထောက်ကျိန်းမာရေးမှူး
တိုက်နယ်ဆရာဝန်လက်မှတ်

Date

Annex (20) Daily NCD Diseases Register (နေ့စဉ် NCD ရောဂါမှတ်တမ်းတင်ခာအုပ်)

Date	DD	MM	YYYY
-------------	-----------	-----------	-------------

Total Diabetes	
Total CVD	
Total Hypertension	
Total Suspected Cancer	
Total	

Monthly NCD Diseases Summary (လဆင် NCD ရောဂါမှတ်တမ်း အကျဉ်းချုပ်)

Township -----

Region/State -----

Health Facility -----

Year -----

Month -----

1. Place of care Given	2. Male/ Female/ Total	3. Disease				4. Patients		5. CVD Risk			6. Referral				
		Cardiovascular/ Cerebrovascular	Hypertension	Diabetes	Suspected Cancer (Oral / Breast / Cervical)	Other	Old	New	< 10 %	10 % < 20 %	20 % < 30 %	≥ 30 %	Township	District	Region
Township / Station / RHC / Subcenter	Male														
	Female														
	Total														
Mobile	Male														
	Female														
	Total														

Total Diabetes	
Total CVD	
Total Hypertension	
Total Suspected Cancer	
Total	

Quarterly NCD Diseases Report (NCD ရောဂါ ၃-လပတ် အစီရင်ခံစာ)

Township -----

Region / State -----

Health Facility -----

Year -----

Month -----

1. Place of Care Given	2. Male/ Female/ Total	3. Disease				4. Patients		5. CVD Risk			6. Referral				
		Cardiovascular / Cerebrovascular	Hypertension	Diabetes	Suspected Cancer (Oral / Breast / Cervical)	Other	Old	New	< 10 %	10 % < 20 %	20 % < 30 %	≥ 30 %	Township	District	Region
Township / Station / RHC / Subcenter	Male														
	Female														
	Total														
Mobile	Male														
	Female														
	Total														

Total Diabetes	
Total CVD	
Total Hypertension	
Total Suspected Cancer	
Total	

Annex (22) Supervision Checklist at Township Level

(To carry out by the central / regional / district level supervisors every three month)

Name of Township ----- Region/ State -----

Name and designation of supervisor -----

Name and designation of supervisee -----

Date : -----

1. Health Manpower at Township Level (Use another table for specific facility)

Category	No. of staff sanctioned	No. of staff appointed	No. of staff working
TMO			
TPHO			
MO / AS			
THN			
HA 1			
Nurse			
HA			
PHS (1)			
LHV			
MW			
PHS (2)			
AMW			
CHW			
Total			

2. Minimum Essential Equipment List at Township Level

(Use another table for specific facility)

Equipment	Functioning	Non - functioning	Quality Control	How to maintain	Remark
a. Blood pressure measuring devices (BPMD) • Mercury • Aneroid • Automatic					
b. Oxygen cylinders (full)					
c. Weighing machines					

d. ECG machines					
e. Measuring tape					
f. Nebulizers					
g. Peak flow meter					
h. Stethoscope					
i. Thermometer					
j. Health education material					
k. Pulse oximeter					
l. Spacer					
m. Glucometer					
n. Ophthalmoscope					
o. WHO CVD risk score chart					
p. Locally adapted guideline					

3. Essential Medicine List at Township Level
(Use another table for specific facility)

Generic Medicines	Always available	Sometimes available	Not available at all
Gliclazide			
Metformin			
Amlodipine			
Atenolol			
Enalapril			
Aspirin			
Atorvastatin			
Other drugs			

3. Available Health Services at Township Level
(Use another table for specific facility)

Are the following procedures being conducted at the facility when needed?

a) Administration of oxygen (via mask or tube)	Yes	No, why not ?
b) Administration of intravenous (IV) fluids/drip	Yes	No, why not ?
c) IV injection	Yes	No, why not ?

d) Intramuscular (IM) injection	Yes	No, why not ?
e) Subcutaneous injection	Yes	No, why not ?
f) Electrocardiography (ECG)	Yes	No, why not ?
g) Cardiopulmonary resuscitation	Yes	No, why not ?
h) Manual ventilation with a bag valve mask resuscitator (ambu-bag)	Yes	No, why not ?
i) Visual acuity examination	Yes	No, why not ?
j) Examination for neuropathy with knee hammer / tuning fork, etc.	Yes	No, why not ?
k) Peak flow test	Yes	No, why not ?
l) Ophthalmoscopy	Yes	No, why not ?
m) Diabetes self- management	Yes	No, why not ?
n) Self –administration of insulin	Yes	No, why not ?

**5. Available Laboratory Services at Township Level
(Use another table for specific facility)**

Type	At facility	At referral	Both
Urine albumin/protein testing			
Urine glucose / sugar			
Blood sugar			
Blood cholesterol			

6. Referral of Patients

A. Referral system (Describe the referral system) _____

B. Distance to nearest referral institution _____ mile

C. Duration to nearest referral institution _____ Hours _____ Mins

D. Most frequent means of transport _____

E. Ambulance service available (Y) or(N) _____

F. Reason for referral (acute/emergency/severe/additional test) _____

G. Feedback Response (Y) or (N) _____

7. Service utilization

- A. No. of visit/patient during last month in OPD _____
- B. No. of inpatient during last month in the hospital _____
- C. No. of visit/patient per day in OPD _____
- D. No. of inpatient per day in hospital _____
- E. Yesterday 1. No. of visits for heart disease, High BP, stroke, heart failure _____
2. No. of visits for diabetes _____
3. No. of visits for asthma or chronic cough _____
4. No. of visit for cancer patients _____

8. Record keeping

- A. Patient record-form and filling / keeping-(Y)/(N) _____
- B. Patient register and filling / keeping-(Y)/(N) _____
- C. Facility records and filling / keeping-(Y)/(N) _____
- D. Medicines and consumable — Stocks and Ledger and Filling/ Keeping-(Y)/(N) _____

9. Financing and Administration

- A. How were the services for NCDs delivered? Were the services free or paid?

- B. If NCD services were paid, what is the type of payment? _____ (Partial/Full)
- C. Type of services delivered? _____ (Consultation/Drug/Investigation/Other)
- D. Is there any contribution from the community?
Amount of contribution per year? _____

10. Community participation

- A. Is there any social mobilization for NCDs services (Yes or No)? _____
- B. Who are the Key Stakeholders?

- C. What type of support given by community?

- 11. Key observations at facility _____

- 12. Recommendations and actions _____

Monitoring and Data Validation Mechanism

- **Supportive supervision visits**
- **Scoring of facilities based on performance**
- **Periodic review meetings and feedback**
- **Studies on preparedness and responsiveness of health facilities**
- **Conducting studies on barriers and facilitators of NCD service utilization**
- **Studies on service utilization, quality of services and patient satisfaction**

Monitoring and Data Validation Mechanism

- **Study on NCD morbidity and mortality**
- **Comparison with STEPS survey on NCD risk factors**
- **Establishing community based feedback mechanisms on NCD services**
- **Triangulation of data from monthly/quarterly reports from facilities, supportive supervisions visits and independent studies/surveys**



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- **For more information please visit:**

Project Website: www.sphcmyanmar.org

Facebook Page: <https://www.facebook.com/SPHCMyanmar/>