



Capstone Project

TREATMENT SEEKING BEHAVIOUR OF DIABETIC PATIENTS WITH SPECIAL EMPHASIS ON FOLLOW-UP IN THE GOVERNMENT HEALTH FACILITIES

A case study of Pudukottai district, Tamilnadu, India

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OUTLINE

- Background
- About NCD programme in Tamilnadu
- Problem Statement & Analysis
- Objectives
- Study Area
- Methodology
- Results
- Discussion
- References
- Annexures

LIST OF ACRONYMS

- BMI – Body Mass Index
- CHW – Community Health Worker
- FBS – Fasting Blood Sugar
- HT – Hypertension
- DM – Diabetes Mellitus
- PCC – Patient Clinic Cards
- PPBS – Post Prandial Blood Sugar
- RBS – Random Blood Sugar
- TNHSP – Tamil Nadu Health Systems Project
- VIA/VILI – Visual Inspection with Acetic Acid / Visual Inspection with Lugol's Iodine
- VHN – Village Health Nurse

BACKGROUND

- NCDs - leading cause of death and disability in India - 60% of all deaths (WHO country profile, 2014) ¹
- As per NCD Global Scorecard Report 2015 ², India has the following performances:

Area	Performance	
Governance	57%	Moderate
Efforts taken to reduce risk factors	34%	Low
Surveillance and Research	26%	Low
Health system response	17%	Very low

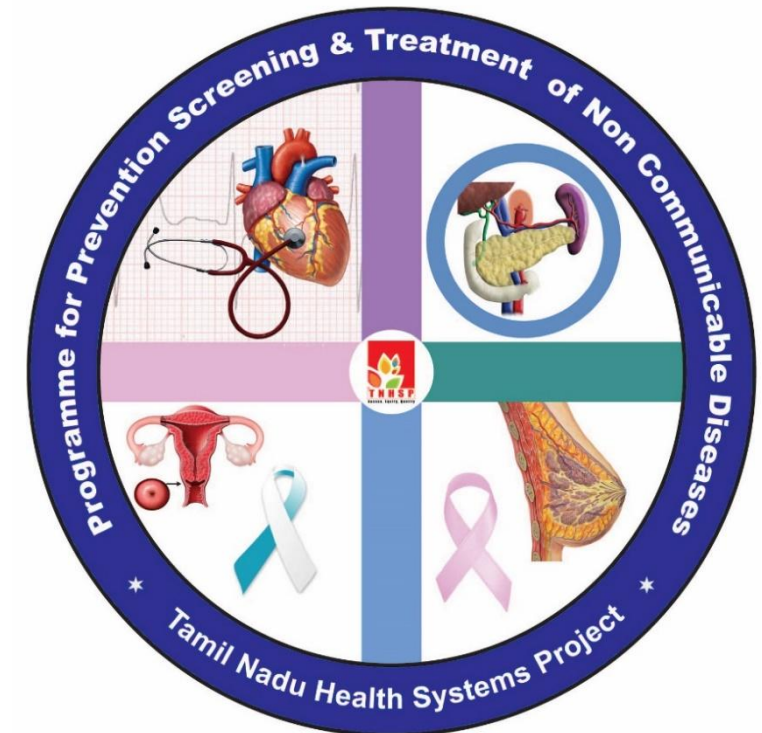
1. World Health Organisation. WHO - NCD Country Profiles 2014 - India [Internet]. New Delhi; 2014. Available from: www.who.int/nmh/countries/ind_en.pdf

2. Roman AV, Perez W, Smith R. A scorecard for tracking actions to reduce the burden of non-communicable diseases. Lancet [Internet]. Elsevier Ltd; 2015;386(9999):1131–2. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S014067361500197X>

ABOUT THE NCD PROGRAMME IN TAMIL NADU

- Opportunistic screening
- Target – 30 yrs & above
- 16 Phase I and 16 Phase II districts
- Exclusive NCD staff nurses

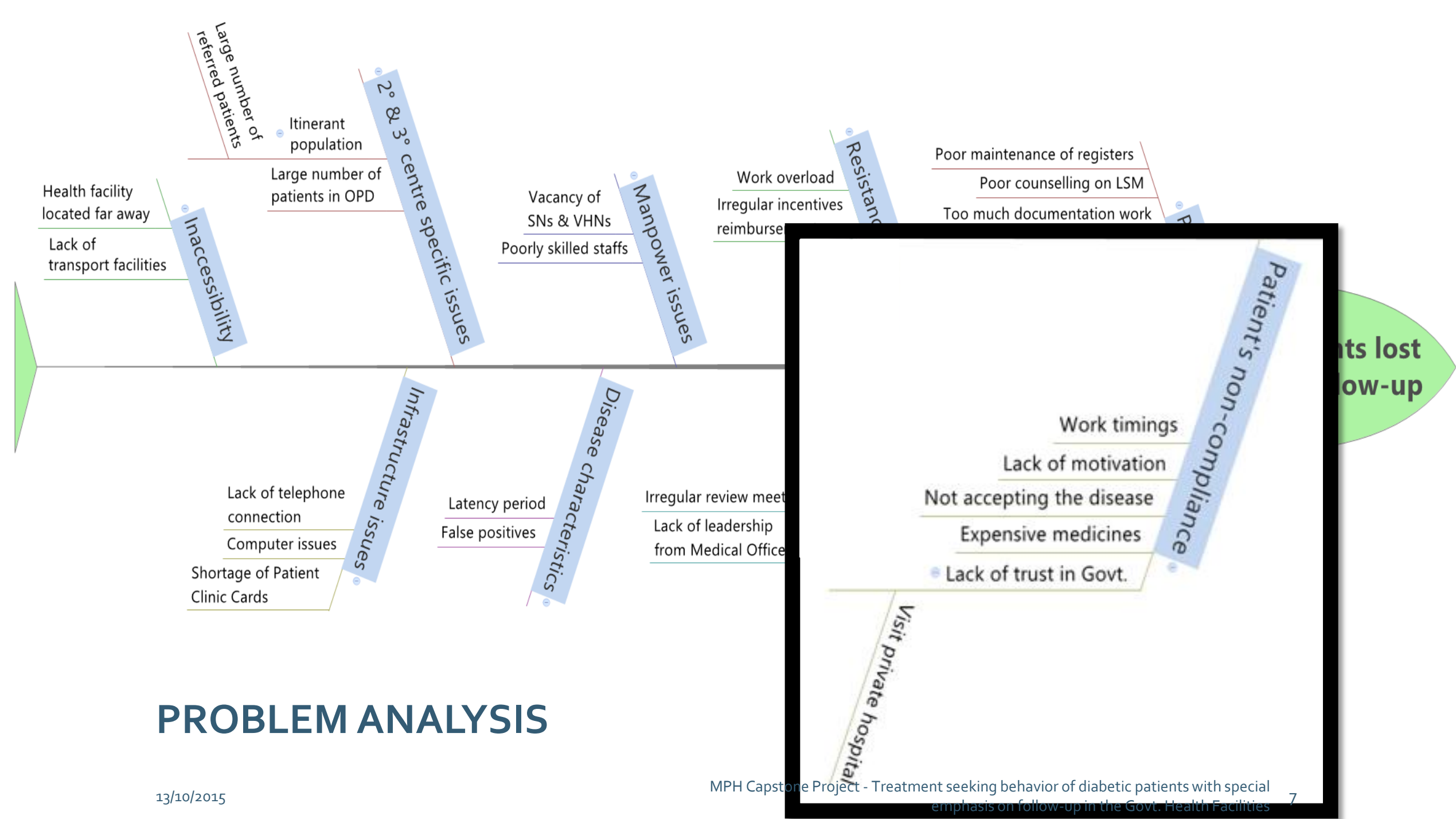
NCD	Screening method (at 1°, 2° & 3° levels)	If normal, repeat screening after
Hypertension	Blood Pressure measurements	1 year
Diabetes Mellitus	Random, Fasting & Post-prandial Blood Sugar levels	1 year
Cancer Cervix	Visual Inspection with Acetic Acid / Visual Inspection with Lugol's Iodine (VIA/VILI) technique	2 years
Cancer Breast	Clinical Breast Examination (CBE)	2 years



Source: www.tnhsp.org

PROBLEM STATEMENT

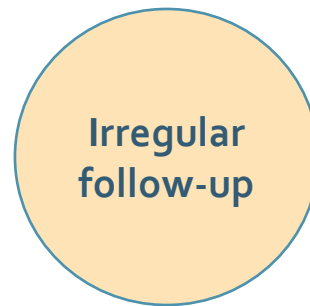
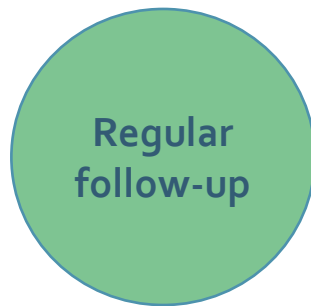
**Though the screening efforts are quite successful,
the program managers suspect that
considerable number of diabetic patients
are lost to follow-up for treatment**



PROBLEM ANALYSIS

OBJECTIVES OF THE STUDY

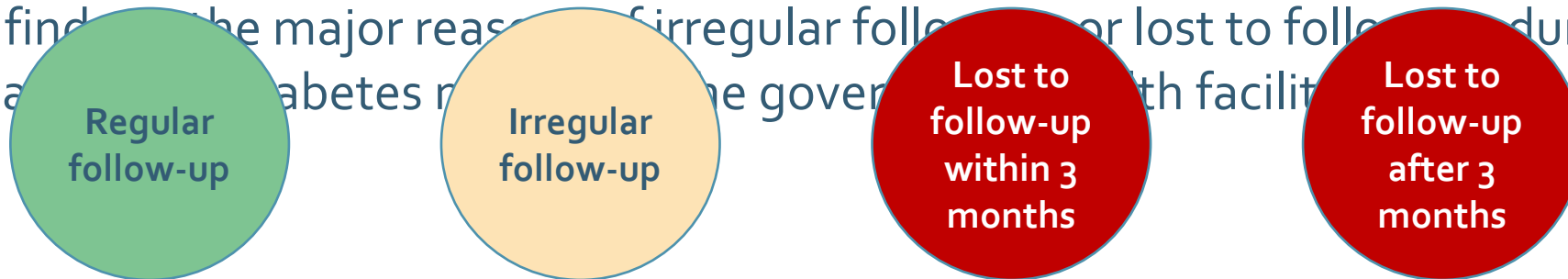
1. To learn about treatment seeking behavior of patients from the perspective of key service providers – NCD staff nurses
2. To identify the proportion of patients on different patterns of follow-up for treatment of DM in the particular government health facility where they got enrolled



OBJECTIVES OF THE STUDY

3. To find out the motivating factors for patients who are on regular follow-up for treatment of diabetes mellitus.

4. To find out the major reasons for irregular follow-up or lost to follow-up during treatment of diabetes mellitus in the government health facilities.



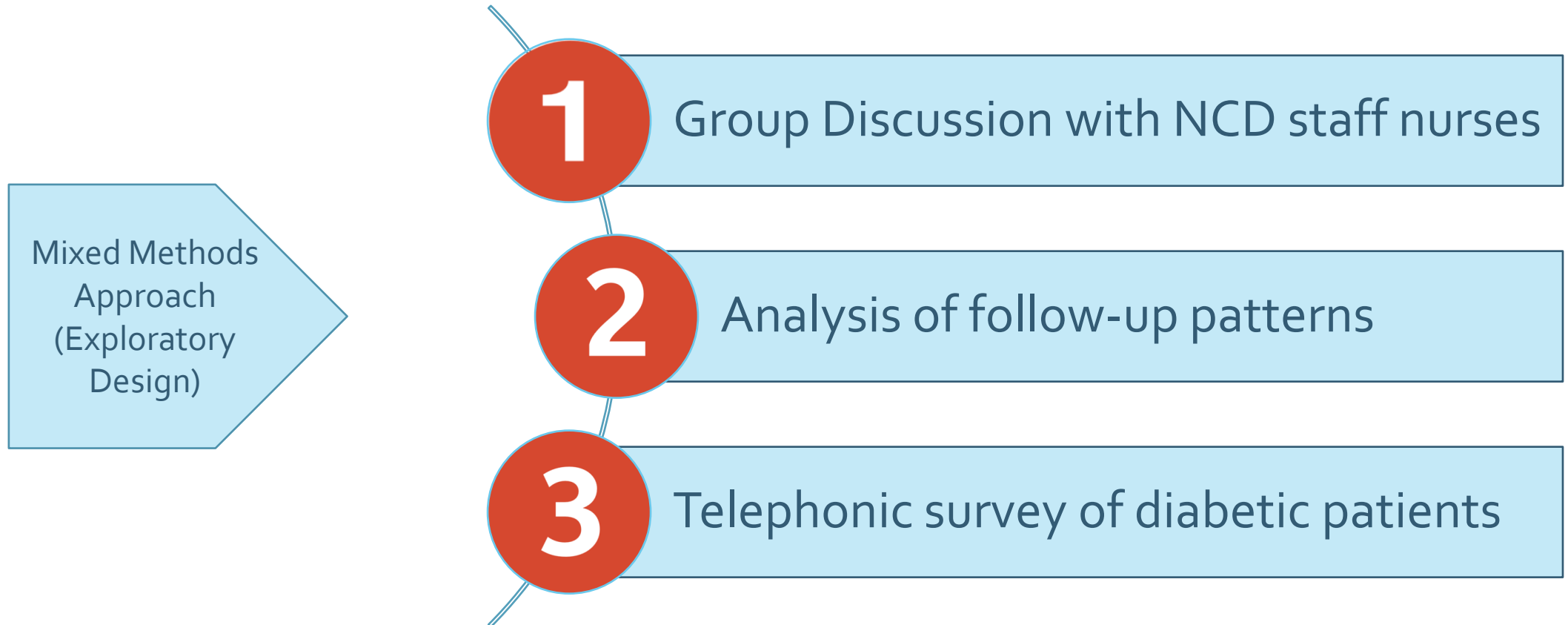
STUDY AREA



2 HUDs
13 GHs
13 Block PHCs
41 Addl. PHCs
1 Urban PHC

METHODOLOGY

METHODOLOGY



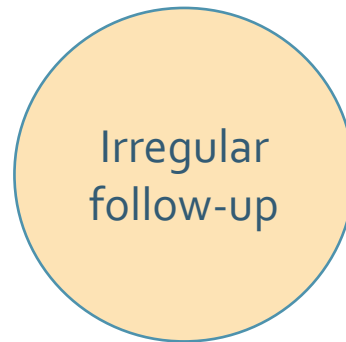
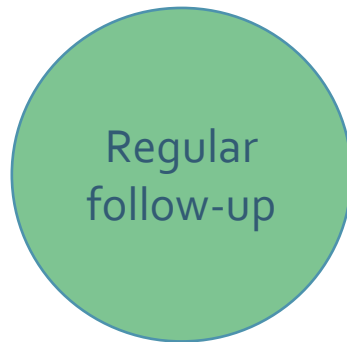
1. GROUP DISCUSSION WITH NCD STAFF NURSES

- June 2015
- 58 NCD staff nurses



2. ANALYSIS OF FOLLOW-UP PATTERNS

- All patient clinic cards registered during Jan – Mar 2014
- Follow-up period: 1 year
- Categorisation & Analysis



3. TELEPHONIC SURVEY OF DIABETIC PATIENTS

- Telephonic interview of go conveniently chosen diabetic patients
- Conducted by a trained interviewer
- Oral consent obtained
- Tool: Semi-structured questionnaire

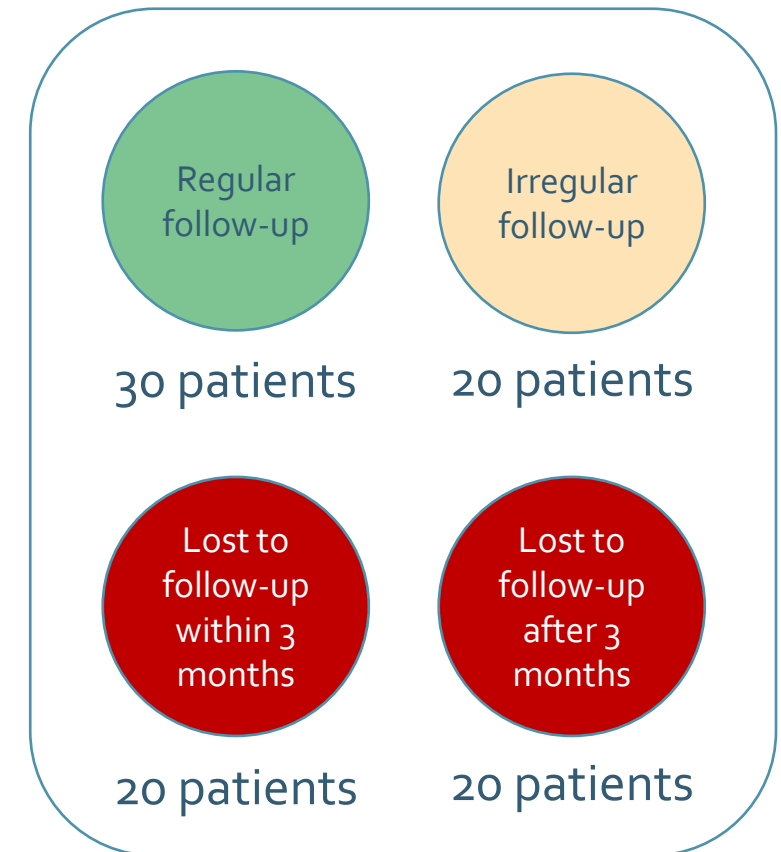
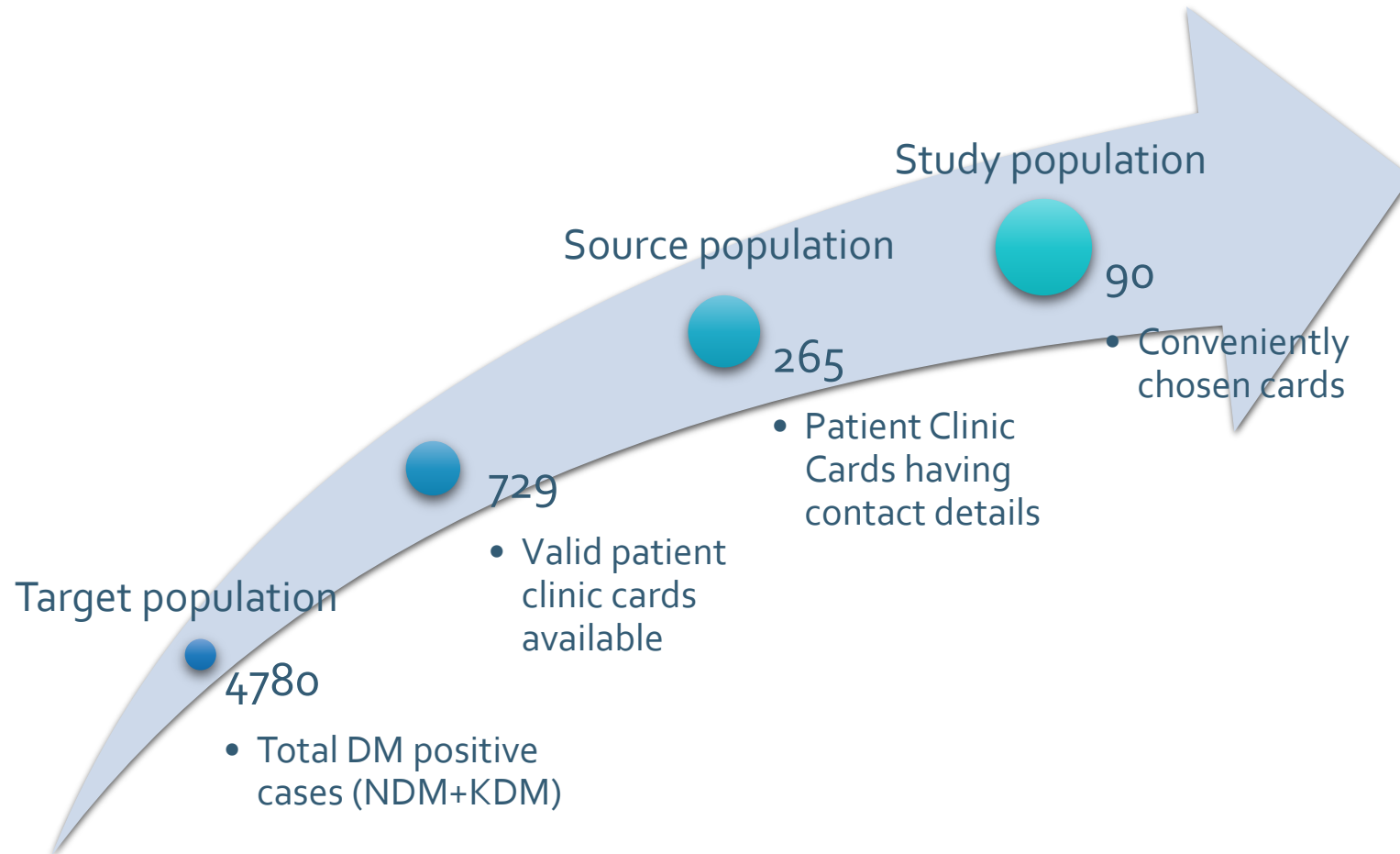
Johns Hopkins & IIMR University
MPH Capstone Project

Title: Treatment seeking behavior of diabetic patients with special emphasis on follow-up in the government health facilities – A case study of Pudukkottai district, Tamil Nadu, India

Telephonic Survey – Questionnaire

S. No.	Questions	Responses	Skip
SECTION – I : Interview Call Details (To be filled by interviewer)			
Q1.	Patient ID		
Q2.	Contact number of patient as recorded in the clinic card		
Q3.	Does the contact number exist?	Number exists and belongs to the patient..... 1 Number exists but patient could not be contacted 2 Number does not exist..... 3	End survey
Q4.	Is the participant willing to take part in the study (after reading consent on phone)?	Yes 1 No 2	End survey
Q5.	Date of Interview	 DD MM YYYY	
Q6.	Starting time of Interview	 24 hrs format	
SECTION – II: Patient Registration Details (To be filled by interviewer using clinic card)			
Q7.	Date of Registration / Date when card was issued	 DD MM YYYY	
Q8.	Type of institution	Additional PHC..... 1 Block PHC..... 2 Urban PHC..... 3 Government Hospital..... 4 Medical college..... 5	
Q9.	Name of institution		

SELECTION OF SAMPLES



RESULTS

1. GROUP DISCUSSION WITH NCD STAFF NURSES



"During mobile outreach services, already diabetic patients who are on regular follow-up in government health facilities are not recorded in the follow up register. So, on records the patient has not visited for the month, but in reality, he is under treatment."

"Patients worry about losing one day work salary if they have to visit health facility in the morning hours. So they appear only after their conditions worsen."

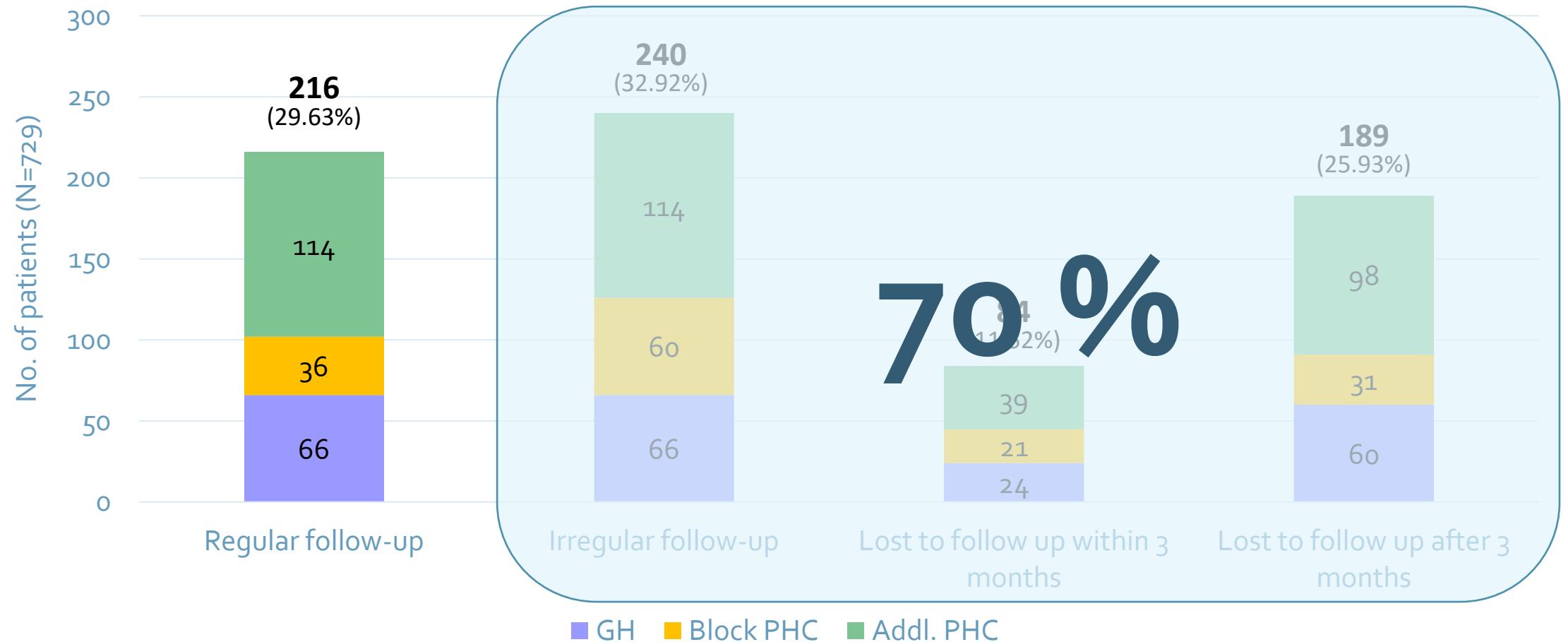
1. GROUP DISCUSSION WITH NCD STAFF NURSES



"Some patients visit two or more health facility to receive drugs. So the patient gets registered twice and becomes irregular in follow-up in both facilities."

"Old patients are not able to visit, and therefore they send proxy person to receive drugs. The proxies do not inform us during their visits."

2. ANALYSIS OF FOLLOW-UP PATTERNS

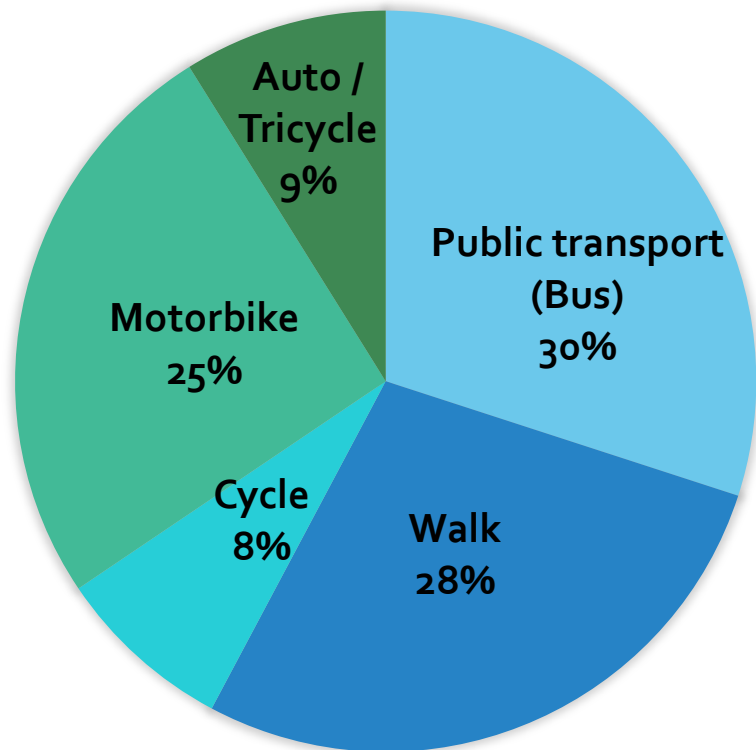


3. TELEPHONIC SURVEY OF DIABETIC PATIENTS

- Response rate: 85%
- Sections
 - a. Accessibility to health facility
 - b. Cost of travel to health facility
 - c. Reasons for different patterns of follow-up
 - d. Treatment alternatives of irregular & lost to follow-up patients
 - e. Source of information
 - f. Awareness on disease

3A. ACCESSIBILITY TO HEALTH FACILITY

COMMON MODE
OF TRANSPORT



Frequency of public transport

Atleast once in an hour: 48%

Atleast once in 2 hours: 48%

More than 2 hours: 2%

3B. COST OF TRAVEL (IN RS.)

Pattern of follow up	Regular	Irregular	Lost to follow up within 3 months	Lost to follow up after 3 months	Total
Average cost (Median) to travel from home to health facility and return back	9.38	18.75	15.20	23.33	16.29

3C. REASONS FOR DIFFERENT PATTERNS OF FOLLOW-UP



On regular follow-up
(n=30)

If I don't take medicine regularly, then my health condition worsens (60%)

Doctor insisted me to take medicine regularly (37%)

3C. REASONS FOR DIFFERENT PATTERNS OF FOLLOW-UP

Medicines from govt. health facility are poor in quality, so I take medicine from outside (30%)

I visit health facility only when my conditions worsen (15%)

I visit my daughter's place often (out of town) (20%)



**On irregular follow-up
(n=20)**

3C. REASONS FOR DIFFERENT PATTERNS OF FOLLOW-UP



**Lost to follow-up within
3 months of registration
(n=20)**

That village is not my native
- Temporary stay (35%)

I visit health facility only when
my conditions worsen (20%)

3C. REASONS FOR DIFFERENT PATTERNS OF FOLLOW-UP

I visit health facility only when my conditions worsen (20%)

I changed my residence /
I travel often (20%)

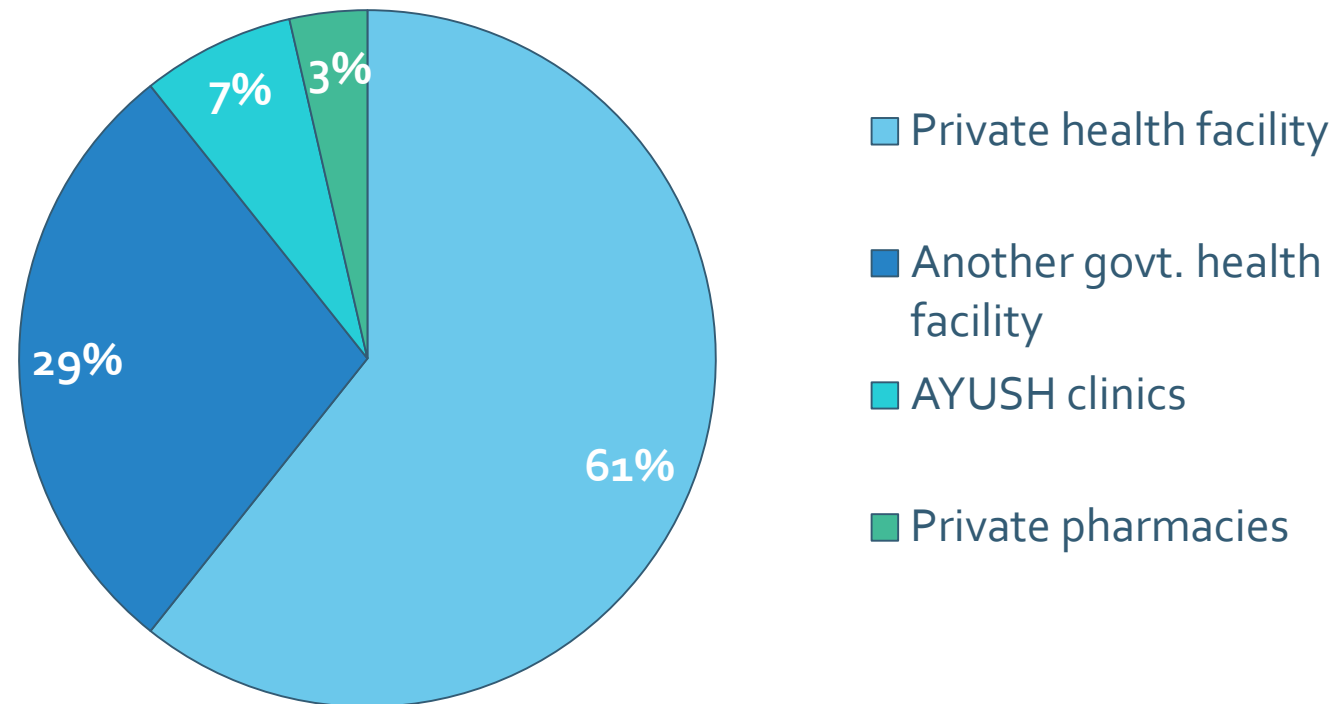
Medicines from govt. health
facility are poor in quality (15%)



**Lost to follow-up after 3
months of registration
(n=20)**

3D. TREATMENT ALTERNATIVES OF IRREGULAR & LOST TO FOLLOW-UP PATIENTS

- 46.7% of irregular & lost to follow-up patients (n=60) visit other health facilities for treatment of diabetes

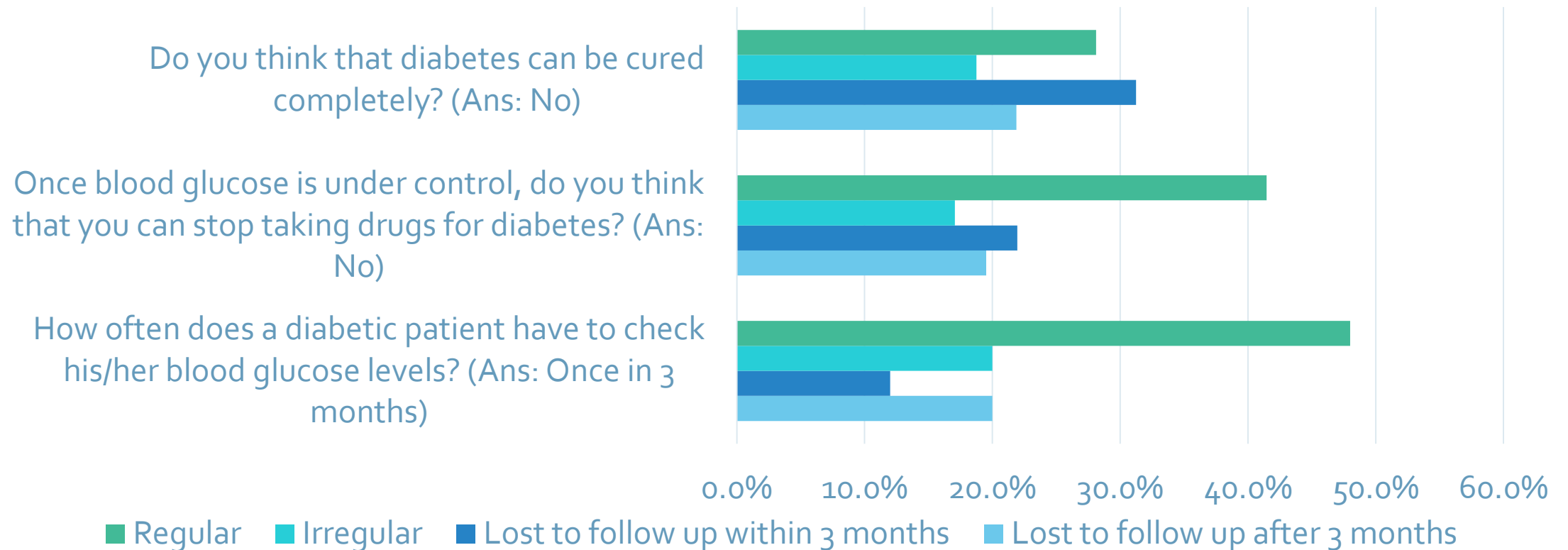


3E. SOURCE OF INFORMATION

- 82.2% of total sample (N=90) reported that they were informed about when to visit next
 - Pharmacist (56.2%)
 - NCD staff nurse (45.2%)
 - Doctor (26.0%)

3F. AWARENESS ON DISEASE

Percentage of correct responses for awareness related questions



DISCUSSION

Provider's perspective

- Poor data management systems / processes
- Under-reporting of cases on follow-up who attend mobile outreach services or camps in their vicinity

DISCUSSION

Beneficiaries' perspective

- Lack of public transport is no more an issue, but cost of travel is a concern
- Patients have tendency to visit hospital only when conditions worsen
 - Results similar to studies by:
 - Khongbuh(1) et al in Chandigarh – 63.4%
 - Jokisalo(2) et al in Finland – 72%
 - Khanam(3) et al in rural Bangladesh
- Irregular patients and patients lost to follow-up are less aware of disease compared to those on regular follow-up

1. Khanam MA, Lindeboom W, Perez TL, Alam DS, Niessen L, Milton AH. Hypertension: adherence to treatment in rural Bangladesh findings from a population-based study. 2014;1(3):1–9.
2. Jokisalo E, Kumpusalo E, Enlund H, Takala J. Patients' perceived problems with hypertension and attitudes towards medical treatment. J Hum Hypertens. 2001;15(11):755–61.
3. Khongbuh B, Walia I, Kapoor S. Prevalence of diabetes and treatment seeking behaviour among adult population at village Dhanas, U . T ., Chandigarh. 2005;(3).

DISCUSSION

- Though 70% (N=729) of patients are either irregular or lost to follow-up in the particular govt. health facility, 46.7% (n=60) of the same category interviewed in the study seek treatment from other facilities

Percentage of non-compliant patients

On records
~70%

In reality
~37%

CONCLUSION

- Patient clinic records are not maintained and updated on regular basis
- Screened positive patients need more motivation for the initial treatment follow-up

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8. Atwine F, Hultsjo S, Albin B, Hjelm K. Health-care seeking behaviour and the use of traditional medicine among persons with type 2 diabetes in south-western Uganda: a study of focus group interviews. *Pan Afr Med J [Internet]*. 2015;20:1–13. Available from: <http://www.panafrican-med-journal.com/content/article/20/76/full/>
9. Khanam MA, Lindeboom W, Perez TL, Alam DS, Niessen L, Milton AH. Hypertension: adherence to treatment in rural Bangladesh findings from a population-based study. 2014;1(3):1–9.
10. Jokisalo E, Kumpusalo E, Enlund H, Takala J. Patients' perceived problems with hypertension and attitudes towards medical treatment. *J Hum Hypertens*. 2001;15(11):755–61.
11. Khongbuh B, Walia I, Kapoor S. Prevalence of diabetes and treatment seeking behaviour among adult population at village Dhanas , U . T ., Chandigarh. 2005;(3).

THANKS!

Questions???

ANNEXURES

RATIONALE

- No. of irregular patients and patients lost to follow-up after diagnosis of the disease is alarming and is a serious concern to both the implementers and funders of the program
- Study provides valuable information for policy makers to improvise the NCD screening program

3A. SOCIODEMOGRAPHIC PROFILE

Characteristic		No. of patients (% within pattern of follow-up)				Total (N=90)
		Regular (n=30)	Irregular (n=20)	Lost within 3 months (n=20)	Lost after 3 months (n=20)	
Age	30-39 yrs	2 (06.7%)	0 (00.0%)	3 (15.0%)	2 (10.0%)	7 (07.8%)
	40-49 yrs	10 (33.3%)	8 (40.0%)	5 (25.0%)	5 (25.5%)	28 (31.1%)
	50-59 yrs	11 (36.7%)	8 (40.0%)	7 (35.0%)	4 (20.0%)	30 (33.3%)
	> 60 yrs	7 (23.3%)	4 (20.0%)	5 (25.0%)	9 (45.0%)	25 (27.8%)
Sex	Male	21 (70.0%)	11 (55.0%)	15 (75.0%)	12 (60.0%)	59 (65.6%)
	Female	9 (30.0%)	9 (45.0%)	5 (25.0%)	8 (40.0%)	31 (34.4%)
Education	Never attended school	8 (26.7%)	5 (25.0%)	7 (35.0%)	7 (35.0%)	27 (30.0%)
	Standard (1to5)	11 (36.7%)	4 (20.0%)	6 (30.0%)	7 (35.0%)	28 (31.1%)
	Standard (6to8)	5 (16.7%)	6 (30.0%)	1 (05.0%)	3 (15.0%)	15 (16.7%)
	Standard (9to12)	3 (10.0%)	5 (25.0%)	4 (20.0%)	3 (15.0%)	15 (16.7%)
	Dip, Degree & College	3 (10.0%)	0 (00.0%)	2 (10.0%)	0 (00.0%)	5 (05.6%)
Religion	Hindu	26 (86.7%)	18 (90.0%)	14 (70.0%)	16 (80.0%)	74 (82.2%)
	Muslim	2 (06.7%)	2 (10.0%)	3 (15.0%)	3 (15.0%)	10 (11.1%)
	Christian	2 (06.7%)	0 (00.0%)	3 (15.0%)	1 (5.0%)	6 (6.7%)

3A. SOCIODEMOGRAPHIC PROFILE

Characteristic		No. of patients (% within pattern of follow-up)				Total (N=90)
		Regular (n=30)	Irregular (n=20)	Lost within 3 months (n=20)	Lost after 3 months (n=20)	
Occupation	Retired	1 (3.3%)	1 (5.0%)	0 (0.0%)	1 (5.0%)	3 (3.3%)
	Unskilled Laborer	2 (6.7%)	1 (5.0%)	3 (15.0%)	1 (5.0%)	7 (7.8%)
	Skilled Laborer	1 (3.3%)	0 (0.0%)	5 (25.0%)	3 (15.0%)	9 (10.0%)
	Agriculture Laborer	1 (3.3%)	0 (0.0%)	2 (10.0%)	1 (5.0%)	4 (4.4%)
	Landlord	10 (33.3%)	5 (25.0%)	1 (5.0%)	4 (20.0%)	20 (22.2%)
	Self Employed	1 (3.3%)	2 (10.0%)	1 (5.0%)	0 (0.0%)	4 (4.4%)
	Government employee	1 (3.3%)	1 (5.0%)	1 (5.0%)	0 (0.0%)	3 (3.3%)
	Private employee	1 (3.3%)	1 (5.0%)	0 (0.0%)	1 (5.0%)	3 (3.3%)
	Professional/Executive	2 (6.7%)	1 (5.0%)	0 (0.0%)	0 (0.0%)	3 (3.3%)
	Home maker	8 (26.7%)	3 (15.0%)	4 (20.0%)	7 (35.0%)	22 (24.4%)
	Unemployed	1 (3.3%)	3 (15.0%)	0 (0.0%)	1 (5.0%)	5 (5.6%)
	Others	1 (3.3%)	2 (10.0%)	3 (15.0%)	1 (5.0%)	7 (7.8%)



Government of Tamil Nadu
Tamil Nadu Health Systems Project

Programme for Prevention, Screening & Treatment of Non Communicable Diseases

Patient Clinic Card for treatment and follow up of CVD & Diabetes Mellitus

(To be arranged in serial order as per NCD number and kept safe at the NCD clinic)



To be filled in by Staff Nurse / ANM / UHN

Date of Registration: DD MM YYYY

Name of Institution:

PIN:

NCD No:

Whether enrolled under Chief Minister's Comprehensive Health Insurance Scheme (Encircle): 1. Yes 2. No

If Yes, Card No:

UID: (if applicable).....

Name of the Patient:

Age: ... years Sex (Encircle): 1. Male 2. Female 3. Transgender

Community (Encircle): 1. OC 2. BC 3. MBC 4. SC 5. ST

ADDRESS: S/o/D/o/W/o:

Door No: Street:

Village: Post Office / Taluk:

Panchayat: Town / City / District:

Mobile No: Land Line / Neighbour's mobile No:

EDUCATION (Encircle): 1. Illiterate 2. 1-5th std 3. 6-8th std 4. 9-10th std
5. 11-12th std 6. Diploma 7. Degree

OCCUPATION (Encircle): 1. Farmer (Own land) 2. Farmer - unskilled Labourer
3. Skilled Worker / Employee - Govt 4. Skilled Worker / Employee - Private
5. Self Employed - Own Shop / Small Business 6. Housewife
7. Retired 8. Professional / Big business
9. Unemployed 10. Others

MONTHLY FAMILY INCOME: ₹.....

HABITS: Smoking: (a) Currently Smoking: 1. Yes 2. No;
(Encircle) If Yes, (b) Frequency: 1. Daily 2. Occasionally
(c) What do you smoke?: 1. Cigarette 2. Beedi 3. Others

Smokeless Tobacco: (a) 1. Yes 2. No;
(Encircle) If Yes, (b) Frequency: 1. Daily 2. Weekly once 3. Occasionally

Alcohol Use: (a) In past one Month: 1. Yes 2. No;
(Encircle) If Yes, (b) Frequency: 1. Daily 2. Weekly once 3. Occasionally

DIET (Encircle): 1. Veg 2. Non-Veg

Edible oil used: 1. Coconut Oil 2. Sunflower oil 3. Ground nut oil 4. Soya bean oil 5. Palm oil 6. Vanaspathi 7. Mixed oil 8. Others
(Encircle)
Physical Activity: a) During the past one week, apart from carrying out your regular work, did you perform any of the following activities which caused breathlessness or increased heart rate?
(Encircle)

1. Brisk Walking 2. Jogging 3. Cycling 4. Games / Sports 5. Gym 6. other than these 7. None

If Yes, b) Specify how many days per week did you do the above mentioned activity?.....days / week

PHYSICAL EXAMINATION: Heightcms Weightkgs Waistcms
Systolic BPmmHg Diastolic BPmmHg Pulse/ min

Body Mass Index (BMI); Please calculate BMI and tick (✓):

$$BMI = \frac{Wt \text{ in Kg}}{Ht \text{ in meter} \times Ht \text{ in meter}}$$

BMI (Kg/m ²)	18.5 to 22.9	23 to 24.9	25 to 29.9	≥30
Classification	Normal Range	Overweight	Obese	Very Obese
Tick (✓)				

HISTORY: (To tick (✓) if patient responds 'Yes' to any of the following disease condition)

Sl. No	Name of Disease condition	Past History of	Family History of	Treatment of
1.	Hypertension	☐	☐	☐
2.	Diabetes Mellitus	☐	☐	☐
3.	Dyslipidaemia	☐	☐	☐
4.	Ischaemic Heart Disease (IHD)	☐	☐	☐
5.	Chronic Kidney Disease (CKD)	☐	☐	☐
6.	Stroke / TIA	☐	☐	☐
7.	RHD / Valvular Heart Disease	☐	☐	☐
8.	Joint pain / Joint diseases	☐	☐	☐
9.	Any others (Pls. mention)			

Counseling on Life Style Modification (LSM):

Life Style Modification	Tick	Life Style Modification	Tick	Life Style Modification	Tick
Cessation of Smoking / Alcohol Abstinence	☐	Use Less Oil / Restrict Fried Foods	☐	Avoid overeating / overweight	☐
Use of Low Salt	☐	Restrict simple sugars	☐	Increase Physical activity	☐
Restrict Non Veg. (Red Meat) intake	☐	Increase Green Vegetables and Fruits intake	☐	Reduce Stress	☐

Name & Signature of Nurse

To be filled in by Medical Officer at PHC / GH / Medical College Hospital / Municipal / corporation Hospitals and ESI dispensaries & Hospitals:

Presenting Complaints:

Any history of known allergy:

GENERAL EXAMINATION: Pallor (+/-) Icterus (+/-) Cyanosis (+/-) Clubbing (+/-) Pedal edema (+/-)

SYSTEMIC EXAMINATION: CVS: RS: Abdomen: CNS:

Newly Diagnosed patient at the NCD screening clinic for (Encircle):

Hypertension: 1. Yes 2. No Type 2 Diabetes Mellitus: 1. Yes 2. No

Final Diagnosis: 1. Hypertension 2. Diabetes Mellitus (NIDDM) 3. Diabetes Mellitus (IDDM) 4. Hypercholesterolaemia
(Encircle) 5. Ischaemic Heart Disease (IHD) 6. Chronic Kidney Disease (CKD) 7. Stroke 8. TIA

MPH Capstone Project - Emphasis on follow up in the Govt Health Facilities

Note: Counseling and Lifestyle Modification should be provided by Medical Officer / Physician during every visit.



Protocol for Screening of Hypertension and Diabetes Mellitus

CARDIOVASCULAR DISEASES (CVD) & DIABETES MELLITUS PREVENTION & TREATMENT PROGRAMME

TAMIL NADU HEALTH SYSTEMS PROJECT



Screen all Individuals above 30 years of age for Early Detection of Hypertension & Diabetes Mellitus in Government Health Care Facilities

Age 30 to 45 years

Age > 45 years

1. Brief history.
2. Check height, weight & waist circumference.
3. Calculate BMI.
4. Check Blood Pressure.
5. Check RBS if individual has any one of the following risk factors:
(a) Family H/o Diabetes (b) Symptoms of Diabetes (c) H/o Gestational Diabetes
(d) BMI > 25 kg/m² (e) Waist Circumference ≥ 90 cms (males), ≥ 80 cms (females).

1. Brief history.
2. Check height, weight & waist circumference.
3. Calculate BMI.
4. Check Blood Pressure.
5. Check RBS for all Individuals.

Screening for Hypertension

Screening for Diabetes Mellitus

Systolic BP < 120mm Hg and
Diastolic BP < 80mm Hg
(BP Normal)If Systolic BP 120-139mm Hg
or Diastolic BP 80-89mm Hg
(Pre-Hypertension)If Systolic BP ≥ 140mm Hg
or Diastolic BP ≥ 90mm Hg

If RBS is < 100mg/dl

If RBS is ≥ 100mg/dl and
< 200mg/dl

If RBS is ≥ 200mg/dl

Non Diabetic

Without symptoms
of DiabetesWith symptoms
of DiabetesCounselling on
Life Style Modification (LSM)
Recheck BP once a yearCounselling on
Life Style Modification (LSM)
Recheck BP after 3 MonthsPatient to be assessed
by Medical Officer/Physician
for HypertensionCounselling on
Life Style Modification (LSM).
Review after one Year.Advise the Patient to visit clinic after
overnight fasting of 10 to 12 hours.
Ideal to do OGTT.
If 75 gms of glucose is not available,
then do FBS and 2 hour PPBS.Reconfirm with
FBS and 2 hour PPBSDiagnosed as
Diabetes MellitusPatient to be assessed
by Medical Officer/Physician
for Treatment.

Note : Start and
maintain the Patient Clinic
Card at the CVD clinic for
all newly detected patients
with Hypertension / Diabe-
tes and for known patients
already on treatment.

If FBS < 100mg/dl and PPBS < 140mg/dl

If FBS is 100-125mg/dl or PPBS 140-199mg/dl

If FBS ≥ 126mg/dl or PPBS ≥ 200mg/dl

Non Diabetic

Diagnosed as Pre-Diabetes

Diagnosed as Diabetes Mellitus

Counselling on Life Style Modification (LSM).
Review after one Year.Counselling on Life Style Modification (LSM).
Advised Annual follow up or report if any symptoms develop.

Patient to be assessed by Medical Officer/Physician for Treatment.

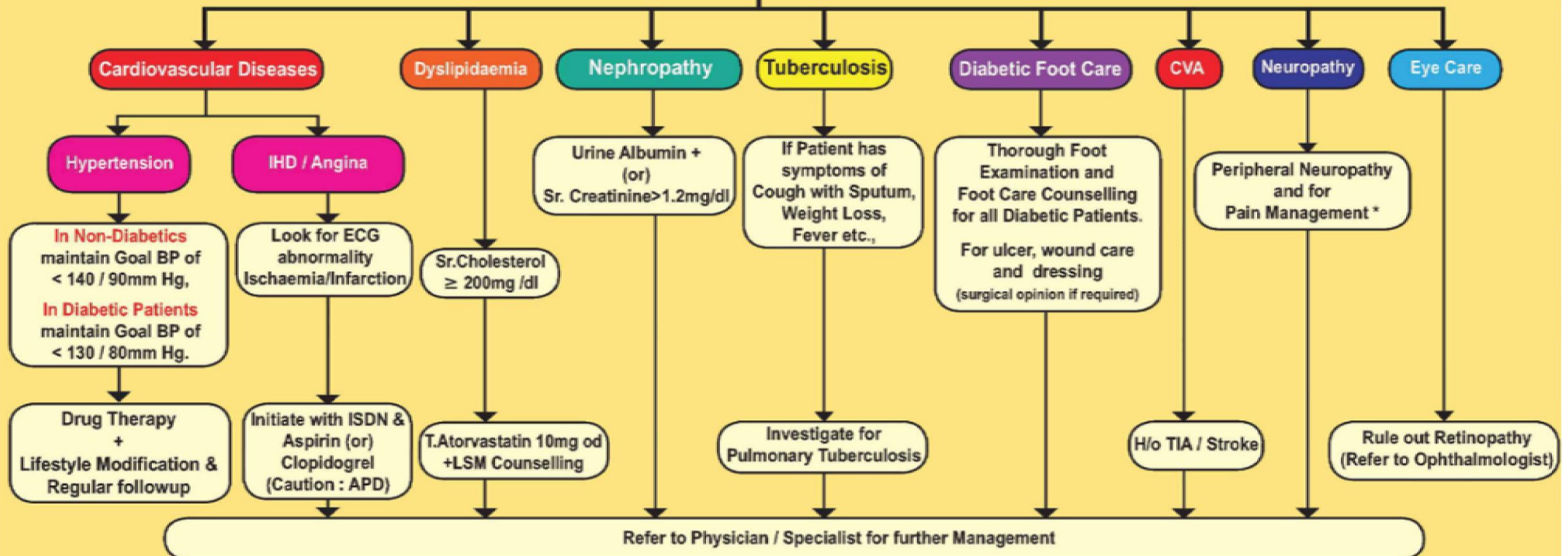
13/10/2015

**Protocol for Management of Target Organ Damage (Complications) of Hypertension and Diabetes**CARDIOVASCULAR DISEASES (CVD) & DIABETES MELLITUS PREVENTION & TREATMENT PROGRAMME
TAMIL NADU HEALTH SYSTEMS PROJECT

Evaluate Known Hypertensive and Diabetic Patients already on treatment and Newly Detected Patients for complications and carryout the following investigations either at the CVD Clinic of the same centre or at the Referral Government Hospital

1. Take a Detailed History for : Chest pain/Angina/IHD/TIA/Stroke/PVD/ Non-Healing ulcers/Burning Feet/Diminished vision/Tuberculosis.

2. To do: a) Urine albumin b) Sr. Cholesterol c) Sr. Creatinine d) ECG e) Chest X-ray P.A.view
f) Thorough Foot examination for Patients with Diabetes g) Eye examination - for Retinopathy h) Echo Cardiogram*



Note : For all Patients Provide Counselling on Life Style Modification (LSM)



Protocol for Treatment of Type 2 Diabetes Mellitus

CARDIOVASCULAR DISEASES (CVD) & DIABETES MELLITUS PREVENTION & TREATMENT PROGRAMME
TAMIL NADU HEALTH SYSTEMS PROJECT



Patient Clinic card: Start and maintain the Patient Clinic Card at the CVD Clinic for known Diabetic Patients already on treatment and for all newly detected patients with Diabetes

Assessment:

1. Take a Detailed History for : Hypertension/Angina/IHD/TIA /Stroke, CCF,
2. To do: a) Urine albumin b) Sr. Cholesterol c) Sr. Creatinine d) ECG
3. Refer Target Organ Damage Protocol for further evaluation of complications.

Patients with Diabetes already on treatment

If Blood Sugar under control, continue the same treatment + LSM

If Blood Sugar not under control, follow the Protocol for newly detected patients with Diabetes

Treatment should be initiated with Life Style Modification (LSM) and T.Metformin 500mg per day after food in two divided doses
(except : Patients with Nephropathy / Hepatic impairment / Metformin Intolerance)

Reassess FBS & 2 hour PPBS after 1 month and look for Diabetic control goal of FBS 90 - 130mg/dl and 2 hour PPBS < 180mg/dl

Newly Detected Patients with Diabetes

Without Complications

With complications such as :

- Foot ulcer
- Sepsis
- Nephropathy
- Retinopathy
- Neuropathy etc.

Refer to Physician for Management

