

**Health systems preparedness for
interventions for Non-communicable diseases
and cause of death among the tribal
population in India:
ICMR Task Force Project (Division of NCD)**

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Annexure 6

Current status

Year	Sites	Status	Coordinating center for Cause of death component	Coordinating center for Health systems preparedness component
Phase I : Pilot phase				
2014	Sikkim	Completed	RMRC Dibrugarh	NIE Chennai
2014	Koraput, Odisha	Completed	NIE Chennai	NIE Chennai
Phase II				
2015-16	Mizoram	Completed	RMRC Dibrugarh	NIE Chennai
2015-16	Tripura	Completed	RMRC Dibrugarh	NIE Chennai
2015-16	Meghalaya	Ongoing	RMRC Dibrugarh	NIE Chennai
2015-16	Andaman	Completed	NIE Ch/RMRC PB	NIE Ch/RMRC PB
2015-16	Himachal Pradesh	Ongoing	NIE Chennai	NIE Chennai
Phase III				
2016-17	Manipur	To be done	RMRC Dibrugarh	NIE Chennai
2016-17	Nagaland	To be done	RMRC Dibrugarh	NIE Chennai
2016-17	Assam	To be done	RMRC Dibrugarh	NIE Chennai
2016-17	Arunachal Pradesh	To be done	RMRC Dibrugarh	NIE Chennai
2016-17	Madhya Pradesh	To be done	NIE Chennai	NIE Chennai

Completed sites

	Research methods	Koraput, Odisha	Sikkim	Lunglei, Mizoram	Andaman Nicobar	Dhalai, Tripura
Initiation of field work		March 2014	May 2014	April 2015	August 2015	September 2015
Completion of field work		October, 2014	October, 2014	September 2015	January 2016	February 2016
Current status Health system preparedness study component	Facility survey	14 CHC 2 District hospital	10 PHC 4 District hospital	10 PHC, 1CHC, 1 SDH, 1 DH, 1 referral hospital-Aizwal	1 DH, 1 CHC, 4 PHC	1 DH 3 SDH 11 PHC
	Beneficiary survey	131	223	320	200	200
	Provider survey	19	15	15	9	20
Current status Cause of death	Verbal autopsies	440	450	443	262	464

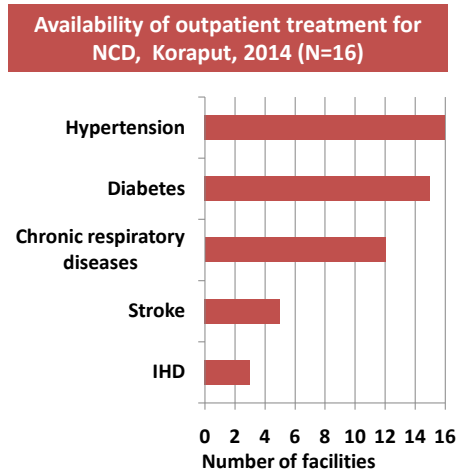
Component I: Health systems preparedness Objective

- **Facility survey**
 - Describe the infrastructure (including drugs and diagnostics) available for management of hypertension, diabetes, chronic respiratory disease (COPD, asthma), cardiovascular diseases and cancers in the primary and secondary care facilities
- **Patient survey**
 - Estimate level of adherence among patients with above mentioned Non communicable diseases (NCDs)
 - Identify the challenges in seeking care for patients
 - Estimate the out of pocket expenditure incurred for the outpatient treatment of NCD

Key findings: Facility survey, Koraput, Odisha, 2014

Community based Screening program

- Hypertension, diabetes screening
- Consolidated monthly report submitted



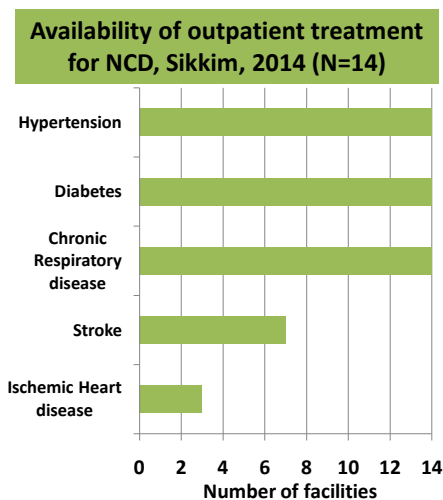
Facilities surveyed (N= 14 CHC, 2 DH)

Drugs	n
Calcium channel blocker (Amlodipine), Beta blockers (Atenolol)	14
Metformin	10
Sulphonylureas (Glibenclamide)	8
Diagnostics	
Semi auto analyzer	7
Glucose reagents	1

Key findings: Facility survey, Sikkim , 2014

Community screening program
(Comprehensive Annual and Total Checkup for Healthy Sikkim: CATCH)

- Hypertension, diabetes, cervical cancer, breast cancer and oral cancer.
- Individual level data sent to State for entry into state level data base



Facilities surveyed (N= 10 PHC, 4 DH)

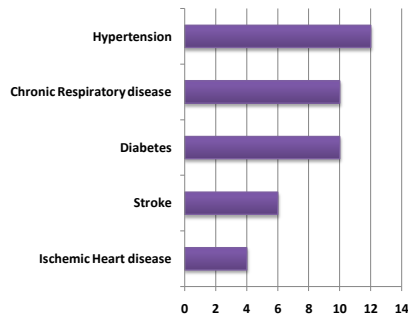
Drugs	n
Calcium channel blockers (Amlodipine), Beta blockers (Atenolol)	11
Metformin	3
Sulphonylureas (Glibenclamide)	1
Diagnostics	
Semi auto analyzer	14
Glucose reagents	14

Key findings: Facility survey, Mizoram , 2015

Opportunistic screening inly in 2 facilities

•NPCDCS program was initiated in one DH and few PHCs in Lunglei district

Availability of outpatient treatment for NCD, Mizoram, 2015 (N=14)



Facilities surveyed (N= 11 PHCs, 3 DH)

Drugs	n
Beta blockers (Atenolol)	1
Sulphonylureas (Glipizide)	1
<u>Diagnostics</u>	
Semi auto analyzer	5
Glucose reagents	6

Facility survey: Common issues

- Poor funding in NPCDCS program
- Lack of algorithms for patient management
- Lack of training of doctors and health providers
- Lack of patient information systems
- Lack of follow up of screened positive patients
- Lack of mechanisms to follow up drop outs who initiated treatment
- Lack of availability of data in facilities regarding utilization by NCD patients
- Cancer screening not initiated except Sikkim

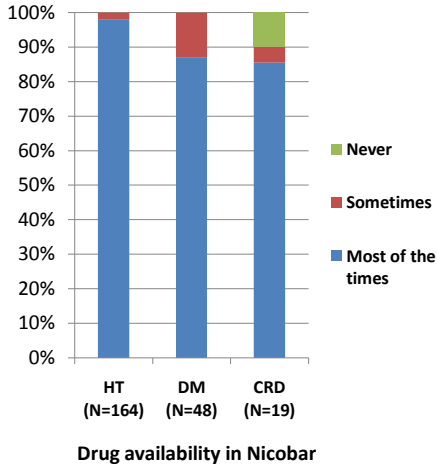
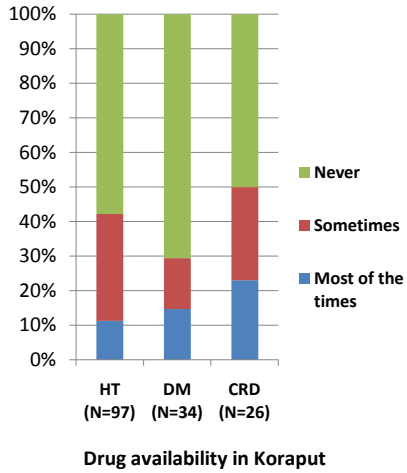
Key findings: Patient survey Koraput and Nicobar, 2014 -15

	Koraput		Nicobar	
	N	%	N	%
Median time take to reach hospital	131	30 min	192	15min
Control for Hypertension	97	22	45	27
Regular treatment taken for HT in the previous month	65	67	93	56
Control for Diabetes	34	Not available	21	48
Regular treatment taken for DM in the previous month	22	65	22	45

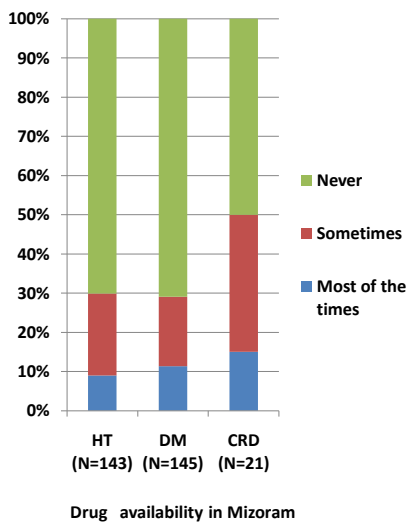
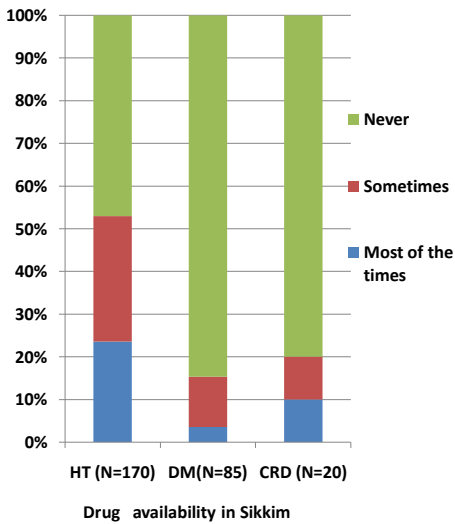
Key findings: Patient survey Sikkim and Mizoram, 2014 -15

	Sikkim		Mizoram	
	N	%	N	%
Median time take to reach hospital	223	30 min	326	23min
Control for Hypertension	170	25	186	37
Regular treatment taken for HT in the previous month	170	46	187	58
Control for Diabetes	85	24	99	24
Regular treatment taken for DM in the previous month	85	33	171	65

Availability of drugs in the facility for various NCDs, Koraput and Nicobar, 2014 -15



Availability of drugs in the facility for various NCDs, Sikkim and Mizoram, 2014 -15



One time median out of pocket expenditure for purchase of drugs 2014-15

	HT (Rs)	DM (Rs)	CRD (Rs)
Koraput N = (HT-90, DM-29, CRD-21)	500	500	600
Sikkim N = (HT-170, DM-85, CRD-14)	110	550	700
Mizoram N = (HT-106, DM-141, CRD-20)	300-1625	275-570	450-1625
Nicobar N = (HT-6, DM-12, CRD-2)	257	293	248

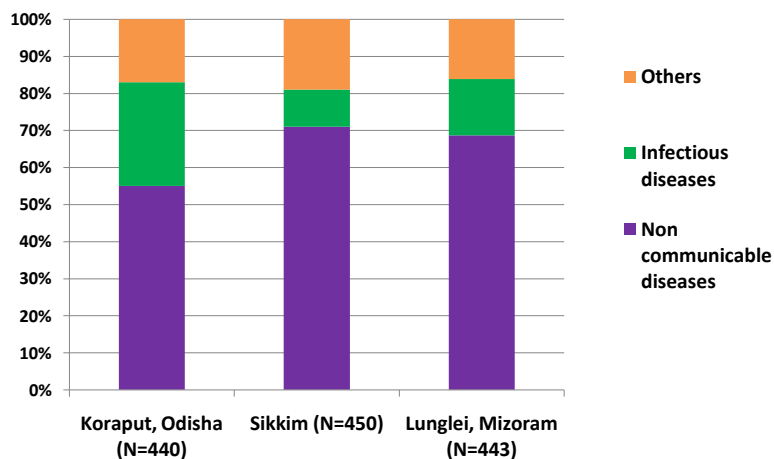
Component II: Cause of death Objective

- Identify the causes of death among the tribal population in India.
- Determine relative contribution of NCD to the causes of death.

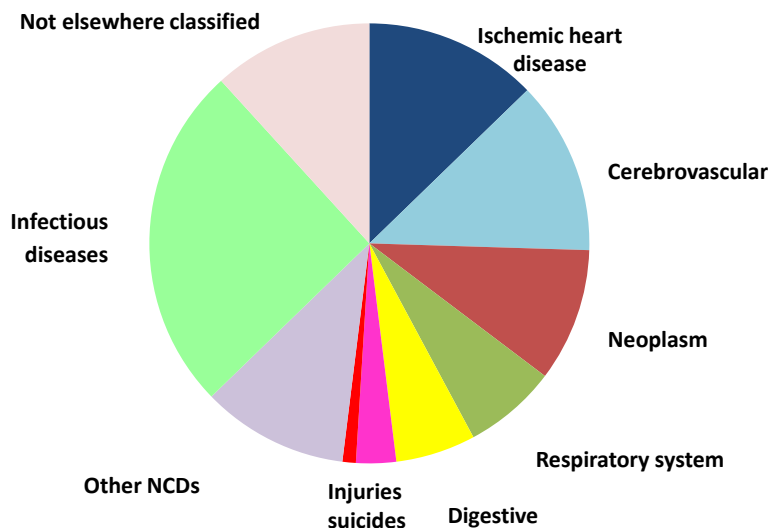
Five leading cause of death in Koraput, Sikkim, Lunglei, 2014-15

Sno.	Koraput, Odisha		Sikkim		Lunglei, Mizoram	
		%		%		%
1	Circulatory system	25	Circulatory system	25	Neoplasm	26
2	Infectious and parasitic	25	Neoplasm	17	Circulatory system	18
3	Neoplasm	10	External causes (injuries/suicides)	14	Infectious and parasitic	14
4	Respiratory system	7	Digestive system	11	External causes (injuries/suicides)	9
5	Digestive system	6	Infectious and parasitic	10	Respiratory system	7

Contribution of NCDs: Cause of death, Koraput, Sikkim and Lunglei, 2014

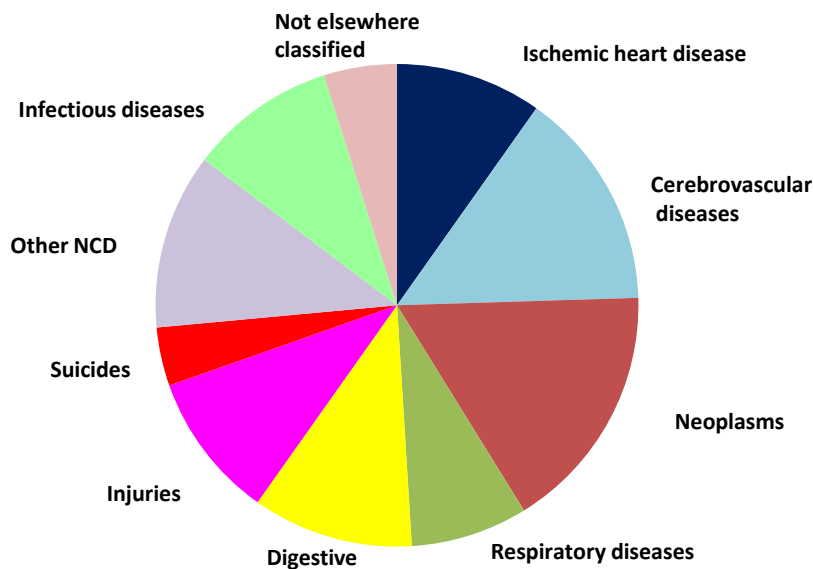


Cause of death, Koraput, Odisha, 2014 (N= 440)



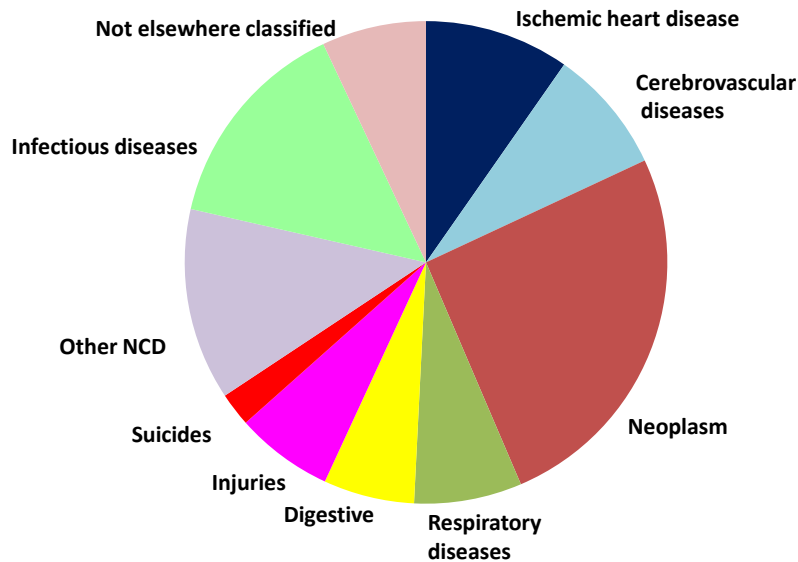
*Other NCD: Kidney diseases, Diabetes mellitus, Mental and behavioural disorder, Nervous system, Rheumatoid arthritis, Sickle cell anaemia

Cause of death, Sikkim, 2014 (N=450)



*Other NCD: Kidney diseases, Diabetes mellitus, Mental and behavioural disorder, Nervous system, Thalassemia, congenital malformation of heart, anaemia

Cause of death, Lunglei, Mizoram, 2015 (N= 443)



*Other NCD: Kidney diseases, Diabetes mellitus, Mental and behavioural disorder, Nervous system, SLE, Aplastic anaemia)

Conclusion

- NCD leading cause of death in all sites
 - >70 % in North east
- Health systems for NCD screening and management
 - Poor funding
 - Lack of management protocols and Training
 - Inadequate drugs and diagnostics
 - Lack of patient information systems
 - Poor adherence and high out of pocket expenditure

Recommendations

- District level referral hospitals for management of cardiovascular diseases and cancers
- Strengthening of primary care and secondary care health systems for NCD screening and management
 - Increase in funding
 - Develop management protocols and conduct training
 - Ensure supply of drugs and diagnostics
 - Patient information systems to estimate utilization and quality of care
 - Develop mechanisms for follow up of diagnosed patients
 - Patient education to improve adherence