

Costing for Universal diagnostics services in the state

SHRC has estimated the cost for universal diagnostics services in the state. Estimated costing has been done for financial year 2016-17.

This budget costing exercise was conducted for two parts:-

1. Costing of diagnostics services under National Health Program activities. It includes outreach services, SHCs and Mitadin's activity.
2. Costing of diagnostics services for facility based services i.e. PHC, CHC and DH.

Overall diagnostics services tentative budget for the state of year 2016-17

Sr.No.	Budget Head	Total cost
1	Tentative annual budget for diagnostic services under national health programs	352238488
2	Tentative annual budget for facility-wise diagnostics services	471762000
3	Total Budget	824000488

Total annual tentative budget for diagnostics services in the state is “Eighty two crores forty lakhs four hundred eighty eight” for financial year 2016-17.

Breakup of Facility Costs

Tentative annual budget for facility-wise diagnostics services				
Sl.No	Particulars	Cost in INR	No of Health facilities	Total cost facility-wise
1	Annual cost for 1 PHC	246000	783	192618000
2	Annual cost for 1 CHC	1023000	156	159588000
3	Total cost for 1 DH	4428000	27	119556000
4	Tentative total annual cost for the state			471762000

Data used for the estimated costing was collected from monthly field visits of Kondagaon and Surguja district. The reason behind choosing these two districts was- SHRC has a project to strengthen the diagnostics services in these two districts and our team is frequently visiting here for the same. Second these two districts in a way represent the status of other districts in the state that is Kondagaon is apparently lower performing district and represents the Bastar division and Surguja is a slightly better performing district and having a medical college hospital.

Costing for diagnostics services was done at PHC, CHC and DH level. From both the districts facility –wise data were collected for the span of four regular months and cumulative utilization rates were estimated for each type of diagnostic tests. Utilization rate is defined as number of each tests performed out 100 out-door patients.

Facility-wise recommended tests were taken from IPHS guidelines but feasibility of those tests were also taken in consideration which was based on the availability of specialists and physicians in the hospital.

Standard price for each test was taken from few non- profitable hospitals within the state.

Costing of diagnostics services under National health program activities

NHP	Testing rate	Incidence	No of tests	Price	cost
Malaria					
Malaria	10% of population	5 API	2920000	20	58400000
Tuberculosis					
TB	800/lac suspected case	216/lakh			
AFB sputum test 800*292*2(2 smear per patient)			467200	10	4672000
HIV					
HIV	all pregnant women+1%+1%				
All pregnant women+ 1% of the pregnant women and their husbands			753535.2	40	30141408
ANC					
Heamoglobin	All pregnant women x 4 + Malaria+ LBW+ school childrenx10% [738760*4 + 146000 + 1/3rd671600 + 1/10th 11813722(predicted 0-18 population for the year of 2016)]		4483000	30	134490000
Blood group/rh	all pregnant women		738760	30	22162800
Sickle cell					
a) Solubility test	All the pregnant women and Husbands of screened positive cases (10% of pregnant women)		812636	10	8126360
b) Electrophoresis	Screened positive pregnant women and their husbands		147752	60	8865120
Routine Urine test (Albumin, Sugar/ Bile salt, Bile pigment)	all pregnant women*4		2955040	20	59100800
Pregnancy test	30/1000 population		876000	30	26280000
Estimated Population 2016-17	29200000				
Estimated Live birth	671600				
Estimated Pregnant women	738760				
Total tentative annual Budget					352238488

Costing of diagnostics services for facility based services i.e. PHC, CHC and DH.

Laboratory Services at PHC level							
Sl. No	Tests performed	Kondagaon Utilization rate/ 100 OP patients	Surguja Utilization rate/ 100 OP patients	Average of both/ 100 OP patients	No of tests/day	Price	Annual Cost
1	Hemoglobin	9	7	8	4	30	36000
2	Malaria / RD test	25	35	30	15	20	90000
3	Blood group/Rh type	2	2	2	1	30	9000
4	Urine- Albumin, sugar	4	3	3.5	2	20	12000
5	Widal	2	2	2	1	50	15000
6	Pregnancy	1	5	3	2	30	18000
7	Blood Sugar	1	1	1	1	30	9000
8	TLC/DLC				1	20	6000
9	Sickle cell solubility test				1	20	6000
10	HIV strip				1	40	12000
11	Platelet					30	0
12	Stool				2	20	12000
13	Gram Stain				1	10	3000
14	AFB				1	10	3000
15	RPR/ VDRL				1	50	15000
	1 Lab Technician	PHC OPD expected numbers 50/day	Delivery expected 10/ month	Total tests	34	Annual cost for 1 PHC	246000
	RMA	IP beds are 6					

Laboratory Services at CHC level

Tests performed	Kondagaon Utilization rate/ 100 OP patients	Surguja Utilization rate/ 100 OP patients	Average of both/ 100 OP patients	No of tests/day	Price	Annual Cost
Hemoglobin	12	21	17	20	30	180000
Malaria	28	44	36	40	20	240000
Blood group/Rh type	7	7	7	10	30	90000
Urine- Albumin, sugar	4	10	7	10	20	60000
Widal	10	7	9	9	50	135000
Pregnancy	1	2	2	2	30	18000
Blood Sugar	5	5	5	5	30	45000
TB	1	3	2	2	10	6000
HIV	2	4	3	3	40	36000
TLC/DLC	1	6	3	3	20	18000
ESR	2	1	2	2	20	12000
Sickle cell Electrophoresis	2	1	2	2	60	36000
VDRL	1	2	2	2	50	30000
Platelet				1	30	9000
Stool				5	20	30000
Gram Stain				2	10	6000
			Total	118		
X Ray				2	70	42000
ECG				1	100	30000
	2 Lab Technician	Expected OP 100/day	General Surgeon 1		Annual cost for 1 CHC	1023000
	1 X Ray Technician (Radiographer)	IP 30 beds	Physician 1			
		Deliveries 60/month	Obstetrician 1			
		LSCS 6/month	Pediatrician 1			
			Anaesthetist 1			

Laboratory Services at DH level						
Tests performed	Kondagaon Utilization rate/ 100 OP patients	Surguja Utilization rate/ 100 OP patients	Average of both/ 100 OP patients	No of tests /day	Price	Annual Cost
Hemoglobin	16	15	15	37.5	30	337500
Malaria	12	4	8	20	20	120000
Blood group/Rh type	8	3	6	15	30	135000
Urine- Albumin, sugar	5	5	5	12.5	20	75000
Widal	4	2	3	7.5	50	112500
Pregnancy	1	1	1	2.5	30	22500
Blood Sugar	5	13	9	22.5	30	202500
TB (Sputum AFB)	4	2	3	7.5	10	22500
HIV	5	5	5	12.5	40	150000
TLC/DLC	2	15	9	22.5	20	135000
Peripheral blood Smear	nil	15	15	37.5	20	225000
ESR	2	15	9	22.5	20	135000
Sickle cell test (electrophoresis)	2	1	4	10	60	180000
VDRL	3	2	2	5	50	75000
Absolute Eosinophil count	nil	1	1	2.5	20	15000
Total RBC Count	nil	15	15	37.5	20	225000
BT/CT	nil	5	5	12.5	20	75000
Urine-Bile Pigment	nil	5	5	12.5	20	75000
HbS Ag	nil	5	3	7.5	50	112500
RA factor	nil	1	1	2.5	100	75000
ASO Factor	nil	1	1	2.5	100	75000
RFT	nil	10	5	12.5	110	412500
LFT	nil	2	1	2.5	300	225000
Lipid profile	nil	1	1	2.5	180	135000
Platelet				20	30	180000
Stool				15	20	90000
Gram Stain				5	10	15000
Semen				1	60	18000
Culture				5	50	75000
Cross Match				5	25	37500
			Total tests	330		
X Ray				10	70	210000
ECG				5	100	150000
Sonography				5	200	300000
					Annual cost for 1 DH	4428000
	6 Lab Technician	Expected OP 250/ day				

	2 Radiographer	IP 100 beds				
	2 Darkroom Technician	Deliveries 100/month				
	1 ECG Technician	LSCS 10/month				
If the blood tests are more than 100/ day a Blood Counter machine may be used and 2 less technicians						
At 40 biochemical tests/ day a semi automatic analyzer is debatable. However if OP is high and IP of 200 beds it may be useful			Semi-auto Biochemistry Analyzer Price INR:1,10,000	Life 3 years	Cost/ day= Rs 120000 / 200 x 3	200