

Morbidities, Health Seeking and Out of Pocket Expenditure in Urban Slum Population of Chhattisgarh

A Survey conducted as a component of the Urban Vulnerability Mapping under NUHM, Chhattisgarh

Report submitted to NHM Chhattisgarh

By

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Introduction:

One form of the vulnerability faced by the urban poor is in form of illnesses and the out of pocket expenditure they have to incur when they seek treatment. It was therefore decided to include a survey of this aspect in the Urban Vulnerability Mapping exercise designed in Chhattisgarh from 2017-18 onwards.

Objectives:

The objectives of the survey were:

- a) To find out the rate of morbidities in urban slum population of Chhattisgarh – in terms of acute illnesses, chronic illnesses and hospitalizations
- b) To find out the health seeking and choice of provider where healthcare is received
- c) To find out the Out of Pocket Expenditure for slum dwellers and its disease wise distribution
- d) To make recommendations for meeting health needs of urban poor and reducing their Out of Pocket Expenditure on healthcare

Study design and sample:

The survey was a descriptive cross-sectional study. It covered 19 NUHM cities of Chhattisgarh. A total of around 43000 individuals in 9200 households were covered in the study, proportionate of size of slum population in the 19 cities. Sampling was multi-stage. First 133 slums were randomly selected out of the 3700 listed slum clusters in the 19 cities under NUHM. In each slum every alternate household was covered. The survey was conducted in December 2017-February 2018 period. It asked questions on acute illnesses (last 15 days prior to survey), chronic illnesses (any illness more than 3 months experienced during last one year) and hospitalizations (any over-night stay in hospital in last one year).

Findings:

Sample Profile:

Table A: Socio-Demographic Profile of Surveyed Individuals:

Characteristics		Individual N=43243 (%)
Age(in years)	0 - less than 1	621(1.44)
	1 - <5	2707(6.26)
	5 - <15	7705(17.82)
	15 - <49	25796(59.65)
	49 - <60	3498(8.09)
	60 & above	2784(6.44)
	NR	132(0.31)
Gender	Male	21600(49.95)
	Female	21582(49.91)
	Others	16(0.04)
	NR	45(0.10)
Education	Illiterate	7885(18.25)
	Primary	8469(19.58)
	Secondary	13598(31.45)
	High School	5517(12.76)
	Graduate	4316(9.98)
	Others	3381(7.82)
	NR	77(0.18)
Occupation	Government	903(2.09)
	Private regular wage	4158(9.62)
	Others	37982(87.83)
	NR	200(0.46)
Caste	Scheduled Tribes	4946(11.44)
	Scheduled Castes	6501(15.03)
	Other Backward Classes	24217(56)
	Others/NA	6991(16.17)
	NR	588(1.36)
Household monthly expenditure	Lowest (<Rs.5000)	18144(41.96)
	Mid (Rs.5001-9000)	11814(27.32)
	Highest (>Rs. 9000)	13285(30.72)

1. Acute Illnesses

1a. Self Reported morbidity rate for acute illnesses in last 15 days: 67 persons per 1000 population reported experiencing acute illness in last 15 days prior to the survey.

Table 1: Acute Illness per 1000 Population:

Disease	Acute illness per 1000 Population
Cold & Cough	44.5
Viral Fevers	8.4
Malaria	1.9
Typhoid	1.1
Acute Pain	1.1
Diarrhea	0.9
Fall/Trauma	0.7
Pneumonia	0.5
Others	8.1
Total	67

Cold and cough was reported as the most common acute illness followed by viral fever.

Table 2: Share of various Illnesses in acute morbidities:

Disease	% within persons with acute illnesses
Cold & Cough	66.4%
Viral Fevers	12.5%
Malaria	2.8%
Typhoid	1.6%
Acute Pain	1.6%
Diarrhea	1.3%
Fall/Trauma	1.0%
Pneumonia	0.7%
Others	12.1%
Total	100.0%

1b: Health care seeking for acute illnesses: Overall 85% of the sick persons had sought medical care.

Table 3: Proportion of sick persons who took medical treatment

Disease	% of sick persons who sought medical care
Cold & Cough	82%
Viral Fevers	88%

Malaria	99%
Typhoid	96%
Acute Pain	89%
Diarrhea	89%
Fall/Trauma	94%
Pneumonia	91%
Others	88%
Total	85%

1c: Choice of Provider for healthcare for acute morbidities: One third of the slum dwellers utilized government services and two-thirds sought care from private sector.

Table 4: Healthcare Utilisation from Public vs Private providers (acute illnesses)

Disease	% going to Government sector	% going to private sector
Cold & Cough	29%	71%
Viral Fevers	40%	60%
Malaria	79%	21%
Typhoid	55%	45%
Acute Pain	36%	64%
Diarrhea	33%	67%
Fall/Trauma	43%	57%
Pneumonia	20%	80%
Others	33%	67%
Total	33%	67%

People chose government sector more in case of malaria and typhoid in comparison to private sector. Private sector dominated the care for Pneumonia, Diarrhea, Cold and Cough, Viral fever and pain.

1d: Out of Pocket Expenditure on acute illnesses: Average cost incurred by patient per episode of acute illness was found to be Rs. 867. The cost for injuries was highest followed by diarrhea and pneumonia due to predominantly using private sector services.

Table 5: Disease-wise Mean Out of Pocket Expenditure per episode (Rs.)

Disease	Mean Out of Pocket Expenditure per episode (Rs.)
Cold & Cough	467
Viral Fevers	566
Malaria	1360
Typhoid	1613
Acute Pain	1733
Diarrhea	1230
Fall/Trauma	2820
Pneumonia	860
Others	1981
Overall	867

OOPE in Government vs. Private facilities: Private sector utilization was more expensive.

Table 6: Mean Out of Pocket Expenditure per episode (Rs.) in Private vs Government sector

Disease	Average OOPE in Private sector	Average OOPE in Government sector
Cold & Cough	557	248
Viral Fevers	766	266
Malaria	4575	506
Typhoid	2300	1050
Acute Pain	2608	177
Diarrhea	1671	336
Fall/Trauma	4517	570
Pneumonia	1000	302
Others	2308	1316
Overall	1120	352

Share of different diseases in total OOPE (for acute illnesses): Cold and cough is causing around one-third of total OOPE incurred by slum dwellers on care for acute illnesses.

Table 7: Share of different diseases in total OOPE (for acute illnesses)

Disease	% Share in overall OOPE
Cold & Cough	34%
Viral Fevers	8%
Malaria	5%
Typhoid	3%
Acute Pain	3%
Diarrhea	2%
Fall/Trauma	4%
Pneumonia	1%
Others	29%

2. Chronic Illnesses:

2a. Self Reported morbidity rate for chronic illnesses in last one year: 56 persons per 1000 population reported experiencing chronic illness in last one year prior to the survey.

Table 8: Chronic Illnesses per 1000 Population:

Disease	Chronic Illness Per 1000 Population
Hypertension	16.8
Diabetes	12.1
Blood related diseases	2.8
Joint Pain	3.5
Heart Diseases	2.4
Thyroid	2.2
Mental Health	1.8
Paralysis	1.7
Asthma	1.3
Stomach Ulcer	1.0
Cancer	0.5
Others	10.3
Total	56.4

Hypertension was the most common chronic disease followed by diabetes.

Table 9: Share of various Illnesses in Chronic morbidities:

Disease	% within persons with acute illnesses
Hypertension	29.8%
Diabetes	21.5%
Blood related diseases	5.0%
Joint Pain	6.2%
Heart Diseases	4.3%
Thyroid	3.9%
Mental Health	3.2%
Paralysis	3.0%
Asthma	2.3%
Stomach Ulcer	1.8%
Cancer	0.9%
Others	18.3%

2b: Health care seeking for acute illnesses: Overall 91% of the persons reported with chronic ailments had sought medical care.

Table 10: Proportion of sick persons who took medical treatment

Disease	% of chronic illness cases who sought medical care
Hypertension	91.7%
Diabetes	91.5%
Blood related diseases	85.9%
Joint Pain	89.4%
Heart Diseases	95.1%
Thyroid	93.6%
Mental Health	88.6%
Paralysis	88%
Asthma	91.2%
Stomach Ulcer	95.3%
Cancer	95.5%
Others	88.7%
Total	91.5%

However there may be a significant burden of chronic diseases yet to be identified because around half of the population above age of 30 years had never got tested for hypertension or diabetes.

2c: Choice of Provider for healthcare for chronic morbidities: One fourth of the slum dwellers utilized government services and two-thirds sought care from private sector.

Table 11:

Disease	% going to Government sector	% going to Private sector
Hypertension	24.3%	75.7
Diabetes	26.8%	73.2
Blood related diseases	33.7%	66.3
Joint Pain	25.2%	74.8
Heart Diseases	19.6%	80.4
Thyroid	12.5%	87.5
Mental Health	21.4%	78.6
Paralysis	20%	80%
Asthma	28.8%	71.2%
Stomach Ulcer	7.3%	92.7%
Cancer	50%	50%
Others	34.9%	65.1%
Total	26.4%	73.6%

People chose government and private sector equally for cancer. Other than that private sector have domination over three fourth of Chronic Illness treatment and the domination is higher in the case of Stomach Ulcer, Thyroid and Heart attack.

2d: Out of Pocket Expenditure on Chronic illnesses: Average cost incurred by patient in last year for chronic illness was found to be Rs. 5107. The cost for Heart-attack was highest followed by Mental Illness and Paralysis due to predominantly using private sector services.

Table 12: Mean Out of Pocket Expenditure in last month (Rs.)

Disease	Mean Out of Pocket Expenditure in last year (Rs.)
Hypertension	2750
Diabetes	3020
Blood related disease	2561
Joint Pain	3654
Heart Diseases	13776
Thyroid	3486
Mental Illness	11905
Paralysis	11018
Asthma	5271
Stomach Ulcer	9329
Cancer	51318
Others	5884
Hypertension	5107

OOPE in Government vs Private facilities: Private sector utilization was more expensive.

Table 13: OOPE in Government vs Private facilities (last year)

Disease	Average OOPE in Private sector	Average OOPE in Government sector
Hypertension	3194	1206
Diabetes	3475	1782
Blood related disease	3014	1680
Joint Pain	4021	2430
Heart Diseases	15665	4334
Thyroid	3228	5030
Mental Illness	13219	6999
Paralysis	11161	10392
Asthma	6553	1719
Stomach Ulcer	9957	1166
Cancer	71136	31500
Others	7355	2864
Overall	5826	2963

Share of different diseases in total OOPE (for chronic illnesses)

Table 14: Share of different diseases in total OOPE

Disease	% Share in overall OOPE
Hypertension	16.0%
Diabetes	12.6%
Blood related disease	2.5%
Joint Pain	4.5%
Heart Diseases	11.5%
Thyroid	2.6%
Mental Illness	7.6%
Paralysis	6.6%
Asthma	2.4%
Stomach Ulcer	3.2%
Cancer	9.5%
Others	21.0%

3. Hospitalisation (In-patient Hospital Care) in urban slums of Chhattisgarh

3a – Self reported hospitalization rate: There were 1894 in-patient cases in one-year period preceding the survey. The hospitalization rate comes to 43.8 per 1000 annually. The hospitalization rate amongst the insured persons was 43.4 per 1000 and for the non-insured it was 44.4 per 1000.

Table 15: Disease Wise Hospitalization Episodes and Hospitalization Rates

Disease/Condition	Total Hospitalization episodes	Hospitalisation Rate per 1000 population
Malaria/fever	88	2.0
Diarrhea	87	2.0
Tuberculosis	19	0.4
Leprosy	6	0.1
Respiratory Tract Infection	39	0.9
Pneumonia	31	0.7
Skin Disease	13	0.3
Eye infection	30	0.7
Ear infection	5	0.1
Typhoid	56	1.3
Jaundice	32	0.7
Chicken Pox	3	0.1
HIV	1	0.0
Reproductive and Urinary Tract Infection	19	0.4
Communicable Diseases(1-15)	433	10.0
Cancer	29	0.7
Blood related disease	51	1.2
Hypertension	56	1.3
Diabetes	48	1.1
Thyroid	5	0.1
Mental Health	28	0.6
Heart Diseases	58	1.3
Stroke	24	0.6
Asthma	10	0.2
Cataract	58	1.3
Glaucoma	5	0.1
Stomach Ulcer	80	1.9
Joint Pain	45	1.0
Severe Malnutrition	8	0.2

Dental Problem	8	0.2
Non - communicable Diseases(16-30)	513	11.9
Deliveries	377	8.7
Family planning	20	0.5
Menstrual Disorders	28	0.6
Sexual & Reproductive Health(31-33)	425	9.8
Road Traffic Accident	94	2.2
Fall/Trauma	70	1.6
Burns	8	0.2
Poisoning	1	0.0
Injuries and Emergency(34-37)	173	4.0
Others	218	5.0
Total	1894	43.8

NCDs are cause of more hospitalizations than other categories. They are followed by communicable diseases and maternal conditions.

3b – Choice of provider: Overall, 42% of hospitalizations were in government hospitals. For maternal conditions 61% of hospitalizations are in government facilities as opposed to only 35% of the NCD related hospitalizations.

Table 16 - Share of Public Hospitals in hospitalizations (disease-wise)

Disease/Condition	Share of Public Hospitals (%)
Malaria/fever	50%
Diarrhea	34%
Tuberculosis	42%
Leprosy	33%
Respiratory Tract Infection	46%
Pneumonia	26%
Skin Disease	46%
Eye infection	40%
Ear infection	20%
Typhoid	45%
Jaundice	41%
Chicken Pox	100%
HIV	100%
Reproductive and Urinary Tract Infection	21%

Communicable Diseases(1-15)	40%
Cancer	45%
Blood related disease	47%
Hypertension	38%
Diabetes	40%
Thyroid	20%
Mental Health	25%
Heart Diseases	45%
Stroke	29%
Asthma	20%
Cataract	22%
Glaucoma	20%
Stomach Ulcer	29%
Joint Pain	27%
Severe Malnutrition	75%
Dental Problem	50%
Non - communicable Diseases(16-30)	35%
Deliveries	63%
Family planning	60%
Menstrual Disorders	39%
Sexual & Reproductive Health(31-33)	61%
Road Traffic Accident	34%
Fall/Trauma	46%
Burns	50%
Poisoning	100%
Injuries and Emergency(34-37)	40%
Others	28%
Total	42%

3c – Out of Pocket Expenditure: Mean OOPE per hospitalization was Rs.21,612. In government facilities, mean OOPE was Rs.7806 and in private facilities it was Rs.31491 per hospitalization episode. Even when insured under government health insurance scheme, OOPE remained very high at Rs.28,506. This indicates poor effectiveness of insurance scheme in controlling OOPE for the urban poor. 61% of slum population was enrolled under government’s insurance scheme. The scheme was meant to provide cover for the in-patient care, yet hospitalizations in private hospitals involved very high OOPE.

Table 17: OOPE by disease category, type of facility and Insurance status

Overall	Communicable	NCD	Maternal	Emergency	Total
Number	433	513	425	173	1894
Mean OOPE (sd)	9546 (16862)	29569 (68505)	12941 (38857)	35158 (104839)	21612 (63114)
Median OOPE (IQR)	5000 (8600)	8000 (27788)	2000 (14000)	8000 (27000)	5700 (18500)
Public Facility					
Number	167	172	284	81	790
Mean OOPE	4239 (8410)	16246 (47603)	3199 (12478)	10579 (25800)	7806 (28027)
Median OOPE	2000 (4350)	2206 (7500)	600 (3150)	3500 (8500)	1500 (4800)
Insured (in govt)					
Number	106	127	108	50	450
Mean OOPE	4178 (8916)	13324 (35640)	2021 (4185)	6954 (9233)	7673 (25132)
Median OOPE	2000 (4300)	2200 (7500)	400 (3500)	3000 (5800)	2000 (4700)
Non - Insured (in govt)					
Number	61	45	176	31	340
Mean OOPE	4344 (7520)	24492 (71240)	3922 (15483)	16425 (39732)	7982 (31489)
Median OOPE	1500 (4500)	2910 (7250)	650 (2306)	4000 (10370)	1100 (4350)
Private Facility					
Number	266	341	141	92	1104
Mean OOPE	12878 (19756)	36289 (76106)	32563 (60643)	56706 (138499)	31491 (77718)
Median OOPE	7000 (10400)	14000 (30000)	25000 (26000)	20000 (44250)	12000 (25000)
Insured (private)					
Number	157	248	71	61	722
Mean OOPE	11047 (16434)	31137 (54904)	27979 (59786)	56346 (164901)	28506 (71290)
Median OOPE	5000 (9800)	12000 (26350)	19000 (29300)	18000 (34000)	10000 (25012)
Non - Insured (private)					
Number	109	93	70	31	382
Mean OOPE	15514 (23573)	50027 (114237)	37211 (61580)	57414 (61641)	37134 (88432)
Median OOPE	8000 (10000)	15000 (33000)	30000 (24000)	38000 (95000)	15000 (29000)

Disease wise, hospitalizations for Injuries and for NCDs were more expensive than other disease categories.

- Overall OOPE:** In-patient care contributes to 36% of total OOPE. In out-patient care, acute illnesses have a bigger share.

Table 18: OOPE due to different kinds of healthcare needs

Type of care/need	Utilisation rate (per 1000 population)	Annual episodes estimated (per 1000 population)	OOPE per episode/case (Rs.)	Amount of OOPE (per 1000 population) Rs.	% of OOPE
Acute OPD	67 episodes in last 15 days	1608	870	1398960	53%
Chronic OPD	56 cases per 1000 population	56	5107	285992	11%
Hospitalisation	44 hospitalisation episodes in last one year	44	21672	953568	36%
Total				2638520	100%

The per capita OOPE for urban slum population comes to Rs. 2638 annually. The following table shows that 85% of the OOPE involved use of private sector services.

Table 19: OOPE due to different kinds of healthcare needs

Type of care	Utilisation rate (per 1000 population)	Annual episodes estimated (per 1000 population)	Share of private sector in episodes	OOPE per episode in private sector Rs.	Amount of OOPE in private sector (per 1000 population) Rs.
Acute OPD	67 episodes in last 15 days	1608	67%	1120	1206643
Chronic OPD	56 cases in last month	56	74%	5826	241429
Hospitalisation	44 hospitalisation episodes in last one year	44	58%	31491	803650
Total					2251723

Summary of Findings:

1. Urban poor utilized government facilities in 26% of the chronic disease cases, 33% of acute ailments and 42% of hospitalizations. Government facilities are used for around 60% of maternal care. For chronic illnesses, out-patient care is poorly available in government centres. This shows selective nature of government services that focus RCH and are yet to find a similar share in case of NCDs. The survey shows that healthcare needs of urban poor include diverse illnesses and conditions including NCDs and communicable diseases.
2. 85% of the total OOPE takes place in private sector. OOPE is several times high in private sector. OOPE continues to be high even for insured patients when they seek in-patient care supposed to be covered by insurance scheme of government. Government facilities provide less expensive care with or without insurance.
3. For acute illnesses, people are losing large amounts as OOPE even for minor ailments like cold and cough.

Recommendations:

- a. Shifting government health services from “selective care” to “comprehensive primary care”.
- b. Creating urban HWCs at 10000 population. This will increase share of government sector in overall OPD care and reduce OOPE. Current ratio of 50000 population per urban HWC is not enough to provide meaningful coverage.
- c. Improving availability of drugs like paracetamol with Mitans. This will increase footfall with Mitans.
- d. Increasing population coverage by increasing the number of Mitans to lower middle class urban areas.
- e. Equipping Mitans to measure blood pressure and blood sugar by using digital/other appropriate instruments. This can help in covering more of chronic disease cases and their follow-up.
- f. Promoting herbal home remedies (e.g. Tulsi for cold and cough) for simple acute illnesses like cold and cough, aches and pains etc. to reduce OOPE
- g. Making changes in the government insurance scheme for hospitalizations. Increase share of government facilities and reduce overlap between government and private hospitals. Improving governance of the scheme to control extra billing by private hospitals from insured patients.