

REPORT FROM FILED

A roadmap to improve health care services in Jodhpur city slum through resource mapping

Latika Nath Sinha¹, Anahita Ali², Abhishek Lohra³, Aditya Bhandari⁴, Sadaf Fatima⁵

¹Associate Professor, Department of Public Health, Maulana Azad university, Pal Link Road, Opp. Kamla Nehru Chest Hospital, Jodhpur- 342008, Rajasthan; ²MPH Scholars; Department of Public Health, Maulana Azad university, Pal Link Road, Opp. Kamla Nehru Chest Hospital, Jodhpur- 342008, Rajasthan; ³Assistant Professor, Department of Public Health, Maulana Azad university, Pal Link Road, Opp. Kamla Nehru Chest Hospital, Jodhpur- 342008, Rajasthan; ⁴MPH Scholars; Department of Public Health, Maulana Azad university, Pal Link Road, Opp. Kamla Nehru Chest Hospital, Jodhpur- 342008, Rajasthan; ⁵MPH Scholars; Department of Public Health, Maulana Azad university, Pal Link Road, Opp. Kamla Nehru Chest Hospital, Jodhpur- 342008, Rajasthan

[Abstract](#) | [Introduction](#) | [Methodology](#) | [Results](#) | [Conclusion](#) | [References](#) | [Citation](#) | [Tables / Figures](#)

Corresponding Author

Address for Correspondence: 504/5 All India Institute of Medical Sciences, Campus, Basni Phase II, Jodhpur, Rajasthan.
E Mail ID: drlatika@gmail.com



Citation

Sinha LN, Ali A, Lohra A, Bhandari A, Fatima S. A roadmap to improve health care services in Jodhpur city slum through resource mapping. Indian J Comm Health. 2018; 30, 1: 96-102.

Source of Funding: Nil **Conflict of Interest:** None declared

Article Cycle

Received: 23/12/2017; **Revision:** 04/01/2018; **Accepted:** 25/02/2018; **Published:** 31/03/2018

This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Abstract

Background: Mapping of resources helps us in identifying those resources which can be used more pragmatically, for interventions and programs related to human health especially during emergency conditions. Resource mapping identifies the resources that can realistically be used for health related interventions, programs and during an emergency. **Aim and Objectives:** The primary objective was to locate the basic healthcare related resources available in that area. Secondary objectives were to Understand and compare these resources along certain important dimensions using qualitative research methods and to identify possible existing gaps, share the results with the local stakeholders and suggest effective interventions. **Material & Methods:** Manual mapping method was used to locate the available healthcare related services in urban slum area. FGDs were held to compare utilization of resources along eight dimensions. In depth interviews were held with existing healthcare service providers, stakeholders and local residents to assess their utilization and needs. **Results** Existing health services used by community were local herbal clinic, district hospital, Anganwadi Centre, mobile clinic, wellness clinic and All India Institute of Medical Sciences (AIIMS) Jodhpur. **Conclusions** The manual mapping and qualitative techniques used showed that existing resources lacked in (a) providing in situ primary care (b) clinical services by a female gynecologist (c) health education services to address existing drug addiction and substance abuse. This exercise helped in rapid need assessment and prioritizing of interventions.

Keywords

Resource Mapping; Urban Slum

Introduction

India, just like other developing countries, is also urbanizing rapidly which shows that its 27.8 percent

of the population is living in urban areas, which comprises of 285.4 million people. During the decade of 1991-2001, India's urban population grew by 31.2 percent, which is evidently high as compared

to the rural population rate of 17.9 percent. During this preceding decade, the people living in urban areas have increased by 68 million. Population projections by the United Nations indicate that by 2030, India's urban population will grow to 538 million, which will be dominated by urban population with more than half of its contribution in the total population. Slums are estimated to grow at the rate of 5 to 6 percent, annually(1).

Mapping of resources helps us in identifying those resources which can be used more realistically, for interventions and planning of programs related to human health, and even during emergency conditions. Such resources include humans (activists, skilled and experienced people), finances, web of networks (materialistic/consumerist/money oriented) and institutional resources. Resource mapping helps us in deciding the type and scope of our interventions(2).

Mapping of resources is the initial step during the planning for urban outreach health services in the Cities.

Aim & Objectives

1. To recognize and map the various groups of populations at risk such as slums, mobile/migrant population etc. including the existing services, the infrastructure available to them and issues related to the surrounding physical environment.
2. To understand health issues, health needs and health seeking behaviour of vulnerable groups.
3. To understand the barriers faced by the poor and marginalized in accessing services.
4. To site the available healthcare related services, for better understanding of service's accessibility and capability to satisfy the needs of the population at risk.

The primary objective was to locate the basic healthcare related resources available in that area.

Secondary objectives-

1. To Understand and compare these resources along certain important dimensions using qualitative methods.
2. To identify gaps, share the findings with stakeholders and recommend interventions

Material & Methods

A baseline survey was conducted in a slum area of Jodhpur city, Rajasthan during March 2017. This area

is popularly known as "Haddi mill" with its registered name as "Mahaveer nagar", is located near the industrial area in Jodhpur city. There are total 300 households with a population of 1500.

Manual Mapping method was used to relocate the available healthcare related services in that area. For the first component of the resource mapping, we mapped all the identified resources on a visual map of Mahaveer Nagar and the surrounding city of Jodhpur. To complete the second component of resource mapping, we examined all the resources along various dimensions (Population served, Services Offered, Cost for Mahaveer Nagar Residents, Usage Pattern by Mahaveer Nagar Residents, Benefits for Mahaveer Nagar residents, Challenges for Mahaveer Nagar residents, Benefits for Resource, Challenges for Resource). Our goal in this analysis was to obtain better understanding of the public health landscape for Mahaveer Nagar. It provided a good chance to the local leaders and stakeholders to get involved in the process and to sensitize them on health challenges and problems. Stakeholder interviews were ultimately focused on broadly defined health care-related resources accessible to Mahaveer Nagar. Both the FGD and the interviews were concentrated on the "people's voice" in the healthcare delivery process. The teachers from AWC, tertiary hospitals, local traditional healer, NGO personnel, ASHA workers, and elementary school were part of the interview.

The face to face interview took place with various healthcare related service providers, stakeholders and local residents. The interview comprised of total 4-5 questions which completed in 30-40 minutes of time period. Mapping of available resources was done manually, the team walked into the area and visited all the locations for interview and to gather other relevant information and marked them on the map

Results

A Focus Group Discussion (FGD) within the Mahaveer Nagar community along with private interviews of various key stakeholders who are providing healthcare to Mahaveer Nagar residents. The first priority for majority of that population was to earn their daily wages. Only after their basic needs were met, did they look for curative health. It was very

evident that the community was not thinking about preventive health.

Existing health services the community utilized included a local quack, Mathura Das Mathur (MDM) Government hospital, Aganwari Centre (AWC), a weekly mobile van service sponsored by an NGO. The community sees missing services -

The community highlighted many challenges it faces, including the following: food packets from the AWC are consumed by all, not just children; the tertiary hospital, located near the community area is inconvenient to use. Usually, the babies are given birth at home or a private hospital because women are not satisfied with the services at the public hospitals. As per the FGD results, substance abuse and addictions were highly prevalent (90% of women chewed tobacco, even a child of age ten-year chew tobacco and 60% men are addicted to alcohol. Yet, tobacco use was imperceptible to them, and was culturally accepted. Oral cancer was not seen as a problem, nor was it recognized to be connected with tobacco chewing.”

Dimensions

Population served - the available health resources are serving 1500 of population.

Services offered by - Health services offered by one Herbal doctor, one compounder, PHWC by JSPH, mobile van, quacks.

Average out of pocket expenditure by local residents on health issues - minimum of 500 INR per visit per day.

Usage pattern – the health seeking behaviour of the residents was inclined towards private, State run government hospitals rather than tertiary referral institute like AIIMS.

Benefits for Mahaveer Nagar users- Free and paid health (medical and dental) services and consultation, various awareness programs on health days, vaccination service, mid-day meal to children, maternal and child care by AWC, free education and other basic skills by NGOs, primary education to children by elementary school.

Challenges for slum dwellers - affordability and accessibility by local residents, low wages and income, big family size, illiteracy.

Benefits for Resources providers - Social service from various providers with an aim to serve

underprivileged and marginalized section of the community on no profit basis.

Challenges for Resources providers – Presence of disconnect between the main problems as seen by providers and as seen by community members. Our Public Health Institute wanted to provide preventative care, yet Mahaveer Nagar residents did not currently think of their health beyond short-term curative measures. The perception and acceptance of preventive care, health education and awareness initiatives was low among the community's residents.

Discussion

Urban Slums are the least surveyed and most deprived parts of megacities. Due to the lack of internet usage these informal dwellings go unmapped and hence are unplanned for in official urban planning ventures. As a form of illegal land use, slums are blinded out from the radar of planners and public or commercial cartography, e.g., online maps (3). Most urban slums shows no street names and no formal addresses (4).

Yet a large population form a part of slum population with greater health needs and few services. What makes the problem complex are the facts that a) the statistics of urban averages often camouflages the plight of the urban poor and b) the urban poor are not a homogeneous group.

There were many healthcare service providers within the city, such as government primary, secondary and tertiary hospitals, private hospitals, and private clinics under the NUHM programme however services were under-utilized by the slum dwellers. It was found that Quacks, herbal clinic, compounder were the most widely used services by the slum population. The other main sources of healthcare services were once a week mobile van and a wellness clinic by a NGO providing over the counter drugs. According to our study, most of the service providers were charging minimal fees and/or were providing free of cost services and medicines. The most underutilized healthcare service was of a tertiary hospital which was located at a distance of 3km from that area. The slum community expressed their unwillingness to avail of the tertiary hospital due to complicated registration systems, long waiting hours, absence of touts to guide illiterate population. Other reasons for discontent included non-

availability of drugs, corruption and the unfriendly attitude of the service providers.

Health services inequity common in all developing countries. The overall quality of the healthcare services is poor in developing countries. Corruptions, mainly in the form of higher informal and unofficial charging, in public healthcare services are also widely practiced (5).

Community participation is important for good local governance and empowerment and remains at the heart of effective health promotion. To be meaningful, the inclusion of slum community in various planning processes must be viewed as a basic requirement. Healthy Cities and so must be integrated into actions for long-term strategic development (6). There is a growing number of states and localities convening stakeholders to engage in resource mapping as they believe that this process has promoted inter-agency collaboration and ensures use of both manpower and finances (7).

Resource mapping serves the purpose of conducting a baseline research related to available healthcare resources in urban slum areas. GPS devices are often used to mark boundaries and key features like water taps, schools, toilets, community halls, electricity supply, water sources and drainage connections. A Google earth image can be used as guide to manually draw the points that cannot be marked with GPS (8). We mainly focused on the existing healthcare resources and provided detailed information through interviews and FGD eliciting about the utilization pattern, challenges and benefits to the consumers as well as the providers, location of different healthcare services, priority of the people according to their needs and financial support. We also identified several dimensions and their interrelationship with each other, for comparing various resources. These mappings helped to develop strategies for improving and prioritizing healthcare services more effectively in the area.

Gap Analysis:

In our study as per [Table 1](#) of Existing Resources, certain resource gaps become evident. (1) One significant gap is the lack of a primary care provider; (2) another is the lack of continued, formal education and better education facilities for this community; (3) and another is the lack of a “lady doctor”. JSPH

and the other health care providers emphasized the need for a dispensary, while You & I (local NGO) was focused on education, and the Mahaveer Nagar community itself was most focused on the “lady doctor.” There are other gaps that the resource mapping highlights but we have chosen to focus on these three since (1) they were most important to each constituency and (2), as demonstrated in our priority recommendation, there is a way forward that addresses all of them at once.

Additionally, resource mapping plays a role in the progression from awareness, to use, to education, to behaviour change. Primarily, resource mapping builds awareness of the current state of health services for a community, as seen from multiple perspectives (9). Such awareness can then help explain patterns of use and shape educational programming, which can in turn help drive behaviour change (10). Resource mapping is an ongoing process, and it is the most valuable pre requisite prior to task setting for strategizing with stakeholders. To make the resource mapping process effective and scalable for future applications, after the Resource Mapping Steps it is important to set up a task force, set a vision, set goals, communicate continuously with various stakeholders and bridge the identified gaps

Conclusion

The manual mapping and qualitative techniques used showed that existing resources lacked in (a) providing in situ primary care (b) clinical services by a female gynecologist (c) health education services to address existing drug addiction and substance use. This exercise helped in rapid need assessment and prioritizing of interventions.

Recommendation

In the final phase of the project, we synthesized the information and analysis from all the project components, on-site work, CHNA, stakeholder interviews, resource map, and gap analysis, and summarized the observations and considerations in a framework. The stakeholders were requested to improve on the need for an urban health post and availability of a lady doctor. The project helped the team to determine how best to help the community improve its current health services and utilization.

Limitation of the study

1. Limited time availability, therefore the study was carried in a well-defined geographical area.
2. Language acted as a barrier to build communication with the community.

Relevance of the study

Community health need assessment is very important for any agency/ department who want to understand and improve health facilities in underserved areas. However, many times an in depth analysis and mapping of available resources and utilization patterns are not done before interventions are made. This study was a learning and hands on field exercise for Public Health students on the importance of resource mapping before further interventions are planned.

Authors Contribution

LNS & AL: were involved in planning the study data organization and final approval of the manuscript, AA, AB, SF: were involved in data acquisition, analysis and drafting of the manuscript.

Acknowledgement

We acknowledge the contribution made by our International visiting faculty Dr Gregory Fant in designing the study and the internees from Sloan school of management who participated in the FGDs and in depth interviews and contributed to compiling and mapping of resources.

References

1. S. Agarwal, A.Satyavada, S. Kaushik, R. Kumar "Urbanization, Urban Poverty and Health of the Urban Poor: Status, Challenges and the Way Forward" Demography India 2007; 36(1): 121-134

2. M. Raab, J. Rocha "Campaigns to End Violence against Women and Girls" December 2011:91
3. Guidelines and Tools for Vulnerability Mapping&assessment for urbanHealth 2017, NUHM,Ministry of Health and Family Welfare Government ofIndia. Page-1,
4. P. Paar, J. Rekittke "Low-Cost Mapping and Publishing Methods for Landscape Architectural Analysis and Design in Slum-Upgrading Projects" Future Internet 2011, 3, 228-247; doi:10.3390/fi3040228 <http://www.mdpi.com/journal/futureinternet> accessed on 15th december, 2017.
5. Agarwal S Vulnerability Assessment of Slums: Assessing Multi-Dimensions of Urban Poverty for Better Program Targeting.
6. Grabovschi C, Loignon C, Fortin M. Mapping the concept of vulnerability related to health care disparities: a scoping review. BMC Health Serv Res. 2013 Mar 12;13:94. doi: 10.1186/1472-6963-13-94. Review. PubMed PMID: 23496838; PubMed Central PMCID: PMC3626765.[PubMed]
7. Participatory mapping for city-wide slum upgrading in India] By Society for the Promotion of Area Resource Centres (SPARC), Mumbai, India May 2012 The Alliance of SPARC, the National Slum Dwellers Federation.
8. Heritage, Zoë, - Dooris, Mark, Community participation and empowerment in Healthy Cities Health Promotion International November 1, 2009 24(suppl_1):i45-<http://dx.doi.org/10.1093/heapro/dap054> accessed on 15th december, 2017.
9. CraneK , Skinner B Community Resource Mapping: A Strategy for Promoting Successful Transition for Youth with Disabilities Information brief : April 2003 • Vol. 2 • Issue 1
10. S. Sharma "Over 70% urban slums in Rajasthan on open spaces, public parks: Report"Times of India, December 2014. <https://timesofindia.indiatimes.com/city/jaipur/Over-70-urban-slums-in-Rajasthan-on-open-spaces-public-parks-Report/articleshow/45610384.cms> accessed on 15th december, 2017.

Tables

TABLE 1 LIST OF ALL IMPORTANT RESOURCES FOR HEALTH SERVICES AND HEALTH EDUCATION IN URBAN SLUM UNDER STUDY

Resource	Population Served	Services Offered	Cost for Residents	Usage Pattern by Residents	Benefits for users	Challenges for users	Benefits for Resource	Challenges for Resource
Herbal Clinic	Entire slum	Consultation & AYUSH Medications	Rs100/- consultation	Used only by those who can afford	Location	Limited services compared to hospital	Only clinic in slum	Does not handle emergencies
Mobile Van	All ages	Consultation & Medications	Rs 20/- for consultation free medications	Trusted resource	Location, Trust	Limited remedies and diagnostics	Only van	Once a week service
ASHA	Mothers, Sick Residents	Assistance to pregnant ladies child immunizationbasic/DOTS medicines	Free	Trusted resource	Free transportation, assistance in hospitals	Not a local - hence not always available	Paid to bring ANC cases and deliveries to hospitals	Some residents non responsive and resistant
Community Political Leader	All ages	Effective advocate of government healthcare and local schemes/BPL	Free	Seldom used	Location, Trust, Record of Accomplishments	Male perspective, Religion	Vote bank	Caste divisions in community

						/caste bias , not always available		only certain sections of communit approach him for help
Compounder (Quack)	All ages							
AWC	Enrolled Mothers & children 3- 6yrs	Mother & Child Nutrition, Immunization, Education	Free	Well used, trusted resource	Location, Quality			
Local Businesses	AWC attendees	Provide nutritional supplements to mothers & children	Free	Well used	Location, free nutritional supplements	None	Contributing to development of healthy workforce, building goodwill among employees families	
School	Primary school children	Health education & mid day meals	Free	Well used	Location, Education	Irregular Attendance, (Opportunity Cost of Rag picking among slum children)	Serve community	Addiction Irregular Attendance Irregularity in cooked food provision
Public Health Wellness Clinic (PHWC) (by JSPH trust)	All ages	Consultation& referrals, Health Education	Rs2/- charges	7-8 patients per day; Health education events , health camps	Location, dedication of involved staff	No medications provided, no lady doctor available	Mission fulfilment in Health education and promotion Field learning for MPH students	Balance between raising awareness & service provision
You & I (NGO)	Adolescent girls	Skill development (through stitching, tailoring, handicrafts & partner for PHWC	Free	Limited enrolment as most girls prefer to work in factories or are culturally disallowed to enhance skills	Location, free, education & skill development for more sustainable employment	Requires forgoing short-term wages in hand versus potential for better wages long-term; also cultural adjustments	Mission fulfilment	Very frustrating environment with not a lot of success to show to date; MN residents not working with You & I yet
Two Private Hospitals within 2km	All	All Specialties	Costly	Used in emergencies/odd hours	Better facilities	Unaffordable by most	Profit making	Profit
Umaid Hospital (Govt hospital 7 km away)	All	Maternal and child care services	Free; added incentives for hospital deliveries	Less preferred by residents or not	Free, very experienced, dedicated staff	Location, Service level	Serve community	Excessive Patient volume
MDM Hospital (Govt hospital 3kms away)	All	All services, including maternal and child services	Rs 100 rupees transportation; Rs 50-100 on hospital touts (total cost ~Rs500 /visit .	Tertiary care facility; most preferred by residents	Touts/Middlemen aid illiterates	Distance, waiting time , crowded doctors non availability,	Tertiary level facility / Teaching hospital attached to State medical college	Excessive Patient volume
AIIMS	Referrals from other hospitals	All specialities / limited super specialities	Free (upto a limit)for Bhamashah (govt insurance scheme) cardholders	New facility, not known , not preferred as touts to help are absent	Difficult for illiterates to understand hospital procedures	Costly, Location, mostly referral Services Provided	Excellent premier health facility but not user friendly for small ailments	Yet to establish credibility among slum residents

Figures

FIGURE 1 HEALTHCARE RELATED RESOURCES IN MAHAVEER NAGAR SLUM OF JODHPUR CITY

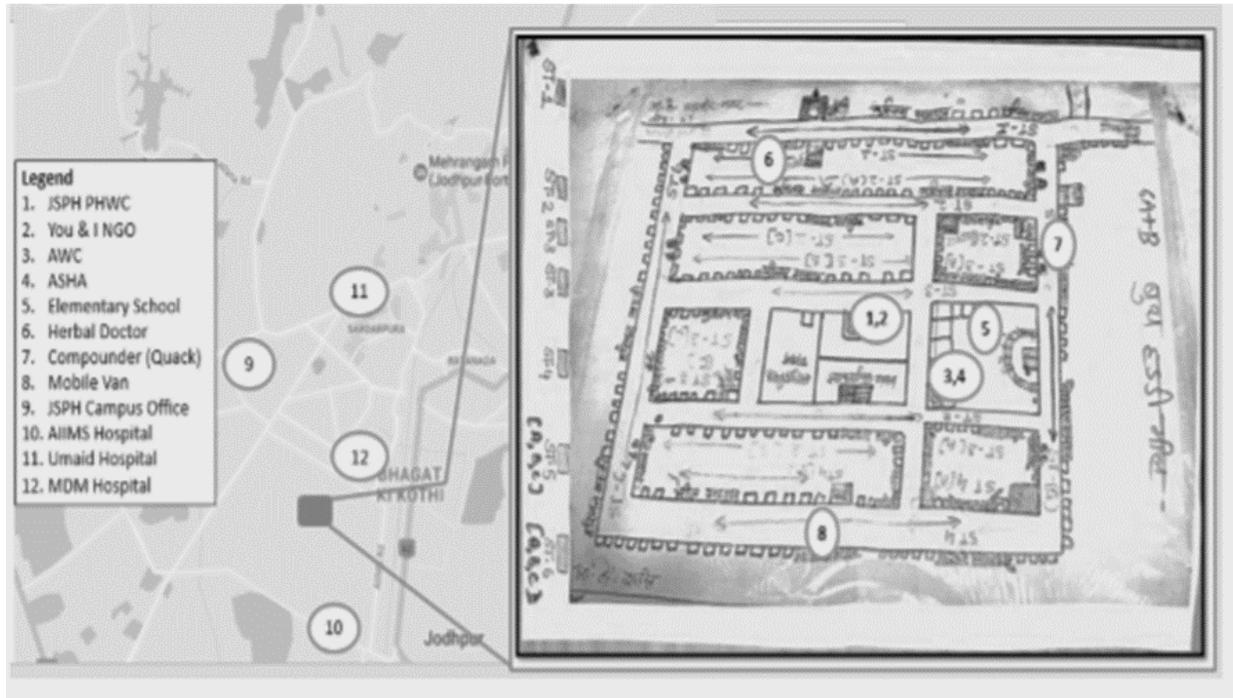


FIGURE 2 UTILIZATION PATTERN OF HEALTH CARE RESOURCES BY SLUM RESIDENTS

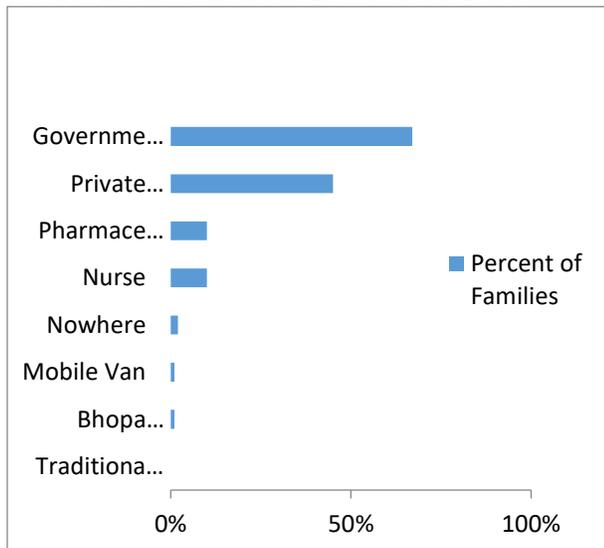


FIGURE 3 COMPARISON OF RESOURCES OF URBAN SLUM ALONG VARIOUS IMPORTANT DIMENSIONS

