

Improvement of patient satisfaction by root cause analysis in health care services for urban slum community in North India

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ABSTRACT

Universal health care (UHC) endorses availability and access to health care services for a wider population with equity and quality in a way that protects them from financial hardship while availing the services. This case study shares the experience of a health facility in a resource constraint setting catering to the health needs of a migrant residing in an urban slum of north India. Out-of-pocket expenditure is one of the major reasons for nonachievement of UHC. "Root cause analysis" revealed the challenges for patient satisfaction in the academic outpatient clinic (OPD). Inadequate availability of laboratory investigations at health facilities poses hindrances during health service delivery and achievement of UHC. It was found that one of the major reasons for patient's dissatisfaction were out of pocket expenditure at private facilities and loss their daily wage to get access to the investigations. Problem-solving techniques were utilized to improve patient satisfaction and make the health system sensitive to the migrant urban poor population. The use of "plan do study act cycle (PDSA)" technique for improvement of the health system with collaboration, advocacy, and feedback analysis with the government hospital helped improve health care access for the people with poor purchasing power. Feedback analysis of the established system helped in the sustainability and feasibility of the system for the smooth functioning of the referral system. Root cause analysis, health advocacy, and collaboration has helped making a model for improvement of access to health care services and patient satisfaction in an urban slum population. which maybe replication in a resource constraint setting.

Keywords: Advocacy, collaboration, health system research, root cause analysis

Introduction

Universal health care (UHC) cannot be attained unless both health services and financial risk protection systems are accessible, affordable, and acceptable to every section of the society.^[1] Currently, it is estimated that the out-of-pocket expenditure payments incurred by households are estimated to be 23% of the total global health expenditure and 45% of

health expenditure in the developing world, mainly, because of medications, clinical tests, providers fees, facilities fees, contraception, and others, especially in urban slum.^[2-4] In India, despite Janani Shishu Suraksha Karyikaram (JSSK) to support antenatal care, the out-of-pocket expenditure is high and ranges from \$115–\$155 and around 75% of women delivered in private institutions had expenditure more than 10% of total annual family income, especially in urban slums.^[5-7] The out-of-pocket costs of general illnesses average to a total of \$992 ± 2,052 per episode.^[8]

This case study highlights the use of root cause and feedback analysis in primary health care practices in a resource constraint

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health setting to reduce the out-of-pocket expenditure for patients and improve the health care access and patient satisfaction in an urban slum.

Case Study

This case study shares an experience of an urban slum named “Indira Colony” that has a population of about 30,000 with the Urban Health Training Centre (UHTC- primary health care facility) from the Department of Community Medicine and School of Public Health, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, India. The UHTC works in a resource constraint setting that works with a physician, pharmacy, and basic laboratory facilities with hemoglobin estimation and blood glucose estimation.

The context: The UHTC has an annual outpatient clinic (OPD) load of 20,000 with provision of antenatal, postnatal, immunization, and non communicable diseases services. Despite the presence of a general hospital, the secondary health care facility with majority of the laboratory facilities, within 5 km of this urban health care facility, the OPD patient had an expenditure during his/her illness ranging from \$20 -\$100 on investigations [Table 1].

Root cause analysis [Figure 1]: One of the major problem for patient satisfaction was identified as out-of-pocket expenditure either because of medicines or laboratory investigations or poor emergency services. The patients were being referred to the nearby general hospital, Manimajra; however, the patients were dissatisfied that they had to wait in long queues to register and be examined by the doctors again for the same set of investigations. This resulted in the use of the private laboratory facilities for the tests, which led to high expenses for health care.

PDSA Cycle: "PDSA" cycle was utilized for planning and implementation of the the solution.

“PLAN”: (To understand the essence of the problem and plan a solution). It was proposed that there will 2 phases of intervention for the health system priority being given to the antenatal mother. Phase I - The antenatal mothers with UHTC registration card get their investigations directly at a general hospital. Phase II - The general patient registration card of UHTC be recognized at the general hospital registration counter giving them an option to either be examined by the physician or could skip the cue of the physician and get the investigations directly to attain hassle-free services.

“DO”: (To implement the solution devised). Collaborative meetings were held to devise the system for the migrant residents with poor purchasing power between government officials and UHTC in-charge (first author).

Phase I - was readily accepted by the general hospital officials as free service was a mandate as per National Guidelines. However, it was highlighted that the prescription coming from the UHTC, Indira colony was lacking authentication. Hence, it was required investigation slips, be signed by the medical officer with Maternal and Child Tracking System (MCTS) registration number and JSSK stamp for identification of the antenatal mother was successfully incorporated into the system of the general hospital.

Phase II - for the general patients, it was mandatory that the UHTC registration card had a registration number of the general hospital for proper record keeping. Hence, it was made essential that UHTC registration card could have some priority at the registration counter which was made possible through putting up a sample UHTC registration slip in general hospital. Moreover, every registration card going to the general hospital had a signature and stamp of the UHTC medical officer in-charge to confirm that the investigation had been ordered by the physician.

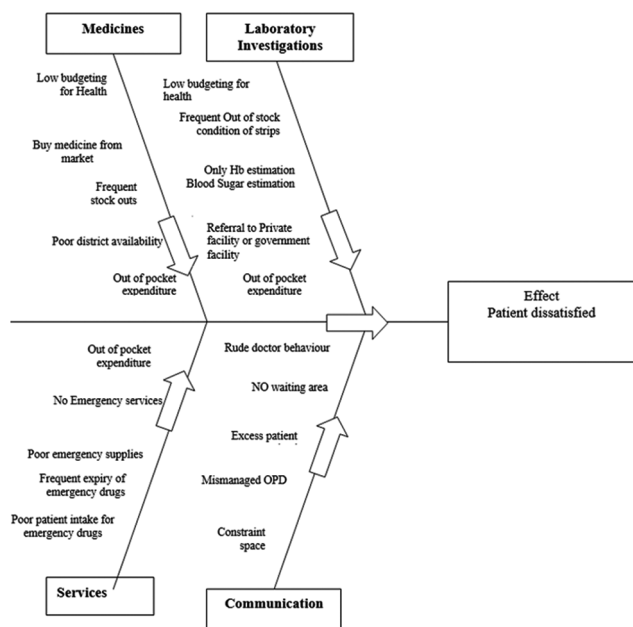


Figure 1: Fish Bone Diagram for patient dissatisfaction

Table 1: Average out-of-pocket expenditure on a case

Antenatal patient	Fever case	NCD patient
Pregnancy detection test, Haemoglobin estimation, Urine test to assess the presence of sugar and proteins, Blood group, including Rh factor, VDRL/RPR, HIV testing, Rapid malaria test (if unavailable at SC), Blood sugar testing, HBsAg, Ultrasonography, triple test Avg cost = \$50- \$150	Complete blood count, Malaria, Widal test, Dengue, Serial Platelet count, Sputum test, Routine Urine Examination, Chest X-Ray Avg cost =\$20-\$100	Complete Blood count, HbA1c, Renal function test, Liver Function Test, Electrolytes, Routine Urine, Lipids, Electrocardiogram, Nerve conduction test (Baseline), Chest X-Ray,(Baseline) Avg cost =\$50-\$100

“STUDY” & “ACT”: (Feedback analysis of the devised health system and to plan changes). It was a sustainable model and continues currently, benefitting the nearly 1850 patients including 142 antenatal mothers in the last 12 weeks (May, 2019-July 2019). With the continued system, the system is expected to benefit nearly 10,000 OPD patients and 650 pregnant women annually. The average expenditure reduction for antenatal women during pregnancy was estimated to be around \$50-\$100 through the implementation of the system. Further, the average cost of the investigation in the private facility of a patient was \$20-\$100 which was expensed by the patient were now available for no cost. The average time spent during the investigation was reduced to one third, the patient used to spend 2-3 hours to reach the investigation counter while now the patient could complete the process for his/her investigation within 30-45 minutes.

However, during the implementation, the feedback was recorded from the government officials and the patients. The Phase II intervention had a setback with changing of the personnel's at the registration counter. The problem was solved by the revival of the system with review meetings with the government officials.

The patients had a positive response that the system helped them in the reduction of the long wait hours to get the investigations. The patients felt satisfied with the improved experience at a general hospital. The patients also told they do not have to go to a private facility to get themselves investigated for the facilities available at a general hospital.

Discussion

The case study highlights the utilization of root cause analysis, PDSA, collaborative teamwork and partnerships for universal health care that can improve the primary health care system for the benefit of the patients with a reduction in out-of-pocket expenditure and access to health services.

The Anderson and Newman Model of Health care utilization [Figure 2] has described the various factors on the basis of predisposing factors, enabling factors which have been utilized for improvement of the health system across the globe.^[10-12] Root cause analysis is a management technique that has been utilized in various studies to understand the depth of the problem.^[13-15] Similarly in this root cause analysis, we were able to delineate such factors that require attention and need a focused approach for solutions for an efficient, affordable primary health care practice.

The doctor-patient relationship plays a major role in the success of primary health care.^[16,17] The UHTC doctors priming to the patients made it convenient for them to utilize the new system in place. The above health system made sure that doctor-patient relationship was established at UHTC, Indira colony that helped in making the primary health care friendly for the vulnerable section such as antenatal mother, and people with poor purchasing power.

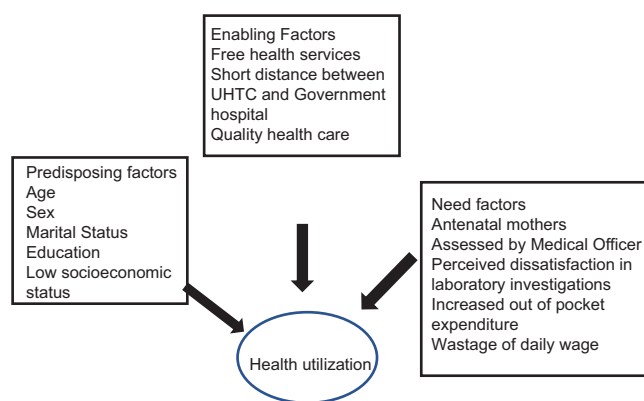


Figure 2: Anderson and Newman Health care model of Health care utilization

This case study shows partnership in two health facilities one governed by an autonomous institution and other by the government, make a difference in primary health care with minimization of out of the pocket expenditure. The private-public partnerships (PPP) are common in the health system, help in making of a primary health care system that is convenient, affordable and bring health services with equity for the nation which is in line with the current goal of UHC.^[18,19]

Conclusion

Primary health care practices in resource constraint settings need to be revamped with a focus on the vulnerable population keeping their out-of-pocket expenditure to the minimum. Root cause analysis at primary health care level and devising cost-effective solutions prove to improve patient satisfaction. The health system starts with primary health care and requires physicians to bring collaborations among health delivery units for support and patient satisfaction to move a step closer to UHC.

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Conflicts of interest

There are no conflicts of interest.

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