Assessment of the Healthcare Service of Mobile Medical Units in (Bharuch, Olpad, Navsari) Gujarat

(Assessment Period July 2022 to July 2023)

Submitted to

Gujarat State Petronet Limited

The Energy Lifeline of Gujarat

Submitted by

IIPH

INDIAN INSTITUTE of PUBLIC HEALTH GANDHINAGAR

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1 Executive summary

Access to healthcare and the equitable distribution of health services are fundamental requirements, posing a challenge in resource-constrained settings like India. Mobile Medical Units have emerged as a strategic solution, gaining renown for improving access. Mobile Medical Units are designed to reach underserved areas by delivering healthcare directly to people's doorsteps, focusing on addressing primary healthcare needs. Several corporations, states, and Non-Governmental Organizations (NGOs) have successfully initiated and operated Mobile Medical Units. One notable example is the Gujarat State Petronet Limited (GSPL), a State PSU from Gujarat, which has provided support through CSR activities for Mobile Medical Units in three districts—Bharuch, Navsari, and Olpad—served by Keshvi Charitable Trust (KCT). The primary objective of these mobile units is to provide basic health services and routine laboratory services directly to rural areas.

IIPHG conducted the present appraisal to document Mobile Medical Units' benefits, services rendered, reach, and efficiency, and the potential advantages they bring to the communities covered by Mobile Medical Unit. From July 2022 to July 2023, the Mobile Medical Unit provided services in 139 villages of Bharuch, Olpad, and Navsari, catering to 25,978 beneficiaries. An endline assessment was conducted in 30 villages among 250 beneficiaries (15% of the total beneficiaries) from November 6, 2023, to November 8, 2023. Additionally, 250 households residing near the beneficiary households (who had not availed services from Mobile Medical Unit were considered non-beneficiaries or who were ill but did not seek healthcare from any healthcare facility or were not ill in the last twelve months) were considered as non-beneficiaries. They were interviewed to understand their health-seeking behaviors and needs.

The reach of the Mobile Medical Unit in the selected study sites—Bharuch, Navsari, and Olpad—was overall good, and beneficiaries expressed satisfaction with the services received. Most participants belonged to the geriatric age group and adults, while the community expressed a demand for children-related services. However, about 55.7% of interviewed non-beneficiaries reported they seek healthcare from specific doctors only.

In summary, the assessment indicates that beneficiaries are accessing healthcare services from the Mobile Medical Unit. However, there is a need to enhance services for the community members who are ill but not availing themselves of Mobile Medical Unit services.

2 Background

India has an established medical and public health service system designed to provide free-of-cost care to all citizens through a government-run network of providers and infrastructures. More extensive private networks supplement these services with diverse cost models. However, these systems face constraints due to socioeconomic limitations, a booming population, and cultural diversity. Access to healthcare and equitable distribution of health services are fundamental requirements, posing challenges in resource-constrained settings like India. Mobile Medical Units have gained prominence as a strategy to enhance access. Mobile Medical Units aim to reach underserved areas by bringing healthcare to the people's doorstep, primarily addressing primary healthcare needs. Many corporations, states, and non-governmental organizations (NGOs) have successfully launched and operated Mobile Medical Units.

Gujarat State Petronet Limited (GSPL) has taken the initiative to support Mobile Medical Units through its CSR activity in three districts of Gujarat—Bharuch, Navsari, and Olpad. The primary objective of these mobile units is to provide basic health services and routine laboratory services at the doorstep in rural areas.

This endline assessment seeks to document the benefits, services rendered, reach, and efficiency of Mobile Medical Units and the potential advantages they bring to the communities covered by Mobile Medical Units.

3 Methods

3.1 Study type

It was an endline quantitative data assessment, where the secondary data (data shared by the KCT) analysis was followed up with a prompt primary evaluation conducted in November 2023.

3.2 Study setting

The mobile medical unit of the Gujarat State Petronet Ltd. (GSPL) covers about 139 villages in three blocks of South Gujarat, i.e., Navsari, Olpad, and Bharuch. The sampled sites are pinned as shown on the map. Similar geographies were covered as part of the assessment.

3.3 Study Sample & Sampling

The list of the villages and beneficiaries covered by the Mobile Medical Unit from July 2022 to July 2023 was provided by Keshvi Charitable Trust-KCT (the implementation agency supported by GSPL). In the last year, 139 villages were covered, catering to 25978 beneficiaries. Convenience sampling was used to sample the villages and stratified cluster sampling for beneficiary households. A total of 30 of the villages (10 from each block) were selected based on the convenience sampling. Therefore, out of 139 villages, 30 were chosen as sampled villages for the survey. Based on the line listing of the beneficiaries who availed services from Mobile Medical Unit in the last three months, they were selected as beneficiaries regardless of the complaints, i.e., joint pain, fever, abdominalpain, etc., they experienced. We have also collected data from non-beneficiaries (who had not availed services from Mobile Medical Unit were considered non-beneficiaries or who were ill but did not seek healthcare from any healthcare facility or were not ill in the last twelve months) to understand the reasons behind not availing services from Mobile Medical Unit. The beneficiaries were selected based on the population to proportionate sampling (PPS)with the distribution. The 5444 beneficiaries included in the previous quarter assessment (Feb 2023 to May 2023) were a subset of the 25978 beneficiaries assessed during this endline assessment. However, the current sampled beneficiaries 250 differed from those sampled 146 during the previous quarter (February 2023 to May 2023). The detailed sampling of the beneficiaries is shown below:

Block	No of beneficieries	Weightage (%)	Sampled beneficiries	Non-Beneficiary
Bharuch	8809	0.34	84	67
Navsari	8442	0.32	81	88
Olpad	8727	0.34	84	95
Total	25978	1.00	250	250

4 Data collection and data analysis

A structured quantitative data collection tool was prepared to collect data from beneficiaries and non-beneficiaries. The tool included demographic data of beneficiaries and non-beneficiaries, type of illness during the period as mentioned earlier, i.e., Acute or Chronic,type of services availed from the Mobile Medical Unit or Private or Public hospitals, the reason for seeking or not seeking services from the Mobile Medical Unit or Private or Public hospitals, satisfaction level with doctors/staff, medicine/ advice, and healthcare service provided by Mobile Medical Unit. The final tool was digitized to collect the information in electronic format.

The data shared by the implementing partner KCT were gathered and used to document the outreach of the Mobile Medical Units. The Mobile Medical Unit reach was presented as the total villages covered in the three selected settings: Bharuch, Olpad, and Navsari. The descriptive types of patients who availed of servicesfrom the Mobile Medical Unit were analyzed. A descriptive analysis using statistical software (STATA) was conducted for the quantitative data.

5 Result

This section presents the results of the data shared by the KCT and the quantitative survey conducted in the 30 villages of the Bharuch, Navsari, and Olpad.

5.1 Data analysis of secondary data collection (July 2022 to July 2023)

5.1.1 Demographic information of the secondary data received from KCT

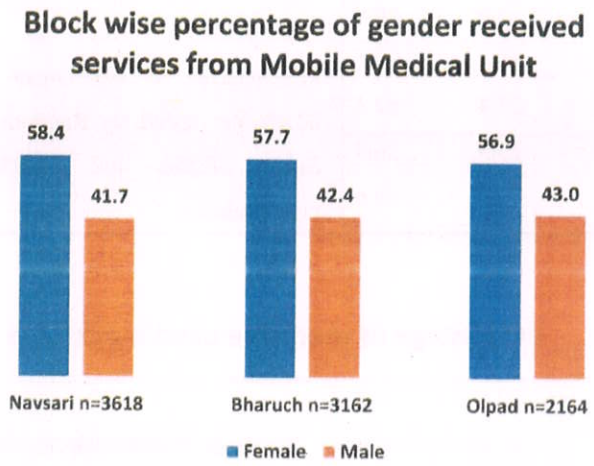


Figure 1 Block wise gender distribution

A descriptive analysis of the secondary data (data shared by the KCT) was done. About 8945 beneficiaries availed services from the Mobile Medical Unit in three districts of South Gujarat, i.e., Bharuch,Navsari, and Olpad. Of 3618 beneficiaries from Navsari block, 2111 (58.4%) were female, and 1507 (41.7%) were male. Of 3162 beneficiaries from Bharuch block, 1823 (57.7%) were female, and 1339 (42.4%) were male. Out of 2164 beneficiaries from Olpad block, 1233 (57%) were female, and 931 (43.1%) were male. In all three blocks, most of the beneficiaries are from the age of above 60 years. Details of the age-group category have been mentioned in the figure. Out of the total beneficiaries of Navsari 3618, Bharuch 3162, and Olpad 2164, 2857 (78.9%), 2553 (80.7%), and 1840 (85.3%) from above 60 years respectively.

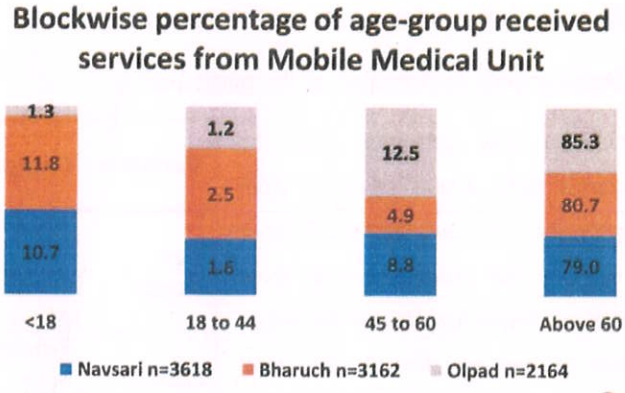


Figure 2 Block wise age-group distribution

Variable	Category	Navsari n=3618	Bharuch n=3162	Olpad n=2164
Gender	Female	58.4	57.7	56.9
	Male	41.7	42.4	43.0
Age group	<18	10.7	11.8	1.3
	18 to 44	1.6	2.5	1.2
	45 to 60	8.8	4.9	12.5
	Above 60	79.0	80.7	85.3
Visit type	Follow up	84.19	51.6	80.9
	New	15.81	48.4	19.1
Laboratory service	RBS	53.8	37.4	62.4
	HB	46.8	25.9	36.8
Counselling Service	Yes	36.5	33.0	46.6

Table 1 Demographic & type of service received from the Mobile Medical Unit

Out of 3618 beneficiaries of the Navsari block, 53.8% got tested for Random Blood Sugar (RBS) and 46.8% for Haemoglobin. Of 3162 beneficiaries of the Bharuch block, 37.4% got tested for Random Blood Sugar (RBS) and 25.9% for Haemoglobin. Out of 2164 beneficiaries of the Olpad block, 63.4% got tested for Random Blood Sugar (RBS) and 36.8% for Haemoglobin.

All three blocks used the medicines are shown in the stacked bar chart. Tablet paracetamol 500mg was most frequently prescribed in all three blocks, while tablet Buscopan/Dicyclomine 20mg was least prescribed.

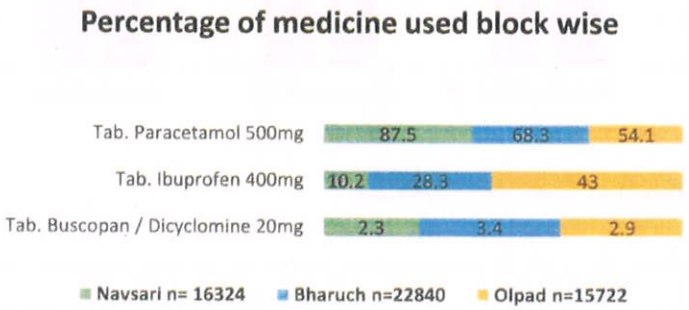


Figure 3 Percentage of medicine used block wise

5.2 Data anaylsis of the primary data collection

5.2.1 Demographic information of the participants

Primary data was collected from the beneficiaries (who availed services from Mobile Medical Unit) and non-beneficiaries (who were ill but availed services from private/ Government hospitals or did not go anywhere or had no illness). The total number of beneficiaries and non-beneficiaries was 250. Of the total participants of 500, 92.4% were about visiting Mobile Medical Unit in their village.

Variables	Category	Beneficiary n=250 (%)	Non-beneficiary n=250 (%)
Age Group	18 to 44	79 (31.6)	110 (44)
	44 to 60	82 (32.8)	77 (30.8)
	60 and Above	89 (35.6)	63 (25.2)
Gender	Female	175 (70)	156 (62.4)
	Male	75 (30)	94 (37.6)
Caste	Schedule Caste	37 (14.8)	32 (12.8)
	Schedule Tribe	76 (30.4)	115 (46)

Table 2 Demographic information of the participants

Out of 250 beneficiaries, 70.4% said they availed services from the Mobile Medical Unit because it was near their home or village, 64% and 51.2% said that the medicine prescribed to them was effective and services were good, while 16% had faith in the Mobile Medical Unit services. 24.8% agreed that the staff and doctor were better, and 0.8% said their travel cost was saved because of the Mobile Medical Unit visit.

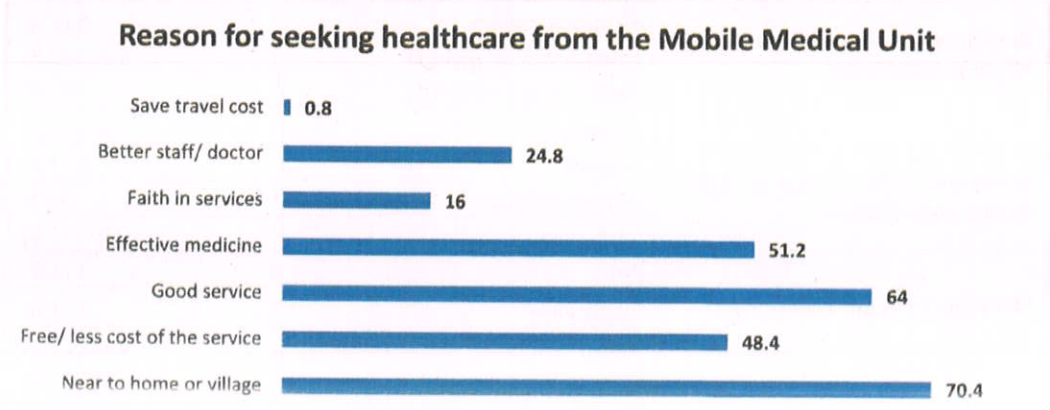


Figure 4 Reason for seeking healthcare from the MOBILE MEDICAL UNIT

5.2.2 Information about services given by the Mobile Medical Unit

Variable	Category	Beneficiary n=250(%)
Beneficiaries heard about Mobile Medical Unit from	Community Health Workers	8 (3.2)
	Family members	6 (2.4)
	Friends and Neighbour	107 (42.8)
	Poster or any other IEC	10 (40
	Self-aware	119 (47.6)
Behaviour of the doctor or staff during consultation	Neutral	6 (2.4)
	Somewhat nice	5 (2)
	Very nice	239 (95.6)
Medicine brought relief	No	3 (1.2)
	Somewhat	4 (1.6)
	Yes	243 (97.2)
Reason for seeking healthcare from Mobile Medical Unit	Near to home or village	176 (70.4)
	Free/ less cost of the service	121 (48.4)
	Good service	160 (64)
	Effective medicine	128 (51.2)
	Faith in services	40 (16)
	Better staff/ doctor	62 (24.8)
	Save travel cost	2 (0.8)
Type of illness for which availed services	Acute	185 (74)
	Chronic	65 (26)
Type of service availed from MOBILE MEDICAL UNIT	Laboratory service	33 (13.2)
	Measurements (Height/Weight/BP/Temp.)	111 (44.4)
	Consultation with drugs	209 (83.6)
	Counselling	82 (32.8)
Screened for self	Yes	39 (15.6)
Referred to seek healthcare from MOBILE MEDICAL UNIT by	Self	155 (62)
	CoMobile Medical Unitnity Health Workers	4 (1.6)
	Family members	58 (23.2)
	Friends and Neighbour	79 (31.6)
	Mobile Medical Unit staff	10 (4)
	Panchayat member	4 (0.4)
Referred for further diagnosis/ treatment	Yes	10 (4)

Table 3 Information about the Mobile Medical Unit services

5.2.3 Information about the non-beneficiaries

Out of total 250 non-beneficiries, 24 were denied to visit any healthcare facilities when they were ill and 16 narrated that they were not ill in the last 12 months. Hence, out of total non-beneficiries 210 agreed that they have visited either private or government hospitals. Following table shows the type of illness, type of services and reason for not availed services from the Mobile Medical Unit when they were sick has mentioned in the table.

Variable	Category	Non-beneficiary n=210 (%)
Type of illness for which availed services	Acute	130 (65.7)
	Chronic	70 (33.3)
	Others	2 (0.95)
Type of service availed from private/government healthcare facility	Laboratory service	89 (42.38)
	Measurements (Height/Weight/BP/Temp.)	101 (48.1)
	Consultation with drugs	199 (94.76)
	Consultation without drugs	11 (5.24)
	Counselling	36 (17.14)
Reason for not availed service from Mobile Medical Unit	No trust in Mobile Medical Unit	7 (3.33)
	Difficulty in accessing service from Mobile Medical Unit	48 (22.9)
	Preference to a specific doctor	117 (55.7)
	Not available (Migrants)	1 (0.48)
	Other reasons	67 (31.9)

Table 4 Information about the non-beneficiries

6 Conclusion

In conclusion, the descriptive analysis of secondary data from the Mobile Medical Unit in three districts of South Gujarat provides valuable insights into the beneficiaries' utilization patterns and healthcare behaviors. The data reflects that a significant number of beneficiaries, totaling 8945, availed of services, with the majority being above 60. Gender-wise, females constituted a higher percentage in all three districts, with the age group above 60 being the predominant demographic. The analysis of health tests revealed variations across districts, with different percentages of beneficiaries undergoing tests for Random Blood Sugar (RBS) and Haemoglobin. Additionally, as depicted in stacked bar charts, the prescription patterns of medicines highlighted that Tablet paracetamol 500mg was the most frequently prescribed. Tablet Buscopan/dicyclomine 20mg was least prescribed across all three blocks.

The primary data collection from beneficiaries and non-beneficiaries further enriched the understanding of factors influencing Mobile Medical Unit utilization. Most beneficiaries preferred Mobile Medical Unit services due to proximity, effectiveness of prescribed medicines, and the quality of services provided. Conversely, non-beneficiaries cited various

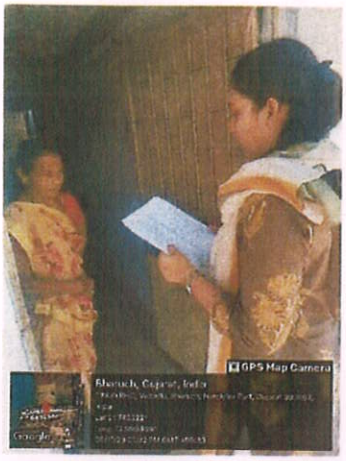
reasons for not availing of Mobile Medical Unit services, including denial of healthcare visits and a perceived lack of illness. These findings underscore the importance of community based healthcare services, such as Mobile Medical Units, especially for the elderly. Tailoring healthcare initiatives to address specific demographics and understanding the factors influencing healthcare-seeking behaviors can contribute to more effective and accessible healthcare delivery. Additionally, the study suggests that promoting awareness and addressing misconceptions may enhance the utilization of such services among non-beneficiaries, ultimately contributing to improved overall community health.

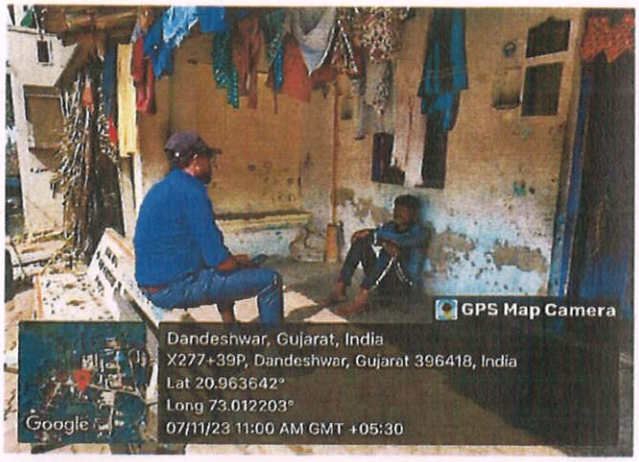
The deployment of mobile medical units tailored specifically to serve vulnerable individuals who encounter difficulties in accessing healthcare facilities. By bringing healthcare services directly to their doorsteps, these initiatives have effectively bridged the gap between healthcare providers and the elderly, ensuring that no one is left behind in essential medical care. Furthermore, providing door-to-door services at no cost has eliminated financial barriers that often deter elderly individuals from seeking medical attention. This approach not only addresses the immediate healthcare needs of the elderly but also promotes preventive care and early detection of health issues, thereby potentially averting more serious medical conditions in the future. Moreover, by offering complimentary lab tests such as haemoglobin and blood sugar screenings, these mobile medical units have empowered elderly individuals to monitor and manage their health more effectively.

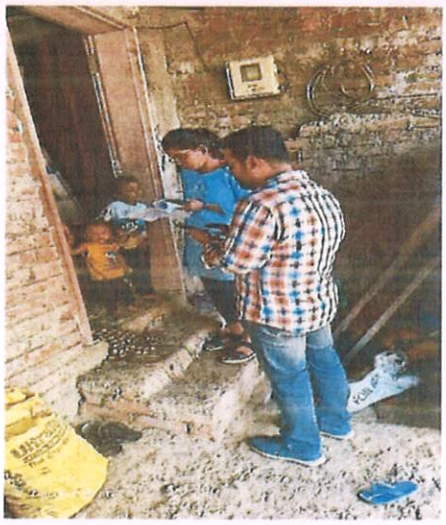
Additionally, by extending their services to marginalized communities, these mobile medical units play a crucial role in addressing healthcare disparities and promoting health equity. By reaching out to underserved populations who may face additional barriers such as transportation challenges or financial constraints, these initiatives ensure that healthcare services are accessible to all, regardless of socio-economic status or geographic location. In essence, the provision of mobile medical units catering to the elderly population represents a commendable endeavour that addresses immediate healthcare needs and embodies a compassionate and inclusive approach to healthcare delivery.

By prioritizing accessibility, affordability, and inclusivity, these initiatives serve as a beacon of hope and support for elderly individuals and marginalized communities alike, fostering healthier and more resilient communities.

7 Annexure (Field Photographs)







End of the report

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