KHPT
engage, innovate, empower

A study to assess the effect of an intervention with “long-haul” truck drivers on their Holistic Health and Well-being at JSW plants in Sandur, Ballari, Karnataka

- A Baseline Report

Authors

Arin Kar, Ashwini Pujar, Ambuja Kowlgi

Author contact

Arin.kar@khpt.org

Acknowledgement

We are deeply grateful to the JSW Grant for making this qualitative study possible. We sincerely thank the JSW leadership and officials for their continued support and for generously sharing their time, insights, and experiences, which enabled a nuanced understanding of the lives of truckers and their health-seeking behaviours.

We extend our heartfelt appreciation to all study participants, including 5 MT truck drivers and helpers, as well as other stakeholders like canteen owners and workers, mechanics, and garage personnel, whose candid reflections enriched the study. We are also thankful to JSW officials from various units, including foundation, security, logistics, transport agencies, and Sanjeevini Hospital, and participated in the key informant interviews and contributed valuable institutional perspectives.

We also acknowledge qualitative research assistant Mr. Dawood Nagarachi for his dedicated efforts in data collection. We also thank the survey team for their support in data collection process. Finally, we express our sincere appreciation to the KHPT program for data collection process and also to the administration and finance teams for their essential logistical and administrative support throughout the study.

Suggested Citation

KHPT (2026). A study to assess the effect of an intervention with “long-haul” truck drivers on their Holistic Health and Well-being at JSW plants in Sandur, Ballari, Karnataka

©KHPT, 2023

Publisher: KHPT IT Park, 5th Floor
#1-4, Rajajinagar Industrial Area
Behind KSSIDC Administrative Office
Rajajinagar, Bengaluru - 560 044

Ph: + 91 80 4040 0200
Fax: + 91 80 4040 0300
E: khptblr@khpt.org
W: www.khpt.org

The photographs included in this report are of captured during the needs assessment study.

BACKGROUND AND INTRODUCTION

The trucker community is one of India's most neglected and vulnerable community groups. They face multi-layered barriers, as shown from data across studies in India. The drivers face multiple health problems like noncommunicable and other chronic diseases (34.74%), musculoskeletal problems (24.17%), communicable diseases (14.52%), oral cavity-related problems (1.23%), and other minor ailments (17.77%). Regional differences were reported in anthropometry and diabetes prevalence[1]. While 22% were overweight and 49% were obese, the prevalence of obesity among truck drivers ranged from 55% in the south and 47% in the east compared to 32% in the west region. Of all truck drivers, 44% had non-communicable diseases; 21% had musculoskeletal conditions, and 12% were suffering from communicable diseases. Overall, 16% of the truck drivers had diabetes (random blood sugar level of 200 mg/dL), and the prevalence of diabetes differed significantly among the three regions (18% in the east, 11% in the west, and 17% in the south). Nearly half of the truck drivers, 47% had high blood pressure (≥140/90 mm Hg), and the regional difference was not significant[2]. A pilot study by IIT Delhi, supported by road transport ministry named "Abhay" with truck drivers in 50,000 truck drivers in 2024 in six states of UP, Rajasthan, Madhya Pradesh, Maharashtra, Karnataka, and Tamil Nadu found that over half of the drivers suffered from compromised vision, 44% were overweight, and 57% had elevated blood pressure. Also, 37% were found to have moderate to high stress levels. The study found that 48% drivers had no social security coverage and 69% did not have any insurance[3] (there is no clear mention whether this was life or health or any insurance).

KHPT has been awarded a CSR grant from JSW to design an intervention to improve the wellbeing of "long-haul" truckers who access two truck terminals in the JSW plant in the Sandur taluka of Ballari district in Karnataka. The primary outcomes of the intervention are:

1. Improved knowledge, awareness, and attitudes among truckers regarding health and its determinants.
2. Improved early diagnosis and treatment of NCDs and communicable diseases (HIV, STI, TB) among truckers.
3. Enhanced digital tracking to promote health-seeking behaviours and person-centred care among truckers.
4. Building an enabling environment that promotes trucker safety, nutrition, well-being, and community support.

OBJECTIVES OF THE STUDY

To evaluate the effect of the intervention, a pre-post mixed method study is planned. The primary aim of the study is to assess the effect of the intervention on the health status of the "long-haul" truck drivers. The specific objectives of the evaluation are as follows:

[1] *Chanda S, Randhawa S, Bambrah HS, Fernandes T, Dogra V, Hegde S. Bridging the Gaps in Health Service Delivery for Truck Drivers of India Through Mobile Medical Units. Indian J Occup Environ Med. 2020 May-Aug;24(2):84-90. doi: 10.4103/ijoem.IJOEM_276_19. Epub 2020 Aug 19. PMID: 33281377; PMCID: PMC7703829*

[2] *Randhawa, Sonali & Dogra, Vishal & Bambrah, Hardeep & Hegde, Shailendra Kumar B. & Sudke, Ajitkumar & Phanse, Vishal. (2019). Morbidity profile and prevalence of diabetes and high blood pressure among truck drivers in three regions of India. 10.21203/rs.2.12894/v2*

[3] https://crdt.iitd.ac.in/project/abhay [Accessed on 15th of December, 2026]

1. To estimate the level of perceived stress, emotional distress, and locus of control to assess the level of resilience among the truck drivers and assess related prevalence of violent and risky behaviour (sexual, substance abuse).
2. To record reported levels of health problems, like non-communicable, communicable, or any other chronic diseases (visual, skin, musculoskeletal), and assess patterns of health seeking behaviour and coverage of insurance.
3. To measure the levels of access to basic utilities/spaces (drinking water, washroom facilities, resting place), social entitlements, and awareness and practice of a healthy diet among truck drivers.
4. To understand how truck drivers perceive and maintain work-life balance, including identifying key stressors and sources in their lives.
5. To explore truck drivers' healthcare needs, uncover barriers they face in accessing care, and identify potential strategies and support needed to address these challenges.
6. To examine the challenges JSW officials encounter in managing truck drivers and highlight areas for improvement.

This study considered long-haul drivers as those who travelled at least 300 kms a day and spend 15 or more days outside their home for driving.

METHODOLOGY

Study design

A mixed-method approach is employed for the study. For the quantitative study, cross-sectional sample survey with "long-haul" truck drivers and for the qualitative study a rapid ethnographic research design with multiple stakeholders were conducted.

Geography

The study with the trucker community and aligned stakeholders was conducted within the JSW premises at Toranagallu, Ballari district, Karnataka. Data collection was mostly done at the 5 MT Truck Parking Terminal, a central operational site within the JSW logistics ecosystem.

Qualitative Study

The qualitative study explored the lived experiences of, the trucking community, with a particular focus on their working conditions, health needs, and health-seeking behaviours. The rapid ethnographic approach provided scope to contextualize the social, occupational, and environmental factors shaping the everyday realities of truck drivers/helpers within constrained timeframes. In addition, institutional perspectives were incorporated to examine existing systems and practices, to identify critical gaps as well as opportunities to strengthen a comprehensive and responsive support framework for truck drivers and helpers operating within the JSW ecosystem.

Qualitative data collection was conducted between December 2025 and January 2026. The study employed in-depth interviews (IDIs) and key informant interviews (KIIs), supplemented

by field observations and informal conversations with various stakeholders to enrich contextual understanding.

Study Participants

The qualitative study included both primary and secondary stakeholders:

1. Primary stakeholders: 5MT truck drivers and helpers
2. Secondary stakeholders: Representatives from JSW and allied institutions, including the JSW Foundation, Humraahi project team, logistics, transport and security teams, Sanjeevini Hospital staff, and government health officials.

As part of the rapid ethnographic approach, informal interviews were conducted with individuals working in and around the transport ecosystem, including garage mechanics, tea/paan stall owners, security guards, Sulabh Shouchalaya caretakers, electricians, and canteen staff. These interactions provided supplementary contextual insights into drivers' routines, service access, and everyday practices.

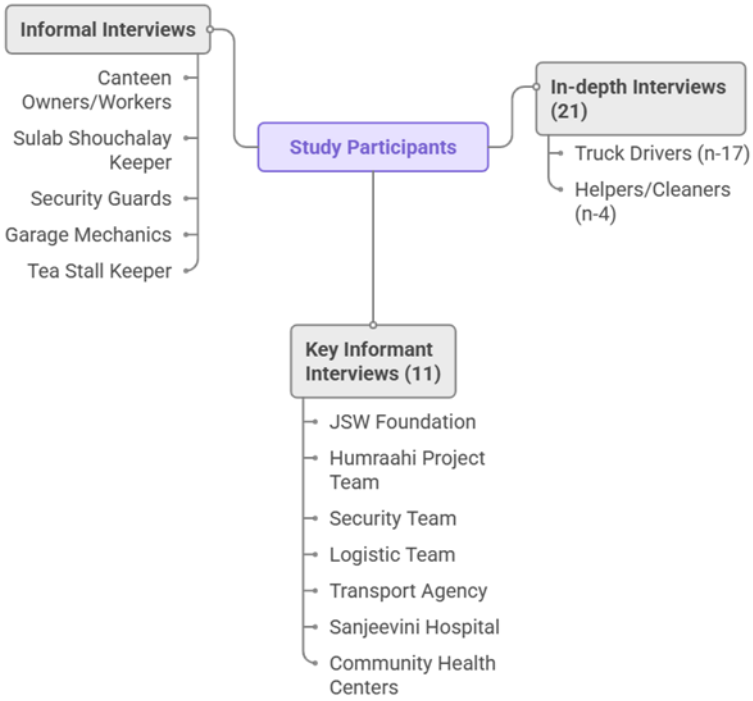
The research assistant maintained field observations in the study setting and selected surrounding premises. Observational notes documented infrastructure, service utilization patterns, and interactions within parking area. Insights generated from these informal engagements and structured observations have been integrated into the results section to provide a comprehensive contextual understanding of the study setting.

Most in-depth interviews with drivers and helpers were conducted within the truck parking area, enabling engagement within their natural work setting and transit environment.

Key informant interviews were conducted at the respective institutional premises of stakeholders, including SVV, JSW Foundation, and Sanjeevini Hospital. These locations were selected to capture organizational and service-delivery perspectives within the broader ecosystem linked to the truck terminal. A few key informant interviews were conducted virtually, based on availability and feasibility.

Sampling and Recruitment

A random sampling approach was used to select primary stakeholders (truck drivers and helpers). For secondary stakeholders, relevant JSW units were shortlisted in consultation with the KHPT program team. Within each unit, individuals who interacted regularly with the truckers' community were identified and nominated by the JSW Foundation team for participation in the study. Health officials were included to capture insights into existing context-specific or trucker-focused health programs and services.



Data Collection Tools and Process

Pre-tested semi-structured interview guides were developed for IDIs and KIIs. Research assistant was trained to use the guides flexibly, allowing to rephrase, probe, or skip questions based on the interview context and flow. All IDIs with truck drivers and helpers were conducted by a male research assistant fluent in Hindi and experienced in qualitative research. KIIs were conducted by the KHPT central research team in participants' preferred language. Interviews lasted approximately 45-60 minutes and were audio-recorded with informed written or oral consent.

The interviews explored the working and living conditions of truckers, including their occupational behaviours, motivations for entering the profession, perceptions of overall health, health-related challenges, access to treatment, and suggestions for improving their health and well-being. Interviews with JSW officials additionally focused on existing welfare initiatives, identified gaps in current programs, compliance with traffic rules and regulations, and operational challenges. Discussions with health officials aimed to capture information on context-specific and trucker-focused health programs and services currently being implemented.

Data Management and Analysis

Audio recordings were transcribed verbatim and translated from Hindi and Kannada into English by an external team familiar with both languages. The data has been sorted into categories aligned with the study objectives into the Excel-based thematic analysis matrix. An inductive analytical approach was then applied to identify emerging patterns and themes. The qualitative research team conducted internal quality checks and iterative reviews to ensure

accuracy, completeness, and minimize analytical bias. All findings presented in this report are derived from observations, informal discussions, and in-depth interviews conducted during the study. Participants' perspectives are added as verbatim quotes in italics to preserve the authenticity of their voices and to ensure faithful representation of their experiences within the analytical narrative.

Training and Ethical Considerations

The research assistant received intensive training on study objectives, interview tools, and research ethics before data collection. Before each interview, participants were briefed about the purpose of the study, the voluntary nature of participation, and the intended use of the information collected. Confidentiality was strictly maintained throughout the study. All interviews were anonymized and assigned unique identification codes to prevent disclosure of participants' identities.

Quantitative study

Survey

The cross-sectional survey assessed participants' reported health status, focusing on existing communicable, non-communicable, and chronic conditions, and access to type of health services.

Sampling

We arrived at a minimum required sample of 562 truck drivers based on the assumption that perceived stress would be around 37% based on the IIT Delhi study and because of the intervention, the level of perceived stress may come down to 30%. Further, to arrive at a sample using the two-proportion intervention design, with a corresponding Z-score value of 95% confidence level (one-sided) and 80% chance of not committing a Type II error.

Sample Selection

The trained field investigators approached the truck drivers without any fixed interval process. The Field Investigators (FIs) moved around the terminal approaching the truck drivers, and anyone ready to participate administered the informed consent before starting the survey. Any chance of duplication was averted by enquiring whether the drivers participated in the study recently and also by the uniqueness of the vehicle number and the Driving license number captured in the mobile based digitised data collection platform.

Data collection tools

KHPT developed a structured questionnaire, subsequently translated into Hindi and Kannada languages. The tool covers working conditions, perception of challenges at work, and access to basic needs during journeys they undertake. To measure the levels of perceived stress, emotional distress, and to assess the level of resilience, GAD-7, PHQ-9, and a multidimensional health tool for locus of control were administered, respectively. We also enquired about diet,

substance abuse, and any risky sexual behaviour. The data collection tool was digitised using the freely accessible and widely used Survey Solutions platform [https://mysurvey.solutions/en/] developed by the World Bank, with all the necessary data protection measures. The application also works in off-line mode and the FIs used their mobile phones to collect the data. Once data is synced to the server, no data is retained in the mobile phone.

Training of field team

We trained field staff for four days. This included field practice sessions. The mandatory pre-fieldwork training session for the field staff included the procedures followed with respect to skills required for conducting interviews and obtaining consent (and handling non-consent). The training also included the information on the planned implementation, aims and objectives of the study, and the sample size. The FIs were trained to inform all the eligible respondents that their participation in the study was voluntary, and to adhere to the study protocol and to ensure that the interviews were conducted in places where the study participants felt comfortable. The FIs were informed not to reveal the identity of the respondents to any third party. A non-disclosure clause was included in the FIs' contracts. We trained them to maintain complete confidentiality of the recorded answers and not to show the answers to any other person.

Data collection and analysis

The data collection team consisted of four FIs. Although we trained six FIs, two of the FIs dropped out after training. The FIs needed to know how to speak and read Hindi. The total sample size reached was 612. Stata version 17.0 was used for data analysis. The data collection for the survey was conducted from 14th of December, 2025, to 21st of January, 2026.

Ethics Approval

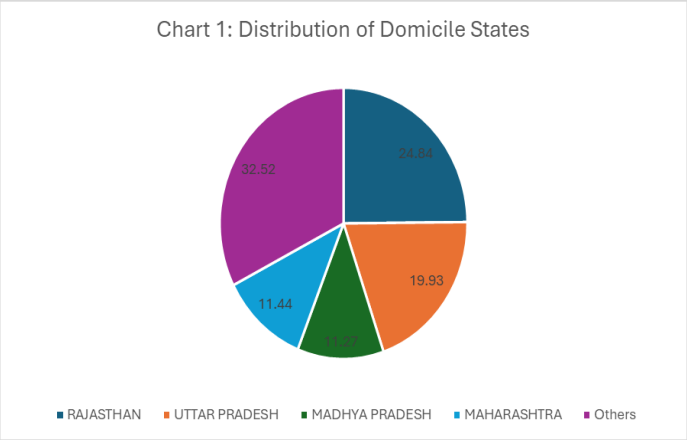
Ethics approval for this study was obtained from the ACE institutional ethics committee, Bangalore on 2nd December 2025

Findings: Quantitative study

The findings from the survey are presented in a descriptive manner. For programmatic use further

Background Characteristics

The average distance covered by the long-haul truck drivers was 438.5 kilometres (kms) in a day, with a range of 300 kms to 700 kilometres. The median distance covered was 450 kms. The average number of days away from home reported was 24.5 days, with a minimum of 15 days and a maximum of 30 days. 60% of the drivers stay more than 25 days out of home. Almost 68% of the drivers were from Rajasthan, Uttar Pradesh, Madhya Pradesh, and Maharashtra (Chart 1).



The median and average age of the drivers in the study sample was 35 and 36.4 years, respectively, with a minimum age of 20 going up to 70 years. More than 75% of the drivers were aged 30 years and above, and 76% were married. About 74% completed elementary education (completed at least standard 8), 52% of the drivers completed at least secondary education, while about 4% reported no schooling. The median number of family members reported was 5, and the median number of earning members in the household was 2, where 48% said they are the only earning members and 80% reported 2 earning members, including themselves. The median household earning was Rs 40,000 per month, and the median individual monthly earning was Rs 30,000. About 6% said they do not have a ration card, and 99% have Aadhaar, PAN, and voter cards.

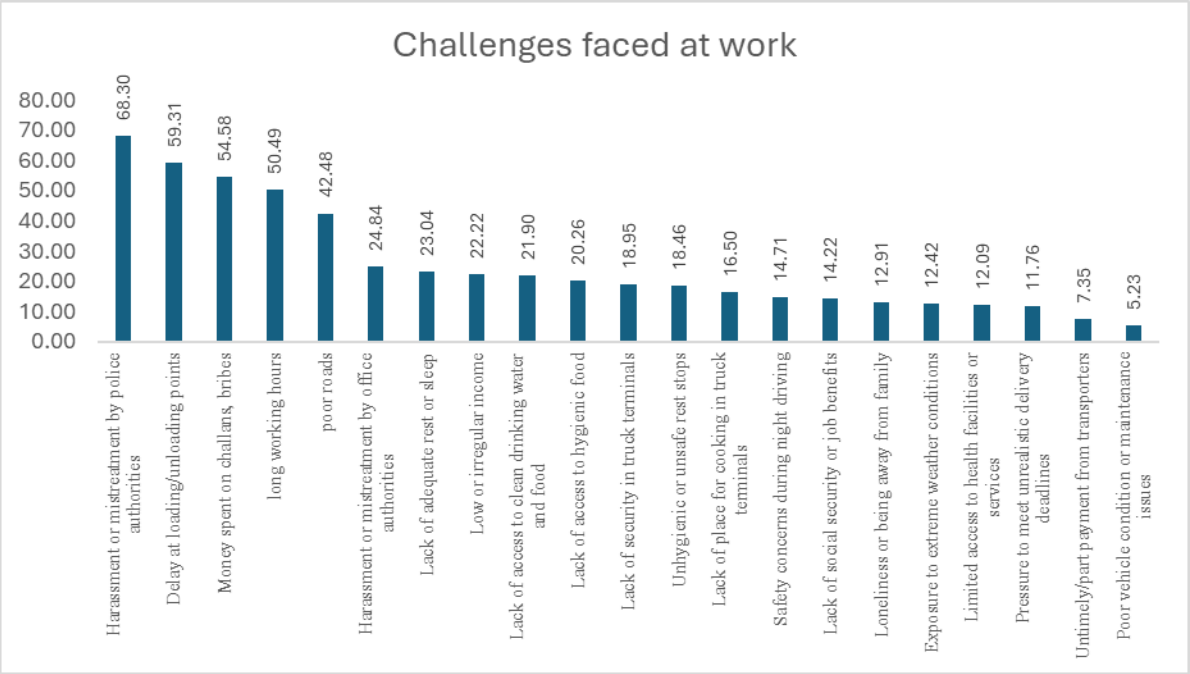
Vehicle and Work Environment

Most of the drivers reported owning an all-India permit, and about 3% said that they possessed a multi-state permit. Half of the drivers reported that they had been driving the vehicle for less than a year, and 17% mentioned that they had been driving the vehicle for more than two years. The average age of the vehicles was 7 years for 75% of the trucks. About 18% did not know about the last time the vehicle was taken for servicing, and more than three-fourths of the drivers said that the vehicle was taken for servicing within the last six months. About 30% said that the vehicle was not taken for repair to a garage in the last one year, and 30% said they didn't know about it.

About 55% of the drivers reported having a mixed system of salary or trip percentage, 23% reported payment on a trip basis, and 21% said they received a monthly salary. About 91% of the drivers said that they usually drive alone, and about 30% said they drive at night frequently. About 16% said they were involved in road accidents in the last one year, and 7% of them reported being involved in fatal accidents involving a human being. Almost half of the drivers cited vehicle related reasons like brake failure or old tyres, and a similar number stated that it was the fault of the other person.

On challenges faced at work, long working hours, poor road conditions, mistreatment by police, challans and bribes, and delay in loading and unloading varied from 40% to 60%. About one-fourth of the drivers complained about mistreatment by office staff and lack of adequate sleep, and on-fifth said they felt a lack of access to safe drinking water, hygienic food. Lack of social security and safety concerns in night driving were mentioned by 14%, and about 16%-19% reported a challenge for space for cooking in truck terminals, and lack of security in truck terminals. About one-fifth of Only 11% reported they felt pressure from the timeline to deliver. About 12% said they did not have access to health facilities or services, felt the extreme weather conditions, and loneliness of being away from family. Less than 10% complained about untimely payments and poor vehicle conditions (Chart 2).

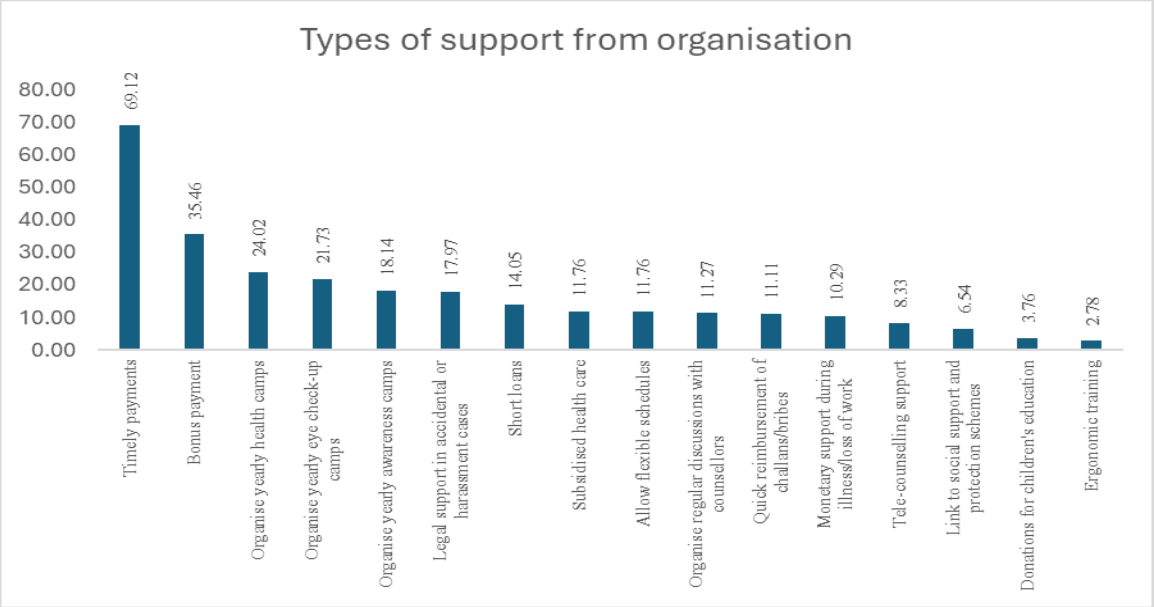
Chart 2: Challenges faced at work



The drivers were asked about the support they received from the organisation. Most of the spontaneous responses were timely payments (70%), bonus payments (35%), organise yearly health camps/eye check-up (24% / 21%), yearly awareness camps (18%), legal support in harassment cases (18%), short loans (14%), subsidised health care and allow flexible schedules (12%), quick reimbursement of challans (11%), monetary support during illness (10%) and other things (Chart 3). On getting sufficient rest while driving, 60% of the drivers said that the

company provides them sufficient time to stop and rest when they're tired. About 33% said they don't spend any amount towards challans, and Rs 2000 is the median sum paid towards Challan in a typical month.

Chart 3: Support from Company/Organisation



Also, 87% mentioned that they do have to pay bribes on the road, and the median sum paid towards a bribe is Rs 2500 in a typical month.

The drivers were asked if they got a chance to avoid driving during peak temperatures in summer, and 64% of the drivers said that they do get a chance to rest during peak temperatures.

A large number of drivers, 43%, reported that they do not have life insurance. About 15% said they have life insurance from the company.

Hygiene

The drivers were asked whether they were able to access toilets and bathing facilities during their travel. On access to toilets, 28% said they were able to access toilets always, 58% said sometimes, and 14% replied rarely or never. On access to bathing facilities, 21% said always, 58% sometimes, and 21% rarely. Only 17% reported taking a daily bath, and 11% reported taking a bath once a week or even at a lesser frequency. When asked about the different places they access toilets, apart from using toilets in dhabas and petrol pumps, 76% of the drivers said that they also use open fields to relieve themselves, and less than 20% mentioned use of designated public toilets (19%) and also of toilets in hubs/terminals (17%).

Substance use and risky behaviors

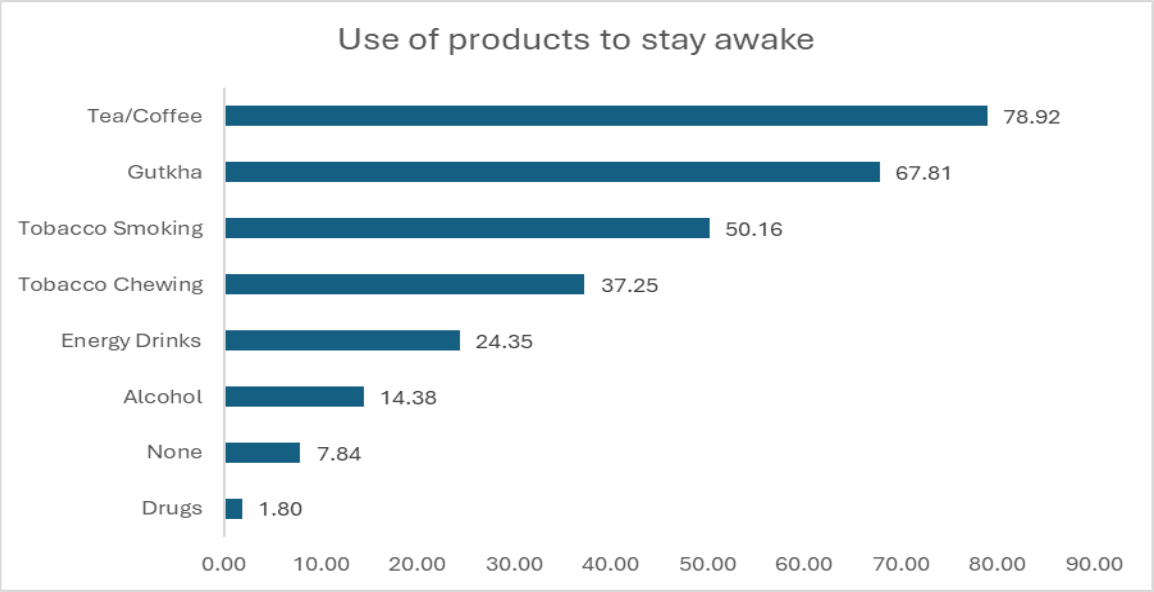
Consumption of tobacco products was very high, as 73% reported use of tobacco, and of them, 66% reported smoking more than 5 cigarettes a day. 36% responded to consumption of alcohol affirmatively, and amongst them, 30% said they consume alcohol 15 or more days in a month,

and a same percentage said they consume alcohol for 4 to 14 days a month, 6% said one to four days, and 34% reported that they do not consume alcohol every month. About 2% reported any drug use.

The drivers were asked if they had sex-oral, anal or vaginal sex, in exchange for money, gifts or favours during the past 12 months, 11% reported they had indulged in such sexual relations, and 40% of them said that they did not use a condom the last time they indulged in sexual interaction with a sex-worker.

Most of the respondents reported the use of beverages or substances and other tobacco products to stay awake, with approximately 80% saying they consume tea/coffee, 68% use gutkha, 50% and 37% smoke and chew tobacco, respectively, about 15% drink alcohol, and 2% reported the use of drugs (Chart 4).

Chart 4: Use of products to stay awake while driving

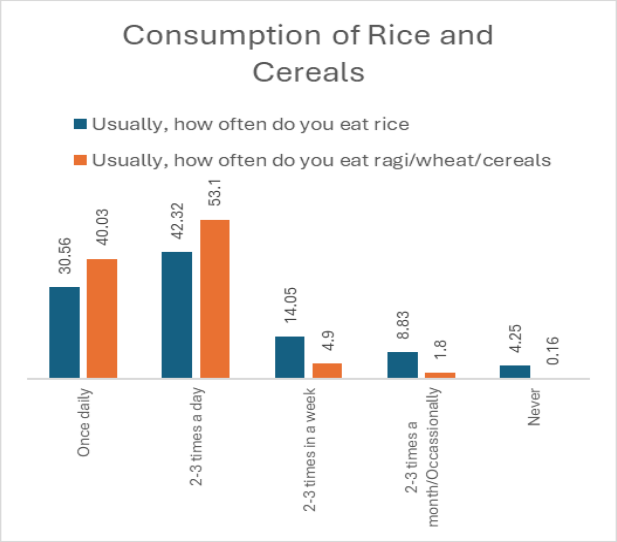


Physical activity and Diet

The drivers were asked how many days in a typical week their work involves vigorous-intensity activity that causes large increases in breathing or heart rate, like carrying or lifting heavy loads, digging, tyre change, etc., for at least 10 minutes continuously, and 76% responded none of the days, with most of the remaining said one to two days. Among those who said they do physical exercise, the median duration in minutes of exercise is 20 minutes on a typical day, with less than 4% doing any vigorous exercise of at least 150 minutes weekly.

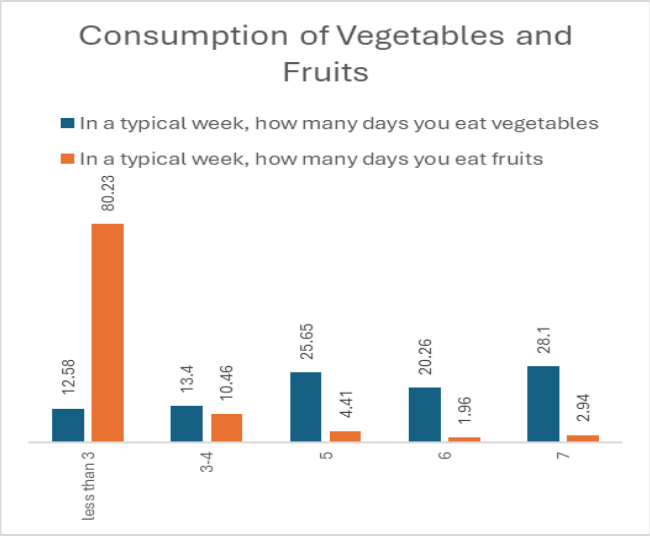
Most of the drivers, 73%, said they consume rice once daily, with 43% consuming twice daily. A little more, 93% said they consume ragi/wheat/cereals at least once a day (Chart 5a).

Chart 5a: Consumption of rice and cereals



While any fruit is consumed every week, consumption of fruits is low, as less than 10% consume any fruit on five or more days of the week. All the drivers reported consumption of vegetables at least one day of the week, and 75% consme vegetables 5 or more days of the week, but only 3% reported consuming vegetables all seven days.

Chart 5b: Consumption of fruits



About the consumption of meat products, 24% said they do not consume meat products, 54% said they do consume meat products one or two days a week, and 22% said they consume three or more days. Consumption of processed foods high in salt/oily and fried foods is moderate, as 15% said they avoid such foods, ~60% consume these sometimes or rarely, and ~25% said they always or often consume such foods. On eating any food high in sugar content,

it is slightly higher, where 21% said they do so daily, 27% indulge in two to three days in a week, 43% sometimes in a month, and ~9% said they never eat sugary foods.

Health Care and access to services

91% of the drivers said that they did not get any health screening done in the last one year. Of those who reported any screening, 54% were screened for hypertension and 60% for diabetes. A few drivers reported any existing health conditions (8%). While we cannot consider this as disease prevalence as the sample was not meant to estimate the prevalence of any disease, 2% reported hypertension, 1.6% reported blood sugar, 1.1% lower back pain, 1.3% skin disease.

About 10% said that they suffered from any acute illness or injury in the last 15 days. Of them, 43% did not seek treatment, as 50% of them did self-medication, and 35% thought it was not a major issue. 51% of the drivers sought treatment from a practitioner of the Indian System of Medicine, and 6% sought treatment from an allopathic practitioner. Of those who sought treatment, most of the drivers (71%) went to a private doctor, 14% went to a government health facility, 9% went to the pharmacy, and 6% went to an informal health care provider. Drivers who reported any hospitalisation in the last 365 days (5%), of them, only 3% went to a government hospital, and 88% went to a private facility. Reason stated for not choosing the government facility were- 60% felt the facility was too far; 22% felt specific services were required but not available; 34% thought quality was not satisfactory. 78% of the hospitalisation cost was borne using self-funds, and 38% said they also borrowed money.

The drivers were also asked if they had ever been tested or diagnosed with any of the following: about 2% said they were diagnosed with Asthma or COPD; about 9% had their vision/eyes checked by a doctor or other health worker and 55% of them were prescribed glasses; 26% were tested with HIV/STI (one person said he was diagnosed with HIV and did not initiate treatment); one percent reported any moderate or higher hearing problem.

About health insurance, only 57% drivers said they had health insurance, and ~30% got their insurance through the company, 26% through private insurance, and 1.3% said they had an ESI card.

Sleep Quality

The study assessed sleep quality which is essential for assessing both road safety and occupational health. In India, long-haul drivers face a "triple threat" of irregular shift work, poor wayside amenities (dhabas), and high mental stress. The Pittsburgh Sleep Quality Index (PSQI) becomes a vital diagnostic tool for both road safety and occupational health. To quantify the impact of long-haul logistics on drivers' well-being, this study utilized the PSQI to move beyond simple 'hours of rest' and capture the subjective depth and efficiency of sleep. Given that a PSQI score >5 is a known predictor of reduced reaction times, this metric serves as a proxy for both individual health and public road safety. The tool asks about past month 19 items. Most questions use a 4-point Likert scale, where, 0 is not during past month, 1 is less than once a

week, 2 is once or twice a week, 3 is three or more times a week. The PSQI utilises a weighted scoring algorithm to convert 19 self-reported items into seven clinically meaningful components. Each component is scored on a scale of 0 (no difficulty) to 3 (severe difficulty). The summation of these components yields a Global Sleep Quality Score (0–21). For this study, a Global Score of > 5 was utilised as the operational definition of 'Poor Sleep Quality.' This multi-component approach is particularly valuable for the truck driver population, as it allows for the isolation of specific triggers—such as Sleep Latency and Daytime Dysfunction—which are high-risk indicators for occupational fatigue and road safety.

About 80% of the truck drivers were found to have poor sleep quality based on the PSQI score.

Anxiety and Depression

Truck drivers were asked if they ever felt lonely during the trips, and 27% said they often or always felt lonely, and about 18% said they never felt lonely. 17% of the drivers said they have consulted with a counsellor or health worker about mental stress.

The study assessed anxiety and depression using Generalized Anxiety Disorder-7 (GAD-7) and Patient Health Questionnaire-9 (PHQ-9) tools. The GAD-7 is a 7-item scale designed to identify Generalized Anxiety Disorder and assess its severity. It asks participants how often they have been bothered by problems such as feeling nervous, being unable to stop worrying, or having trouble relaxing over the last 14 days. For commercial drivers, high GAD-7 scores often correlate with "road rage," chronic stress regarding tight delivery deadlines, and anxiety over vehicle safety or accidents. It uses a 0–3 scoring system for a maximum total of 21. A score of 10 or greater is the standard "red flag" for moderate anxiety that typically warrants further clinical evaluation. The PHQ-9 is a concise, 9-item self-report tool used to screen for the presence and severity of Depression over the previous two weeks. In the context of truck drivers, this tool is particularly sensitive to the "social isolation" and "burnout" inherent in long-distance hauling. Responses are scored from 0 (Not at all) to 3 (Nearly every day), resulting in a total score of 0–27. Scores of 5, 10, 15, and 20 represent the thresholds for mild, moderate, moderately severe, and severe depression, respectively.

About 25% of the truck drivers fell in the category of moderate to severe anxiety levels (chart 6a) and ~37% fell in the category of moderate to severe depression (Chart 6b).

Chart 6a: GAD-7 for anxiety levels

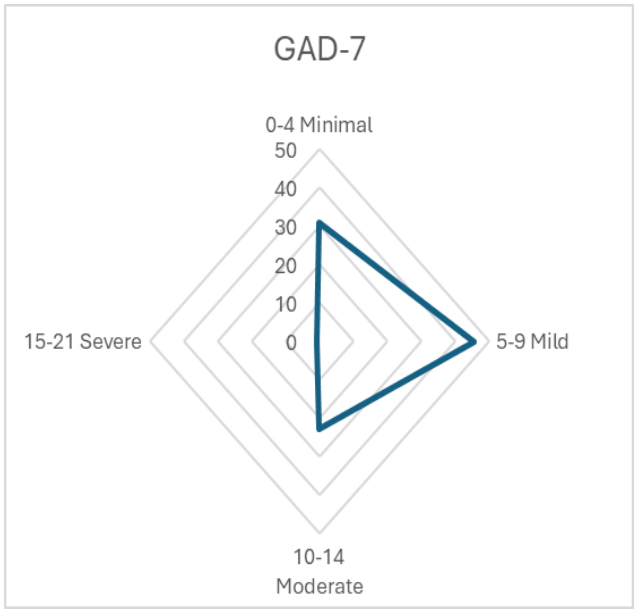
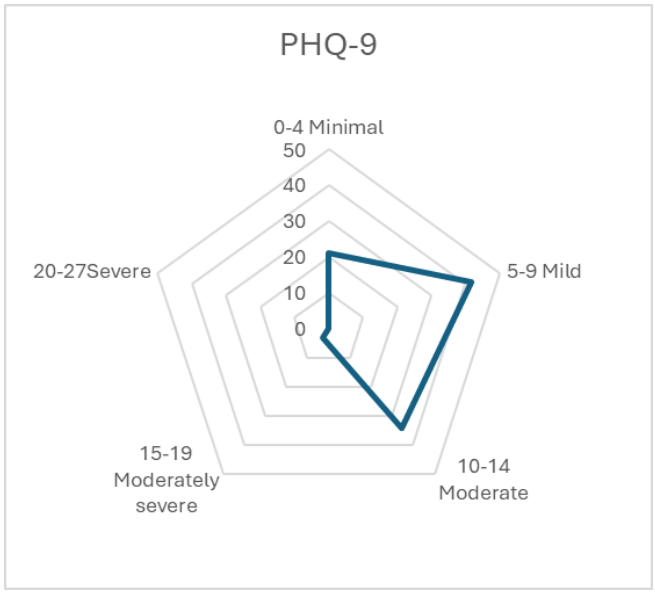


Chart 6b: PHQ-9 for depression levels



Findings: Qualitative study

Participation and Interview Context

Participation of drivers varied at the outset of interviews, with several participants displaying initial hesitation, hurriedness, or mild discomfort, often characterized by limited eye contact, divided attention due to phone calls, or concern about time constraints. However, in most cases, rapport improved as the interview progressed, particularly when discussions moved to familiar topics such as driving experience, work history, family responsibilities, or daily routines. Some interviews were conducted inside the drivers' trucks, with some participants offering tea, switching on air conditioning, or engaging comfortably in conversation, indicating increasing ease with the interaction. A few participants expressed concerns about confidentiality, including requesting the removal of identifiable information, which was addressed by sharing study details and contact information, further facilitating trust. Several drivers demonstrated openness in sharing personal experiences related to work conditions, substance use, health status, and career aspirations, while others participated selectively due to work-related interruptions such as delivery schedules. Overall, drivers who engaged fully often expressed that participation was meaningful and emphasized the importance of sharing their experiences to inform improvements in health services and programmes for truckers.

Socio-economic profile of the qualitative study participants

Details	Drivers (17)	Helpers (4)	Total (21)
Residence			
Andhra Pradesh	1	-	1
Bihar	2	1	3
Jharkhand	1	-	1
Karnataka	3	-	3
Maharastra	1	1	2
Madhya Pradesh	1	1	2
Rajasthan	4	1	5
Uttara Pradesh	4	-	4
Age			
<20 years	-	3	3
21-30	6	1	7
31-40	4	-	4
41-50	2	-	2
51-60	4	-	4
60+	1	-	1
Education			
No education	1	1	2
Primary	5	-	5
High school	6	1	7

PUC	2	2	4
Graduation	3	-	3
Marital status			
Married	15	-	15
Unmarried	2	4	6
Vehicle ownership			
Own	2	-	2
Transport	15	4	19
Work Experience			
<5 years	1	4	5
6-10 years	4	-	4
11-15 years	3	-	3
16-20 years	1	-	1
20+ years	8	-	8

A total of 21 participants were included in the in-depth interviews, comprising 17 drivers and 4 helpers. The participants represented multiple states, including Rajasthan, Karnataka, Bihar, Maharashtra, Madhya Pradesh, Andhra Pradesh, Jharkhand, and Uttar Pradesh, indicating an inter-state and migrant workforce. Age distribution showed a clear distinction between roles: all helpers were below 20 years, while drivers were distributed across age groups, with the largest proportion between 21-30 years (n=6), followed by 31-40 years (n= 4) and 51-60 years (n= 4). Educational attainment ranged from no formal education (n= 2) to graduation (n= 3), with most participants having completed primary or high school education. The majority of drivers were married (n= 15), whereas all helpers were unmarried. Only two drivers owned their vehicles; the remaining participants operated transport company-owned vehicles. Work experience varied, with eight drivers reporting over 20 years in the profession, while helpers and one driver had less than five years of experience.

All participants were affiliated with transport companies operating within the JSW logistics network, including Kataria, Greenline, Kaitan, BFC, Balaji, BEST, Saizar, BSS, BKP, Swaibhoj, Ashmi, and Shri Dayal Transport. Beyond the 21 in-depth interviews, the study included 11 key informant interviews with stakeholders such as Sanjeevini hospital staff, JSW Foundation representatives, logistics and transport management personnel, security staff, the Humraahi project team, and Community Health Centre health staff. In line with the rapid ethnographic approach, approximately eight informal interactions were also conducted with mechanics, Sulabh Shauchalay staff, tea stall owners, electricians, and additional drivers. These multiple sources enabled contextual understanding and triangulation across occupational and institutional perspectives.

Driving by compulsion, not choice



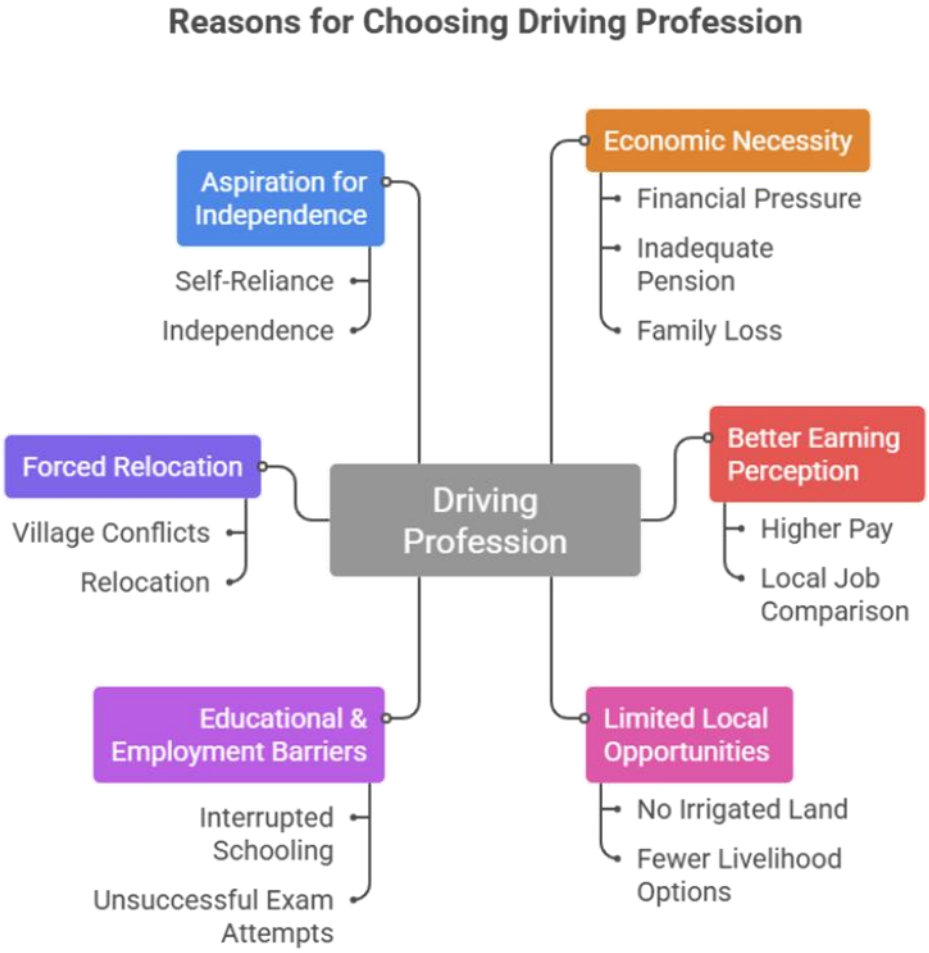
Entry into driving trucks emerged less as a single decisive choice and more as a gradual movement shaped by circumstance, exposure, and the search for livelihood. Drivers and helpers described learning "slowly, gradually… the experience of driving," through observation, guidance from senior drivers/friends, and repeated practice rather than formal training. These entry pathways were commonly mediated by relatives, family members, or acquaintances already engaged in the transport work. For many, the occupation was adopted because it was accessible and familiar "*this is what we have learnt… what else we can do*." Several drivers expressed enjoyment and attachment to driving, describing it as engaging and meaningful work, while others framed their continued participation as a compulsion or helplessness (*majboori)* driven by livelihood responsibilities and lack of alternatives. Earnings were typically trip-based and calculated in terms of what remained after deducting expenses such as loading and unloading charges, food, water, and informal regulatory payments. In many cases, remuneration simultaneously covered operational costs, effectively shifting financial risk onto drivers.

> *I have not gone home for three months, now I will go for Shivratri. I don't feel like coming back to truck after going home. I feel like staying, I like being at home. it is helplessness so I have to come back to work. (D-18, 40 years)*

Interrupted education, family financial crises due to parental death, unsuccessful attempts at securing government employment (police, BSF, army), local conflicts forcing migration, and limited parental support were commonly cited as turning points. In such contexts, driving did not necessarily represent a preferred or aspirational career choice, but rather a practical and accessible means of income generation and, for some, income maximisation. For many participants, it emerged as the most viable livelihood option available at a critical juncture, reinforcing its adoption as a sustained occupational pathway.

> *Whatever I can earn from agriculture in ten years, I can earn in three months through driving. So, I joined this work." (D8, 54 years)*

> *I had put in a lot of effort and applied for several jobs. I fell short by 24 marks to get selected for the Rajasthan Police. I had passed all the physical tests but I fell short of one mark in written test. From that day, I felt very dejected; my mind was block hogaya. Then I learned driving and came into this line of work. (D3, 28 years)*



Entry into trucking was also shaped by structural constraints; however, everyday occupational experiences reflected a more complex interplay between compulsion and perceived autonomy. While many described driving as a necessity *(majboori)* linked to economic survival, some also articulated a sense of independence within the profession. For a few, the work extended beyond hardhip and routine, with references to '*heart settles into it*' (*man lag jaata hai*) indicating a degree of affective attachment. At the same time, the occupation remained firmly tied to survival, with monthly salaries and travel allowances sustaining household needs.

> *The best thing about this job is I feel independent (swatantra mehsoos karte hain). I am not anybody's slave… I am not working under anybody. I can sleep whenever I wish, I can drive whenever I want to. I am living on my own terms (apne hisaab se jee rahe hain)." (D7, 28 years)*

This coexistence of structural constraint and perceived autonomy formed a central tension in drivers' narratives, shaping how they interpreted and endured the demands of mobility, prolonged absence, and physical strain within trucking life.

Despite acknowledging stable income and occasional satisfaction in driving, most did not consider trucking a desirable occupation for the next generation. A recurring sentiment was that while '*money and everything in this line*', the work was described as lacking respect (*izzat)*, with drivers often stereotyped and routinely blamed in road incidents. Physical strain, irregular

routines, poor sanitation, and financial risks further reinforced the perception that driving is shaped more by compulsion than aspiration, leading many to discourage their sons or brothers from entering the profession.

> *There is no respect for drivers. I get a salary of Rs.25,000/-. But even a person earning Rs.10,000/- will come and say to us, hey, come here, you go there. (D_12, 48 years)*

> *Paying for losses and penalties causes a lot of difficulty. That is why I am not teaching this work to anyone; it is not a good profession (accha nahin hai dhandha). I have two young sons. I could have expanded my business and earned more, but I don't want them in this line. There is no respect, food is not good, sleep is irregular, and there are no proper bathing or washing facilities. On one occasion, when I went to the police to complain, they said it was not under their jurisdiction and told me I did not 'look like a driver' because I was clean. I showed them my driving license and said, this is a driver's identity. But they said drivers are not usually clean. They have a different opinion about us." (D10, 52 years)*

> *If one person from a house becomes driver, he will not be willing to bring anyone else from his family to this driving line. it is helplessness that a man comes to this. otherwise no one brings others to driving (D1, 27 years)*



While drivers remain the primary operators, helpers perform essential yet structurally subordinate labour that sustains everyday trucking operations. Their work extends well beyond roadside assistance to include cleaning and maintaining the vehicle, handling documents, tying ropes and securing tarpaulin during loading and unloading, cooking inside the truck, managing punctures, procuring water, and supporting or sharing night driving. Many also intermittently drive and view the role of an apprenticeship toward becoming full drivers, positioning themselves simultaneously as workers and learners within the occupational hierarchy. Despite sharing driving responsibilities, absorbing risks, and managing both technical and domestic routines on the road, helpers lack formal occupational identity, independent wages, social recognition, insurance coverage, and structured training. Their labour remains indispensable to mobility, yet economically, legally, and administratively invisible.

> *My work here is, after loading, I tighten the tarpaulin, tie the ropes, give the papers, and clean the truck, all of which I do. I also drive sometimes, maybe 20-30 kilometres, when the road is clear he gives me vehicle. But I don't get anything now (earning). My bhai will take care of my food and all. (H_13)*

> *My brother drives truck and I cook. I will become driver, to learn I have become a helper. I am learning and I go to back to my village after 6 month or one year. Recently it has been 7–8 months since I went to the village. (H_19)*

Family Perception of Driving as an Occupation

Parents, spouses, and relatives often viewed driving as a risky and inappropriate, or socially undesirable occupation, primarily due to long absences from home, night driving, accidents, and separation from children. Yet, these concerns coexisted with recognition that driving income was essential for sustaining the household.

> *They discourage me to drive truck, they say it is not good work acha dhanda nahi hai. They say something may happen, they may sleepy and they may be driving, something can happen, accidents happen. but I want to drive. (H6, 19 years)*

For many drivers, the disagreement with family was not simply about occupation, but about autonomy and identity. Some described resistance from fathers and elders who preferred that they stay at home or take up different work. Driving, in these cases, became linked to aspirations of self-reliance and adulthood.

> *My father says, I am earning, you stay here only… but I feel I should stand on my own feet… Not just my father, no one in my house wants me to do this work. But I want to stand on my feet. (D1 27 years)*

At the same time, economic realities constrained these negotiations. In households with limited land, no alternative income sources, or a single earning member, driving was accepted as necessary despite emotional discomfort. Families discouraged the occupation verbally, yet depended on its earnings materially.

> *They say don't go… but what to do? There is no other option. If I don't earn, how will expenses be taken care of for the family? (H6, 19 years)*

Prolonged mobility also shaped relational life. Drivers spoke about missing children, altered family relationships, and the strain of being physically absent. Communication through frequent phone calls became central to maintaining emotional bonds, sharing stress, and staying connected to home.

> *My wife thinks, my husband goes out to earn money, may him come back safely. She thinks only that much. She doesn't want anything more. If I inform home that I am coming, then she will prepare food, heat water and keep it ready, she will pour water on my head (while taking bath), scrub my back. So, if I go home after fifteen days, my wife shows all the care and love to me. I feel happy. She had called me just now. (D17, 37 years)*

Driver narratives also highlighted responsibility, sacrifice, and relational distance shaped by prolonged mobility. Communication with spouses and children, often through frequent phone calls, served as a key means of maintaining connection, sharing stress, and sustaining emotional bonds despite physical absence. Some accounts reflected strained or altered family relationships after entering the profession, while others described care, support, and dependence centered on the driver's earnings and safe return. Across these variations, driving

was consistently framed as work undertaken for family survival rather than personal preference, positioning separation, risk, and endurance as normalized components of fulfilling household responsibility.

Health and care-seeking pathways

Healthcare-related practices and concerns included avoidance of outside food, concerns regarding the availability of safe and potable water, difficulties in accessing water for daily use, and alterations in bathing and hygiene routines. These often came in the conversations of living the life of a truck and what things they do not like about driving. Within this context, illness was frequently normalized, with many describing themselves as generally healthy and attributing well-being to divine grace or bodily strength. Drivers reported conditions like body pain, hypertension, headaches, dental problems, acidity, piles, kidney stones, skin rashes, and gastrointestinal discomfort were commonly reported, yet rarely framed as serious unless they disrupted work. Many described themselves as generally healthy, attributing well-being to divine grace or physical resilience. Health-seeking behaviour was predominantly reactive and symptom-driven, with medical consultation sought only when symptoms became severe or affected by driving capacity. Routine screening was uncommon, and cost considerations further discouraged formal care. Overall, most drivers continued working despite health concerns, prioritizing work continuity over preventive care.

> *I have dental issues I want to go and show but it will cost money, few teeth have fallen out they will take ten twenty thousand to fix. (D5)*
>
> *I dont have any health issues, but they did some check up and they said you have BP, no big problem, I have to eat less salt in food thats all. (D9)*
>
> *See I was hurt here (showing some wound), I didn't apply anything, skin came out, it became black and I cut it with knife, nothing happened, no infection. My body is like this. I cut it on my own and it became alright. A person goes to the doctor only when it is severe full aadmi over ho jaata hai tabhi...Otherwise, I buy tablets from the medical stores and manage. (D12)*

Preventive screening was often viewed as unnecessary in the absence of symptoms, and even company-mandated six-monthly check-ups generated apprehension, particularly when diagnoses such as diabetes could threaten employment.

> *Health check-up is done once in six months in the company… Even if one has sugar, they will remove that person from job. (D3)*
>
> *I do not get my health check-up done. I came thrice here. Nothing happened. Blood test was done here. I did not get tested anywhere else. No, I dont think it is important to get it done because I do not have any problem. If I have cough or cold or fever, then I will show to the doctor. He will give me an injection. (D10)*

Dietary practices reflected adaptation to mobility and work demands, shaped by cost, time pressure, and limited access to facilities, resulting in frequent reliance on roadside foods, often

perceived as oily or unhygienic; some preferred stopping at dhabas serving food from their own state, believing the quality of oil and preparation was better. Others carried home-prepared items such as sattu, dates, or snacks to manage irregular meals, while fruit consumption depended on route availability. Many reported reheating and consuming the same cooked food multiple times due to time constraints and lack of storage facilities. These patterns were linked to conditions such as acidity, piles, and hypertension, though seldom considered serious in the absence of symptoms. Overall, nutrition was viewed functionally aimed at sustaining stamina and continuing work within the context of long hours, irregular sleep, continuous travel, and prolonged separation from family.

> *During Summer, Sattu is famous in Bihar… I carry that… then I carry some Khajur also with me. with which I can manage nashta paani for 10–15 days." (D11)*
>
> *I keep herbs with me. If I have body pain, I drink milk with turmeric. If I have fever, I drink neem leaf juice. Since the beginning I have been doing this—my father and grandfather used to do the same. It helps; the body becomes strong. I take tablets rarely. (D5)*
>
> *If the food or oil is not good, I get nausea or acidity. Then I drink buttermilk with lemon. I do not take medicine. Sometimes if I have acidity, I delay eating the next day and fast. Otherwise, I keep Electrol packets with me. (D10)*

Mobility constraints, time pressure, and parking difficulties reinforced dependence on pharmacies over formal consultation. Self-medication and reliance on traditional and home remedies emerged as central features of everyday health management among drivers. Given the spatial isolation of highways, time constraints, and limited access to formal healthcare facilities, many preferred either to carry basic medicines such as paracetamol, Avil, and Electral packets or over-the-counter medicine for immediate relief. While some companies provided a first aid box in the vehicle for emergency use, it was reportedly rarely used. Additionally, a strong perception of bodily resilience was also evident, including beliefs that physical labour and sweating help eliminate illness.

> *Mostly these roads pass outside cities. In case of any health problem, where will we go looking for a doctor? If I keep some medicines with me in the vehicle, I can take them if needed. I can also give them to another driver if he is sick. (D11)*
>
> *I broke my tooth while eating channa given by my friend. I went to the doctor and took medicine, but it did not subside. They said I should remove the tooth, which would cost ₹10,000. Then I remembered what my parents used to do. I pounded clove, turmeric, mustard oil, and rock salt and made a paste. I applied it to my teeth for 2–3 days continuously. (D14)*
>
> *I do a lot of physical work and sweat a lot. Because of sweating, all diseases come out of the body.(D18)*

Management of illness was closely tied to employment arrangements. Company-attached drivers reported informing their employers if unwell, after which substitute drivers could be deputed to continue trips, allowing temporary rest without reported coercion. In contrast, owner-drivers described more individualized strategies parking at a safe roadside location, taking short rest (one to three days), or returning home, often after informing vehicle owners or consulting family members.

if I park the vehicle and sleep for sometime due to sickness, I will get a call from the company saying your vehicle parked from two hours and if I say that I am sleeping they will not have any problem and they say shareer ko dhyan do D-3

If I am sick, I can inform our company and they give it to any other fellow driver (D11)

Substance use as a Coping Mechanism

Substance use was closely intertwined with the physical and emotional demands of long-distance and night driving, including fatigue, irregular sleep, monotony, isolation, income uncertainty, and prolonged separation from family. Participants described tobacco, alcohol, and substances such as ganja, afeem, kaalamaal, and doda primarily in functional terms as aids to stay awake, sustain endurance, reduce bodily discomfort, and manage tension. In this framing, substance use was understood less as recreation or dependency and more as a practical response to occupational pressure and exhaustion, enabling continuity of work under demanding conditions. Although there was some awareness of associated health risks, these concerns were often secondary to immediate work demands. Substance use was normalized within peer environments. This coexistence of risk recognition and continued use reflects how survival imperatives and lived realities shaped health practices, positioning substance use as part of a broader ecology of endurance and coping rather than as an isolated behavioural choice.

Afeem, ganja also is there… They use at night so that they don't feel sleepy while driving at night. (D9)

I have to keep awake at night to drive so I consume tobacco,ghutka so that I don't get sleepy and mind will be fresh(D5)

Beyond substances alone, some participants described combining rest, sleep, and substance use to manage routine fatigue. They also reported stopping the vehicle every 100km for brief breaks to cool the vehicle, check its condition and rest themselves.

Headache, body pain and all are normal in this job… I just rest… I drink, when I sleep. After sleeping well, tiredness will go. I smoke also sometimes, I eat ghutka also sometimes. (D4)

We can stop for 15-20 minutes after driving every 100 kms so that we also get some rest and the vehicle cools down… Even I will drink tea or water, eat jarda and relax. I don't smoke. I only eat jarda… But it is very risky to drive this vehicle while chewing that. (D8)

I smoke one bundle in a day. One bundle has twenty five beedis. I am smoking beedis from the time I came into this line. (D10)

Prolonged mobility and separation from home also shaped other risk-related sexual behavior. Such behaviors during long periods away from home were also acknowledged but not

personally. Visiting sex workers was described as something common among drivers who remain away from their families for extended durations.

> *Youth do such things, they are young. They leave their village and come here, and stay for 5-6 months and has left his village so it is a problem right? Out of 10 drivers, 8-9 may go to (girl/women). I don't know about condom and all, i have not gone. I go home frequently, every eight days. those who stay away from long like six months they may go. (D5)*

Reliance on Faith as a Coping Mechanism

Across many interviews, faith was described as a central way of interpreting risk, survival, health, and uncertainty within long-distance driving. Drivers often referred to life, death, illness, and accidents as pre-written or determined by God, expressing that survival in dangerous situations, continued ability to drive in older age, and absence of illness were outcomes of divine protection or grace. Drivers expressed a form of theological fatalism life, health and safety were understood as being in God's hands. Beginning a journey was described as an act of surrender to divine will, reinforcing faith as an enduring source of reassurance in conditions marked by physical danger and economic insecurity.

> *We driver day and night on highways. There have been no problems till now. I don't know about the future… but we leave it to Allah/Bhagawan and start the vehicle.(D-03, 28 years)*

> *Not getting in any accident, coming safe is good thing, it is God's grace that I came safe in this trip. Till Allah keeps me healthy I will drive. (D9, 63 years)*

> *So many accidents I have seen. Sometimes the trucks turn, brake fails. This is only God's grace. By God's grace, nothing like that has happened till now with me. I pray to God to save me. This line itself is like that. Nobody knows when what might happen.(D8, 54 years)*

Faith was also intertwined with notions of masculine responsibility, particularly as provider and protector. Fear was not framed as personal vulnerability, but as concern about dependents at home. Careful driving, financial discipline, and self-control were described as necessary for sustaining family stability. Within this moral universe, accountability extended both to family and to God. Religious belief functioned not only as emotional reassurance but also as a regulatory framework shaping conduct encouraging restraint, ethical behaviour, and perseverance amid financial strain, occupational risk, and uncertainty.

> *I do not have any fear or worries as such. Only fear is that while driving I fear if I will not meet with any accident or anything. That's all. That is why, I should be careful while driving. I take care that I do not feel sleepy or anything because there are five people*

back at home who are dependent on me. Anytime there will be family pressure on me." (D7, 28 years)

If I am earning five rupees and if I don't spend it and save it carefully or if I misuse it, then how will my family run? What will my family and my children do? My children can prosper only if I save the money I earn, isn't it? If I am earning five rupees and spending seven rupees by asking you for two rupees, then how can we prosper? (D11, 55 years)

Tension was described as an inevitable feature of life stemming from financial strain, family responsibilities, and occupational demands. Rather than openly expressing distress, drivers often described managing it through withdrawal, sleep, or silent endurance. Faith appeared here as quiet reassurance rather than overt ritual practice. Acceptance that "God will take care" functioned as a stabilizing belief that reduced emotional escalation, allowing work to continue despite persistent pressures.

If I have tension, I just switch off my mobile and sleep. I don't talk to anyone if we start talking, they will unload their problems also (laughs). After some time, the mind feels lighter. Tension is there for everyone in this world. It will always be there. For a man especially family tension is there, children's school fees have to be paid, money is not there, everything is expensive. This work also has to get done. As long as we are alive, tension will be there; only after death there is no tension. But once the work gets done, the tension goes, isn't it? People don't talk much about it. I don't take too much tension. I am like this only, as you see me now. When God is there, he will take care… uparwala rahega. (D1, 27 years)

Sources of Health Information

Health information pathways were largely informal and episodic, shaped by personal experience, family advice, education, and incidental encounters rather than sustained IEC exposure or structured outreach. Native village healthcare providers and elderly family members were often considered trusted sources, while some drivers relied on prior schooling to interpret disease risk and preventive practices. Younger drivers reported using mobile phones and Google to search for minor symptoms or self-management concerns. Health knowledge thus emerged through fragmented and situational channels rather than embedded institutional systems. Exposure to organised screening camps or institutional IEC appeared limited and inconsistent, with few narratives indicating regular engagement with government or NGO-led health promotion specific to occupational risks.

I ask in my village, I ask my grandmother what should I take, I don't go to hospital like that. She is 105 years old. (D5 58 years)

A person can become HIV+ve and get health problems because of going to prostitutes (dhandhewaali). I have studied HSC (12th) and I have learnt at that time. I have studied Science

also. I also have computer knowledge. I know about diseases also. So, I have knowledge about all this. That is why I know what to cook and what to eat. That is why I am able to manage all this. (D7 28 years)

Yes, I come across people on the road like how you have come. They give information regarding health. (D8, 54 years)

I search for information regarding hairfall, feeling tiredness, to increase weight, for increasing appetite/hunger, which tablet to take for increasing appetite. (D3, 28 years)

References to camps, testing, or proactive health checks were sporadic, suggesting that routine preventive engagement with health systems is not embedded within truckers' occupational environment. This was also true for screening and IEC by other than government outreach. Institutional visibility of public health programmes within trucking ecosystems was low. Narratives did not indicate strong recall of or exposure to government or NGO-led IEC specific to occupational health risks, pointing to a gap between programme intent and on-ground penetration among mobile workers. (KII reported – though they are part of the community/society their in transit status makes them miss out on services). Long-distance travel, irregular schedules, and weak institutional linkage to employers or welfare systems reduced opportunities for repeated messaging, follow-up screening, or sustained behaviour change communication.

Work and the Journey as Source of Stress

Findings indicate high perceived stress among truckers, driven by long working hours, continuous travel, and prolonged separation from family, resulting in compromised work-life balance and emotional strain. Participants frequently contrasted their occupational conditions with other forms of employment that permit regular family interaction, reinforcing perceptions of relational deprivation. Time-bound deliveries, pressure from vehicle owners and authorities, and economic dependency further intensified psychological stress. These interconnected occupational and personal stressors significantly shape psychosocial well-being, influencing perceived stress, emotional distress, locus of control, and resilience.

I am working as its majboori, no one wants to be outside the house like this, we will be in the truck 24 hours, other people work 8 hours, then they rest and happily will be with children at home. here we have to be on the vehicle 24 hours, it is like we have to work three days' worth in one day, it doesn't matter we are sitting, lying down, but life is going on in the duty zindagi to duty pe he katrahi hai, we are not at home, we are not spending time with our children or eating with them. It is not happening with us. D_04, 40 years

What I feel bad about is when I have a time limit, when I have to reach within a particular number of days. The pressure can be of the Police or of the owner. There will be pressure from the owner maalik to be on time. This pressure situation is what is bad. (D7)

This transfer of risk extended beyond routine expenses to unforeseen losses such as theft or cargo damage. One participant described how theft from moving vehicles and resulted in material shortages for which drivers were held financially responsible.

> *They steal from moving vehicles in M.P. People get into the vehicle when it slows down uphill or near the speed breaker. The vehicle owner pays for it. If there is any shortage in the loaded material, the vehicle owner will pay for it. Once I had paid for the plastic material which had fallen down. Once it was Rs.20,000/- and another time it was Rs.25-30,000/- I have to pay for it. (D10)*

> *I have lost my mobile, Rs.10,000/- cash when I was taking rest for half an hour in the vehicle once. The mobile was a new one and of Rs.35,000/-. They cut my pocket with a blade and stole my mobile and cash. I was coming from Chennai after loading coal. As I felt sleepy, I stopped the vehicle and parked it and was taking rest for half an hour. Another time, Rs.30,000/- worth of diesel was stolen from my vehicle. That was 300 litre diesel . I have to pay for the diesel from my pocket. The owner will deduct Rs.10,000/- every month. I don't get salary. I get comission. (D12)*

Experiences of enduring mobility and risk led many participants to frame trucking as a temporary or situational occupation rather than a lifelong career. Younger drivers spoke of leaving within a few years to return to agriculture, improve irrigation, and reside permanently in their villages, reflecting a desire for stability and proximity to family. Older drivers linked, such as continued fulfilling specific familial responsibilities, building a house, arranging children's marriages, or supporting higher education, after which withdrawal from the profession was implied. Helpers similarly articulated future-oriented aspirations: some entered trucking due to a lack of village employment, while others aimed to become drivers primarily to accumulate resources for land improvement, water access, or house construction. Across both drivers and helpers, trucking emerged less as a permanent occupational identity and more as a strategic means of economic consolidation, tied closely to agrarian security and family obligations.

> *I am thinking of driving for two three years and then leave. We have 3 acres land, I am thinking of getting irrigation and staying in the village. I like to stay in the village. (D16, 22 years)*

> *I have built a house. I have to get both my son and daughter married. My son is working as a mechanic, and my daughter is studying Medical. I will drive for 2-3 months more and then I will not drive. I will do agricultural work and take care of my parents. 5-6 garh land we have, we grow wheat, potatoes, chili, tomatoes. I know about cultivation. (D-18, 40 years)*

Perspectives of the key secondary stakeholders

Secondary stakeholders (Key informants) consistently positioned truck drivers as structurally vulnerable occupational group whose mobility-centric work arrangements place them at the margins of welfare and health systems. Continuous movement across districts and states limits their eligibility for residence-based government schemes, routine outreach services, and sustained follow-up care. Everyday living conditions during transit are marked by irregular

access to safe food, potable water, sanitation, and rest facilities, compounded by fear of theft and operational uncertainties in loading and unloading schedules. Incentive-linked trip systems, indirect pressures from transport operators, and prolonged waiting periods contribute to extended driving hours, sleep deprivation, and income instability, particularly among non-standardized or market-based drivers. Power asymmetries within transport arrangements discourage grievance reporting, reinforcing employment precarity.

Their observations pointed out that health-related vulnerabilities of truckers emerge across preventive, curative, and psychosocial domains. Participation in screening initiatives could be low due to distrust, limited communication of results, and dissatisfaction with service experiences. Commonly reported morbidities noted by the health care providers included anaemia, skin conditions, hemorrhoids and infectious diseases, with treatment continuity undermined by mobility and self-medication practices. It was also noted that the lifestyle of truck drivers may contribute to certain health conditions; however, in the case of non-communicable diseases, its occurrence appears to be incidental rather than directly attributable to occupational or behavioral factors. The most significant healthcare challenge identified was ensuring continuity of follow-up. Drivers' high mobility often causes them to fall through systemic gaps, limiting sustained engagement with health services. Although they remain integral to the broader society and economy, they frequently remain excluded from routine service delivery structures and social support systems.

Psychosocial stressors such as financial insecurity, family separation, operational delays, and occupational stigma, remain largely unaddressed within existing systems, while substance use functions as an occupational coping mechanism linked to fatigue management rather than solely recreational behavior. Structural barriers such as hospital access restrictions, language challenges, and perceived discrimination further limit healthcare utilization.

Institutional responses, particularly within large industrial settings, were noted to be primarily anchored in safety governance rather than holistic welfare. Mechanisms such as vehicle tracking, alcohol testing, GPS monitoring, orientation sessions, and compliance protocols strengthen operational oversight but offer limited structured support for broader health and wellbeing needs. Welfare provisions vary across transport operators, with some offering standardized payments, insurance, and vehicle upgrades, while others operate under more informal arrangements. Overall, findings indicate that while safety monitoring systems are comparatively robust, gaps persist in coordinated welfare linkages, preventive healthcare continuity, psychosocial support, and workforce sustainability planning within the trucking ecosystem.

Key Challenges Faced by Long-Distance Truck Drivers

The challenges faced by truck drivers have been synthesized from the analysis of narratives shared by both primary stakeholders (drivers) and secondary stakeholders. Several issues articulated by drivers were corroborated and reinforced by secondary respondents. The identified challenges have been categorized as follows:

Continuous Exposure to Road and Safety Risks: Drivers operate under constant threat of accidents, unsafe driving by others, night-time robbery, assault, and organized theft. In the event of accidents, drivers perceive that they are often blamed first and may face hostility from local communities.

Theft, Robbery, and Personal Insecurity: Reported incidents include diesel theft, cutting of tarpaulin, looting of goods, and physical assault. Some accounts describe severe attacks, occasionally linked to suspected managerial collusion. Drivers frequently avoid filing police complaints due to mistrust of authorities or fear of being held responsible.

Delayed Unloading and Lack of Accountability: Vehicles may remain unloaded for extended periods without access to safe parking, food, or basic facilities. In cases of theft occurring within company premises, responsibility is often denied, leaving drivers vulnerable.

Financial Liability for Losses and Fines: Traffic fines, theft-related losses, and vehicle penalties are frequently borne fully or partially by drivers, sometimes through salary deductions. Repeated stops at no-entry zones and highway checkpoints result in formal fines or informal payments. Even when fines are issued online, drivers may share the financial burden.

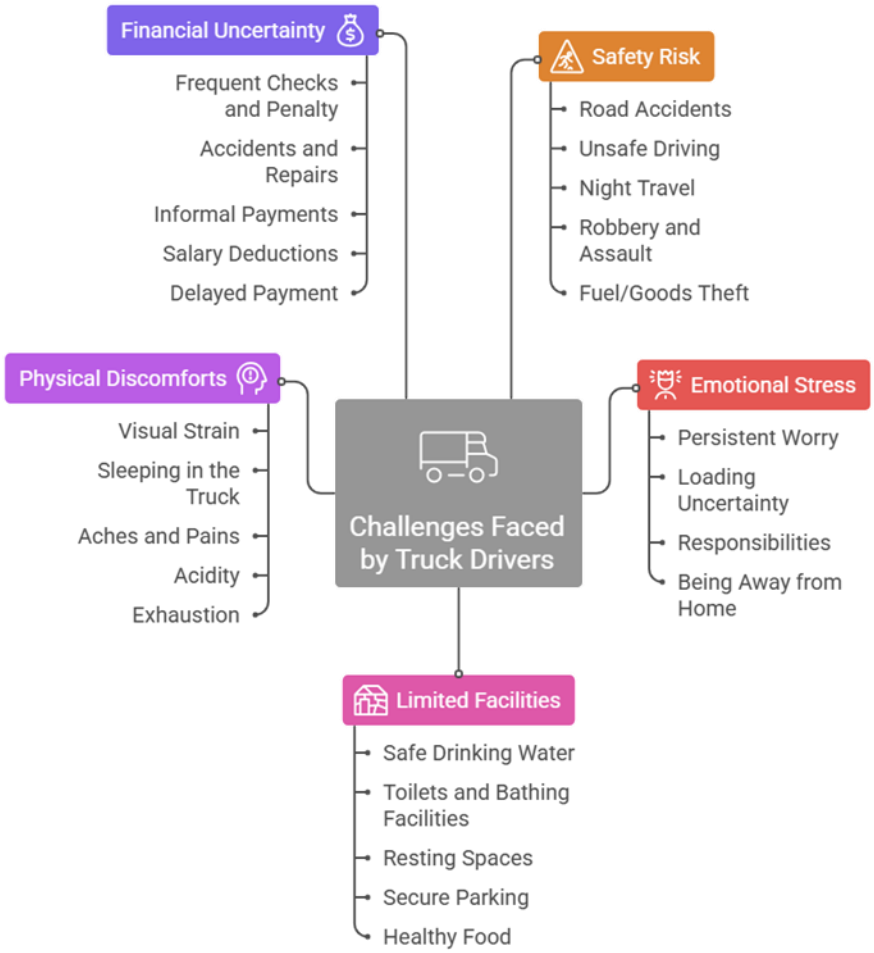
Irregular or Trip-Based Payments: In some arrangements, wages are disbursed only upon trip completion rather than as fixed monthly salaries, increasing income volatility and financial insecurity.

Inadequate Access to Food and Water: Remote unloading points often lack food facilities, compelling drivers to cook inside vehicles or subsist on minimal intake. Company regulations, such as restrictions on gas cylinders in vehicles, limit cooking options. Inadequate access to safe drinking water has directly affected health.

Restricted Access to Toilets and Bathing Facilities: Sanitation facilities are frequently unavailable, inaccessible, or chargeable. Drivers may resort to bathing in canals or forgo bathing for several days.

Sleep Deprivation and Physical Exhaustion: Fear of theft leads drivers to wake repeatedly at night to monitor diesel and cargo. Post-loading punctures, long waiting times, and the absence of helpers further intensify physical strain.

Emotional Strain, Relational Impact, and Coping: Persistent insecurity, financial pressure, and occupational stigma affect family relationships and social connections. In the absence of structured institutional support, drivers rely primarily on vigilance, personal coping strategies, and endurance to sustain their livelihoods.



Suggestions from primary and secondary stakeholders

The suggestions presented here draw from perspectives shared by both truck drivers and secondary stakeholders. While several suggestions emerged directly from lived experiences articulated by drivers, others were informed by operational insights from stakeholders. The organization of these suggestions is based on an analytical distinction between measures that are programmatically feasible and can be addressed within existing institutional or organizational frameworks, and those that lie outside immediate program control and require broader systemic, regulatory, or inter-sectoral interventions. This categorization enables clearer prioritization while acknowledging structural constraints.

Internal/Feasible for program

- **Family connect:** Framing health and safety as a responsibility of the driver to his family. By positioning the driver's well-being as the "primary engine" of their household's financial and emotional stability, the program can drive deeper personal motivation for self-care and long-term behavioral change.
- **Continuous Engagement:** Using WhatsApp groups for daily health tips, safety reminders, and short engaging video content on health (similar to Fastag visibility). Prioritize regular personal follow-ups to build trust and a sustained sense of care

- Check in system: Establishing a dedicated follow-up system (like a mini call center) for personal check-ins with drivers. Differentiate medical counselling from emotional or psychosocial support using short, impactful formats (KII). Provide brief, focused medical consultations with medicine aligned with drivers' limited waiting time (powerful dialogue and no unnecessary formalities - KII)
- Quality: Improving sleep quality among truckers requires addressing key occupational stressors, particularly anxiety from delivery deadlines, loading and unloading pressures, and physical exhaustion. Aligning schedules, ensuring predictable rest periods, and reducing fatigue can support more consistent and restorative sleep.
- On-the-Go Care: Need for "Driver care kits" (ORS, basic meds, hydration guides, pictorial health information on NCDs in multiple languages) and provide rapid medical consultations at terminals.
- Preventive health literacy: Short sessions on nutrition, substance use reduction, and importance of rest to prevent on-road exhaustion, without fire cooking recipes.
- Digital Health: Implement tele-consultation kiosks at terminals
- Integrate subsidized medicine access through partner hospitals (e.g., Sanjeevini at JSW terminals).
- Social security linkages: Assist drivers' for enrolling families in enrolling for government welfare schemes and health insurance. Setting up kiosks for ABHA cards and other central schemes and benefits available. Provision of printed, ready to use cards.
- Insurance: Increasing awareness of life and health insurance among truckers is critical given the high-risk nature of their work and the financial dependence of their families. Structured awareness sessions can help build understanding of insurance benefits, coverage, and the importance of financial protection, enabling more informed decision-making. Using peer support to motivate and create awareness about health and personal insurance information and schemes available could be effective.
- Peer circles: Using visual formats and group-based session using real life case examples through peer model. Early-morning engagement helps reduce alcohol use and prevent OPE. Formalize driver-to-driver communication to share real-time info on road risks or theft-prone areas.
- Legal assistance: Partner with legal experts to provide helpline support for police checks and accident-related legalities. Briefing drivers/helpers on rights during police checks, negotiation techniques from more experienced drivers.
- Terminal Upgrades: Ensuring 24/7 free/minimal cost drinking water, clean toilets/baths, shaded rest/common areas, well lit and CCTV-monitored parking for theft prevention. There was also suggestion for making the parking dust free as the present condition was leading to lot of respiratory issues and challenges for cooking out in the open which is a general practice among the truckers. Also during the monsoon season the pits are a risk, with many experiences of trucks getting stuck.
- Safety training: Periodic safety training for both drivers and helpers and on purpose of PPE (helmets, jackets, shoes). Need for safety training was emphasized for the new drivers.

- Using SHG-led models to manage terminal facilities and stalls for ready to eat nutrition food, meal outlets, vegetables and fruits.
- System level sensitization: Sensitization of police and RTO personnel dealing with the officials in one of the frequent stressors for drivers.
- Safe Corridor Mapping: Mapping for a safe corridor network across high-risk routes (MP, Rajasthan, MH, AP) linking verified parking, food, and medical access points, reducing theft vulnerability and accidents

External to Program (Would require partnerships with government bodies, unions, transport companies or private service providers)

- Professional Branding: Provide branded uniforms and ID cards to instil a sense of belonging and core-workforce status. (seconded by KII - Recognize drivers as a core workforce; uniforms/IDs or some identity from the company improve dignity and motivation)
- Digital fatigue management systems: Automated alerts after certain hours of driving, enforcing compulsory rest periods (currently in use in greenline vehicles).
- Policy Advocacy: Working with authorities to standardize highway rest hubs every 200 km.
- Integrated emergency response system: Call centers for coordinating ambulance, legal, and insurance support for road accidents and emergencies.
- Institutional Partnerships such as Unions: Partner with existing Driver Unions (UP, Ballari) for outreach. Collaboration with driver unions and associations to leverage existing unions (ex: UP, Karnataka, Rajasthan) for outreach, safety messaging, and health service linkage.
    - SHGs: Engage Self-Help Groups to manage and maintain terminal facilities sustainably.
    - Hospitals: Link with hospitals (like Sanjeevini) for subsidized medicine and pan-India health screenings.

Way forward

The analysis indicates that drivers' health and safety practices are shaped less by lack of awareness and more by the structural conditions of their work, including time scarcity, mobility, and fragmented access to services. Health-seeking emerges as episodic and need-based, constrained by the inability to pause work without financial loss. In this context, interventions that align with mobility, such as on-the-go care, brief consultations, and digitally mediated engagement, are perceived as more usable. At the same time, trust and sustained engagement appear to depend on continuity of interaction, with repeated follow-ups and personalised communication fostering a sense of care that extends beyond transactional service delivery. The emphasis on family responsibility reflects an important motivational anchor for developing IEC/BCC materials, suggesting that behavioural framing linked to household stability may be more effective than risk-based messaging alone. Peer networks and experiential knowledge-sharing further function as critical informal systems through which drivers validate information, navigate risks, and adapt practices in real time.

At a systemic level, the data highlight how occupational vulnerabilities are reinforced by gaps in infrastructure, institutional support, and regulatory practices. Inadequate rest facilities, unsafe parking environments, and inconsistent access to basic amenities directly shape health risks, including fatigue, substance use, and exposure-related conditions. Interactions with enforcement systems and the absence of formal recognition contribute to stress and diminished occupational dignity. While some solutions can be operationalised within programmatic boundaries, many of the constraints are embedded within broader transport and labour ecosystems, requiring coordinated engagement across sectors.

Overall, the findings indicate that improving drivers' well-being depends on designing interventions that are mobile, continuous, and embedded within their work routines, while simultaneously addressing critical gaps in rest infrastructure, safer working environments, reliable rest infrastructure, and stronger system-level support.

Limitations of the study

The qualitative study involved interviews that relied on retrospective accounts, which may be affected by recall bias and selective reporting of experiences. Additionally, the sensitivity of topics such as substance use, sexual behaviours, and interactions with enforcement systems may have led to underreporting or socially desirable responses despite efforts to build rapport.

Similarly, the survey with the truck drivers also has certain limitations. The investigators had to convince the drivers to give some time for the interview during the time the drivers would have preferred some rest or time for themselves. Although the drivers provided consent, there is a risk that they would avoid reporting to the unknown field investigators about sexual practices or may have had some recall bias in reporting events from the past. However, we tried to ensure to provide regular feedback on the data collection process to reduce any redundancies and fatigue (repeated similar data by the investigator) in the data. Also, although we expected equal samples from 5 and 10 MT terminals, the estimates are mostly coming from one terminal, i.e. 5T, as the investigators were unable to receive cooperation from drivers in the 10MT.