

The Impact of COVID-19 on the Work Environment in Long-Haul Truck Drivers

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Objective: To describe and compare the working conditions of long-haul truck drivers (LHTD) before and during the Coronavirus (COVID-19) pandemic and to assess the perceptions of LHTDs on accessing food, restrooms, and parking. **Methods:** An online survey was disseminated between August 2020 and March 2021 to various trucking organizations across Canada to collect data on health and wellness during COVID-19. Data were analyzed using descriptive and inferential statistics, and thematic analysis for open-ended responses. **Results:** The sample included 146 LHTD (mean age 48.1 ± 11.8 ; 82.2% were men). Participants reported issues with finding parking, washrooms, and food. Compared with before COVID-19, LHTD worked significantly more hours and consumed more caffeine; and more than 50% reported being fatigued. **Conclusions:** Improving the working conditions of LHTD is critical to support their health and wellbeing, both during and after the pandemic.

Keywords: COVID-19, health and wellness, long-haul truck drivers

Canadian long-haul truck drivers (LHTD) are an essential component of the economy, shipping goods, and products across North America. Multiple studies show that LHTD are a vulnerable sector of the working population, with high rates of chronic disease¹⁻⁵ due to the nature of the job including long working hours, poor diet, lack of exercise, stress, and fatigue.¹⁻⁷ Additionally, data shows that LHTD have a significantly greater prevalence of diabetes, obesity, hypertension, and cancer compared with the general population.⁸ While the issues surrounding health and working conditions in the long-haul trucking sector are well known, there have been no studies examining whether or not these issues have been exacerbated with the emergence of the Coronavirus (COVID-19) pandemic. The merging of health issues in LHTD with COVID-19 may lead to a truck driver syndemic, where the aggregation of synergistic disease clusters interacts. Such a syndemic poses an immediate and widespread threat for public health and the sustainability of vital supply chains.⁹

The pandemic led to certain aspects of transportation (and shipping of goods) to be protected against government-imposed restrictions. For example, to facilitate timely shipping of goods/products, LHTD were exempt from provincial and federal restrictions to self-isolate for 14 days when entering a new province or when crossing the border between Canada and the USA.¹⁰ Additionally, the federal government in Canada suspended hours-of-service regulations allowing LHTD to exceed the number of hours they work before

and after each rest period.¹¹ As part of this allowance, LHTD were required to report their intent to operate under this exemption and carriers were required to report the driver's names, license plates of truck operating under this exemption, and required a detailed record of all trips exceeding the hours-of-service regulations.¹¹ These regulations are similar to those employed in the USA, however, with slight differences. In the USA, there was a suspension of enforcement against expired commercial driver licenses, permits, and certain medical certifications. Additionally, a LHTD must be given 10 hours of consecutive rest if they indicate they need a break after a delivery.¹²

The hours-of-service exemption likely contributes to LHTD working more hours coinciding with increased demands of delivering essential supplies. Long-haul trucking accounts for 90% of consumer and food shipments, including medical supplies needed for combating COVID-19 in Canada,¹³ showing the importance of this profession to maintain the economy. Understanding the full scope of the lived experiences of LHTD, particularly those who travel across Canada and the USA, is important to adequately address issues and challenges faced by LHTD. For example, almost 90% of the LHTD previously reported not being able to find parking, with many LHTDs spending hours in search of parking spots. In fact, almost 50% reported losing 1 to 2 hours on every trip trying to find parking, despite 88% of the sample being familiar with the truck stops and highways routes.² Many truck stops in Canada are closed due to COVID-19, and it is unknown how LHTD have adapted to this situation. Additionally, despite the relaxation of the hours-of-service regulations, it is still unlikely that LHTD have the time to source and purchase food due to tight delivery schedules, as well as trucks being too big to drive on city roads or to park in smaller grocery store parking lots.

Prior studies show a link between the health of LHTD and their working conditions.^{1-7,14,15} However, there is a paucity of data on how COVID-19 has impacted the working conditions of LHTD. We hypothesize that COVID-19 has amplified these typical challenges in working conditions and that many LHTD are having increased difficulty with finding healthy food and opportunities to park, leaving them stressed and anxious. The objectives of this paper are twofold: (1) to describe and compare working conditions pre and during the COVID-19 pandemic; and (2) to assess the perceptions of LHTDs concerning parking at rest and truck stops, as well as access to food.

MATERIALS AND METHODS

Protocol

The study was approved by the Research Ethics Board [REB # Beh 2127].

Data were collected from August 2020 to March 2021 using an online survey sent to every provincial trucking association in Canada, as well as multiple trucking advocacy associations through email. Most provincial trucking/advocacy associations disseminated the survey to its members, however, some declined due to its members being over-burdened with other surveys. After 5 months of continuous recruitment through the provincial trucking/advocacy organizations, and due to the low number of participant responses, the research team began using social media (eg, twitter, Facebook) to connect with trucking groups and advertise the study. The online survey, which consisted of both closed and open-ended questions on how COVID-19

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Clinical significance: This study shows that long-haul truck drivers had significant issues related to increased fatigue, and accessing food, parking and washrooms due to pandemic related closures. The enhancement of truck stops, including more rest areas (with washrooms) are needed to better support long-haul truck drivers.

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has influenced their working conditions, took about 20 to 30 minutes to complete. The survey collected demographic information, employment history, current working conditions, health issues, lifestyle practices, and specific questions surrounding COVID-19. There were 50 questions in total with each participant being entered into a draw for a \$25 gift card. Each participant signed informed consent prior to participation.

Participants

LHTD were recruited to participate if they (1) were a Canadian resident, (2) identified as a long-haul truck driver, and (3) had been working for at least 1 year as a LHTD. A minimum of 1-year working experience was needed to ensure LHTD could make informed responses of the working conditions prior to COVID-19. The sample included 146 LHTD recruited through advertisements posted on trucking associations across Canada (eg, SafetyDriven, Alberta Motor Transport Association, the Saskatchewan Trucking Association, the Manitoba Trucking Association, Private Motor Truck Council of Canada, Nova Scotia Trucking Safety Association) and social media accounts related to trucking (eg, Facebook groups, twitter).

Data Analysis

Survey data were analyzed using the Statistical Package for the Social Sciences (SPSS) (IBM Corp, Armonk, NY) version 25. Continuous variables were presented using mean and standard deviation (mean \pm SD) and range. Categorical variables were presented using frequencies and percentages. Paired *t* tests examined differences pre and during COVID-19 for continuous variables of interest. Associations between variables were examined using Pearson chi-square or independent *t* tests. The significance level was $P < 0.05$.

All open-ended responses were analyzed thematically, which involved identifying and recording patterns in the data. Initial codes were developed deductively resulting in the development of themes through the identification and organization of common responses in the data. Two coders were utilized for the analyses; one identified the initial codes and categories and the other confirmed the accuracy of these codes and categories and identified the final themes.

RESULTS

Sample Description

The sample ranged in age from 22 to 79 years ($M = 48.0$, $SD = 11.8$); 82.2% were men and 90% were Caucasian. Just over a quarter of the sample were from Alberta (26%) followed by Ontario (23.3%), Saskatchewan and Manitoba (both 10.3%), British Columbia (7.5%), New Brunswick and Nova Scotia (both 6.8%), Newfoundland and Labrador (4.1%), and PEI (2.7%) and Quebec (2.1%). Just over a quarter had completed high school (26.7%) with 20.5% completing some college courses and 21.9% completing a vocational/technical degree. Just over half of the sample reported being in very good or excellent health (57.5%) although 58.9% reported that their quality of life had decreased during the pandemic.

As shown in Table 1, the sample's weight ranged from 100 to 350 pounds ($M = 215.67$, $SD = 51.59$); 13% reported losing weight while 22% reporting gaining weight during the pandemic; no change was reported in 64% of the sample. Just over a third (36.3%) were considered overweight with 21.9% being classified as class I obese, 9.6% class 2 obese, and 10.3% class 3 obese, respectively.

Work History and Conditions

The sample reported having worked as a LHTD between 1 and 63 years ($M = 17.9$, $SD = 13.7$). In the past week, LHTD worked between 2 and 100 hours ($M = 59.9$, $SD = 16.0$) although this was less than the number of hours they typically work during the

TABLE 1. Participant Description

Demographic Information	
Age, yrs	48.1 \pm 11.77 (22–79)
Gender (men)	82.2%
Current height, ft	5.70 \pm 0.44 (4.11–6.70)
Current weight, lbs	215.67 \pm 51.59 (100–350)
Weight (lbs) lost since the beginning of Covid-19 (n = 18)	18.5 \pm 11.9 (5–45)
Weight (lbs) gained since the beginning of Covid-19 (n = 31)	13.7 \pm 6.52 (1–30)
BMI	30.8 \pm 6.66 (19.4–53.2)
Health conditions	
Type 2 diabetes	26 (17.8%)
Hypertension	22 (15.1%)
Sleep apnea	20 (13.7%)
High cholesterol	23 (15.8%)
Depression	27 (18.5%)
Working conditions	
Years working as a LHTD	17.9 \pm 13.7 (1–63)
Hours worked in the past week	59.9 \pm 16.0 (2–100)
Haul freight to the USA	
Yes	88 (60.3%)
Drive within Canada only	48 (32.9%)
Drive within province or territory only	10 (6.8%)
Payment method	
By the hour	19 (13%)
By the mile	94 (64.4%)
By the load	9 (6.2%)
A percentage of revenues	21 (14.4%)
Prefer not to answer	3 (2.1%)
Has your quality of life worsened during COVID-19?	
Yes	86 (58.9%)
No	60 (41.1%)
Lifestyle behaviors	
Do you smoke?	
Yes	57 (39%)
No	89 (61%)
Alcoholic drinks consumed per week	4.71 \pm 6.27 (1–40)
Hours of sleep per day during COVID-19	7.07 \pm 1.41 (4–13)
Number of days of moderate exercise in the past week	2.90 \pm 1.79 (1–7)

Variables presented either using mean, standard deviation, and range or frequencies (and percent).

BMI, body mass index; LHTD, long-haul truck drivers.

week ($M = 69.3$, $SD = 12.4$; range 45 to 100). About 60% hauled freight to the USA while 33% drove within Canada and 7% within their province only. Almost three quarters (74%) worked "for hire" with 14% working for private carrier and 9% being owner operators. Just over half (52.7%) delivered general freight followed by frozen/refrigerated goods (39.7%), construction materials (35.6%), dangerous goods (30.1%), medical supplies (20.5%), and furniture (17.8%).

LHTD reported working significantly more hours per day during the pandemic compared with before the pandemic ($M = 14.5$, $SD = 1.0$, range 13 to 16 vs $M = 11.7$, $SD = 1.4$, range 10 to 14, $P = 0.01$). Despite working more hours, 92% reported there were no changes in how they were paid (which was mostly by the mile). Almost a third reported feeling more pressure to continue working after the LHTD were declared essential workers (30.1%). Only 2% were involved in a reportable crash and 5.5% ($n = 8$) received citations since the pandemic started (as of March 10, 2020). The citations were related to speeding ($n = 3$), running a red light ($n = 1$), the trailer being overweight ($n = 3$) and distracted driving ($n = 1$).

TABLE 2. Comparisons Pre and During COVID-19 (N = 146)

	Before COVID-19	During COVID-19	P-Value
LHTD's weight	215.67 ± 51.59 (100–350)	216.04 ± 53.80 (100–350)	0.69
Daily hours worked	11.7 ± 1.4 (10–14)	14.5 ± 1.0 (13–16)	0.01
Tea consumption	1.8 ± 1.6 (1–8)	1.9 ± 1.7 (1–8)	0.37
Coffee consumption	3.3 ± 2.5 (1–12)	3.6 ± 3.4 (1–20)	0.02
Caffeinated tablets	2.3 ± 0.5 (2–3)	2.7 ± 1.2 (2–4)	0.42

Variables presented using mean, standard deviation, and range.
LHTD, long-haul truck drivers.

Exercise, Diet, and Parking

LHTD reported performing 30 minutes of moderate exercise one to seven times per week ($M=2.9$, $SD=1.8$). Prior to the pandemic, LHTD reported having between 1 and 8 teas ($M=1.8$, $SD=1.6$), 1 to 12 coffees ($M=3.3$, $SD=2.5$) and 2 to 3 caffeinated tables per day ($M=2.3$, $SD=0.5$). During the pandemic, LHTD reported having significantly ($P=0.02$) more coffee ($M=3.6$, $SD=3.4$, range 1 to 20). While not significant, tea consumption and caffeinated tables usage increased during the pandemic Table 2.

Almost three quarters (73%) said finding food while driving was more difficult with 82% reporting that restaurants along their typical routes were closed. Of the participants that reported restaurant closures, 71% brought their own food and stored their food in a fridge in the truck, 19% stopped at restaurants to purchase food, and 8% reported not eating at all. Those who eat at restaurants, compared with those who brought their own food to eat, were significantly more likely to have gained weight during the pandemic (43.5% vs 14.1%, $\chi^2=10.31$, $P=0.035$). Additionally, 80% reported there were fewer places to stop for restroom breaks. Approximately 30% reported that finding parking was more challenging during the pandemic although 56% acknowledged that parking is always a problem. Almost two-thirds (64%) said finding a rest area was more difficult during the pandemic.

Smoking and Alcohol

About 39% of the sample reported smoking. About 10% reported smoking more than usual during the pandemic; all of them having at least half a pack of cigarettes more per day. One participant resumed smoking after having quit several years ago. Those who smoked had significantly lower BMI than those who did not smoke ($M=29.3$, $SD=6.7$ vs 31.8 , $SD=6.5$, $t=-2.146$, $P=0.034$) and reported being significantly more fatigued during the pandemic (65.2% vs 34.8%, $\chi^2=7.86$, $P=0.005$). However, no associations emerged with exercise habits.

About 79% of participants reported their drinking patterns remained the same, although 10.5% reported driving more than usual during the pandemic. On average, those reporting having alcohol had between one and 40 drinks per week ($M=4.7$, $SD=6.3$).

Fatigue

Almost a fifth reported being more fatigued (18.5%) although 29% reported their sleep quality was worse since the pandemic started despite only 5% reporting working more hours after the relaxation of the hours-of-service regulations. On average, drivers are reporting between 4 and 13 hours of sleep per day ($M=7.1$, $SD=1.4$). More than 50% reported feeling drowsy while driving in the past month with 12% nodding off or falling asleep at the wheel while driving. Those reporting additional challenges finding parking during the pandemic were significantly more likely to experience fatigue between 4 and 7 days a week compared with 0

to 3 days a week (35.4% vs 9.4%, $\chi^2=29.89$, $P=0.039$). There was no significant association between fatigue and caffeine consumption.

Open-Ended Responses

Parking Issues

LHTD acknowledged that parking has always been an issue but has been amplified during the pandemic due to the closures of truck stops. The resulting closures mean that truck stops that are open are more occupied resulting in stress as drivers seek other options to park. LHTD mentioned this was a particular issue in Ontario and Quebec. Some LHTD also mentioned that given the large volume of trucks at particular stops, it was challenging to rest given the noise level. Additionally, in the truck stops that were open, LHTD were dissatisfied with the cleanliness and recommended to have truck stops more routinely cleaned for use. To reduce the number of people entering truck stops for safety concerns (beyond LHTD), some LHTD recommended having federally regulated truck stops that are only available to LHTD.

“All we need is a place to park. . . .”

“Oh ya, some parking and rest area facilities would be nice for a change”

“.....keep providing places for us to park and eat”

“Designated truck stops as Federally restricted areas to keep general population away from truckers returning from high risk areas”

“Get the rest and truck stop clean more”

“We need more semi parking spots. Once everybody gets put on road in June there will be nowhere to park for the night. Parking is a driver’s biggest stress”

“Certain places/ many truck stops have started charging for parking”

Access to Rest Areas and Washrooms

Coinciding with truck stops, some rest areas were also closed resulting in challenges accessing washroom facilities. Although some rest areas were open, LHTD complained they were not clean and were non-hygienic. Some complained washrooms did not have disinfectant soap. These challenges were specifically noted by LHTD when driving at night or in remote areas. As a result, LHTD would adjust their driving time by starting in the early morning and finishing around 5 pm so they can access washrooms during the day (if the rest area was open) and finding parking at night. Additionally, some LHTD mentioned washrooms at the shippers and receivers were not available for use.

“Better access to restrooms especially in Canadian highways as facilities are few and far between on most highways including on TransCanada”

“A lot of truck stops changed operating hours and closed restroom and shower facilities. How can we keep our hygiene intact if there is no place to shower or go to a restroom?”

“Increased access to toilet facilities esp in remote areas as night drivers have very limited access”

“Ensure washrooms and showers are available and kept clean 24 hours a day”

“Mandatory access to washroom and showers, with a big fine attached if it’s denied to the drivers”

“Rest areas were closed/ most of the places are closed for truck drivers”

“Finding a place known for cleanliness fills up quickly”

“Lack of clean washroom/ no restroom in shippers or receivers”

Access to Food and Amenities

LHTD reported that finding food was a major problem during the pandemic due to restaurant closures. In addition, for restaurants that were open, LHTD reported the food being more costly than prior to the pandemic. Due to the limited food options and the increasing price of food items, LHTD reported not being able to purchase healthy foods.

“All we need is a place to park, decent food and a clean place to clean up, this should not be a problem with proper cleaning by staff.”

“Set up areas for truckers to park that include washrooms and close to areas where they can access food”

“More costly on the road, food has more than doubled”

“Eating unhealthy food due to closure of the restaurants”

“Pack food, water, and supplies to limit the number of stops”

“Lack of food facility/ finding good food on the road/ difficulty to get a decent meal”

Trucking as an Essential Service

LHTD reported being stressed and suffering from mental fatigue. Many worked long hours and were responsible for carrying critical supplies across Canada and to the USA. Given their importance to the economy, LHTD want to have their sector considered an “essential service” with improved pay rates given their perception of being at a higher risk for contracting COVID-19. Some also suggested that LHTD should be prioritized for receiving vaccines and rapid testing if needed.

“Pay us more. Provide rapid testing at the border for all drivers so we don’t have to self-isolate all the time. Recognize that the stress levels that we have and the long term health effects”

“I think essential workers should be compensated”

“Trucker should get some type of essential pay”

“Consider truck driver essential services and allow us early entry, or jump the line at grocery stores, just like first responders”

“Make the vaccine available to truck drivers as we are just like doctors and nurse. We are Essential service employees too. . .”

“. . . . the government should be giving essential truck drivers a tax break for risking our lives daily to ensure that the general population has everything they need”

“. . . and we should receive some type of hazard pay or something to at the very least make us feel like we’re appreciated”

“Same pay, more risk, more regulations, more headache”

DISCUSSION

The findings show that LHTD worked more hours during the pandemic with approximately 33% reporting more pressure to work. This is unsurprising given that LHTD are responsible for shipping essential goods and products (eg, food) and materials related to vaccinating the population (eg, syringes, vaccines). Additionally, the demand of truck drivers also increased associated with the increased prevalence of online shopping. However, despite the need for LHTD and their profession being designated as an essential workforce, many LHTD still felt unappreciated and often invisible to the general public. This is supported by our findings that LHTD reported that there were no increases in pay rates nor were they prioritized for receiving vaccines,¹⁶ despite being at-risk of contracting COVID-19 while working.

Government and trucking associations should better advertise the contributions of LHTD to improve awareness of the industry, which may help with negotiating pay increases and help with recruitment and retention of LHTD. During the pandemic, challenges with LHTD retention were exasperated. For example, truck drivers aged 55 and older, which consists of the largest proportion of LHTD, exited the industry.¹⁷ Additionally, truck driving schools were closed during the height of the pandemic,¹⁸ and this is already in addition to the challenges of recruiting young drivers due to the high costs of attending truck driving schools in Canada. These are two reasons for the increasing demand of truck drivers during the pandemic, as well as the health and wellness issues already inherent in the LHTD sector.

The average BMI for those surveyed was 30.8, considered to be obese. While some reported losing and gaining weight, weight gain was significantly more likely in those who stopped at restaurants to eat. Most LHTD reported significant challenges finding food, and at an appropriate cost, which is consistent with prior research.¹⁹ Over 70% reported making their own food although the remainder stopped at restaurants or didn’t eat at all. A prior article found that restaurants remained open but only for take-out (using drive-thru lanes). However, trucks are too big to pass through the drive-thru lanes and LHTD were unable to order food.²⁰ Consequently, many LHTD have lost the opportunity to take a break from being inside the truck and enjoy a hot meal.

Approximately 30% reported that parking at truck stops was more challenging during the pandemic despite prior studies reporting parking to be an existing issue.^{2,21} Similarly, many rest areas were closed which resulted in fewer places to stop to use restroom facilities. Prior reports show that this resulted in LHTD not being able to shower for days or needing to drive an hour outside of their normal routes to find a restroom.^{22,23} Additionally, some LHTD could work an entire day without using the restroom, which can lead to the development of kidney disease and/or kidney stones.²⁴ In recognition of these issues, several provinces such as Ontario and British Columbia installed portable toilets at various locations including at vehicle inspection stations, break-checks, with some rest stops reopening with strict cleaning protocols. To alleviate and improve the existing issue of rest stop/washroom access for LHTD, provincial governments should be encouraged to permanently provide and service portable washrooms at weigh stations and rest stops throughout Canada.

The lack of parking at truck stops and rest areas may also contribute to fatigue among LHTD. Despite 29% having poorer quality sleep and 18.5% being more fatigued since the pandemic, we found that LHTD experiencing fatigue were significantly more likely to have trouble finding parking. A prior study showed that a lack of truck stops along regular routes was associated with increased crash risk in LHTD.¹⁶ This could be one reason why our sample of LHTD consumed significant amounts of coffee and increased their usage of caffeinated tablets and tea.

The findings should be considered in light of the study limitations. Although we recruited participants through many avenues (emails to trucking organizations, social media posts), we could not determine the response rate. Our sample size was also small considering the large number of LHTD in Canada. Additionally, we employed a cross-sectional (convenience sampling) study design. Consequently, we cannot infer causation and our findings may not be generalizable to the entire LHTD population in Canada. And lastly, the survey was open from August 2020 to March 2021. During this time, and with advances in research, policies, and procedures were continuously updated. It is possible some LHTD were impacted differently in August 2020 than they would have been in March 2021. Consequently, when participants completed the survey may have influenced their perceptions. Nonetheless, this study provides a snapshot of some of the issues that LHTD experienced during the pandemic. Given the limited information on COVID-19 in LHTD, and the likelihood that COVID-19 will persist in the years to come even with vaccinations, addressing systemic issues in the industry through improvements in the work environment/infrastructure will serve to better promote the health and wellness of LHTD across Canada.

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