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Elevated Obesity Risk in UK Heavy Goods Vehicle Drivers: Insights from a Socio-Economically Matched Population Analysis

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Role of the HGV driver

- **~272,000** HGV drivers employed in the UK
- The UK logistics sector contributes **~£17.9 billion** to the UK economy (per annum)

Economically critical role within the transport and logistics industry

Responsible for the safe operation of vehicles over 3.5 tonnes

Transport goods over varying distances

Working Conditions

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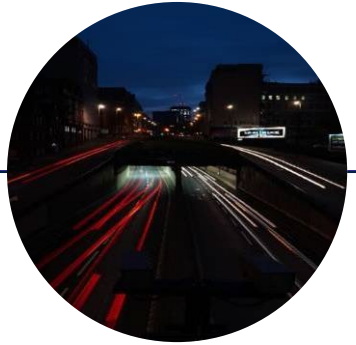
Prolonged sitting, limited physical activity, sleep deprivation

Poor dietary options in service facilities



Shift work and long, variable working hours

Tight schedules, lack of control, unpredictable behaviour of road users

Rationale

- International comparisons of obesity prevalence in HGV drivers and the general population often overlook key confounders, such as socio-economic status.
- However, there are strong links between obesity and socio-economic status.
- Crizzle et al. (2024) found that obesity prevalence remained higher in Canadian HGV drivers after adjusting for socio-demographic and economic factors.
- No studies have investigated this in UK HGV drivers.

Methods

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- Only participants in the Health Survey for England, who fit into the NS-SEC 5 category (using the 5-class version), were included.
- Corrections were applied to self-reported height and weight in both datasets to prevent underestimation of BMI.

- Height and weight measurements from three previous studies were used to establish BMI data for UK HGV drivers.
- Data were collected between 2018 and 2024.
- BMI data from these studies were compared to BMI data from the 2019 Health Survey for England (HSfE).
- Participants from Scotland, Wales and Northern Ireland were excluded from the analyses.

Methods

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Inclusion/ Exclusion Criteria

- Men aged 25-64 yrs only.
- Those underweight or with invalid BMIs were excluded.

Only ~1.5% of HGV drivers are women, hence why we only studied men.

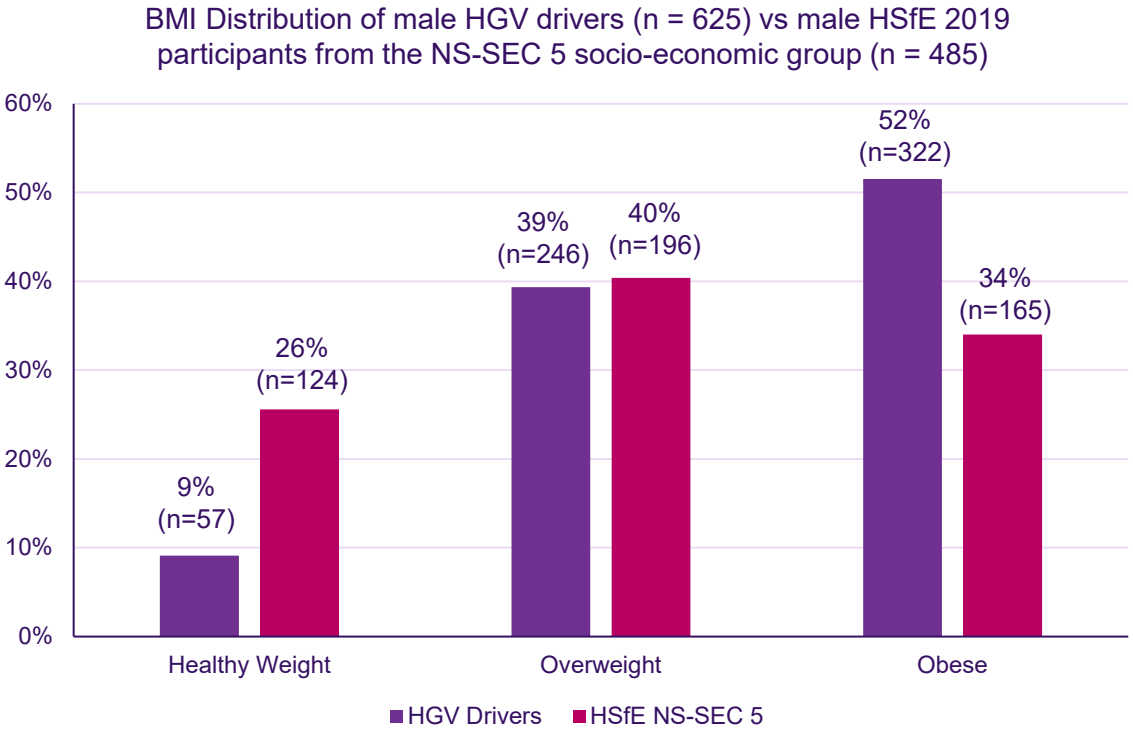
BMI Categorisation

- BMI data was then placed into the relevant categories following the NICE thresholds of each weight category.

Statistical Analysis

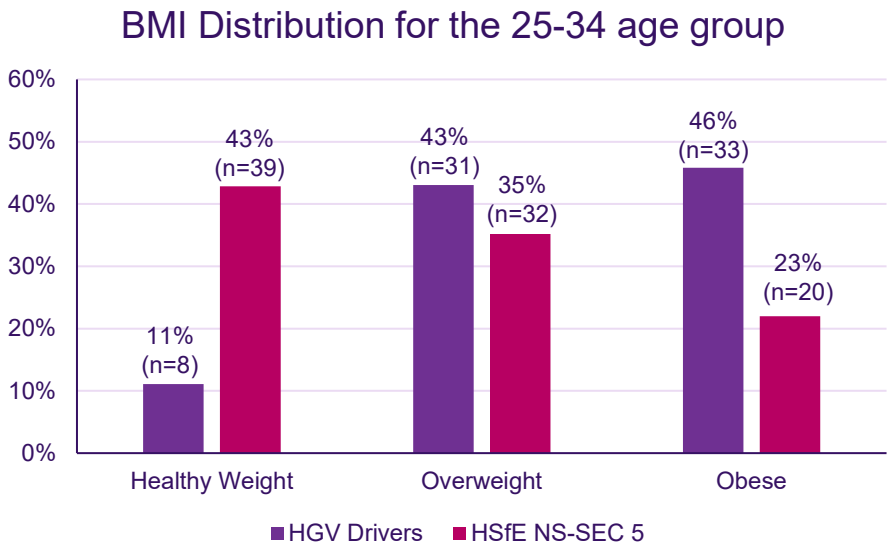
- Chi-squared analyses to compare BMI distribution between samples.
- Multinomial logistic regression to yield relative risk ratios.

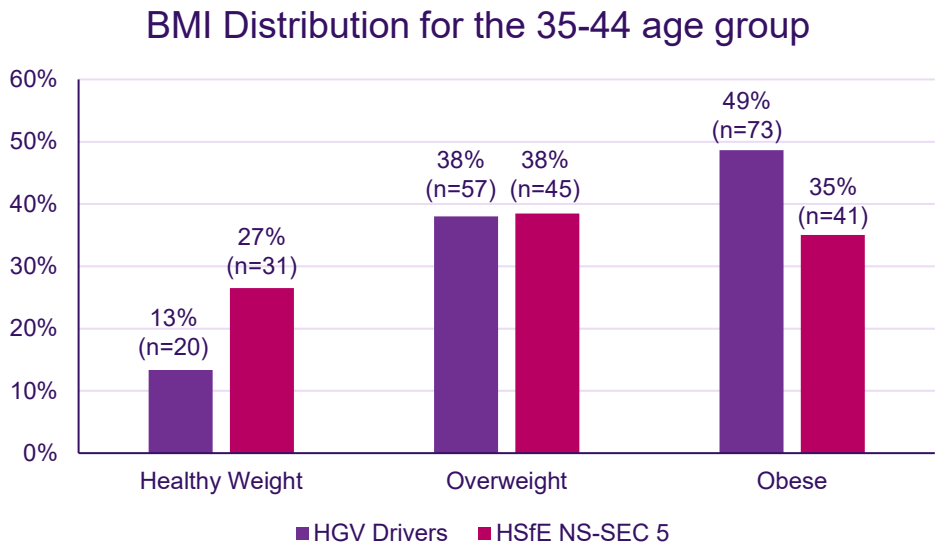
Results



- Significantly higher obesity prevalence in HGV drivers compared to a socio-economically matched sample (based on occupation) of the general population
- Obesity increases accident risk (Anderson et al. 2012)

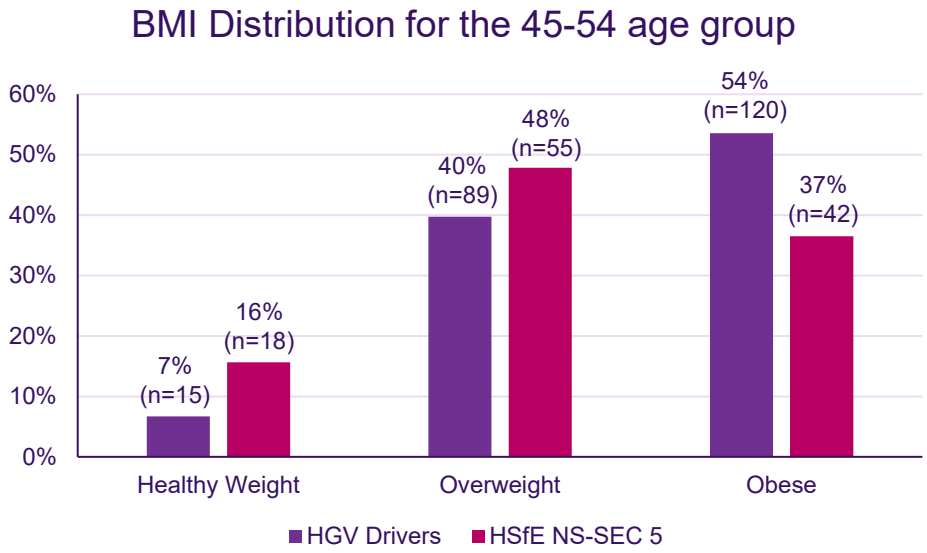
Results – age groups

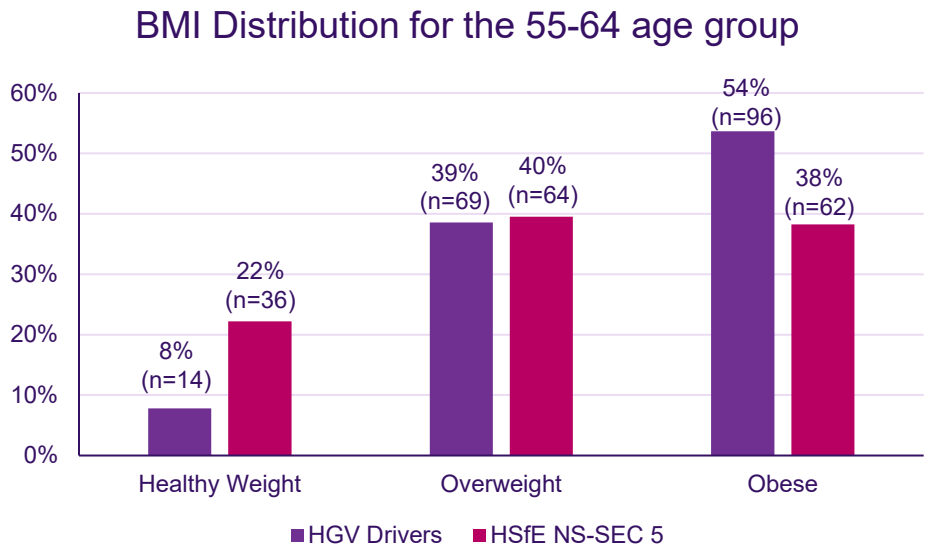




➢ Obesity prevalence appears to be much greater in HGV drivers than the HSfE NS-SEC 5 sample for the youngest age group.

Results – age groups





➢ Analyses revealed a significant difference in BMI distribution between the HGV driver and HSfE NS-SEC 5 samples for all age groups ($p \leq 0.020$).

Results - relative risk ratios

	Uncorrected (RR 95% CI)	Corrected (RR 95% CI)
Healthy Weight	1	1
Overweight		
Dataset		
HSfE NS-SEC 5	1	1
HGV Drivers	2.0 (1.4-2.9)	2.5 (1.8-3.7)
Obesity		
Dataset		
HSfE NS-SEC 5	1	1
HGV Drivers	2.8 (2.0-4.0)	3.9 (2.7-5.7)

The number 1 refers to the reference groups.

- HGV drivers had a **2.5 times greater relative risk of having overweight** than socio-economically matched members of the general population
- HGV drivers had a **~4 times greater relative risk of having obesity** than socio-economically matched members of the general population

Discussion, Implications & Future Directions

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Discussion

- Crizzle et al. (2024) found that HGV drivers were 1.5 and 1.7 times more likely to have overweight or obesity, respectively.
- Whilst this supports the direction of our relative risk ratios, our risk ratios were considerably higher.

Implications

- Highlights the need for more robust approaches to tackle obesity in this occupational group.
- Implies that there may be a need to enforce more regular medicals before the age of 45.

Future Directions

- A longitudinal study of new drivers is needed to investigate whether the unhealthy working conditions leads to the high prevalence of obesity in younger drivers or whether there is a self-selection bias of who enters the industry.

Limitations

- The Health Survey for England collected self-reported sex, whereas the driver studies collected self-reported gender.
- Stratified sample that only included men or those who identified as male (depending on sample), but evidence suggests that our sample was representative of the UK HGV driver population.
- For the driver studies and the Health Survey for England, participation was voluntary, so those with more severe cases of obesity may have chosen not to participate.

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Thank you for listening

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This research is funded by the National Institute for Health and Care Research (NIHR) Leicester Biomedical Research Centre (BRC). The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.