

# **Factors associated with the adoption of drinking and driving during a zero tolerance period: Results from a 6-year study in the GAZEL cohort**

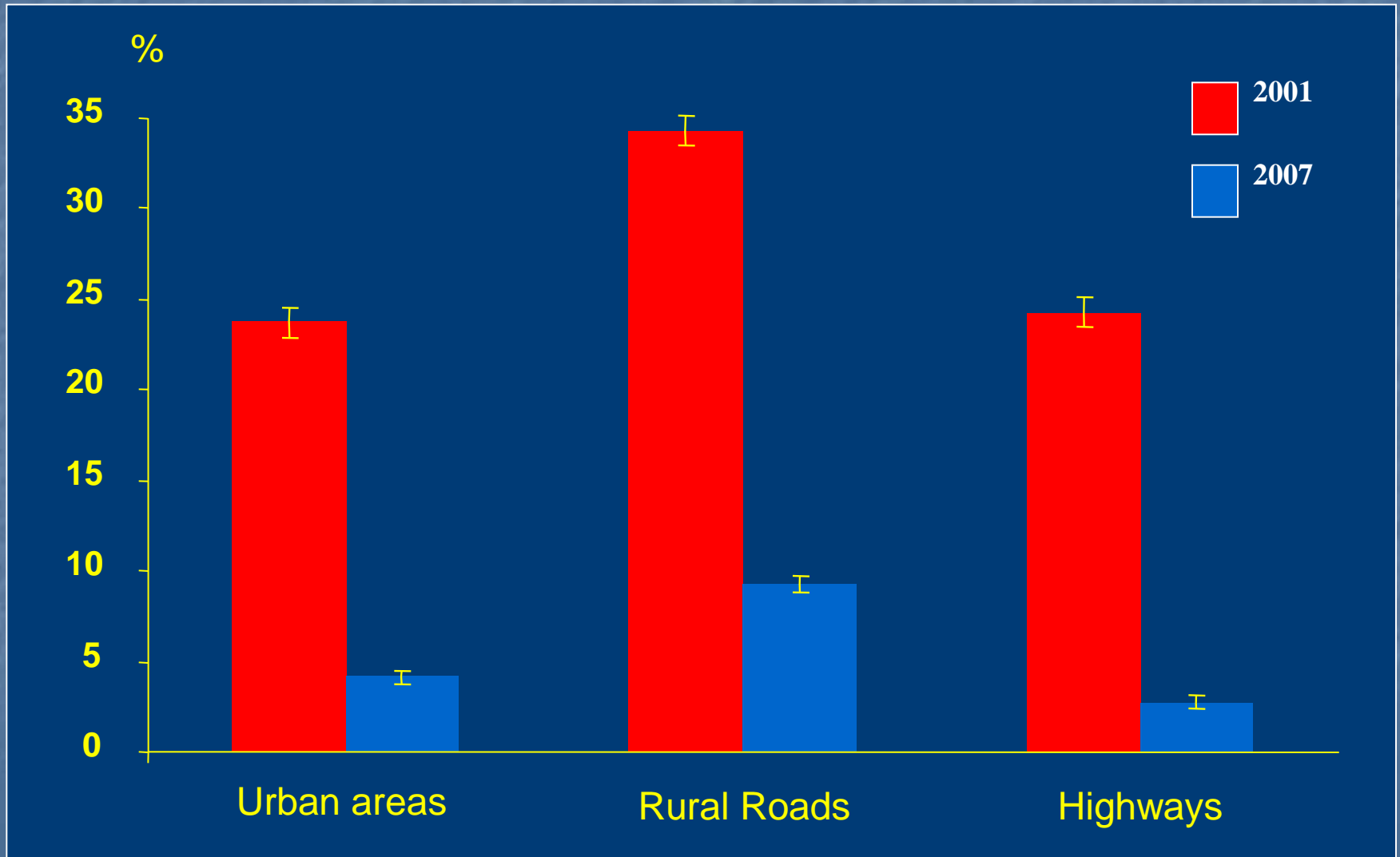
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# Background

- In France, significant law enforcements were implemented in 2002 to reduce road mortality burden
- 1 500 automated radar units were deployed between 2001 and 2004, resulting in more than 1 million fines a month
- Penalties for drunk drivers were increased
- The number of random breath tests increased by 35%, from 6.6 to more than 9.0 million between 2001 and 2007

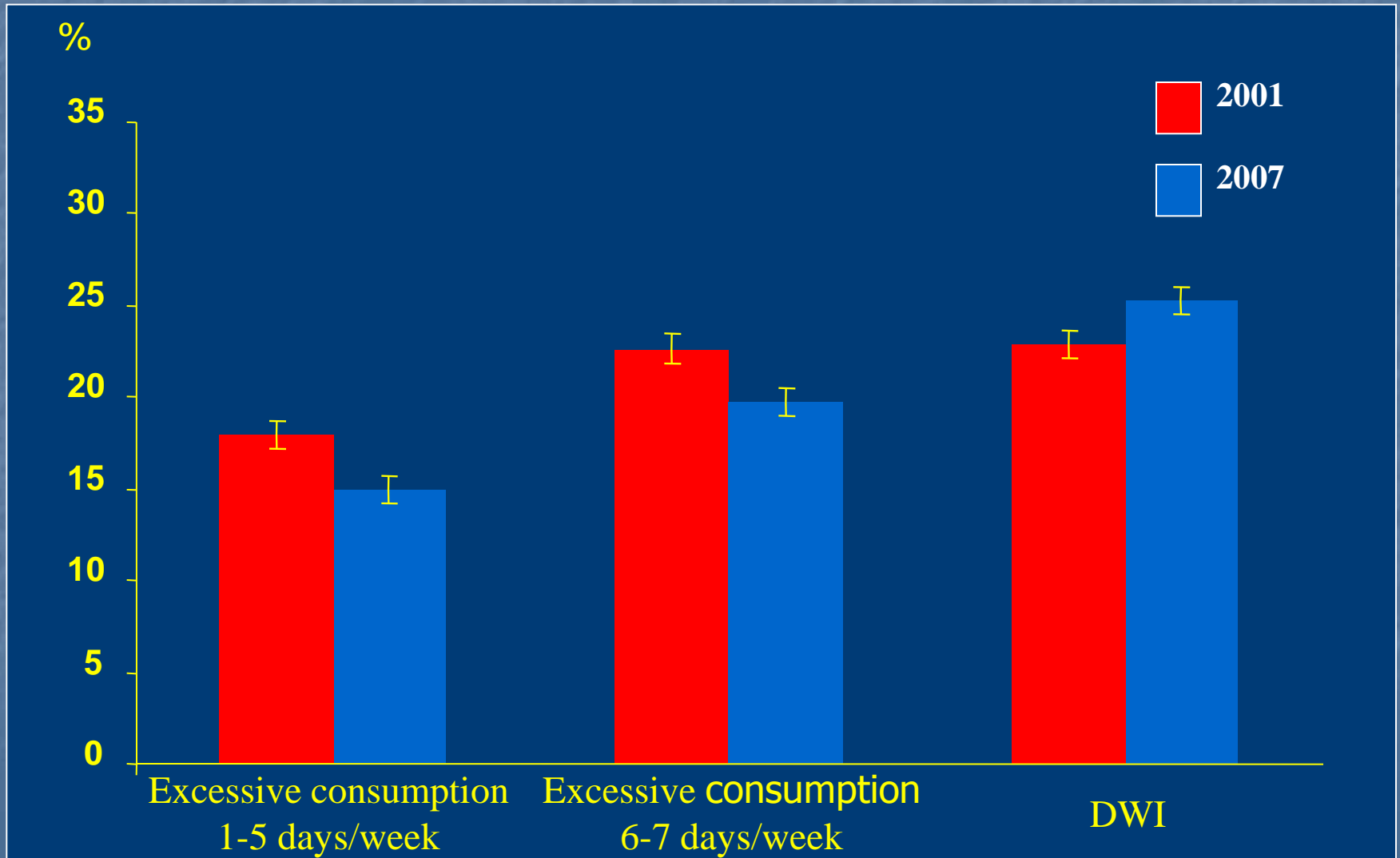
# Proportion of reported excessive speed (>20km the speed limit) in the GAZEL cohort

(N=10,684)



# Proportion of reported alcohol intake and Driving while alcohol intoxicated (DWI) between 2001 and 2007 in the GAZEL cohort

(N=10,684)



# Objectives

- (1) To estimate frequencies of behaviour change regarding DWI between 2001 and 2007
- (2) To determine factors associated with maintenance or initiation of DWI between 2001 and 2007.



# Methods

- Prospective study in a large cohort (n=20,000) of French employees and retirees (the GAZEL cohort, aged 35 to 50 in 1989).
- A Driving Behaviour and Road Safety (DBRS) questionnaire was administered three times, in 2001, 2004 and 2007
- Complementary data were collected from the cohort database and annual questionnaire

# Measures

## Changes in outcome assessed in 2001, and 2007 :

- Reports of driving while alcohol-intoxicated (past 12 months)

## Changes assessed between 2001 and 2004:

- Attitudes towards traffic safety
- Alcohol consumption
- Changes in social networks: (close friends and relatives)
- Change in annual mileage

## Time-fixed variables:

- Gender, year of birth, occupational category

# Measures

Driving while alcohol intoxicated

**2001**

**2004**

**2007**

Changes in:

- Alcohol consumption
- Attitudes toward road safety
- Social network
- annual mileage



# Results

N=9309

Reported DWI in the last 12 month	2001 N(%)	Behaviour change	2007 (N%)
Yes	2171 (23.3)	763 stopped DWI	2379 (25.6)
No	7138 (76.7)	971 initiated DWI	6930 (74.4)

# Results

We fitted a logistic regression model to estimate the odd ratios (ORs) of **adopting or maintaining DWI** in the 2001-2007 period as a function of gender and factor changes in the 2001-2004 period

**Those who reported no DWI in 2007** were used as reference

# Adjusted ORs of adopting or maintaining DWI between 2001 and 2007

<b>Male Gender</b>	<b>2.66 [1.99 – 3.56]</b>	<b>&gt;0.001</b>
<b>Alcohol consumption</b>		
unchanged	1	
decreased	1.13 [0.97 – 1.31]	NS
increased	1.84 [1.60 – 2.12]	>0.001
<b>Attitudes in favour of enforcement</b>		
unchanged	1	
decreased	1.32 [1.12 – 1.57]	>0.002
increased	0.84 [0.69 – 1.01]	>0.07
<b>Nb of close friends (1991-2004)</b>		
unchanged	1	
decreased	0.86 [0.74 – 1.01]	>0.07
increased	1.17 [1.02 – 1.35]	>0.03
<b>Nb of close relatives (1991-2004)</b>		
unchanged	1	
decreased	1.15 [0.99 – 1.33]	>0.06
increased	0.93 [0.80 – 1.08]	NS
<b>Annual mileage</b>		
unchanged	1	
decreased	0.83 [0.72 – 0.95]	>0.009
increased	1.13 [0.96 – 1.34]	NS

# Conclusions

- The recent crackdown on road violations taken by French government in 2002 has deterred a substantial part of drivers from DWI. Part of stoppers are those who decreased driving.
- But this success was jeopardized by the occurrence of new drink drivers.
- Prevention initiatives should depict DWI as a concern for drivers of all ages, and insist on abstinence during social events when driving is involved afterwards.

# Perspectives

- DWI remain a major concern despite dramatic increases in law enforcement in France
- DWI is related to overall alcohol consumption
- Interventions from evidence-based Alcohol prevention might be of interest to reduce alcohol on the road and road burden