

GRAPHIC IMAGES IN ADDITION TO TEXT INFORMATION AS A MEANS OF DISCOURAGING UNHEALTHY BEHAVIOUR

Evidence from the Introduction of Visual Warnings on Cigarette
Packaging in the UK.

The issue

- Smoking is the single most important preventable cause of death. 5 million deaths are attributed to smoking each year, with trends driving an increase to 10 million deaths per year by 2030.
- Cigarette packages have been seen as a “portable advertisement” and have been exploited by manufacturers as a vehicle for creating positive associations with the product.
- Obesity has been coming under the same criticisms, being held responsible for 37% of all cardiovascular deaths, costing the NHS £6.11 billion in 2014.
- Obesity is projected to cost the NHS £9.7 billion by 2050 (Public Health England, 2017).

Behavioral Intervention – Nudge Theory

- As an alternative to taxation, warnings were implemented with the hope to combat smoking.
- This intervention rests on Sustien and Thaler's 'Nudge Theory' where small changes to an individuals environment can significantly alter their decisions.
- This is a form of Libertarian Paternalism – where the behavior is not restricted, but the 'better' option is highlighted and emphasized.
- Taxes under this definition are not nudge policies as they restrict consumption for some individuals.
- The policy relies on individuals showing hyperbolic discounting and present bias behaviors.

Nudge Theory

- Ashcroft, Lin and Osman (2017):
- Nudge policies are either type 1 or type 2.
- Type 1:
 - The nudge is more subtle and does not induce habits – the behavior is not repeated outside of the situation. Example includes lines on the floor leading to staircases instead of elevators.
- Type 2:
 - Focuses on increasing information available to the individual – creates habitual tendencies. Example includes traffic light warnings on food labels creating an association between unhealthy nutrition and types of food.

Interventions

- 1998: Text warnings
- 2003: Enlarged text warnings covering at least 30% of the package surface
- 2008: Pictorial (graphic image) warnings
- 2016: Plain packaging on cigarettes - not considered a nudge policy and not analysed in this research

Methodology: Data

- Health Survey for England 1995 to 2016
- 2017 and 2018 were not available at time of research
- Sample is randomly selected using Postcode addresses
- Sample size: approximately 80,000 individuals
- Key variable: number of cigarettes smoked per day
 - Inclusive of non-smokers to capture transition between smoking to ex-smoker and individuals taking up smoking
 - This will understate average cigarettes smoked per day but provides clarity on the trend and effect of interventions

Methodology: Model

- Interrupted Time Series Analysis

- Allows analysis of defined periods of intervention i.e. 1998, 2003 and 2008 warnings.
- Powerful tool for analysis as does not require a control.
- Use of a control in this type of analysis would incur some error from the differences between countries – cultural bias error.

Findings

- 1998:
 - Cigarettes smoked per day: decreased by 0.470
 - The trend fell to 0.228 fewer cigarettes per person per year
- 2003:
 - Cigarettes smoked per day: decreased by 0.168
 - Trend decreased by a further 0.067 cigarettes per person per year
- 2008:
 - Despite increase in salience both level and trend increased relative to previous intervention
- Tax comparison
 - ITSA on tax intervention in 2000 and 2010 showed no significant change to smoking levels or trend.

Explaining the anomaly

- 2008 coincided with the availability of e-cigarettes in the UK
 - Costall et al (2014) found that US revenues of e-cigarettes were \$20m in 2009 and doubled each year to 2013 – similar trend in the UK?
- 2016 was the first year the Health Survey for England included e-cigarettes in survey
 - Potential measurement error:
 - Individuals who increased smoking through e-cigarettes may be captured under traditional smoking question
 - True effect of 2008 intervention is obscure

Taxing to tackle obesity

- April 2018 UK government introduced sugar drinks tax
- Snowdon (2016): Denmark repealed sugar tax due to ineffectiveness
- Winkler (2012): 10% tax results in only 7.5ml reduction in consumption

Behavioral intervention

- Obesity can be viewed as a present bias issue like smoking
- Warning labels in theory should be effective as illustrated in smoking
- Donnelly et al: US study comparing effect of three warnings on sugar drinks
 - Calorie count: insignificant to baseline
 - Text warning: insignificant to baseline
 - Graphic warning: 12.8% decrease in consumption.
 - Consumption primarily shifted to water