

Evaluation of the health impacts of the UK Treasury Soft Drinks Industry Levy (SDIL)

Submission date 26/05/2017	Recruitment status No longer recruiting	☒ Prospectively registered ☒ Protocol
Registration date 28/06/2017	Overall study status Completed	☐ Statistical analysis plan ☒ Results
Last Edited 08/08/2025	Condition category Nutritional, Metabolic, Endocrine	☐ Individual participant data

Plain English summary of protocol

Background and study aims

High sugar intake is associated with higher rates of obesity, tooth decay, and type 2 diabetes. In 2015, Public Health England said a tax on sugary drinks would be a way to help us all consume less sugar. Such a tax will start in April 2018. The tax will be higher for drinks with more sugar and will not apply to pure fruit juices. The two year delay is so that companies can reduce the amount of sugar in their drinks and avoid the tax. As no other country has tried this sort of tax, the effects are unknown. Different stakeholders in government, public health, drinks companies and health advocacy groups think the tax will have all sorts of effects, and not just on health. This study will look at the most important of these, tracking how things change over time. Studying a wide range of effects of the tax will help to be more certain that the results are true. For example, if purchases of sugary drinks, tooth decay and childhood obesity all go down, and purchases of other drinks go up, this will increase our confidence that the tax has had a positive impact on health. The aim of this study is to evaluate the effects of this new tax on health as well as other factors.

Who can participate?

Members of the public as well as members from specific stakeholder groups (academic, civil society, public health, government and industry)

What does the study involve?

Participants will be recruited to participate in a series of interviews and/or focus groups to be conducted over two periods during the evaluation, which will be dependent upon the successful and timely implementation of the SDIL. The purpose is to gauge the reactions of the public (focus groups) and key stakeholder groups (interviews) to the SDIL. The first round of interviews and focus groups will occur during the early SDIL implementation phase (anticipated in April 2018) and secondly after the 1st year of implementation (anticipated to be April 2019).

What are the possible benefits and risks of participating?

There are no notable benefits or risks with participating, however participants might feel conflicted or concerned about the repercussions of their input, especially if it differs from the interests of their organisation. All information will be anonymised for this reason.

Where is the study run from?

1. University of Cambridge (UK)
2. Nuffield Department of Population Health (University of Oxford) (UK)
3. London School of Hygiene and Tropical Medicine (UK)

When is the study starting and how long is it expected to run for?

June 2017 to December 2021

Who is funding the study?

National Institute for Health Research (UK)

Who is the main contact?

Dr Catrin Penn-Jones, Catrin.penn-jones@mrc-epid.cam.ac.uk

Contact information

Type(s)

Scientific

Contact name

Dr Catrin Penn-Jones

ORCID ID

<https://orcid.org/0000-0003-1425-0513>

Contact details

MRC Epidemiology Unit & Centre for Diet and Activity Research (CEDAR)

University of Cambridge

Box 285, Institute of Metabolic Science

Cambridge Biomedical Campus

Cambridge

United Kingdom

CB2 0QQ

+44 (0)1223 769114

Catrin.penn-jones@mrc-epid.cam.ac.uk

Type(s)

Scientific

Contact name

Prof Martin White

Contact details

MRC Epidemiology Unit & Centre for Diet and Activity Research (CEDAR)

University of Cambridge

Cambridge

United Kingdom

CB2 0QQ

+44 1223 769114

Martin.White@mrc-epid.cam.ac.uk

Additional identifiers

Protocol serial number

NIHR PHR 16/130/01

Study information

Scientific Title

Evaluation of the population impact of UK Treasury Soft Drinks Industry Levy on reformulation, diet and health

Study objectives

In 2016 the Chancellor announced a tiered soft drinks industry levy (SDIL) on industries importing or selling sugar sweetened beverages (SSBs) in the UK with the explicit intention of reducing consumption of sugar from SSBs. The primary aim of this study is to evaluate the impacts of the levy on diversification, formulation, marketing, prices, purchases and consumption of SSBs, and to assess early health impacts (e.g. dental caries, obesity).

Ethics approval required

Old ethics approval format

Ethics approval(s)

Not provided at time of registration

Study design

Observational cohort study

Primary study design

Observational

Study type(s)

Prevention

Health condition(s) or problem(s) studied

The main focus of this work is the prevention of obesity and risk of chronic non-communicable diseases through reduction of sugar-sweetened soft drink, and therefore sugar, consumption in the population. Consumption of SSBs is independently associated with total energy intake and risk of dental caries, obesity, type 2 diabetes mellitus (T2DM) and heart. For example, adults who consume one or more sugary drinks per day double their risk of diabetes and raise their risk of CHD by 23% compared to those who consumed one SSB drink or less per month.

Interventions

In 2016 the Chancellor announced a tiered soft drinks industry levy (SDIL) on industries importing or selling sugar sweetened beverages (SSBs) in the UK with the explicit intention of reducing consumption of sugar from SSBs. The explicit aim of the SDIL is to encourage industry SSB reformulation to reduce sugar content. It was announced that the levy rate for added sugar drinks with a total sugar content of 5 grams or more per 100ml will be set at 18 pence per litre, and those with 8 grams or more per 100ml will be set at 24 pence per litre. There will be no charge levied for drinks containing less than 5 grams of sugar per 100ml.

The study is an evaluation of a natural experiment that uses a combination of routinely and locally collected quantitative data, and primary collected quantitative and qualitative data to evaluate the proximal, intermediate & distal outcomes reflected across the study work packages, accompanied by economic and process evaluations and modelling of hypothesized long term outcomes. There are five work packages, each employing different research designs and methods of data collection

Work Package 1: Impacts on diversification, formulation, marketing, prices, purchases and consumption of SSBs, and early health impacts (e.g. dental caries, obesity). This will measure the impacts of the SDIL on soft drink product diversification, formulation and price by brand, category and product size (volume). Purchases of SSBs, all other drinks, a high-sugar potential substitution food category (confectionery) and an unrelated control category (toiletries) overall and by age, sex and socioeconomic position (SEP) are measured. Consumption of SSBs, all other drinks and confectionery overall and by age, sex and SEP and the prevalence of childhood obesity (if indicated by effect on purchasing) and hospital admissions for severe dental caries overall and by age, sex and SEP will be assessed.

Work Package 2: The impacts of the SDIL on medium to long term health outcomes (dental caries, T2DM, cardiovascular diseases, kidney disease and obesity-related cancers) overall and by age, sex and SEP is measured via simulation.

Work Package 3: Cost analysis is estimating by examining the impacts of the SDIL on costs and revenues to the food and other industries, HM Treasury, and to health and social care sectors, including the extent to which the levy is passed on to consumers (and if not, then to whom).

Work Package 4: Impacts on key stakeholders including the public, politicians and professionals will be measured using interviews and focus groups to be conducted over two periods during the evaluation, which will be dependent upon the successful and timely implementation of the SDIL. The purpose is to gauge the reactions of the public (focus groups) and key stakeholder groups (interviews) to the SDIL. The first round of interviews and focus groups will occur during the early SDIL implementation phase (anticipated in April 2018) and secondly after the 1st year of implementation (anticipated to be April 2019).

Work Package 5: Synthesis of findings in order to draw conclusions to identify and disseminate implications for policy, practice and research.

Intervention Type

Other

Primary outcome(s)

1. Soft drink market diversity, formulation and price is measured using number of products, mean sugar concentration and price from a bespoke dataset derived from online supermarkets
2. Purchasing of SSBs, other drinks, confectionery & toiletries measured using household purchase data from Kantar World Panel
3. Consumption of SSBs, other drinks, confectionery & sugar as a whole measured using consumption recorded in diet diaries from the National Diet Nutrition Survey
4. Dental caries measured by rate of finished admission episodes for dental procedures (F08-17 & F63) with a primary diagnosis of dental caries (ICD-10 K02) per 100,000 population per calendar month Hospital Episode Statistics
5. Childhood obesity measured by mean BMI z-score from the National Child Measurement Programme

All outcomes will be assessed in the following time periods:

Time period 1: Prior to the announcement of the SDIL retrospectively using data (from April 2014 to March 2016)

Time period 2: following the chancellor's announcement of the SDIL in March 2016 up to confirmation of legislation for the SDIL (May 2017), and following the confirmation of SDIL legislation (May 2017) up to implementation of the SDIL (anticipated April 2018)

Time period 3: following implementation of the SDIL (anticipated April 2018) up to 24 months later using prospective data collection

Key secondary outcome(s))

Not provided at time of registration

Completion date

31/12/2021

Eligibility

Key inclusion criteria

Interviews with professionals:

1. A member of an identified stakeholder group (academic, civil society, public health professional, government, industry)
2. A professional interest in the soft drinks industry levy
3. A professional interest in the relationship between sugar and health

Focus groups with the public:

A member of the public

Participant type(s)

Mixed

Healthy volunteers allowed

No

Age group

Mixed

Sex

All

Total final enrolment

40

Key exclusion criteria

None

Date of first enrolment

01/04/2018

Date of final enrolment

01/12/2020

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

University of Cambridge

MRC Epidemiology Unit/CEDAR

Box 285, Institute of Metabolic Science

Cambridge Biomedical Campus

United Kingdom

CB2 0QQ

Study participating centre

Nuffield Department of Population Health

University of Oxford

Richard Doll Building

Old Road Campus

Oxford

United Kingdom

OX3 7LF

Study participating centre

London School of Hygiene and Tropical Medicine

15-17 Tavistock Place

London

United Kingdom

WC1H 9SH

Sponsor information

Organisation

University of Cambridge

ROR

<https://ror.org/013meh722>

Funder(s)

Funder type

Government

Funder Name

National Institute for Health Research

Alternative Name(s)

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type

Government organisation

Funding Body Subtype

National government

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

The current data sharing plans for the current study are unknown and will be made available at a later date

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	Sugar content, price, product size and number of available soft drinks	11/02/2020	13/02/2020	Yes	No
Results article	Anticipatory changes in British household purchases of soft drinks	12/11/2020	13/11/2020	Yes	No
Results article	Obesity prevalence in English primary school children	26/01/2023	27/01/2023	Yes	No
Results article	ARTICLE RETRACTED - Changes in soft drinks purchased associated with the levy	05/12/2023	07/12/2023	Yes	No
Results article	Dental caries	14/11/2023	24/01/2024	Yes	No
Results article	Estimated changes in free sugar consumption one year after the UK soft drinks industry levy came into force: controlled interrupted time series analysis of the National Diet and Nutrition Survey (2011–2019)	09/08/2024	22/07/2025	Yes	No
Results	Changes in household purchasing of soft drinks	16/01	07/08		

article		/2025	/2025	Yes	No
Results article	Changes in household purchasing of soft drinks following the UK soft drinks industry levy by household income and composition: controlled interrupted time series analysis, March 2014 to November 2019	16/01/2025	08/08/2025	Yes	No
Abstract results	Household purchases of soft drinks	24/08/2020	14/11/2022	No	No
Other publications	Industry views of the UK Soft Drinks Industry Levy	09/08/2023	11/08/2023	Yes	No
Protocol (other)		23/08/2017	25/07/2019	No	No