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The impact of the sugar tax on childhood dental caries in England

Submission date 17/07/2024	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [_] Record updated in last year
Registration date 02/08/2024	**Overall study status** Completed	
Last Edited 22/07/2024	**Condition category** Oral Health	

Plain English summary of protocol

Background and study aims
Many young children in England suffer from tooth decay (holes in teeth). The disease leads to pain and trouble chewing. Many of these children will end up in hospitals to have their teeth pulled out. Tooth decay is common among children in poor and rural areas. It is also common among ethnic groups. Soft drinks play a major role in this problem. They are a main source of sugars in children's diets. They are also a major cause of tooth decay. Reducing the intake of soft drinks through health policies could reduce the high rates of tooth decay. Groups at risk of tooth decay will benefit more. The UK government enforced a tax on soft drinks in April 2018. A recent study showed a promising 12% decline in tooth extractions done in hospitals following the tax. Yet, it is still unclear whether the tax helped reduce the gap in tooth decay rates between social groups. Some people argue that the tax unfairly affects the poor. They will pay more taxes, as a share of their income, to consume soft drinks. This study aims to address two questions: 1. How does the sugar tax impact the distribution of severe tooth decay across social groups, ethnic backgrounds, and living areas? and, 2. What are the economic benefits of the sugar tax?

Who can participate?
Children aged 17 years old and under in England who have existing data on tooth extractions in hospitals in England between 2008 and 2024

What does the study involve?
The study will check for changes in tooth extractions in hospitals before, during, and after the sugar tax was enforced. These checks will be done across social groups, ethnic groups and areas. The second part of the project will calculate public savings due to the sugar tax. The study findings will be shared in various ways. These include workshops, layperson sum-ups, and press releases. Website content will be created for the public, health authorities, consultants, and service managers. Also, the results will be presented in papers and oral reports.

What are the possible benefits and risks of participating?
This study will not recruit participants. The people in the Lay Advisory Group will be compensated for their time and effort, receive relevant training (as needed) and get a chance to gain experience in project management, research activities and dissemination of findings.

Where is the study run from?
Queen Mary University of London

When is the study starting and how long is it expected to run for?
July 2024 to January 2026

Who is funding the study?
National Institute for Health and Care Research (NIHR) (UK)

Who is the main contact?
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Contact information

Type(s)
Public, Scientific, Principal investigator

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Additional identifiers

National Institute for Health and Care Research (NIHR)
159649

Study information

Scientific Title
The distributional and financial impacts of the soft drinks industry levy on childhood dental caries in england

Study objectives
The aim of this study is to evaluate the impact of the soft drinks industry levy (SDIL) on social inequalities in severe dental caries among children in England and resulting financial outcomes.

Ethics approval required
Ethics approval not required

Ethics approval(s)
This project is based on secondary analysis of adminsitrative data.

Primary study design
Observational

Study design
Quasi-experimental design

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Childhood dental caries

Interventions
The soft drinks industry levy (SDIL) came into effect in England on 6th April 2018. The SDIL is a two-tiered levy: drinks with >=8 g of sugar per 100 ml are taxed at 24 pence per litre (higher levy tier) while drinks with 5 to <8 g of sugar per 100 ml are taxed at 18 pence per litre (lower levy tier). Drinks with <5 g of sugar per 100 ml are not levied. In April 2023, the SDIL was extended to include packaged concentrates which are mixed with sugar and diluted by a fountain machine to dispense a drink containing a total sugar content of 5+ g per 100 ml.

Intervention Type
Other

Primary outcome(s)
Social inequalities (absolute and relative) in admission rates for caries-related extractions according to area deprivation, ethnicity and urbanicity measured using NHS Digital data at one time point

Key secondary outcome(s)
The following secondary outcome measures assess the inequalities in the below negative control outcomes to account for confounding events and co-interventions ad are measured using NHS Digital data at one time point. These control outcomes are common reasons for hospitalization among children that were affected by the lockdowns during the pandemic but are unlikely to be affected by the SDIL:
1. Hospital admissions for bilateral tonsillectomies
2. Ventilation support for asthmatic patients
3. Appendicectomies
4. Removal of a foreign body from the nose or ear

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Completion date
31/01/2026

Eligibility

Key inclusion criteria
Children that were admitted to hospital for the primary or control outcomes between 2008 and 2024

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Child

Lower age limit
0 Years

Upper age limit
17 Years

Sex
All

Key exclusion criteria
Not meeting the participant inclusion criteria

Date of first enrolment
01/11/2024

Date of final enrolment
30/06/2025

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Queen Mary University of London
327
Mile End Road
London
United Kingdom
E1 4NS

Sponsor information

Organisation
Queen Mary University of London

ROR
https://ror.org/026zzn846

Funder(s)

Funder type
Government

Funder Name
National Institute for Health and Care 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 datasets generated during and/or analysed during the current study are not expected to be made available due to an existing agreement with NHS Digital that prevents us from sharing the data with third parties.

IPD sharing plan summary
Not expected to be made available