Oral Health Inequalities in Children

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Oral Health Inequalities in children

Recommendations

OH inequalities affecting children

Impact poor oral health

Key prevention messages

Good oral health essential for general health and wellbeing

WHO

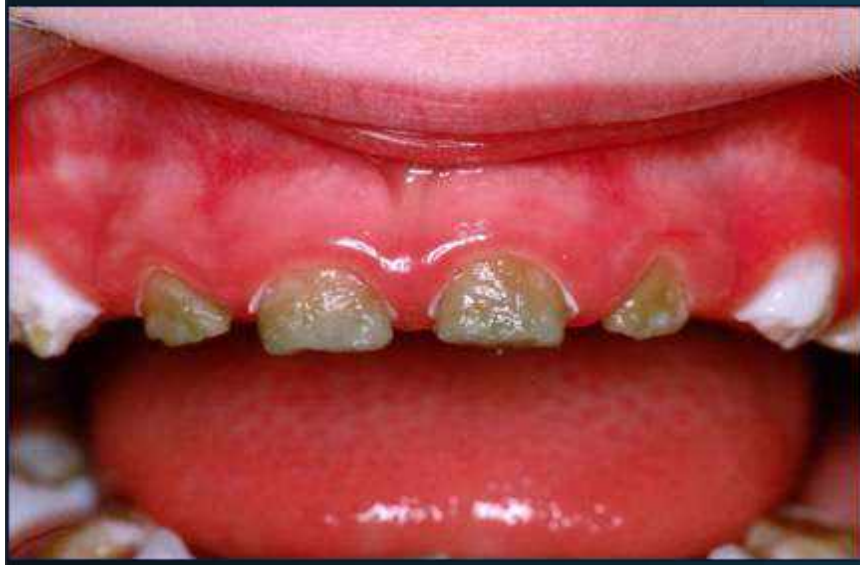
Global Oral Health Status Report 2022

Oral diseases - 3.5 billion people

2 billion: caries permanent teeth

514 million children -caries primary teeth

Untreated dental caries - most common health condition (Global Burden of Disease 2019).



Impact of poor oral health

Child

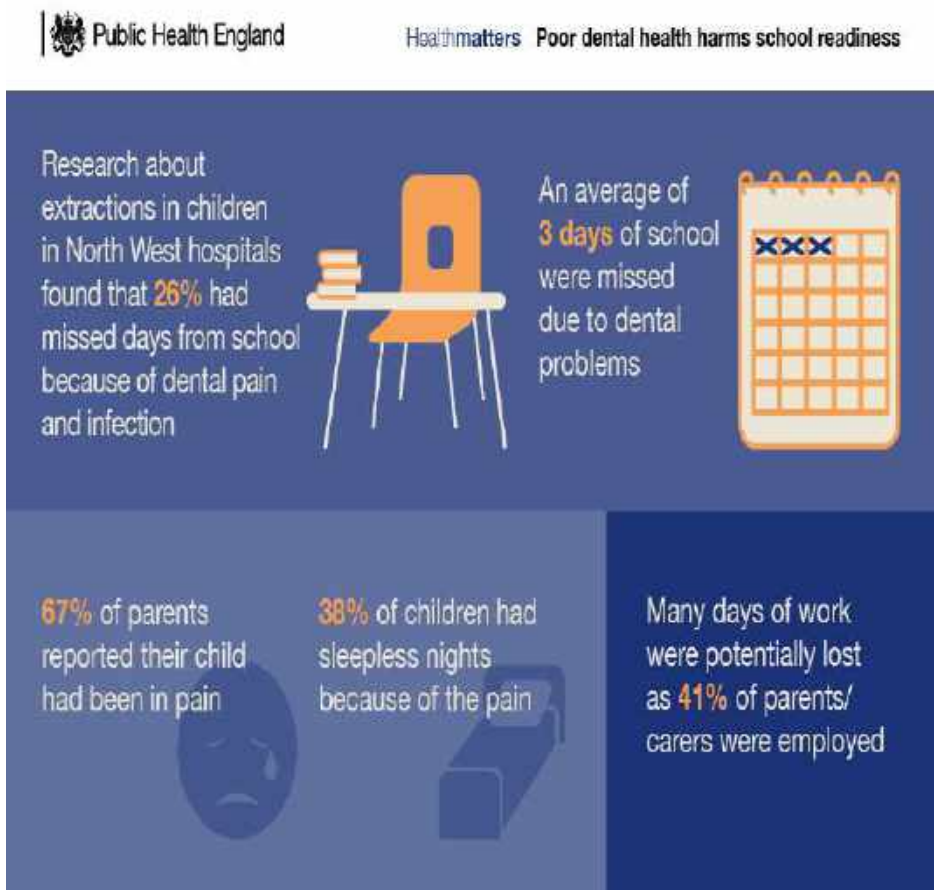
- Pain
- Difficulty eating, sleeping
- Missed school
- Avoid smiling, socialising

Family

- Time off work
- Feeling guilty
- Financial impact

Society

- Biggest cost to the NHS for this age group



Tooth Decay

Most common reason for hospital admissions
(6- 10-yr-olds).

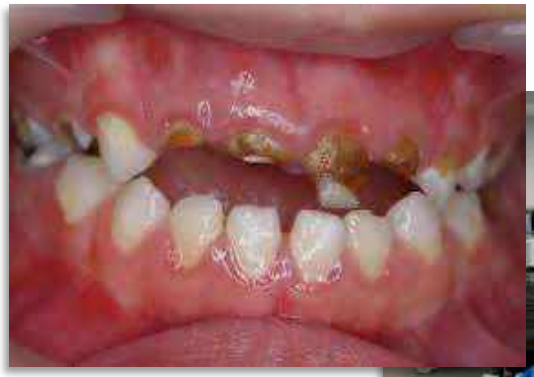
37,406 Hospital procedures for dental extractions
2018 -19 (0 to 19 ys).

102 children a day
teeth removed in hospital.

Av 3 days school missed

Dental GA
Extraction often child's first introduction to dental care…

Leading to **fear/ anxiety** with lifetime consequences.



Key Oral health messages

Regular toothbrushing -fluoride toothpaste

Parents brush their child's teeth twice a day as soon as they erupt

First dental check-up by 1year

Regular dental check-ups

Oral health inequalities

differences in levels of oral health that are **avoidable** and deemed to be **unfair, unacceptable** and **unjust.**


Public Health England

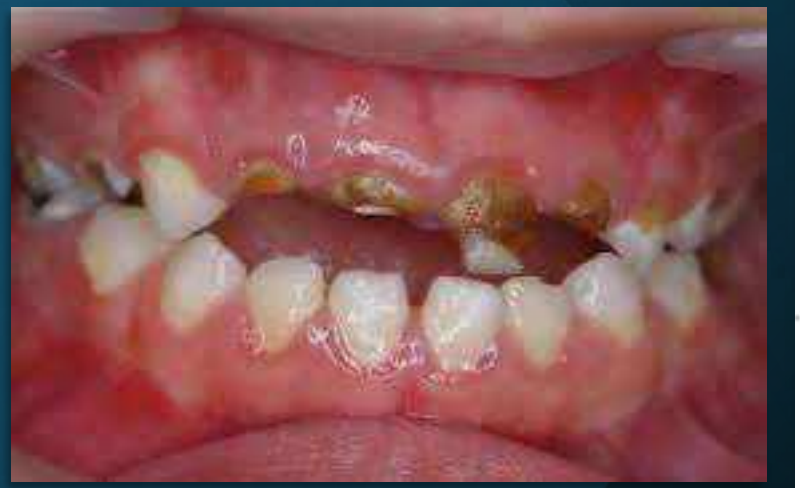
Protecting and improving the nation's health

Inequalities in oral health in England

Dimensions of inequality

Inequalities in oral health

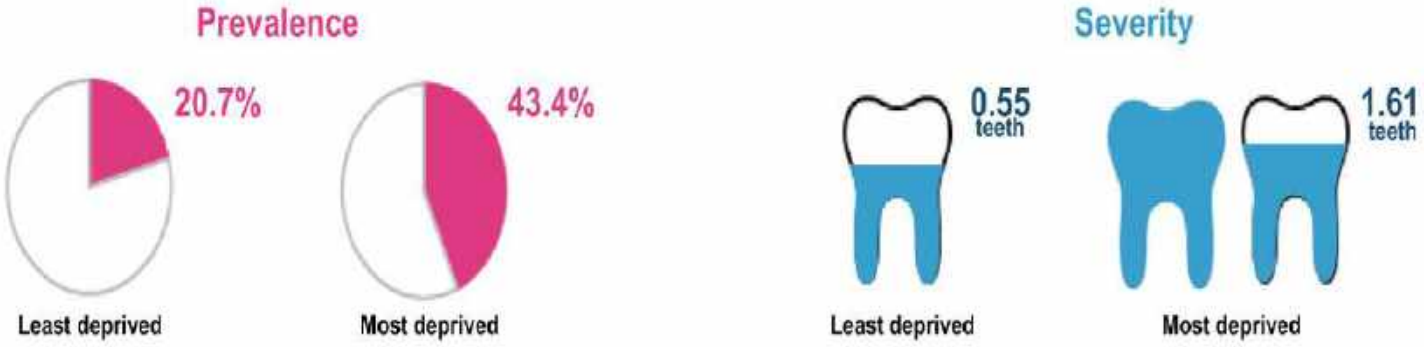
Deprivation



Dr Anwen Cope, Welsh Oral health information Unit Cardiff Uni School of Dentistry, Public Health Wales , NHS Community Dental Service

Oral health inequality across Wales

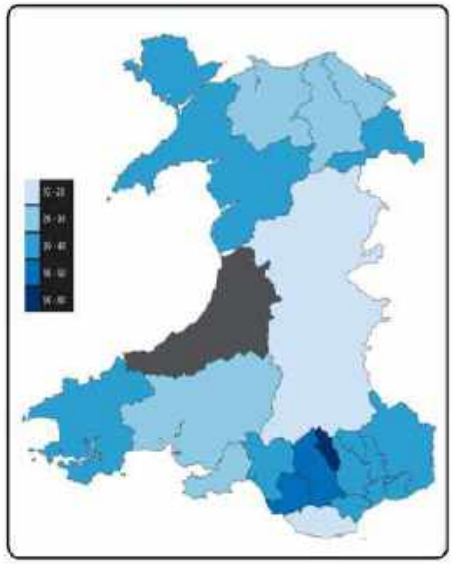
Children from deprived backgrounds experience higher levels of prevalence and severity of tooth decay. This pattern has not changed since 2007/8.



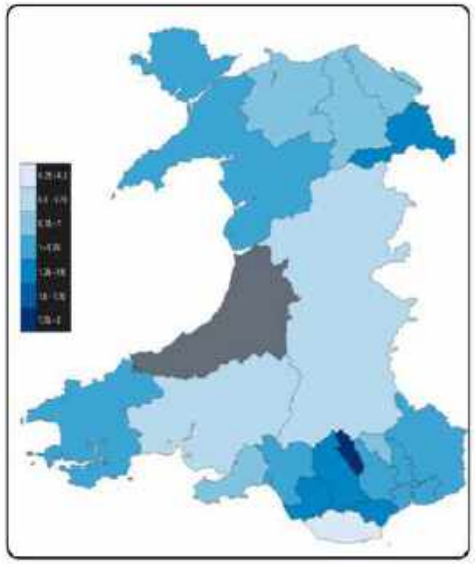
Distribution of prevalence and severity across Wales

Prevalence and severity of tooth decay varied across Wales

The prevalence of children with tooth decay ranged from 19.6% in Powys THB to 44.0% in Cwm Taf Morgannwg UHB.



The severity of tooth decay ranged from 0.64 in Powys THB to 1.54 in Cwm Taf Morgannwg UHB.



OH Inequality: **Deprivation**

Children's socio-economic background influences experience of tooth decay

The levels of dental disease in Wales's most deprived communities significantly higher than affluent communities

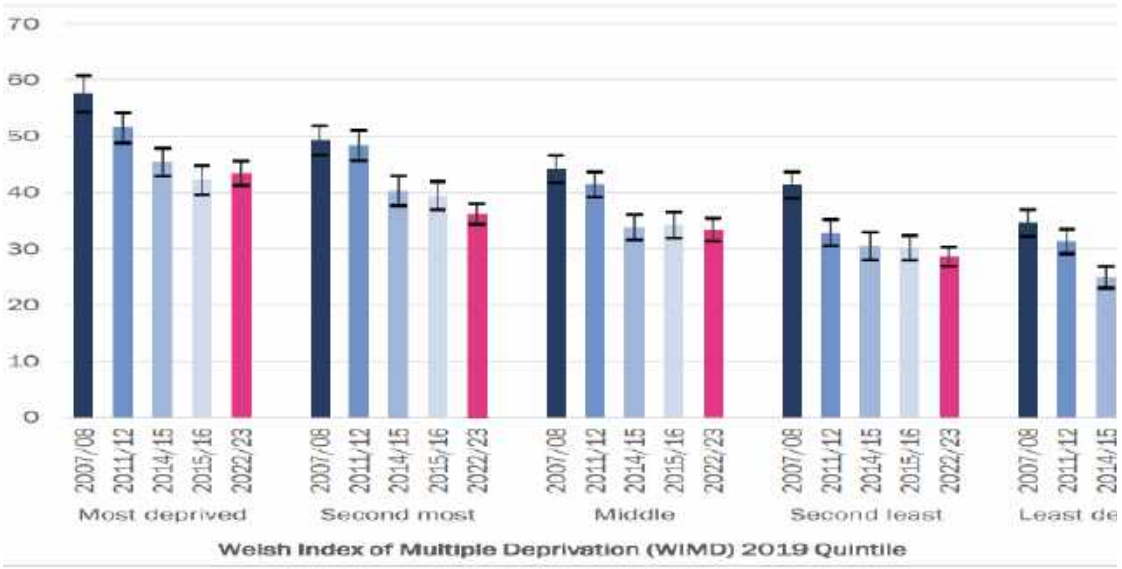
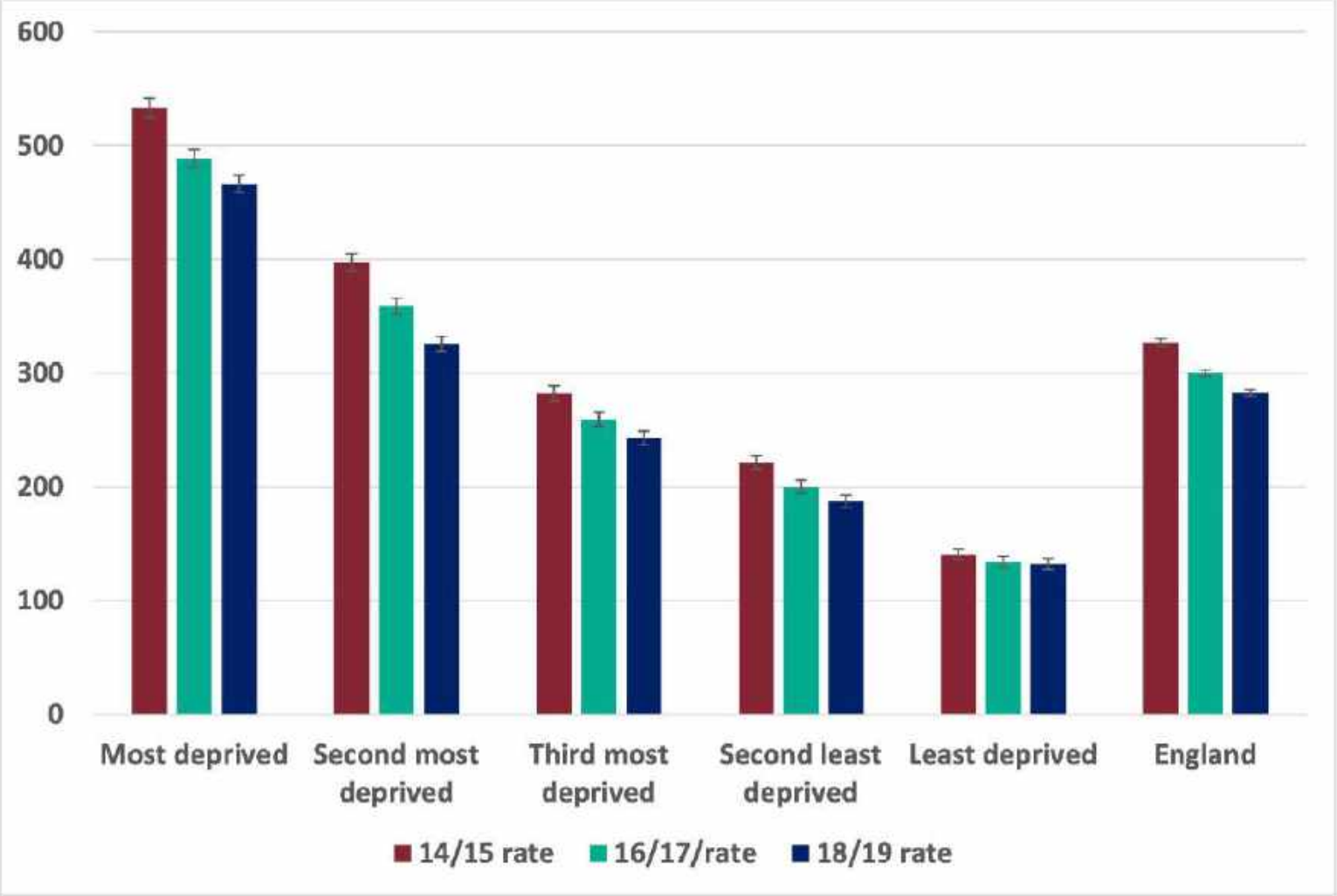


Figure 3.13 Slope index of inequality in prevalence of dental caries in 5 year old children in England, 2019

OH Inequality: Deprivation

Dental extraction in hospitals

Figure 3.3 Hospital extraction rate due to caries (0 to 19 year olds) by deprivation quintile between 2014 to 2015 and 2018 to 2019



Source: PHE 2020

OH Inequality: **Ethnicity**

Dental caries experience:

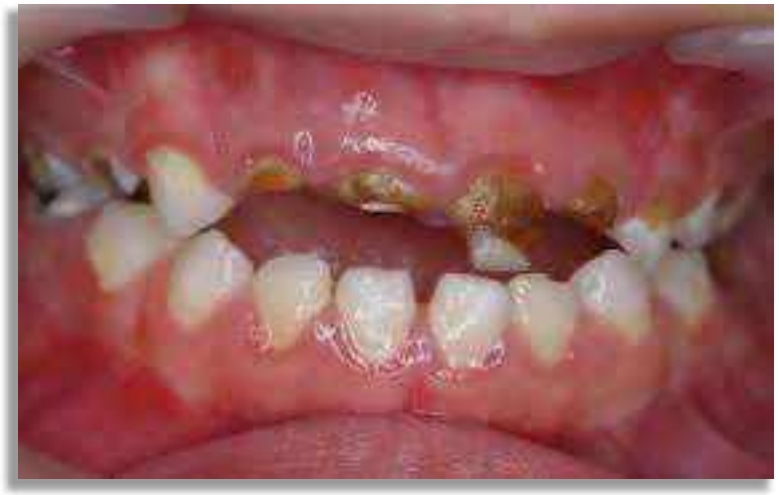
44% of children from the Other ethnic group

21% of children from the White ethnic group

Severity of dental caries

varied by ethnic group.

Highest in the Other ethnic groups.



Child oral health data 2019 NDEP

Ethnic inequalities in child oral health

behaviours among 5 and 8-year-old children from England, Wales and Northern Ireland 2023

White Children

Ethnic Minority Children

Less likely to

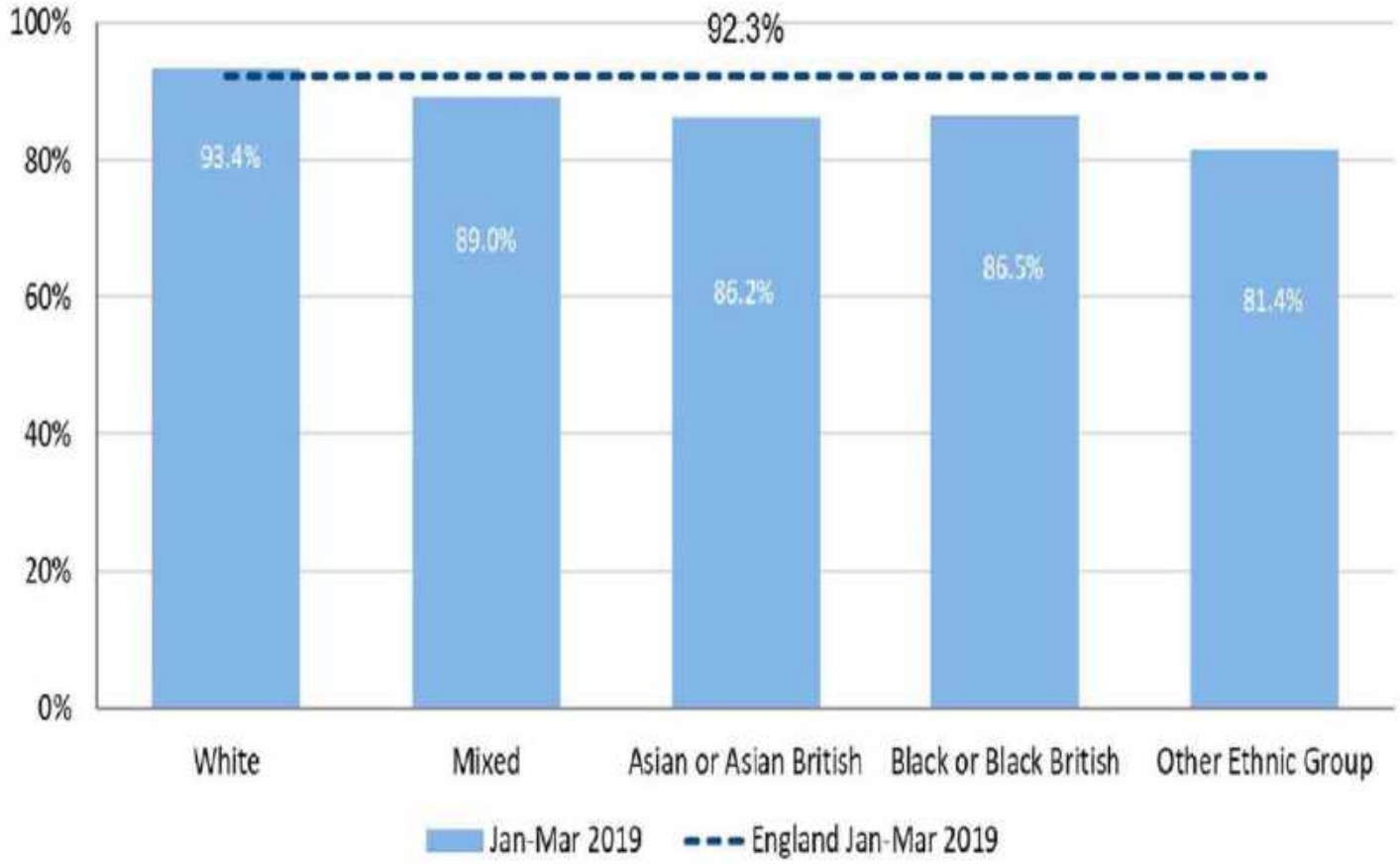
- have a dental check-up in the past year
- have a first dental visit during the first year of life
- to brush their teeth twice daily
- start brushing during the first year of life

bin Hayyan, F., Heidari, E. & Bernabé, E. *Br Dent J* (2023).

OH Inequality: **ACCESS**

People from Black, Asian and minority ethnic groups less likely to get an NHS dental appointment

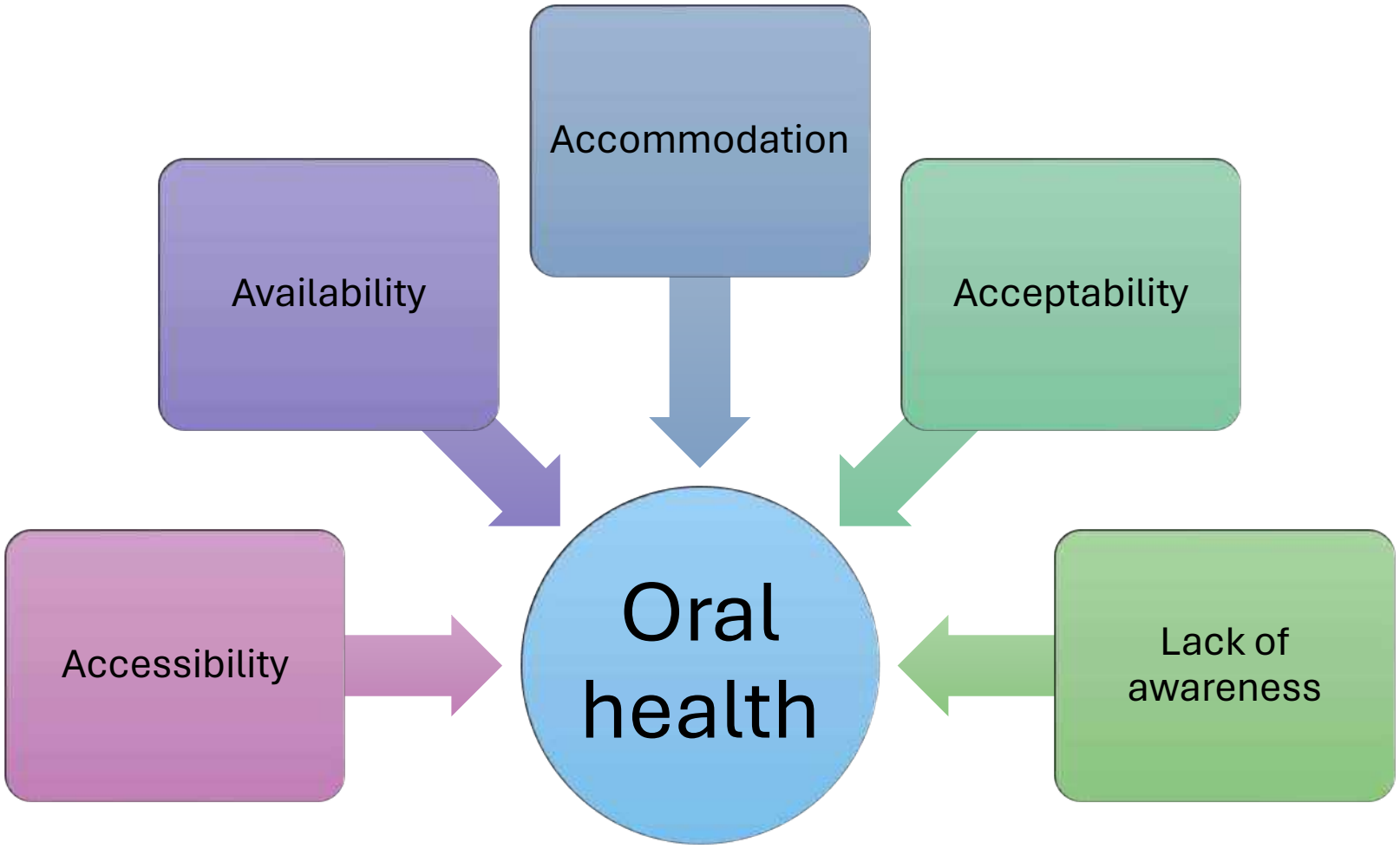
Figure 3.12 Percentage of those who tried to get an NHS dental appointment in the last 2 years and succeeded, by ethnicity



Source: Summary of the Dental Results from the GP Patient Survey: January to March 2019

Ethnic inequalities in child oral health behaviours

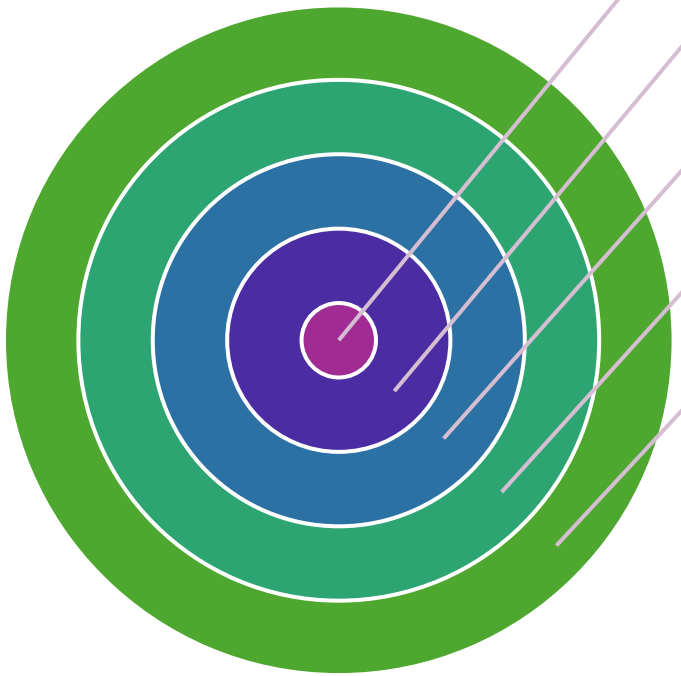
mix of environmental, cultural, biological and health-system-related factors



Inequalities in Children's Oral Health

- Substantial social inequalities in oral health
- Children from disadvantaged & ethnic minority backgrounds experience poorer oral health.
- Profound implications for commissioning dental services and oral health promotion.
- **Significant costs on society and NHS for what are essentially preventable diseases**

ACTIONS towards oral health equity



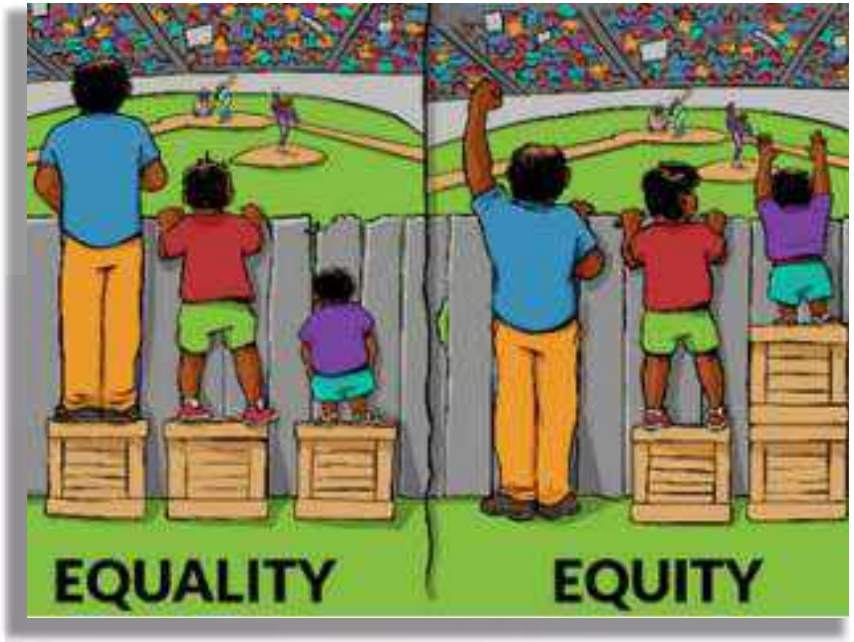
Individual

Local

Regional

National

International



Stakeholders Collaboration

GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru | Public Health Wales

British Society of Paediatric Dentistry

GIG CYMRU NHS WALES

Llywodraeth Cymru
Welsh Government

Royal College of Surgeons of England

Public Health England

RCPCH
Royal College of Paediatrics and Child Health
Leading the way in Children's Health

GIG CYMRU NHS WALES | Addysg a Gwella Iechyd Cymru (AaGIC) | Health Education and Improvement Wales (HEIW)

BRITISH SOCIETY OF PAEDIATRIC DENTISTRY

Supervised tooth brushing programmes

Dental check by 1

Community Water fluoridation

Targeted Prevention

Workforce

British Society of Paediatric Dentistry

Upskill

Wales

Design to smile

OH Programme

Advice to families; provide toothbrushes and fluoride toothpaste

Works with families and children 0 to 7 yrs

Encourage visit to the dentist before a child's first birthday

Targeted at disadvantaged areas

programme for nursery / primary school children till 7 yr

Workforce
Teaching and Training

- Curriculum
- Upskill
  - Launching Dentist with enhanced skills –Level 2 Programme 2024
  - Improving access
  - Provide a dental home for every child

Talking teeth

Voluntary community engagement programme
Oral Health promotion

Dental prevention workshops

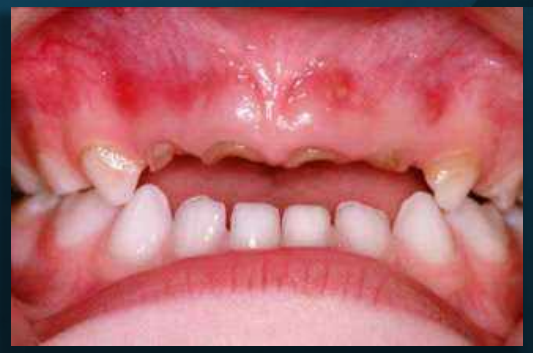
Primary schools

Community events

Secondary school Careers events

Good feedback

Summary



Impacts of poor oral health disproportionally affects vulnerable / socially disadvantaged.

UK Health sector Public bodies - legal duty, responsibilities to address inequalities.

Reducing oral health inequalities - matter of social justice and ethical imperative

Good oral health is essential

Diolch

Thank you

Regular toothbrushing - fluoride toothpaste

Parents brush their child's teeth twice a day as soon as they erupt (six mths).

First dental check-up by 1yr

Regular dental check-ups

References

- bin Hayyan, F., Heidari, E. & Bernabé, E. Ethnic inequalities in child oral health behaviours among five- and eight-year-old children from England, Wales and Northern Ireland. *Br Dent J* (2023).
- https://assets.publishing.service.gov.uk/media/6051f994d3bf7f0453f7b9a9/Inequalities_in_oral_health_in_England.pdf
- https://www.rcpch.ac.uk/sites/default/files/2021-06/RCPCH%20Briefing%20 %20oral%20health%20inequalities_0.pdf
- https://www.gov.wales/designed-smile-improving-childrens-dental-health
- https://www.bspd.co.uk
- The Equality Act 2010 sets out the public sector Equality Duty
- The Health and Social Care Act 2012 sets out the Health Inequalities Duty

Acknowledgement: Dr Anwen Cope. Welsh Oral health information Unit for sharing information

Top 3 interventions for preventing tooth decay

1

Reduce the consumption of foods and drinks that contain sugars

2

Brush teeth twice daily with fluoride toothpaste (1350-1500ppm), last thing at night and at least on one other occasion. After brushing, spit don't rinse

3

Take your child to the dentist when the first tooth erupts, at about 6 months and then on a regular basis

Under 3s should use a smear of toothpaste

3 to 6 year olds should use a pea sized amount

Parents/carers should brush or supervise tooth brushing until their **child is at least 7**

Targeting supervised tooth brushing to childhood settings in areas with high levels of tooth decay will help reduce oral health inequalities

This helps to encourage children to brush their teeth from a young age and supports home brushing

Fluoride toothpaste has been shown to prevent tooth decay

British Society of Paediatric Dentistry

- Every child and young person (CYP) should have a ‘dental home’
- Deliver a Dental Check by One (DCby1) before every baby’s first birthday
- Support vulnerable groups (asylum-seeking children, looked after children and those in poverty) by expanding supervised toothbrushing schemes, community water fluoridation and increasing the free school meals offer
- Drive an equitable recovery of general anaesthetic (GA) services
- Enable effective and funded Managed Clinical Networks (MCN)
- Oversee true integration of oral health, with initiatives such as Mini Mouth Care Matters (MMCM)
- Ensure targeted, evidence-based intervention for vulnerable groups such as looked after children, CYP with learning disabilities
- Upskill and contractually enable Primary Dental Care Practitioners to provide evidence-based interventions using schemes such as Child Friendly/Focused Dental Practices
- Support and develop the whole oral healthcare team
- Expand the paediatric dental workforce – including provision of Tier 2 services

wales

- Wales has seen a gradual decline in levels of dental decay over the past decade, but a recent survey suggests this is beginning to plateau, and dental health inequalities amongst Wales's most deprived communities remain a harsh reality.
- Researchers from the Welsh Oral Health Information Unit at Cardiff University's School of Dentistry have collaborated with Public Health Wales and the NHS Community Dental Service to survey the oral health of 5 year olds across Wales, for the first time since 2015/16.
- Dental disease and tooth decay can significantly impact a young person's quality of life, with typical symptoms including toothache, sleep loss, and difficulties when eating.
- An oral health survey in 2007/08 suggested that 14 out of a class of 30 children would experience tooth decay, with this number falling to 10 out of 30 children in 2015/16. Since then, the situation has remained largely unchanged according to the most recent survey in 2022/23, which assessed the oral health of 9,376 children from state-funded schools across Wales.
- This survey also highlighted how a young person's socio-economic background continues to influence the likelihood that they will experience tooth decay, with levels of dental disease in Wales's most deprived communities remaining significantly higher than in more affluent communities.

RCPCH

- The prevalence of dental extraction due to tooth decay amongst in children in England is falling. Whilst this is good news, children from the most deprived areas have more than twice the level of tooth decay compared with those from the least deprived areas.
- There are significant health and social consequences resulting from poor oral health. These entrench existing inequalities. The UK Government should introduce a number of preventative measures and support programmes that close the inequality gap in prevalence of tooth decay, comparable to the programmes already introduced in Wales, Scotland and Northern Ireland

https://www.rcpch.ac.uk/sites/default/files/2021-06/RCPCH%20Briefing%20-%20oral%20health%20inequalities_0.pdf

- Most oral health conditions are largely preventable and can be treated in their early stages. Most cases are dental caries (tooth decay), periodontal diseases, tooth loss and oral cancers. Other oral conditions of public health importance are orofacial clefts, noma (severe gangrenous disease starting in the mouth mostly affecting children) and oro-dental trauma.
- Prevalence of the main oral diseases continues to increase globally with growing urbanization and changes in living conditions. This is primarily due to inadequate exposure to fluoride (in the water supply and oral hygiene products such as toothpaste), availability and affordability of food with high sugar content and poor access to oral health care services in the community. Marketing of food and beverages high in sugar, as well as tobacco and alcohol, have led to a growing consumption of products that contribute to oral health conditions and other NCDs

- This report presents the analysis of the NHS Wales Dental Epidemiology Programme national inspection of school year one children (five-year-olds) in Wales conducted during the 2022/23 academic year. This was the first national inspection of child oral health conducted in Wales since 2015/16. A total of 9,376 children from state-funded schools were examined as part of this inspection. The prevalence and severity of dental caries (tooth decay) in school year one children (typically those aged 5-6 years of age) continues to fall in Wales. In 2007/08, 14 out of a class of 30 children would have dental caries (tooth decay) experience, and these 14 children would have an average of 4.16 teeth affected. In 2022/23 this had fallen to 10 children out of a class of 30 with dental caries experience, with an average of 3.38 teeth affected. However, the reduction in prevalence of dental caries appears to be plateauing, with no difference between the inspections conducted in 2015/16 and 2022/23 (this inspection) at a national level (34.2% vs. 32.4%). Whilst there has been a small decrease in the overall number of teeth affected by dental caries between 2015/16 and 2022/23, there have also been small increases in untreated disease. Dental caries can negatively affect the quality of life of children and their caregivers. School year one children in Wales who have experience of dental caries were more likely to report oral health-related quality of life impacts than children without dental caries experience. The most common impact was pain, which affected almost one in four children (23.6%) with dental caries experience. There is a clear social gradient in the prevalence and severity of dental caries experience amongst children in Wales. Individuals from the most deprived communities are more likely to experience dental caries and also have more teeth affected. The gap between the most and least deprived communities, as measured by the slope index of inequality of dental caries prevalence, has not changed between 2007/08 and 2022/23. The 2022/23 inspection was the first since the coronavirus (COVID-19) pandemic. Children examined as part of this inspection were born in the 2016/17 academic

- Supplementary table 1: Prevalence of dental caries experience (%d3mft>0) in school year one children in Wales 2022/23 Inspection Year Prevalence of dental caries experience (%d3mft>0) Mean 95% CI Low 95% CI High 2007/08 47.56 46.40 48.72 2011/12 41.40 40.32 42.51 2014/15 35.40 34.38 36.52 2015/16 34.20 33.17 35.23 2022/23 32.40 31.52 33.18

- The Evidence Poor oral health can lead to: – Pain – Infections – Altered sleep and eating patterns – School absence – Decreased wellbeing – Dental extraction due to tooth decay (increasing risk of dental problems later in life) In 2018/19, 2.8 per 1,000 children aged 0-5 years had a tooth extraction due to tooth decay in England

- Tooth decay has been the most common reason for hospital admission among children aged five to nine for the past three years.2 For young children, tooth extractions usually require a general anaesthetic and an admission to hospital. This is associated with increased morbidity, and places financial burden on the NHS.
- Between 2008 and 2017, prevalence of visible decay fell from 30.9% to 23.3%.
- Children from lower socioeconomic groups have a greater prevalence and severity of tooth decay. In England, while 77% of 5 year old children were free of visually obvious tooth decay in 2017, there are significant regional inequalities, with children from the most deprived areas having more than twice the level of decay compared with those from the least deprived.5

- NHS Digital, Tooth extractions due to decay for children admitted as inpatients to hospital aged 10 years and under, 2020, available: https://digital.nhs.uk/data-and-information/publications/statistical/ nhs-dental-statistics/2019-20-biannual-report 2 Royal College of Surgeons, Position Statement: Children's Oral Health, 2019, available at: https://www. rcseng.ac.uk/news-and-events/media-centre/press-releases/childrens-oral-health-2019/ 3 Knapp, R. et al, Treatment of dental caries under general anaesthetic in children, 2017, available at: https://www.nature.com/articles/bdjteam2017116. 4 Public Health England, Oral health survey of five year old children, 2017, available at: https://www.gov.uk/government/statistics/oral-health-survey-of-5-year-old-children-2017 5 Public Health England, National Dental Epidemiology Programme for England: oral health survey of five-year old children 2017: A report on the inequalities found in prevalence and severity of dental decay, 2018, available at: https://www.gov.uk/government/statistics/oral-health-survey-of-5-year-oldchildren-201

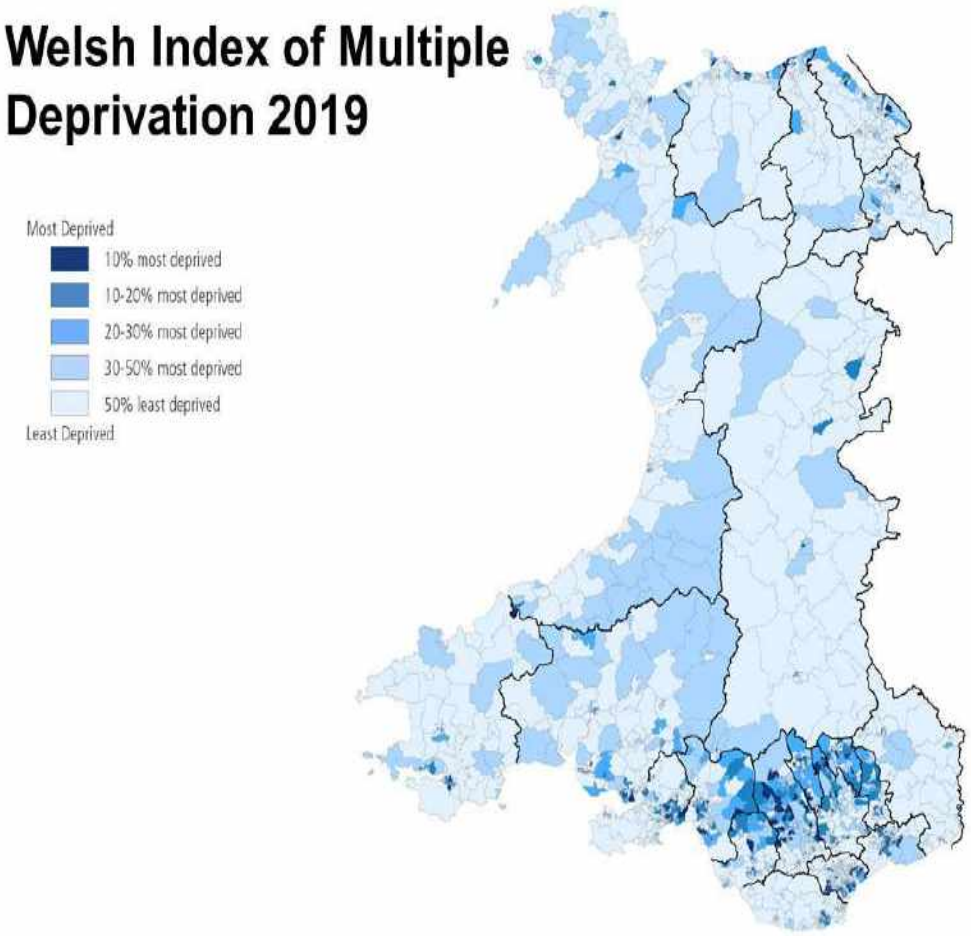
Child oral health: applying All Our Health - GOV.UK (www.gov.uk)

- While 77% of 5 year old children in England are now free of obvious tooth decay, significant regional inequalities remain – with children from the most deprived areas having more than twice the level of decay, than those from the least deprived.
- Almost 9 out of 10 hospital tooth extractions among children aged 0 to 5 years are due to preventable tooth decay and tooth extraction is still the most common hospital procedure in 6 to 10 year olds, according to data up to 2019. See Issues arising following a referral and subsequent wait for extraction under general anaesthetic: impact on children.
-

Recommendations

- - Recognise that prevention is better than cure, and allocate sustainable funding for prevention on that basis.
- - Report on the effect of oral health initiatives, to assess their impact on oral health inequalities and identify which are most effective.
- - Continue oral health promotion, to raise awareness..
- - Check people at high risk (e.g. those with severe dental problems, to prevent them developing related non communicable diseases; and those with non-communicable diseases to screen for associated dental disease and provide appropriate treatment).
- - Include oral health within Integrated Care Systems action plans, including greater collaboration between dentists, GPs and pharmacists.

Welsh Index of Multiple Deprivation 2019



Negative effect OHQL:

Pain

Impaired speaking, eating

sleeping

Dental pain most common complaint : emergency dental visits / hospitalisation.

Longer Consequences:

Restricting body weight and growth.

School absences

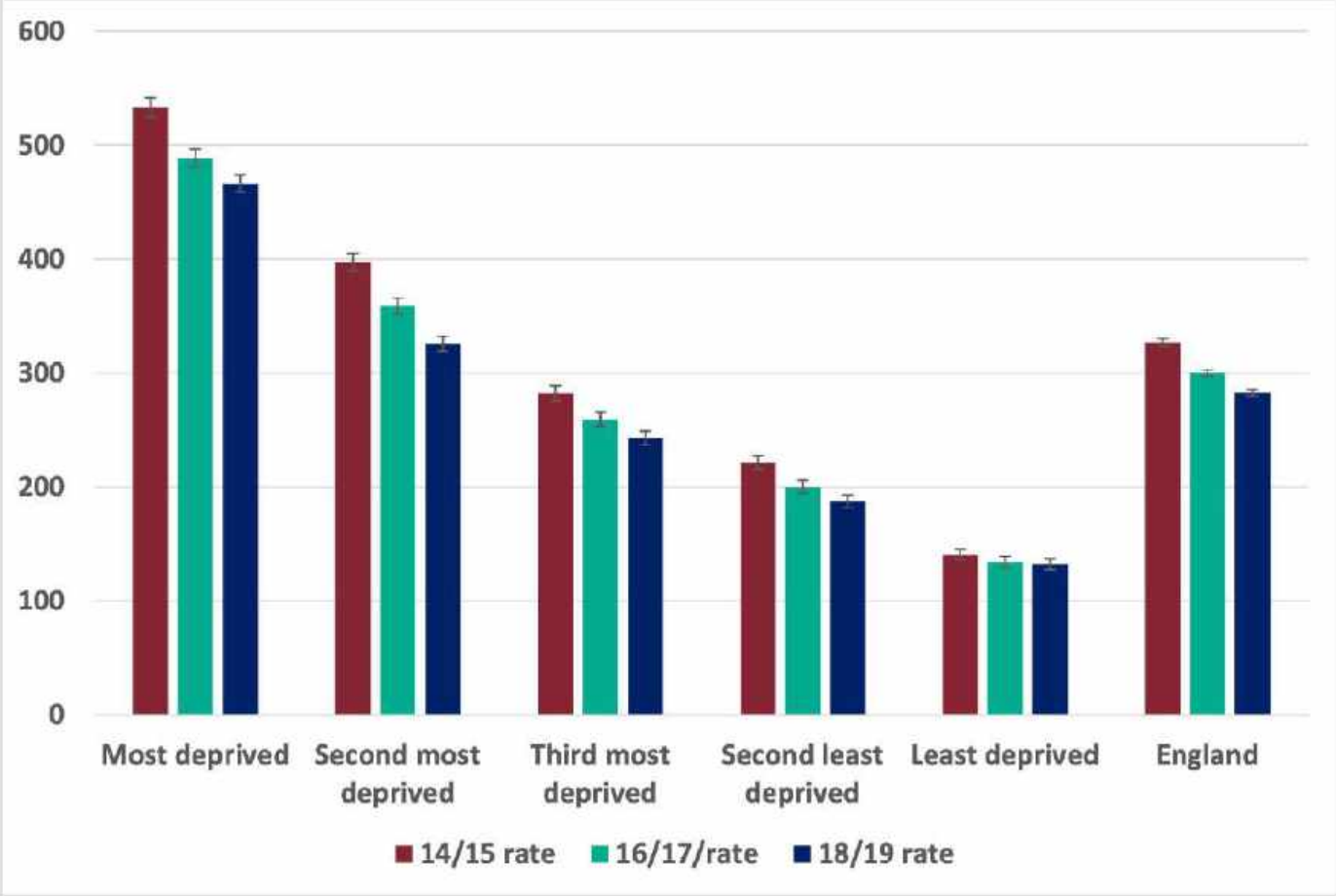
Societal burden :
Adversely affecting economy
Work loss
High-cost dental care

Inequalities in oral health
Deprivation

The cost to the NHS of health inequalities £5.5 billion / year

NHS spend on those in the lowest income quintile has been estimated to be 25% higher than spend on those in the highest

Figure 3.3 Hospital extraction rate due to caries (0 to 19 year olds) by deprivation quintile between 2014 to 2015 and 2018 to 2019



Source: PHE 2020

Deprivation

Welsh Index of Multiple Deprivation (WIMD) 2019 is the official measure of relative deprivation for small areas in Wales.

Deprivation ranks were assigned using school postcode as a proxy for home address.

Deprivation ranks split into 5 quintiles from 1 (most deprived fifth) to 5 (least deprived fifth