

BASCD 2024 Abstract #01

Dental health literacy: A review of Health A-Z

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Background:

43% of adults in the UK adults have a reading age at, or below, that of a 9-year-old. This means they may not understand written health information. Disadvantaged groups are more likely to have limited health literacy, therefore efforts to improve health literacy and making information more accessible could help with reducing health inequalities. Health A-Z is an online health tool accessed through the NHS 111 Wales website that contains written health information.

Objectives:

The aim of this project was to assess the written information relating to dental health included in the Health A-Z tool. The objectives were to assess the accuracy and readability of the written content and provide actionable recommendations where content needs correcting or making more accessible.

Methods:

The Health A-Z section of the NHS 111 Wales website was searched for any pages containing written information relating to dental health, including guidance on accessing dental care. The content of each webpage was captured and assessed for accuracy against national guidance and subject matter expertise where appropriate. Readability was assessed by Flesch Reading Ease scores.

Results:

The review found that 81% of pages relating to dental health were above the reading level of an average 9-year-old. Written information on accessing dental care, including in an emergency, were the most difficult to read pages and contained inaccurate or outdated information. A report was produced with input from subject matter experts recommending content changes.

Conclusion:

Most written information relating to dental health on the NHS 111 Wales website is not understandable by a large proportion of the population. Health literacy is a social determinant of health and strategies to improve this need to address both individual ability and responsiveness of health systems. A wide range of stakeholders have a role to play in addressing health literacy.

Funding source:

None

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BASCD 2024 Abstract #02

Interim evaluation of pilot for unregistered patients and asylum seekers (PUPAS) scheme

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Background:

The Pilot for Provision of Urgent Dental Care to Unregistered Patients and Asylum Seekers Scheme aimed to find an immediate solution to an access problem in general dental services, which prevented unregistered patients, including asylum seekers and refugees, with an urgent dental care need from receiving treatment. Dentists received an enhanced fee for provision of emergency care for these groups.

Objectives:

Interim evaluation to assess service utilisation during the first 13 weeks, acceptability of the scheme and inform the commissioning of a substantive scheme.

Methods:

Quantitative analysis of data - recording number of patients, breakdown of unregistered/asylum seeker/refugee, treatment provided, conversion from unregistered to registered, socioeconomic status of patients. Qualitative analysis - survey of dental professionals involved in the scheme, patients who utilised the scheme and representatives from charitable organisations who assisted clients to access care through the scheme. Ethical approval was not required for this service evaluation.

Results:

11 dental practices in 5 Local Commissioning Group areas provided care to 507 patients in the first 13 weeks of the scheme. 18% were asylum seekers, 50% of patients fall within Northern Ireland Multiple Deprivation Measure deciles 1-3, 82% of patients subsequently registered with the dentist. 91% of scheme dental practices would be content to work under a similar scheme, charitable organisations felt the scheme successfully provided access to care for their clients, positive patient feedback.

Conclusion:

The interim evaluation showed the scheme successfully provided access to dental services for those who are most in need of it. It tested the capacity within primary care to provide urgent dental services to these groups as well as the demand and cost of this care. The interim evaluation provided evidence that the scheme is needed in the medium to long term to address the issues surrounding access to dental services.

Funding source:

None

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BASCD 2024 Abstract #03

Income inequality in dental visits among Chinese children

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Background:

Socioeconomic factors are a major barrier for dental visits among Chinese children, despite the need for dental care.

Objective:

To test whether dental visit is associated with household income regardless of dental diseases.

Methods:

The project was approved by King's College London ethics committee (HR-15/16-2901). Data was from a longitudinal study conducted in Liaoning Province, China, between 2017 and 2018. The analysis included 772 preschool children who were assessed at baseline and a year later. Data on household income and untreated dental caries at baseline and on dental visits during the follow-up time were used in the analysis. The association between household income at baseline and dental visit during the follow-up time was assessed using logistic regression, adjusting for the number of untreated caries, age and gender.

Results:

Mean age of the children at baseline was 50.8 months. At baseline, the mean number of decayed teeth was 3.04, and the prevalence was 58%. Dental visits at follow-up were reported by 20% of the children. After adjusting for the mean number of decayed teeth, there were clear income gradients in dental visits at follow-up. Children from lowest and second lowest income groups had lower odds ratios (OR) for dental visits (OR= 0.27, 95%CI: 0.16, 0.47) and (OR=0.39, 95%CI: 0.22, 0.71), respectively, compared to those in highest income group.

Conclusion:

Despite the high level of caries among Chinese children, there were steep income gradients in dental visits after the children were diagnosed with the disease.

Funding source:

None

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BASCD 2024 Abstract #04

Association between housing characteristics and dental caries among children in USA

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Background:

Despite the strong evidence on the role of the social determinants in dental caries, there is limited research on association between housing characteristics and dental caries among children.

Objectives:

To examine the association between housing characteristics and caries experience among 2-6 years American children.

Methods:

Data from the National Health and Nutrition Examination Survey 2017-18 was used. Children aged 2-6 were included. The association between housing characteristics and the sum of decayed and filled primary teeth was assessed adjusting for family income, ethnicity, age, gender and dental visits.

Results:

A total of 861 child were included in the analysis. The mean number of decayed and filled primary teeth was 1.28. Compared to those who lived in owned home, children living in rented homes or homes with other arrangement had higher rate ratios for decayed and filled teeth with rate ratios 1.98 (95%CI: 1.25, 3.12) and 2.60 (95%CI: 1.14, 5.93), respectively. Higher family income was also associated with lower rates of decayed/filled teeth.

Conclusion:

The analysis highlighted the importance of housing characteristics as a social determinant of children caries.

Funding source:

None

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BASCD 2024 Abstract #05

Rapid review of intervention studies to reduce inequalities in dental caries among children

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Background:

Despite the availability of effective interventions to prevent caries among children, it is not clear which intervention reduces inequalities in caries.

Objectives:

The objective of this rapid review is to synthesize empirical evidence from intervention studies aiming at reducing inequalities in caries among children.

Methods:

Literature search was conducted up to February 2024 to identify intervention studies showing change in socioeconomic inequalities in dental caries among children. Key words related to socioeconomic inequalities, children, caries and intervention studies were used. Interventions included any preventive or health promotion interventions used to reduce inequalities in caries. Comparison included any groups not receiving the intervention or receiving an alternative intervention.

Results:

After removing duplicate and irrelevant studies, only 14 studies were identified. The identified interventions included fluoride varnish, health education and promotion in schools and water fluoridation. Use of fluoride in whole population and target population interventions showed greater impact on inequalities in caries.

Conclusion:

Limited studies assessed the impact of intervention studies on inequalities in caries among children. Studies targeting the whole population appeared to have a greater and more consistent impact on inequalities.

Funding source:

None

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BASCD 2024 Abstract #06

Child and family impact of dental caries in Welsh year 1 schoolchildren

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Background:

National surveys across the UK report that tooth decay remains prevalent in children. Poor oral health can negatively impact children's physical, social, and educational development. Negative effects may also extend to emotional, occupational, and financial impact on the parents/guardians of children with poor oral health.

Objectives:

To explore the impact that dental caries has on school year 1 children (5-year-olds) and their families in Wales.

Methods:

During the 2022/23 academic year, children in year 1 in a sample of state-maintained schools in Wales were selected to undergo a clinical examination. Their parents/guardians completed the Early Childhood Oral Health Impact Scale (ECOHIS). BASCD diagnostic criteria was used to calculate the decayed, missing and filled teeth (dmft) and pulpal involvement, ulceration, fistula, and abscess (PUFA) scores for each child.

Results:

ECOHIS questionnaires were completed for 8463 children from 612 schools (90.3% of all children examined). The children had a mean age of 5.95 years, 28.6% had evidence of decay experience with a mean dmft of 1.07 (3.39 in those with decay experience), and PUFA was present in 2.0%. Negative impact was reported by 18.4% of respondents, this raised to 35.1% if dmft>0. 15.4% reported negative impact(s) affecting the child (29.8% if dmft >0) and 8.8% reported negative family impact(s) (20.4% dmft>0). Pain was the most frequently reported impact on children at 11.6% (23.6% if dmft>0) and feelings of guilt had the most impact on parents/guardians (6.7%, 16.5% if dmft>0).

Conclusion:

Children in year 1 are starting their educational career. This study found that in a class of thirty children around 9 would have decay experience. Just over 5 children would be experiencing some form of symptomatic, functional, and/or psychological impact and/or parental distress. These findings reinforce the need for measures to tackle early childhood caries alongside other efforts to minimise childhood disadvantage.

Funding source:

Public Health Wales/Welsh Government

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BASCD 2024 Abstract #07

Association between activities of daily living and oral health among older Saudi adults

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Background:

Decline in activities of daily living (ADLs) among older adults is a growing problem in the ageing population. Oral health could be a potential risk factor that contributes to ADLs.

Objectives:

To examine the association between each of oral health behaviour and tooth loss with ADLs.

Methods:

This study included a group of 356 older Saudi adults, employing a cross-sectional design to assess ADLs scores derived from a composite measure of ten different daily activities and oral health behaviours, including frequency of tooth brushing and dental visits. The number of remaining teeth was obtained by clinical examination. Age, gender, income, and marital status were included in the analysis. Linear regression models were used to explore the associations between oral health behaviours, tooth loss and ADLs adjusting for sociodemographic variables. Ethical approval was granted by King's College London Research Ethics Committee (HR-18/19-8791).

Results:

Mean age of participants was 67.1 (Standard Deviation: 6.5). Not brushing teeth was linked to higher ADLs scores (coefficient: 0.76, 95% Confidence Interval: 0.21, 1.30), indicating a correlation between poor oral hygiene and increased difficulty in performing daily activities. Conversely, an inverse association was observed between number of teeth and ADLs scores, with each additional tooth associated with a 0.04 decrease in ADLs score (95% CI: -0.06, -0.01) after adjusting for sociodemographic and oral health variables.

Conclusion:

The analysis highlights the importance of oral hygiene and number of teeth as potential risk factors for decline in ADLs.

Funding source:

None

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BASCD 2024 Abstract #08

Dental attendance for children in care: facilitators and barriers

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Background:

Stockton-on-Tees Borough Council reported 57% of children in care (CIC) did not receive their annual dental check in 2022. A new referral pathway was implemented in January 2023 to improve access.

Objective:

To understand dental attendance rates and the facilitators and barriers to accessing dental services, from carers and children and young people (CYP) perspective.

Methods:

This was a service evaluation. Quantitative data was collected on attendance rates. Carers were requested to complete questionnaires by public health nurses either during or after their Review Health Assessment (RHA) between April and June 2023. CYP who attended the "Lets Take Action" Youth Group were recruited to self-complete questionnaires. Quantitative data was analysed using simple descriptive statistics.

Results:

Dental attendance rates increased from 43% in September 2022 to 88% during the evaluation period. Carers' response rate was 52% (n=55/105), with 34 responses from CYP. Carers reported 82% of children had attended within the last 6 months (n=45/55), with the majority (n=47/55) having no problems finding an NHS practice. Some reported the referral pathway had improved access. Majority of CYP described their last visit as good (n=29/34), their experience could be improved by seeing the same dentist (n=30/34) and having things explained to them (n=14/34). Carer reported facilitators of attendance were: continuity of care with the same dental practice, after work/school appointments, and an oral health passport to share information between carers. Carer reported barriers were: appointments during work/school hours, and dental anxiety resulting in attendance refusal or poor cooperation.

Conclusion:

CIC in Stockton-on-Tees had good access to dental services and positive experiences of dental care. The implementation of a dental access referral pathway may have contributed to improved access. Maintaining continuity of care arrangements was considered important by both carers and CYP.

Funding source:

None

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BASCD 2024 Abstract #09

Increasing consent for school fluoride varnish programme: engaging schools and incorporating co-design

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Background:

School fluoride varnish programmes (SFVP) improve oral health but are hampered by low parental engagement and participation. Co-design involves collaboration between researchers, service users, and other stakeholders to define the problems, implement and evaluate the solutions in real-world settings. A pilot study was undertaken in a North East London borough using co-design to improve the uptake of SFVP.

Objectives:

The objectives were to engage school staff in the SFVP process using co-design methods, recruit Oral Health Champions at the school to promote the programme, and evaluate the impact of this intervention on parental consent rates.

Methods:

Redbridge primary schools participating in the SFVP were encouraged to book a staff engagement session with an Advanced Oral Health Practitioner. The engagement session explained the programme, and incorporated co-design, encouraging the school to identify barriers and challenges to programme delivery. Oral Health Champions were recruited at this session. Ethics approval was not required as this is part of a Trust quality improvement project.

Results:

Of the 12 schools approached, 58% (N=7) organised engagement sessions and appointed Oral Health Champions. The co-design ideas varied across individual schools. For example, distribution of consent forms at parent events and using existing school resources to support hard to reach families. For schools that engaged in the intervention and also took part in SFVP the year before (N=4), consent rates increased from 74% (2022/23) to 85% (2023/24). In schools that engaged there was a range of consent rates from 77-92%, whereas those that did not engage from the range was 69-76%.

Conclusion:

Our study suggests school engagement and co-design interventions may increase parental consent for SFVP by addressing local community needs and reducing barriers for hard to reach parents. Further exploration of individualised school approaches is recommended to improve uptake of oral health programmes.

Funding source:

None

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BASCD 2024 Abstract #10

A service evaluation of dental care pathways for people living with dementia

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Background:

Community Dental Services (CDS) provide an NHS safety net for people with complex needs including people living with dementia (PLWD). However, no service evaluation has reviewed the dental care pathways, service provision or the providers' view of the quality of care.

Objectives:

To assess current dental care pathways, geographic differences, and key characteristics of PLWD referred into the CDS in England and Wales.

Methods:

A service evaluation methodology and key informant sampling was used to distribute an online survey to 23 clinical directors and clinical leads of CDS's across England and Wales from 20th April to 26th May 2023. The online survey with 21 questions collected information about existing care pathways, access to care, the key characteristics of referred patients, service provision and geographical and staffing questions. Descriptive data was produced using SPSS. Ethical approval was not required for this service evaluation.

Results:

Forty-one responses were collected. 76% of respondents were based in NHS trusts and 24% in Community Interest Companies (CICs) or Social Enterprises. Although all CDS's accepted PLWD in their acceptance criteria, only 44% could state the average number of referrals routinely received. Only a quarter of CDS used a specific referral pathway. The main reasons for referrals were toothache and loose teeth. Over 40% of respondents felt that having a designated referral pathway for PLWD would improve access to care. The most common service providers were Senior Dental Officers; 60% felt that they had insufficient staff to provide services.

Conclusion:

Effective commissioning and Special Care Dentistry workforce planning for an aging population requires a detailed assessment of the number of PLWD in England and Wales referred to and using the CDS, to improve access for this vulnerable patient group.

Funding source:

Not applicable

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BASCD 2024 Abstract #11

Exploring barriers and facilitators to supervised toothbrushing programmes in England

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Background:

Supervised toothbrushing is an oral health promotion intervention to prevent dental caries in young children. Supervised toothbrushing programmes (STPs) improve children's oral health, are cost-effective, and reduce health inequalities. However, uptake and maintenance are fragmented with considerable variation in how they are implemented.

Objectives:

To explore barriers and facilitators of STPs in England using the Consolidated Framework for Implementation Research (CFIR).

Methods:

This qualitative study involved individual and group interviews with a purposive sample of stakeholders at five levels of implementation: 1) children (aged 2-6 years old), 2) parents, 3) nursery/school staff, 4) oral health promotion teams and 5) funders of supervised toothbrushing programmes across England. Data collection and analysis were guided by the CFIR. Ethical approval was provided by the University of Leeds Dental Research Ethics Committee (130422/KGB/351).

Results:

In total, 154 participants were recruited across the five levels. Overall, there was support for STPs from policymakers, sites and parents with the evidence-base for their effectiveness felt to be compelling. The adaptability which allowed different areas and individual sites to 'make it their own' was viewed as a facilitator. In other areas, the complexity of aligning financial support, provider organisations and sites was a barrier which was difficult to overcome. In this situation, strong leadership, effective partnership working and local champions were identified as potential facilitators.

Conclusion:

Although an apparently simple community-based oral health promotion intervention, with strong political and parental support, the implementation of a supervised toothbrushing programme can be complex requiring consideration of barriers and facilitators at different levels of implementation.

Funding source:

The research was funded by the National Institute for Health and Care Research (NIHR) Applied Research Collaborations Southwest Peninsula and Yorkshire and Humber through the Children's Health and Maternity National Priority Programme, supported by the NIHR Applied Research Collaborations Yorkshire and Humber (NIHR ARC YH) NIHR200166.

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BASCD 2024 Abstract #12

Waiting list management in primary dental care in Yorkshire and the Humber

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Background:

Nationally and regionally people are experiencing difficulty accessing NHS dental services with practices holding extensive waiting lists independently in the absence of national or regional guidance on appropriate management.

Objectives:

The objectives were to survey NHS dental practices in Yorkshire and the Humber (Y&H) to help commissioners understand waiting list management, unmet need and public messaging, and to develop and pilot test a waiting list validation tool for use in primary dental practice.

Methods:

Dental practices in Y&H were funded for training and to report on waiting list numbers, management and workforce. A scoping exercise highlighted there was no appropriate primary dental care validation tool. A waiting list validation toolkit was developed and pilot tested. Ethical approval was not required for this project.

Results:

The survey had a response rate of 55% (331/600 dental practices in Y&H). Waiting list management was inconsistent and patient messaging was ambiguous. Seventy one percent of respondents held an NHS waiting list, half of which (117/235) reported that their waiting lists were not validated. Use of the validation tool led to immediate change in waiting list management; the tool was useful, acceptable to dental practices and provided reassurance to patients.

Conclusions:

The project has supported Integrated Care Boards to have a better understanding of unmet need in Y&H. The waiting list validation toolkit, shared nationally, helped standardise management of waiting lists and improve patient messaging for the first time nationally and regionally. A waiting list initiative utilising the validation tool and sessional payments to improve access for patients on waiting lists is currently being piloted in practices in West Yorkshire.

Funding source:

NHS England - North East and Yorkshire (Yorkshire and the Humber)

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BASCD 2024 Abstract #13

A benchmarking tool to support quality assurance in NHS dental practices

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Background:

Across England the number of dental contracts held in each region varies widely and due to the different local geography and deprivation levels it can be hard to accurately benchmark practices across different regions. Previous work demonstrates that populations usually attend practices near to their residence.

Objectives:

The overall aim of this project was the development of a benchmarking tool to support commissioners and those who work in dental public health carry out quality assurance by benchmarking dental practice against their peers.

Methods:

A national data set containing all GDS contracts held in England was analysed and the LSOAs (Lower Layer Super Output Areas) for each contract was linked via Microsoft Access software to the index of multiple deprivation 2019 (IMD19) and rural urban classification. The practices were separated by regions in England with each region analysed to show the number of dental contracts per decile of the IMD, by local authority and within each classification of rurality. The data was then divided by rurality classification and for each category a pivot table was produced to display the number of contracts within each rurality classification per decile of IMD.

Results:

Eight tables were produced and show there are 756 contracts within Rural areas compared to 6058 in Urban areas and 747 contracts within the most deprived decile compared to 495 in the most affluent. A link to a database containing contract identifiers, rurality and IMD is available to aid with identification of practices when evaluating activity.

Conclusion:

This work will enable commissioners to benchmark peer-practices nationwide and would allow investigation as to why practice performance may vary when it is known that this is unlikely to be due to deprivation or geographical location. This will also enable audit work to be carried out due to the straightforward comparison of practices with their statistical peers.

Funding source:

None

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BASCD 2024 Abstract #14

NHS dental activity across England – a snapshot pre-pandemic to now

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Background:

Since the global pandemic dental NHS services across England have been deeply affected. England and London have shown their own trends in dental services across all boroughs in response to the pandemic.

Objectives:

To examine recent trends in NHS activity across England and consider the implications for action.

Methods:

We obtained data publicly and through freedom of information from NHS England, Care Quality Commission and NHS Business Services Authority. We have shown NHS activity for 2018/19 to 22/23. We have looked at the site visits (from CQC list of dental sites visited) and contractor list (NHS contract holders through BSA) for September 2023 and September 2018. We have presented these data graphically.

Results:

NHS dental activity saw a sharp decline in 2020 and has seen a recovery since that period. It is not possible to say if further recovery will occur. As of the end of June 2023 there are 7 million less courses of treatment nationally than in June 2018 for adults and 4.4 million less people seen (based on total adult population in England of 44 million). Though London has seen the largest increase to pre-pandemic levels North Central London has shown a significant decline in adult NHS activity. With the data available on private practices, it is difficult to tell how many NHS practices are turning to private practice and what level of activity these sites have.

Conclusion:

Across England NHS dental activity is down for children and adults in terms of number of total populations seen and courses of treatment. Some areas have shown persistent inequalities with other areas showing a new change in dental activity. More data will need to be collected and analysed to consider implications for England's oral health.

Funding source:

None

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BASCD 2024 Abstract #15

Targeted oral health prevention for children living in deprived areas within Hertfordshire

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Background:

Children living in areas of deprivation experience poorer oral health than their less deprived counterparts. Child oral health inequalities can also be observed according to other dimensions, such as ethnicity or special educational needs and disabilities (SEND).

Objectives:

Under the commissioning of Hertfordshire County Council we developed a pop-up dental clinic scheme for children under the age of five, collaborating with family centre service providers across Hertfordshire, focusing on the 30% most deprived areas.

Methods:

Using the English Index of Multiple Deprivation (IMD) measure of deprivation, the two Hertfordshire boroughs of Stevenage and Broxbourne were targeted. Family centre service providers were contacted, and 38 pop-up dental clinic sessions were arranged at family centres throughout these regions. These clinics were conducted by a dentist and oral health nurse to provide dental screening, fluoride varnish application if clinically appropriate and tailored 1:1 preventive advice. Each child was provided with a toothbrush, fluoridated toothpaste, and oral health promotion literature. Selected demographic and clinical data were recorded, alongside feedback from parents and family centre staff. Oral health webinars were provided to family centre staff, enabling them to better support families with their oral health. Ethical approval was not required for this initiative.

Results:

A total of 401 children were screened. We assessed 18 children with SEND, and 151 children from minority ethnic groups. 108 children were registered with a general dental practitioner, and 31 children had at least one carious tooth. We applied topical fluoride to 271 children. All families accepted toothbrushes, toothpaste, and oral health advice. Initial feedback from families, family centre staff and dental staff was positive.

Conclusion:

We plan to extend this contract to another two Hertfordshire boroughs to access a greater number of children at high risk of poorer oral health and provide prevention at this optimal, developmental stage.

Funding source:

Hertfordshire County Council Public Health team

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BASCD 2024 Abstract #16

Reducing oral health inequalities for those experiencing homelessness: Humber and North Yorkshire

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Background:

Those experiencing homelessness are impacted by inequalities in oral health, access to dental services and outcomes. The Yorkshire & Humber oral health needs assessment (2022), and successful evaluation of the Leeds pilot (2021-2023), informed commissioning decisions to secure an evidence-based service model in Hull and Grimsby, in 2023-2024.

Objective:

Develop a patient-centred, evidence informed dental care service and oral health promotion (OHP) model to meet population needs.

Methods:

Dental Public Health (DPH) specialist leadership underpinned the development of Partnership Steering Groups which provided strategic oversight in relation to the service model and integrated care pathway. A service specification which included reference to a practice oral health champion (OHC) and a bespoke data collection tool were developed. A locally developed survey ensured views of the homeless community informed service model design. Working in partnership with the Integrated Care Board (ICB), an Expression of Interest framework was agreed to secure primary care providers. Funded dental packs were provided and a health and social care workforce training resource was developed. A briefing paper was presented to the ICB to inform future commissioning decisions.

Results:

A primary care dental provider was selected. The steering groups influenced collaborative development of the integrated prevention orienteered dental pathways and oral health promotion model which included outreach. Partner organisations facilitated escort arrangements and information sharing to optimise patient support. Data for October-December 2023 showed that 30 patients in Hull and 7 in Grimsby accessed the pathways, reflecting mobilisation challenges. Non-attendance rates were high, but stakeholder feedback has been positive. Workforce training was completed and dental packs ordered for distribution.

Conclusion:

DPH leadership steered the development of a nationally recognised, integrated, holistic primary care service model, through effective partnership working. Further plans include exploring strategies to minimise non-attendance, strengthening the role of the OHC, and a service evaluation.

Funding source:

None

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BASCD 2024 Abstract #17

Dental fear/anxiety among children: a cross-sectional study of prevalence and association caregivers' perspective aspects

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Background:

Dental fear/anxiety (DFA) refers to strongly negative feelings associated with dental care and has an elevated prevalence in children (36.5%, 95%:CI:23.8-49.2) in the world. DFA may be passed on from parents to their children. There is little evidence regarding DFA amongst young children in non-clinical settings and the association with children's oral health and caregivers' perspective.

Objectives:

To evaluate the prevalence of DFA in young children and the association with social anxiety, DFA of the caregivers and perceptions of children's oral health.

Methods:

A population-based cross-sectional study of a representative sample of children (4-6 years) was conducted during 2023 in the city of Carmópolis de Minas, Brazil. Children's DFA was measured through the caregiver's proxy-report (Dental Anxiety Question), and through the child's self-report (Children Fear Survey Scale-Dental subscale). They also provided information on their child's experience of toothache and oral health condition as well as their own aspects through completing the Dental Anxiety Scale (DAS), the Dental Fear Survey, and the Liebowitz Social Anxiety Scale. This project was approved by the Research Ethics Committee of the Federal University of Minas Gerais (CAAE:31334720.1.0000.5149). Descriptive and regression analysis (unadjusted and adjusted Poisson regression with a significance level of 5%) were performed.

Results:

Participants consisted of 272 children and their parents. The prevalence of self-reported DFA was 44.3% and the proxy-report was 34.9%. Reporting a good perception of oral health (Prevalence Ratio=0.64; 95%CI:0.45-0.09; p=0.013) was associated with lower proxy-reports of DFA. Higher scores on the DAS were associated with higher proxy-reports of DFA (PR=1.46; 95%CI: 1.02-2.10; p=0.037).

Conclusion:

The reported prevalence DFA in a representative sample of Brazilian children is high. The proxy-report on children's DFA was associated with the DFA of the caregiver and a worse perception of children's oral health. Childrens' self-report of DFA was not associated with the DFA of their caregivers or with social anxiety.

Funding source:

The Brazilian Coordination of Higher Education of the Ministry of Education (CAPES).

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BASCD 2024 Abstract #18

A co-creation approach to integrate oral health promotion into English language teaching

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Background:

Dental Connect, an initiative grounded upon principles of staff and student co-creation within Dundee Dental Hospital (DDH) and Research School, endeavours to improve oral health equity by providing access to oral health education/resources for those in greatest need. Dental Connect witnessed effects which reduced access to dental care/low oral health literacy have upon oral health of migrants and refugees at previous Dental Connect events.

Objectives:

Collaborate with Dundee City Council to integrate oral health promotion into English language classes held for refugees/migrants settling within Dundee.

Methods:

Following UKRI's decision-making tool, this initiative did not require ethical approval. The Conversation Café, an English teaching class ran by Dundee City Council, was selected for the pilot due to proximity to DDH, and a connection with the service provider from a previous event Dental Connect held for Ukrainian refugees. DDH students and staff initially visited the session to meet service providers and scope the session format/learner's English language levels. A PowerPoint presentation, visual aids and workshop involving comic reading was determined ideal. PowerPoint and comic followed SDCEP Caries Management Guidelines, and were quality assured by clinical and public health lecturers within DDH. The comic enabled learners to practise reading aloud. They were given copies to read to friends/family to develop English skills, while promoting principles of maintaining oral health. Learners were given dental supplies and could register for a course of free treatment upon DDH undergraduate student clinics.

Results:

13 learners attended session. All engaged and stayed for duration. 15 registration forms completed. All learners not registered with GDP/PDS registered for course of student treatment. Some registered their children. Verbal feedback from service users/providers was extremely positive. All found session valuable/informative. PowerPoint presentation/comic evaluation currently ongoing.

Conclusion:

Pilot is being extended to other English teaching social groups/classes coordinated by Dundee City Council.

Funding source:

None

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BASCD 2024 Abstract #19

Which upstream interventions are effective for promoting oral health and reducing inequalities?

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Background:

Upstream interventions adopt population approaches to address underlying structural and social causes of health inequalities. Evidence has shown limited long-term effectiveness of downstream clinical interventions to reduce oral health inequalities, but little is known regarding impacts of upstream interventions.

Objective:

This scoping review aimed to identify and review literature on upstream interventions which may promote oral health and/or reduce socioeconomic oral health inequalities.

Methods:

Searches were conducted on databases (ASSIA, CINAHL, PsycINFO, Medline, Embase, Cochrane Database of Systematic Reviews, Scopus), grey literature sources (OpenGrey, WorldCat, NICE Evidence search, ETHOS, Trip, and NTIS: Technical Reports), alongside websites of relevant public health organisations. Searches included data published prior to October 2021. Articles examining upstream population-wide policies or upstream interventions targeted at population groups were assessed. Articles published in languages other than English were also included following translation. Two independent reviewers screened and extracted data from eligible articles for review.

Results:

84 articles were identified, including 21 systematic reviews. Few of the upstream interventions identified specifically focused on promoting oral health and/or reducing socioeconomic oral health inequalities. Some interventions such as fiscal measures (e.g., sugar sweetened beverage/tobacco taxation), legislative/regulatory measures (e.g., advertising control), and specific oral health interventions such as water fluoridation, had positive effects in promoting oral health.

The following interventions demonstrated positive impacts for socioeconomic health inequality reduction: fiscal measures (e.g., tobacco taxation), food subsidies targeted at low-income groups, and improvements to housing/work environments. However, the evidence regarding water fluoridation was mixed. Several interventions may have generated inequalities; these included mass media interventions, educational programmes, and regulation to reduce alcohol taxation.

Conclusion:

There is limited evidence regarding upstream interventions for oral health promotion and inequality reduction, however, interventions linked to wider social health determinants and those targeted at non-communicable diseases with shared risk factors for oral health may prove positive.

Funding source:

Borrow Foundation

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BASCD 2024 Abstract #20

A modelling methodology exploring the effect of distance patients' travel to NHS services

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Background:

The proximity of where patients live to dental services affects service utilisation therefore it is important to determine how far patients live from care providers. For dental services in England, the Business Services Authority (BSA) usually provide aggregated population data reported as Middle Super Output Areas (MSOAs) to preserve anonymity, and using this non-identifiable data poses a challenge. As an example, it would be of value to investigate child sedation rates, given these are significantly higher in parts of the North East than other areas of the UK. This project therefore aimed to use this method to investigate this discrepancy.

Objectives:

To determine the distance children travel to NHS sedation services and explore the relationship between proximity and sedation rate using publicly available datasets and non-identifiable patient data from the BSA.

Methods:

Sedation rates were determined for each MSOA across Local Authorities in the North East by aggregating three years of data from the BSA. Each MSOA has a Population Weighted Centroid (PWC), produced by the Office for National Statistics. The latitude and longitude of the PWC and the postcode of the closest sedation provider were determined, and the distance between them calculated using the haversine formula. The effect of proximity to service providers was explored using correlation and regression techniques.

Results:

Sedation rates varied across the North East, with some of the highest sedation rates observed in Middlesbrough and Stockton-on-Tees. The proximity of the sedation service to populations had a significant effect on the sedation rate ($p < 0.0001$), especially in local authorities with high sedation rates.

Conclusion:

This is an effective and time efficient method to determine the distance patients' travel to NHS dental services using non-identifiable patient information and publicly available datasets. This model can also be applied to other dental services where distance may influence service utilisation.

Funding source:

None

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BASCD 2024 Abstract #21

A deep dive into London's domiciliary dental services

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Background:

Domiciliary services aim to reach those who are unable reach a service themselves. From 2008 to 2019, the number of reported domiciliary dental visits completed in England and Wales has reduced, with a further dramatic decline during the COVID-19 pandemic. With an ageing multimorbid population with challenging behavioural and dental needs, the demand for domiciliary dental care is likely to increase. Contractual changes have made access to domiciliary care in England particularly complex. With the emergence of variable commissioning arrangements, a standardised approach for the delivery of safe and effective patient-centred care to this vulnerable group should be an area of focus.

Objectives:

To review domiciliary dental service provision across London and activity across all settings and providers.

Methods:

A multidisciplinary core working group was established involving Dental Public Health, commissioning teams, a dental clinical advisor and the special care dentistry managed clinical network. A review of existing contracts, demographic factors and relevant clinical guidelines was undertaken. Data analysis of FP17 forms from the NHS Business Service Authority (BSA) data was conducted, alongside qualitative engagement with stakeholders to further understand data gaps.

Results:

Three General Dental Services (GDS) providers with four contracts were identified. Five Community Dental Service (CDS) providers held domiciliary activity in ten lots across 32 local authorities. Analysis revealed variation in clinical activity across services with significant differences between CDS and GDS providers. There were limitations in the data, particularly a lack of clarity on the accuracy of the reporting on FP17 forms from the CDS.

Conclusion:

The findings suggest that further exploration on the data is needed, and highlighted variation in domiciliary care pathways. Further data collection is needed, which will fill data gaps with a view to set a standard for consistent domiciliary clinical care for London.

Funding source:

None

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BASCD 2024 Abstract #22

Blackpool Together: integrated working and community engagement for improving children's oral health

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Background:

Inequalities in socio-economic position and deprivation impact on poor oral health and service use. In 2021, only 29% of Blackpool's children attended an NHS dentist in the previous year, 34% of 5-year-olds had dental caries, with families facing social and systemic barriers to accessing and engaging with dental care. The Blackpool Together programme aimed to employ a collaborative partnership approach, with focus on piloting new methods of engagement, to reduce inequalities and facilitate an improvement in oral health promotion and dental access for families with young children.

Objectives:

To report the development, delivery, and evaluation of a multi-agency programme to reduce inequalities and barriers which prevent families engaging with oral health promotion and dental services.

Methods:

Programme co-development and delivery involved partnership working between local authority health promotion teams, integrated care board commissioners, charities, dental public health, Healthwatch, and dental practices. New models of engagement were piloted including a simple caregiver-referral pathway (Text Teeth), embedding community staff within wider social/healthcare services, and promoting skill-mix. Project evaluation comprised quantitative data collection, cost analysis, and qualitative feedback.

Results:

The programme has distributed 3179 resource packs and 6320 co-developed oral health promotion books to children through community partners, and facilitates supervised toothbrushing sessions across 33 early-years settings. Between January 2023-24, 622 referrals for dental access were received. Following introduction of the self-referral initiative, referrals increased six-fold, from an average of 8.2 to 51.8 per-month. 159 appointments were attended, with a 15.8% was-not-brought rate. Feedback from families/stakeholders was positive, with themes including accessibility, engagement, inclusion, and workforce retention.

Conclusion:

Oral health promotional activities and dental access were widened for young children and families in Blackpool, with recommendations for future upscaling. This collaborative programme highlights the benefits of integration across organisational boundaries, with multi-agency partnership working and community engagement key to reducing inequalities and barriers to access.

Funding source:

None

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BASCD 2024 Abstract #23

Using a mobile van to provide treatment for severe multiple disadvantaged patients

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Background:

In 2022 an oral health survey carried out on adults experiencing Severe Multiple Disadvantage (SMD) and/or homelessness in the East Midlands found a DMFT of 13.5 and 55% of participants reported having dental pain at the time of the survey. This demonstrated a need to provide dental services for the homeless/SMD population in the East Midlands.

Objectives:

To establish a 12-month pilot to provide dental services for the SMD/homeless population in the East Midlands using a mobile dental van.

Method:

Community Dental Services (CDS) Community Interest Company (CIC), in conjunction with East Midlands Primary Care Team identified community outreach settings where services were being provided for the homeless/SMD population and had enough space to accommodate a dental van. The rationale for locating the van in these settings was to reduce failure to attend rates and allow easy access for drop-in appointments. A patient pathway was established where the homeless/SMD setting would identify suitable patients and book the first appointment and CDS-CIC would book any follow up dental appointments. Full courses of treatment (excluding band 3 items) and urgent care would be provided. Patient feedback would be collected for the purposes of evaluating the project. A combination of pre booked and drop-in appointments would be available. Ethical approval was not required.

Results:

The pilot started in June 2023. For two days each month the mobile van visits locations where services for the homeless/ SMD population are provided, in the East Midlands. The mobile van contains a fully equipped dental surgery, x-ray facilities, sterilisation equipment and a hoist to enable the dental team to carry out a full range of dental treatment.

Conclusion:

The service aims to provide a positive dental experience for the homeless/SMD population by providing services in a trusted location via the use of a mobile dental van.

Funding source:

None

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BASCD 2024 Abstract #24

Co-designing an oral health promotion application for parents to address childhood caries

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Background:

Early childhood caries (ECC), a preventable chronic disease, is influenced by parents' knowledge and attitudes towards oral healthcare. Mobile apps in mHealth interventions offer a potential solution to raise awareness about children's oral health. The scarcity of apps for parents of children under six underscores the urgent need for tools addressing caries risk factors.

Objective:

To co-design and develop a prototype smartphone app with active input from parents and caregivers to address modifiable risk factors associated with ECC and promote oral health in children.

Methods:

The app's content was developed following the World Health Organization (WHO) and European Association for Paediatric Dentistry (EAPD) guidelines for paediatric dental care. A panel consisting of five dentists, two nutritionists, and one dental health commissioner reviewed the content, providing expert evaluations and feedback that refined the app's content. Additionally, feedback from parents was gathered through a co-creation workshop in October 2023, leading to adjustments in the app's content based on their inputs. Through a collaborative co-design process involving healthcare professionals and end-users, a beta prototype app called NuParent was developed, integrating evidence-based practices. This study has been approved by the School of Health and Life Sciences Research Ethics Subcommittee.

Results:

The key features to be included in the prototype app were identified from the co-designing workshops: e.g., audio descriptions of the educational content to cater to users who are unable to read, and interactive elements such as videos for proper brushing techniques. The participating parents chose the interface design of the app.

Conclusion:

NuParent, a co-designed prototype app, addresses the need for preventing early childhood caries in children under six. Its evidence-based features and user-centric design hold promise for significantly impacting oral health outcomes in this demographic.

Funding source:

This research was funded by Teesside University

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BASCD 2024 Abstract #25

Cracking the sugar code: Welsh teenagers' perspectives on sugar content in beverages

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Background:

Public Health England revealed that teenagers surpass recommended sugar intake by triple, primarily from beverages, with NHS England noting most hospital admissions among teenagers' stem from dental caries. Improving dental hygiene comprehension hinges on teenagers' awareness and understanding of sugar content.

Objectives:

To evaluate teenagers' knowledge on sugar content in beverages and perception of sugar measures.

Methods:

Welsh students aged 11-16 completed questionnaires, on awareness of sugar content in eight beverages, weekly consumption frequency, tooth filling status, and knowledge of grams of sugar in a teaspoon. Ethical approval was not obtained as the study was part of a quality improvement project to improve awareness at school.

Results:

101 out of 169 questionnaires were completed. Overall, 70.4% underestimated sugar content in drinks (Individual percentages: Innocent smoothie 93.1%, Ribena 89.1%, Frijj 83.2%, Lucozade 63.4%, Sprite 60.4%, Costa Hot chocolate 60.4%, Coke 59.4%, Monster 54.5%) 98% consumed a sugary drink at least once a week, 55% had at least one tooth filling. 83.1% underestimated total grams in a teaspoon of sugar. Correlation between sugar underestimation in drinks and unawareness of grams in a teaspoon measure was statistically significant ($p < 0.019$).

Conclusion:

Equipping adolescents with the ability to decipher sugar quantities logically is imperative. The collaborative involvement of parents, schools, and communities is pivotal in amplifying awareness among teenagers. Governmental intervention mandating easily comprehensible sugar content labelling, such as teaspoons rather than grams, is crucial in improving dental health.

Funding source:

None

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BASCD 2024 Abstract #26

Lambeth early action partnership (LEAP): oral health promotion in the earliest years

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Background:

In 2019/20 three-year-olds in the most deprived areas of the country were nearly three times as likely to have dental decay than those in the least deprived areas. The London borough of Lambeth is the 39th most deprived local authority in the country, with 15.3% living in income deprivation. The Lambeth Early Action Partnership (LEAP) delivers a suite of preventative services aimed at improving outcomes for babies, young children and families living in areas of deprivation.

Objectives:

In response to the gap in local early years oral health promotion (OHP) activities and high rates of inequalities in the area, LEAP included OHP as part of its Diet and Nutrition strand of work. This report summarises the activities carried out as part of this work.

Methods:

LEAP's OHP service took an evidence-based approach, focussing on provision of toothbrushes and toothpaste to families with young children; targeted supervised toothbrushing in early years settings; workforce training for local early years practitioners; OHP at local community events; and partnership working with local dental practices to increase dental check-up for children under one year old.

Results:

Over the lifetime of the service nearly 100 childcare providers in 31 settings were trained to provide supervised toothbrushing in their settings and over 800 children were supported to brush their teeth daily whilst in their care; 77% of these children lived in the two most deprived quintiles of deprivation. Over 6000 toothbrush/toothpaste packs were distributed via different networks, and nearly 300 community events were attended by OHP, providing oral health support and advice to local families.

Conclusion:

LEAP delivered an evidence-based oral health promotion service that was well-aligned with national policy and priorities. A greater focus on universal early years OHP, especially in areas of high deprivation, would support wider public health efforts to improve the health of children.

Funding source:

None

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BASCD 2024 Abstract #27

Forecasting dental caries and periodontal diseases until 2050 using system dynamics

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Background:

With the United Kingdom's (UK) aging population projected to increase, a rise in oral diseases is expected.

Objectives:

To use a multi-state population model to project the burden of dental caries and periodontal diseases among UK adult population to provide evidence to support population-level intervention evaluation.

Methods:

Based on the UK 2009 adult dental health survey (ADHS) data a system dynamics methodology was employed to develop multi-state population simulation models. Dental caries population was divided into states: no caries, treated caries, and untreated caries. Periodontal pocketing and loss of attachment (LOA) sub-models were delineated based on pocketing depth (PD) and LOA severity. PD sub-model comprised four health states: no PD, PD (4 to <6mm), PD (6 to <9mm), and PD \geq 9 mm. The LOA sub-model comprised: no LOA, LOA (4 to <6mm), LOA (6 to <9mm), and LOA \geq 9mm.

Results:

By 2050, the older adult population is projected to constitute 62.1% of individuals with carious teeth, an 89.4% increase from 2020 to 2050. The number of people with severe pocketing (PD \geq 9mm) is projected to increase by 56.7% from 2020 to 2050, while those with LOA are projected to increase from 18.6 million in 2020 to 20.8 million by 2050. The burden of carious teeth and periodontal diseases is expected to shift from the adult population (16-59 years) to the older adult population aged \geq 60 years.

Conclusion:

These models inform future oral health demands, aiding policymakers in planning oral health capacity. The study findings are crucial given ongoing challenges in the UK's oral healthcare system. There's an urgent need for greater focus and investment, integrating oral healthcare into the broader healthcare framework to address the needs of aging populations and alleviate the economic burdens of oral diseases.

Funding source:

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BASCD 2024 Abstract #28

Parental priorities in oral health education for children with type 1 diabetes

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Background:

The prevalence of type 1 diabetes mellitus (T1DM) in paediatric patients has increased in recent years. A review of the literature has indicated that children with T1DM are at a higher risk of gingivitis, bleeding on probing and presence of dental plaque than their peers, and may be at higher risk of dental caries. This information, as well as considerations of a life-course approach, and the need for parental/carer involvement, suggests this paediatric population should be provided with oral health advice that is co-created by the parents/carers, through public and patient involvement (PPI).

Objective:

To work with an established PPI group of parents of children with T1DM and identify the oral health information to be communicated to children with T1DM and their families.

Methods:

A previously established PPI panel (with ethical approval) - TEENVOICET1D - was introduced to the task of supporting researchers, to identify relevant oral health information for dissemination. PPI members were provided with an opportunity in which they could discuss oral health as related to children with T1DM. Anonymous information sharing methods were also provided.

Results:

The knowledge exchange during PPI engagement provided positive learning outcomes for all involved. The oral health information suggested by the parents touched on multiple themes, such as: the need to work with diabetes teams to incorporate dental health into hospital information; child-friendly brushing instructions; straw use to protect teeth from sugar ingestion during hypoglycaemic episode management and everyday; advocating for pit and fissure sealants; instructions for braces; information on oral health products; flossing from onset of all permanent teeth; and regular dental check-ups.

Conclusion:

This PPI engagement provided an opportunity to collect oral health information which is important to the target population. Future research is planned where this information will be incorporated into future dissemination opportunities.

Funding source:

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BASCD 2024 Abstract #29

Digital oral health biomarkers: A public health use

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Background:

Poor oral health imposes significant social, psychological, and economic burdens on individuals, communities, and healthcare services. Advancements in digital sensors and oral biomarkers offer a potential avenue for a novel public health strategy in preventing, diagnosing, and monitoring oral health conditions.

Objectives:

To review currently available digital instruments to detect biomarkers for oral diseases (dental caries, periodontal diseases, and oral cancer) in the saliva, and evaluate their potential impact on dental public health.

Methods:

A search in the literature across seven databases was performed in February 2024 to investigate the recent developments in digital tools to detect saliva biomarkers to diagnose dental caries, periodontal disease, and oral cancer. The search utilized keywords such as biomarkers, digital, diagnosis, saliva, caries, periodontal diseases, and oral cancer.

Results:

After eliminating duplicates and irrelevant articles, only 21 remained out of the initial 98 identified. For dental caries the most promising sensors and smartphone-based technologies rely on detecting phosphate ions in saliva. However, further attention and research are required to advance this field. For periodontal diseases, various sensors designed for home use are currently being developed. Many rely on detecting C-reactive protein, matrix metalloproteinase-8, and interleukin 1 β detection. For oral cancer, significant advancements are being made with self-reporting tests capable of detecting microRNA and tumour markers through electrochemical techniques or fluorescence.

Conclusion:

While biomarkers represent a significant advancement in diagnosing and preventing oral diseases, additional research is required to facilitate their implementation for the general public.

Funding source:

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