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PANDA study - An evaluation of an alternative child-friendly dental pathway

Submission date 27/04/2023	**Recruitment status** Recruiting	[_] Prospectively registered [X] Protocol
Registration date 28/04/2023	**Overall study status** Ongoing	[_] Statistical analysis plan [_] Results
Last Edited 06/11/2026	**Condition category** Oral Health	[_] Individual participant data [X] Record updated in last year

Plain English summary of protocol

Background and study aims

Children in the poorest areas of England have much more tooth decay than those in wealthier areas, and this is a major health inequality. These children are often referred by regular dentists to a Community Dental Service (CDS) for specialist treatment and many are sent on to hospital to have teeth removed while asleep under general anaesthetic. At present, about 15,000 children need teeth removed in hospital each year in England, and this is the commonest reason for children being admitted. Unfortunately waiting times for CDS and hospital referrals have increased during the Covid 19 pandemic.

During Covid 19, a potential alternative to treating these children was introduced; a special kind of dental practice known as a “Child Friendly Dental Practice” (CFDP). These practices have additional support that allows them the time to manage children with lots of decay and their waiting times are only a few weeks. By seeing these children earlier there is a good chance we can reduce the need to send them to a CDS or to hospital for extractions. This option should reduce demands on hospitals and enable them to focus on those children who have the most urgent complex dental needs.

We have some pilot study information which suggests that around 50% of children referred to Child Friendly Dental Practice can be treated there without the need to visit another service.The working assumption underpinning the pilot was that the Child Friendly Dental Practices would improve things. We will test that assumption using a 'realist approach' and unravel the mechanisms which could determine how it works. We are therefore going to test these Child Friendly Dental Practices at a much larger scale than our very small pilot study, and we want to do this in a research project that measures all the different aspects of the children, their treatment, whether they ultimately still need teeth taken out under general anaesthetic, and costs and savings.

Who can participate?

Patients and their families who have been referred through the dental paediatric referral system in Greater Manchester who meet the criteria to be seen within a Child Friendly Dental Practice

What does the study involve?
The study involves information collected through interviews with dental teams and families as well as information collected through patient dental records from their original referral and then over a two year period.

What are the possible benefits and risks of participating?
The burden on participants is incredibly low. Participants are being asked to consent to the study team to access their records in relation to their dental health/treatment and to complete short text message survey (which they will be compensated for - £10 voucher).
The potential risk is access to their dental records/data. This will be minimised by keeping the data in the UoM Data Safe Haven, developed to keep NHS data safe and according to NHS data requirements

Where is the study run from?
The study sponsor is the University of Manchester (UK)

When is the study starting and how long is it expected to run for?
February 2023 to December 2027

Who is funding the study?
This project is funded through the National Institute for Health Research (NIHR151661).

Who is the main contact?
Dr Michaela Goodwin, michaela.goodwin@manchester.ac.uk

Contact information

Type(s)
Principal investigator

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Additional identifiers

Integrated Research Application System (IRAS)
323977

Central Portfolio Management System (CPMS)
56016

National Institute for Health and Care Research (NIHR)
151661

Study information

Scientific Title
An evaluation of an alternative child-friendly dental pathway for paediatric patients

Acronym
PANDA

Study objectives
The aim of this research is to determine the performance of Child Friendly Dental Practice pathway compared to a traditional Specialist Paediatric Dental pathway on the longer term oral health and treatment outcomes for children referred to specialist care due to severe decay and the associated health economic costs.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 11/05/2023, East Midlands - Nottingham 2 Research Ethics Committee (Equinox House, City Link, Nottingham, NG2 4LA, United Kingdom; +44 20 71048016; nottingham2.rec@hra.nhs.uk), ref: 23/EM/0093

Primary study design
Observational

Study design
Observational prospective cohort

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Dental decay (caries)

Interventions
Overall the evaluation of Child Friendly Dental Practices will utilise a realist approach. This will not only allow the evaluation to determine the impact of the scheme on patients and access to services but will allow us to determine ‘what works, for whom, and in what circumstances’. A logic model has been developed based on the initial pilot data, this model will be tested using a mixed methods design using Context Mechanism Outcome configuration. The realist approach therefore will allow us to understand what the linkages are between these different components. The realist approach focuses on the mechanisms which operate in real time along the treatment and referral pathway. The mechanisms reveal the way things really happen, rather than what practitioners, researchers, funders, assume or think happens.

Given the complexity of the evaluation and range of perspectives the study aims to capture; a parallel mixed methods study will be undertaken.

The mixed methods will include quantitative data collected from clinical records through dental settings such as dental practices, dental referral, treatment through dental hospitals. Qualitative data will focus on two groups: (a) dental professionals (incl. triage and in-practice dental teams) and (b) patients (incl. parents and children) accessing and using CFDPs. Further qualitative research will involve a qualitative researcher attending and observing sessions at the Child Friendly Dental Practices to record what happens during the sessions to detail how they work, the way they are organised, how patients are welcomed and looked after, etc.

Potential participants will be approached and provided the Patient Information Sheet and consent form when they attend for a dental appointment at either a Child Friendly Dental Practice or Community Dental service, or sent this information in a letter home. If parents /guardians consent to take part this will allow the research team to access their child's dental records concerning the referral and treatment from that dental appointment and any information collected regarding dental attendance or treatment over the next two years. Following consent, they will complete a short survey to collect demographic/sociodemographic data. Parents/guardians will also receive a short text message survey to complete one month after treatment and again at one year and two years after treatment.

A subgroup will be invited to take part in qualitative interviews lasting 60 minutes to further understand their experience through the dental referral system and treatment provided. Observational research at dental practices will also be carried out to understand what works within the service, what are the barriers and facilitators to patients using the service and what is provided by the service for example is the service located in an area easily accessible by public transport, does it have a car park, what is provided in the reception area (toys, child friendly environment) how are patients greeted and treated by staff.

Intervention Type
Other

Primary outcome(s)
Whether a child has had a dental extraction under General Anaesthetic two years after referral as indicated in electronic patient records (recorded through HES data or through CDS patient records)

Key secondary outcome(s)
Measured using patient records unless otherwise noted:
1. Waiting time until first appointment
2. Number of sessions of treatment
3. Whether a child was successfully seen and treated. For this outcome success is defined as treatment completed by a dentist that results in a child being referred back to their own dentist or discharged, pain free.
4. The number of extractions and restorations as reported in NHS BSA data
5. The courses of antibiotics taken during wait and treatment
6. Participants referred back into the specialist pathway within two years of referral.
7. Dental pain experienced by a child
8. Participants views of their treatment and engagement with the dental profession (follow up of dental appointment) as indicated by the responses to the text message. Questions will include an adapted version of the NHS Friends and Family Test, questions on satisfaction,

possible negative/adverse experiences, possible positive experiences, and an option for free text comments at the end of the survey.

Completion date
31/12/2027

Eligibility

Key inclusion criteria
1. Paediatric patients (aged 0 to 16 years old) referred through the Greater Manchester dental referral system and who have been triaged as appropriate for treatment at a CFDP
2. Patients with parents/guardians who have the capacity to consent

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Child

Lower age limit
4 Years

Upper age limit
16 Years

Sex
All

Total final enrolment
708

Key exclusion criteria
Patients referred for orthodontic treatment

Date of first enrolment
01/01/2023

Date of final enrolment
31/12/2026

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Bridgewater Community Healthcare Dental
Nye Bevan House
Maclure Road
Rochdale
England
OL11 1DN

Sponsor information

Organisation
University of Manchester

ROR
https://ror.org/027m9bs27

Funder(s)

Funder type
Government

Funder Name
Health and Social Care Delivery Research

Alternative Name(s)
NIHR Health Services and Delivery Research, NIHR Health and Social Care Delivery Research, Health and Social Care Delivery Research Programme, HS&DR, HSDR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	For child version 2	04/05/2023	16/06/2023	No	Yes
Participant information sheet	For parent version 2	04/05/2023	16/06/2023	No	Yes
Participant information sheet	One page summary poster version 1		16/06/2023	No	Yes
Participant information sheet	For dental team version 3	28/10/2025	06/11/2026	No	Yes
Participant information sheet	For parent version 4	28/10/2025	06/11/2026	No	Yes
Protocol file	version 1.1	04/05/2023	26/05/2023	No	No
Protocol file	version 1.4	02/04/2024	17/06/2025	No	No
Protocol file	version 1.5	27/10/2025	06/11/2026	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes