

# Exploring the association between tooth decay and academic attainment

## The Problem

A quarter of 5-year-old children in England have tooth decay. This figure rises to 50% in deprived areas of the country. Tooth decay is the most common reason for a child to have a general anaesthetic. There is a well-described association between poor oral health and lower educational attainment from studies conducted outside the UK. It was previously assumed that toothache, sleepless nights and missed school are contributing factors, however, this relationship is poorly understood.



## What did we do?

Born in Bradford (BiB) is a birth study aiming to explore the health and development of over 13,000 children during gestation, childhood, and beyond. For some BiB children, we were able to link oral health data from the national five-year-old dental epidemiology survey with their Early Years Foundation Stage Profile (EYFS) scores. The EYFS scores are a measure of academic ability and are recorded by teachers at the end of the reception year.

## What did we find?

Half of the Bradford children in the sample (348) had tooth decay. EYFS learning goals were divided into 3 categories; below expected, expected, and exceeding. Children who scored below the expected standard for reading, writing and mathematics were more than twice as likely to have tooth decay. Conversely, children exceeding their learning targets had half as much decay.



## What are the implications?

This is one of the first studies in England to explore the association between tooth decay and educational ability in young children. The study has identified a strong association, which exists before children start formal schooling. The results highlight the complexities of oral health inequalities, the benefits of linking data sets and could inform how to effectively target preventive oral health interventions.