

# A BEHAVIOUR CHANGE INTERVENTION TO PREVENT DENTAL CARIES IN SECONDARY SCHOOL PUPILS: THE BRIGHT TRIAL



## PROBLEM

Dental caries impacts on children's daily lives, particularly for those living in deprived areas. However, there is a lack of evidence-based programmes for older children to improve oral health.

## SOLUTION

The BRIGHT trial aimed to determine the clinical and cost effectiveness of a behaviour change intervention promoting toothbrushing for preventing dental caries in secondary school pupils.

- 42 secondary schools in Scotland, England and Wales with above the national average proportion of pupils eligible for free school meals (FSM).
- Participants aged 11-13 years at recruitment, who owned a mobile phone; followed up for 2.5 years.
- Included health economic and process evaluation.

2262 Intervention

2418 Control

4680 Total pupils

A lesson as part of the school curriculum

Twice-daily text messages to pupils' phones

## FINDINGS

### Tooth decay in pupils:

- No evidence of a difference between the groups regarding obvious decay experience in at least one permanent tooth after 2.5 years.

### Other oral health outcomes:

- Statistically significant difference for twice-daily self-reported toothbrushing at 6 months, with the intervention pupils brushing more frequently.
- The intervention may have benefited FSM pupils; no evidence of benefit among non-FSM pupils.

### Overall probability of cost-effectiveness:

- 7% at 2.5 years.
- 60% in schools with higher proportions of pupils eligible for FSM (not statistically significant).

### Intervention delivery:

- 89% of the intervention pupils attended the lesson.
- ~71% of the text messages sent to participants were successfully delivered; pupils received text messages for a median of 14 months.

## CONCLUSIONS

- There was **evidence of 6-month positive change in toothbrushing behaviour**, but it did not translate into a reduction of caries.
- The **intervention was generally liked by pupils and school staff**; some pupils found the text messages useful while others said they were annoying.
- Future **research is needed to understand the determinants of oral health behaviours**, including toothbrushing and impact of sugar consumption, particularly according to FSM eligibility.
- Researchers must **critically consider how text message interventions are developed**, piloted, delivered and evaluated when used to improve health in young people.