Operators: 50 dental practices with 80-100 dentists in Dundee/Glasgow, Sheffield/Leeds, Newcastle, London and Cardiff.

Patients: Dentists will identify and invite children aged 3-7 years, due for a recall appointment, from their patient list.
Children to be invited (n=18,717)
Children who will attend and agree to be screened for eligibility (n=12,166) (65%)

Ineligible (% of total screened)
No decay into dentine (n=9,733) (80%)
Pain/infection (n=365) (3%)
Others (n=243) (2%)
Total (n=10,341) (85%)

Children eligible (n=1,825) (15% of total screened)

Children eligible but declined to take part (n=365) (20% of eligible)

Consented, recruited to the trial and randomised

Conventional arm (n=487)
Biological arm (n=487)
Prevention alone arm (n=487)

Patients lost to follow up (n=365) (Based on 25% lost to follow up over 3 years)
Final analysis (n=365)
Final analysis (n=365)
Final analysis (n=365)