



# Childsmile, 10 Year Review: how can we facilitate further improvements in child oral health in Scotland?

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# Presentation Outline: Scene Setting



- **Background**
- **Childsmile programme**
- **Published outcomes**
- **Questions for future strategy development**
  - **Explored throughout the day**

# Childsmile



Childsmile is a national programme designed to improve the oral health of children in Scotland and reduce inequalities both in dental health and access to dental services



# Background



- Childsmile commenced as pilots in 2006/7
- Integrated programme: 2011
- Evaluation integral component; theory-based approach with logic model development

# Background

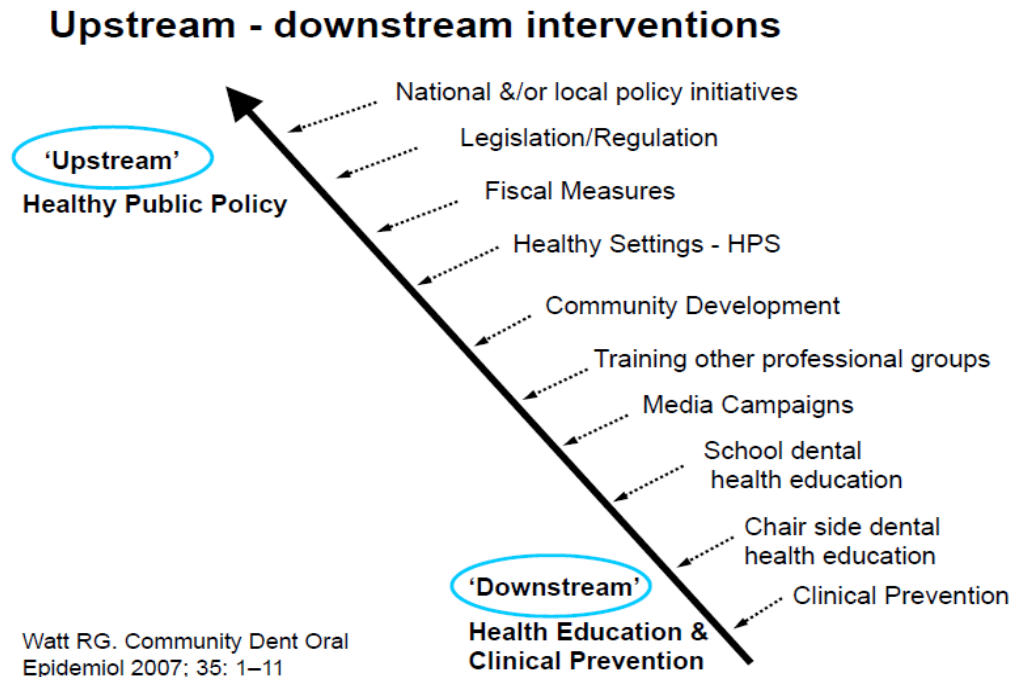


- Strategies and activity to address ECC at global level
  - Learn from others
- New Scottish Government Oral Health Improvement Plan due to be published
- 10 year review of programme
  - Findings from Childsmile and other programmes
  - Identify ways to further improve child oral health and the programme, with a focus on health inequalities

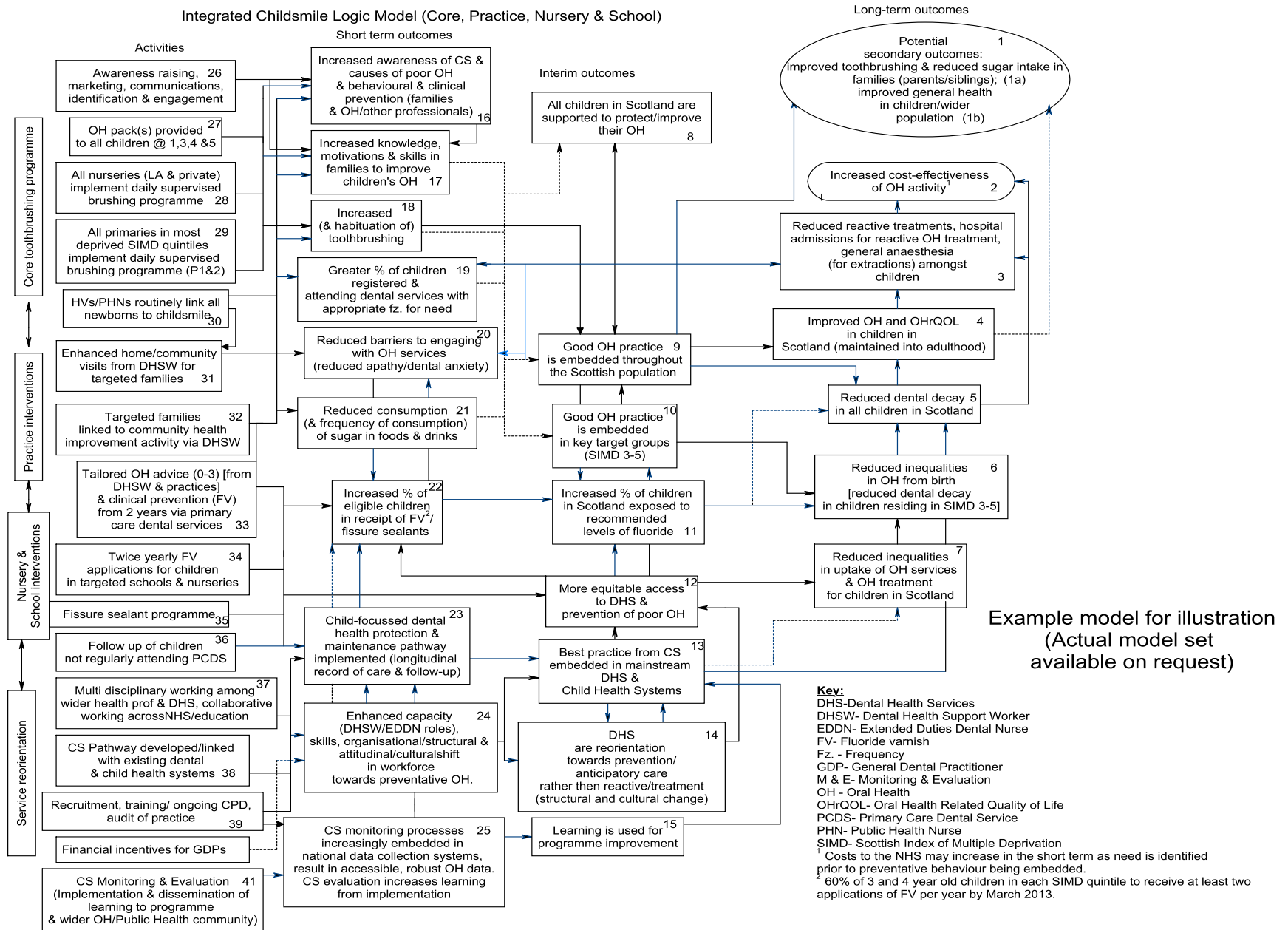
# Health Improvement Approaches



- Evidence-based
- Common risk factor approach
- Community engagement
- Multi-agency working
- Proportionate universalism

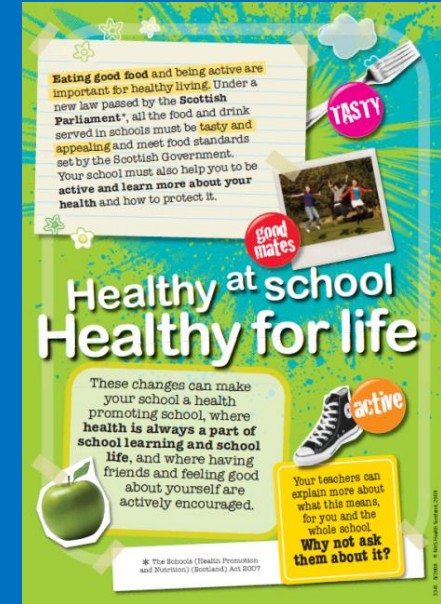


# Theory Based Approach





# Childsmile Integrated Programme





# Childsmile Integrated Programme

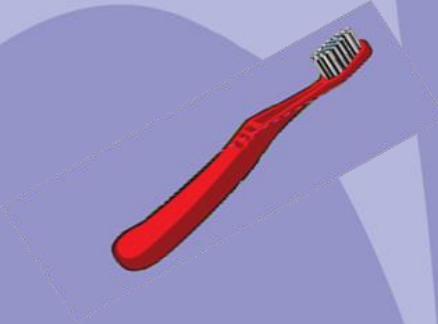


## Supervised Toothbrushing

NHS  
Scotland

Nursery: universal  
School: targeted

Making sure that  
young children brush  
regularly with a  
fluoride toothpaste



## FVA in Nursery and School

NHS  
Scotland

Targeted

Preventive dental care  
delivered in the nursery and  
school setting by mobile  
clinical teams



## Practice & Community

NHS  
Scotland

Community support,  
and oral health  
promotion and clinical  
caries prevention  
delivered by the dental  
team



# Childsmile incorporated in NHS Primary Care payment system, 2011

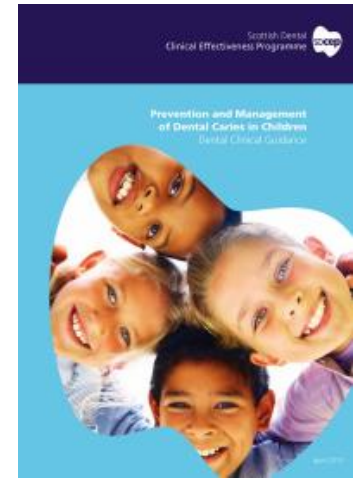


## ➤ Oral health improvement advice

- Demonstrate and observe hands-on brushing instruction
- Tailored advice on diet and nutrition
- Action plan

## ➤ Fluoride varnish

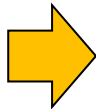
- For children from 2 years, apply varnish 2 times per year



# Childsmile Practice and Community

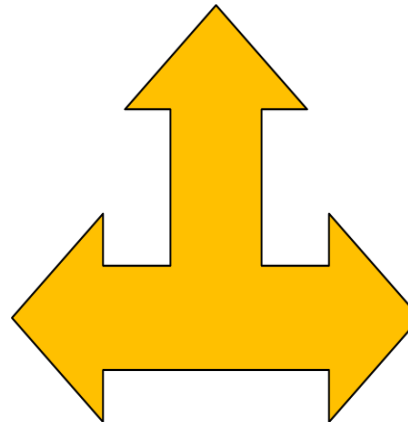


Health Visitor / Public  
Health Nurse



Dental Health Support Worker

Primary Care Dental Practice



Non-dental Local Community / Third  
Sector Organisations and Services

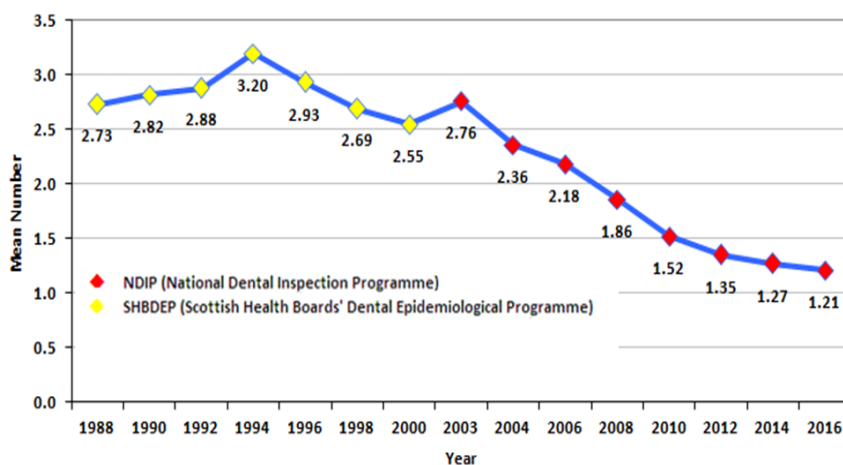
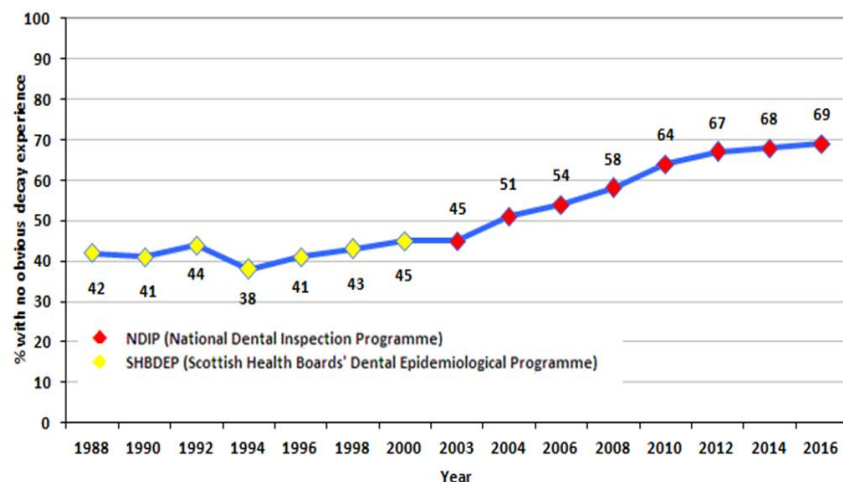




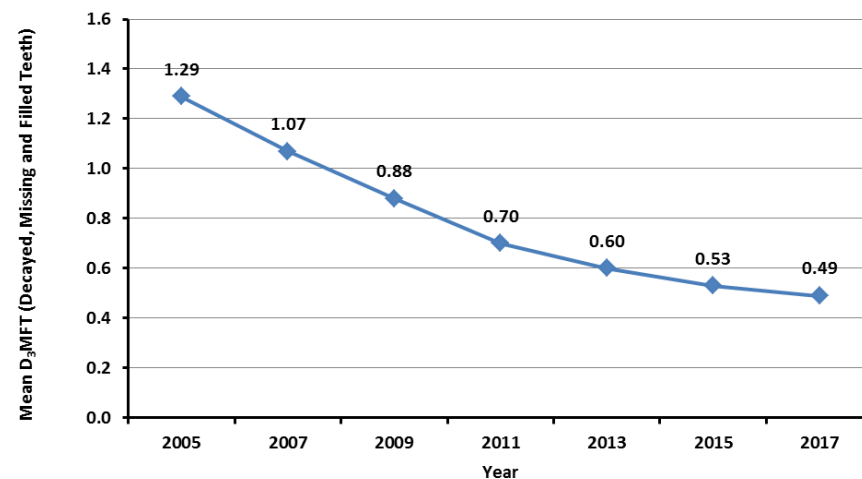
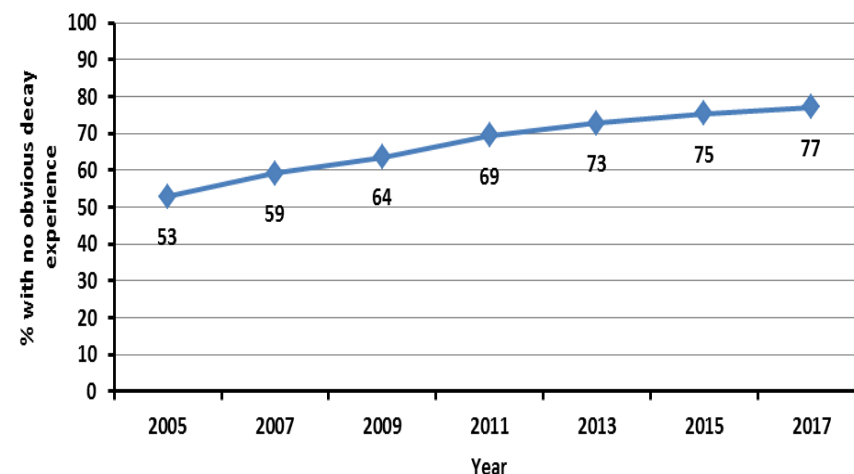
# Outcomes to-date

# Trends in the proportion of children with no obvious decay experience and mean $d_3mft/D_3MFT$ in the P1/P7 population in Scotland

## Primary 1

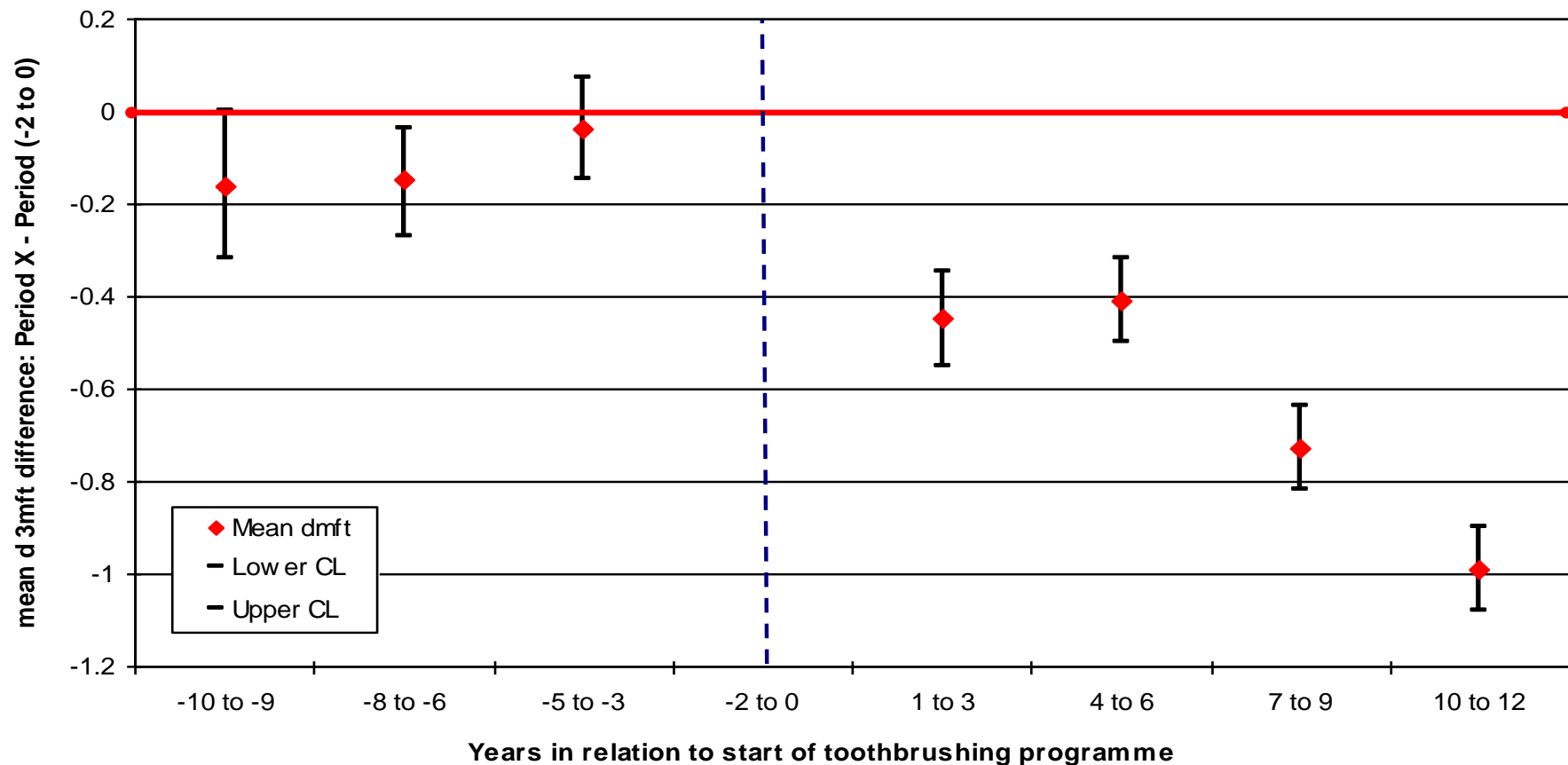


## Primary 7

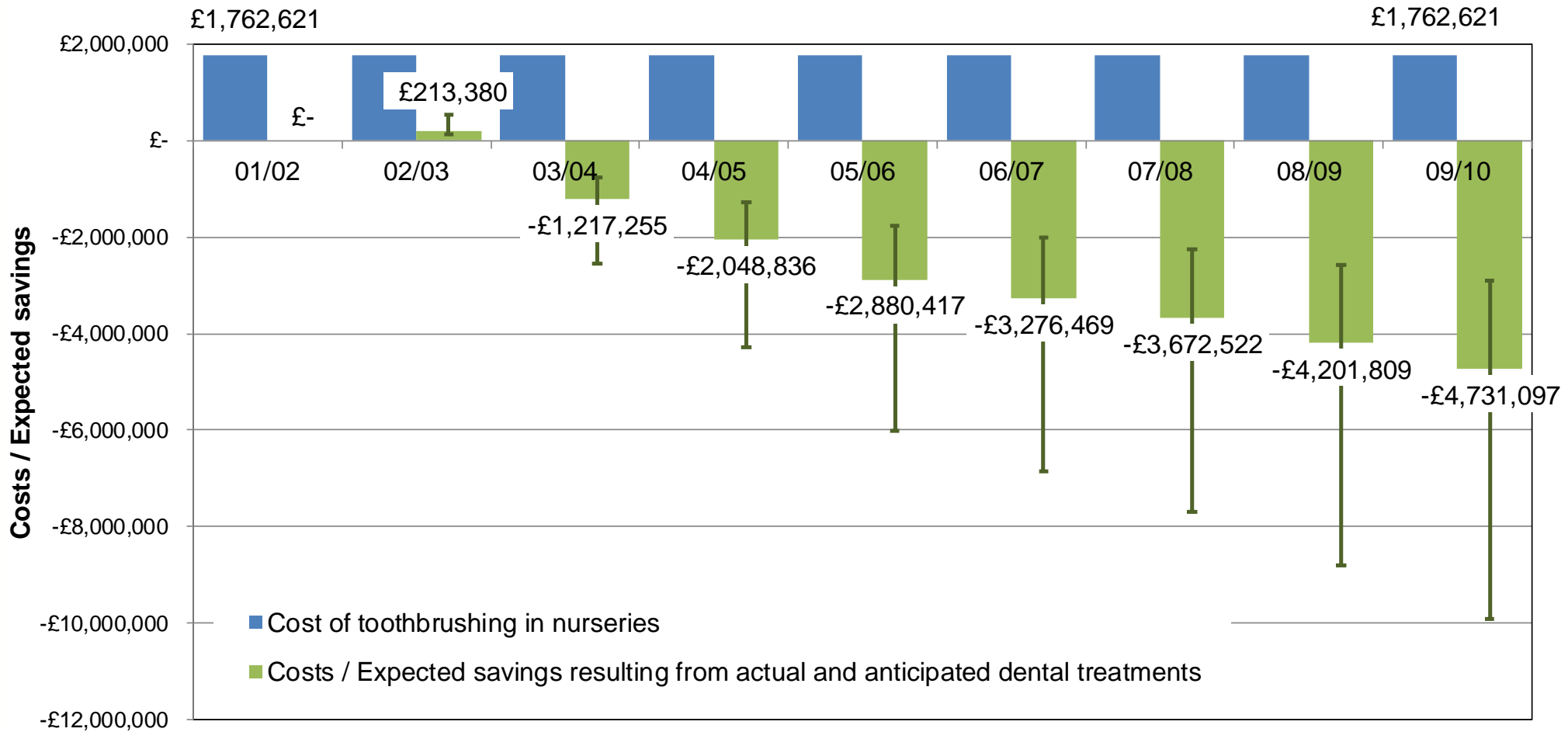




# Mean d<sub>3</sub>mft for 5-year-olds in Scotland in relation to commencement of nursery toothbrushing



# Cost of nursery tooth-brushing programme and costs / expected savings resulting from actual and anticipated dental treatments



# SII and Significant Caries Index scores for P1 children in Scotland; 1998-2016



	Slope Index of Inequality (SII)
2010	2.42
2012	2.25
2014	1.99
2016	1.84

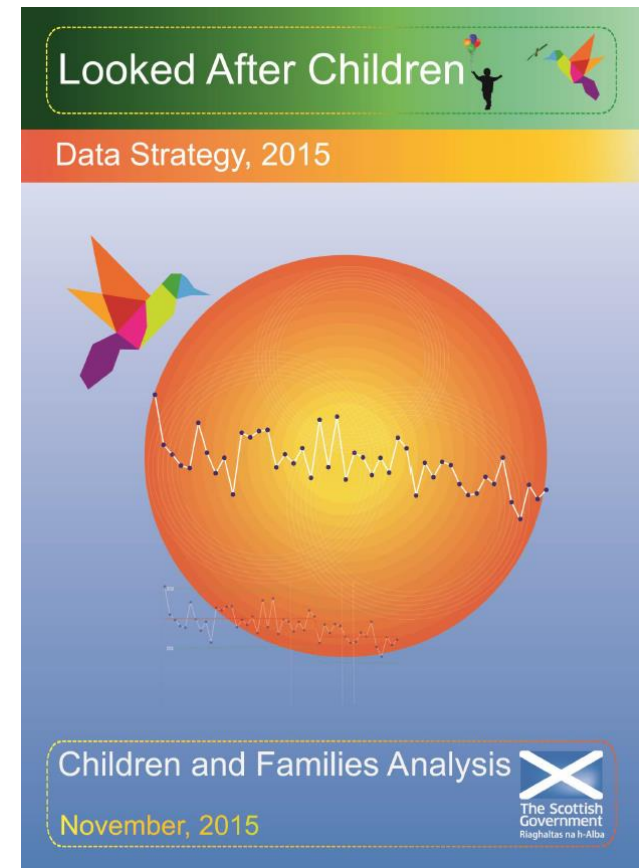
*ISD NDIP Database*

	SiC
2004	6.8
2006	6.0
2008	5.4
2010	4.5
2012	4.1
2014	3.7
2016	3.6

*Blair YI et al, PLoS ONE 8(3):e58593, 2013;  
ISD, NDIP Reports*

# Investigation of oral health of “looked after children” in Scotland using linkage of health and local authority data

- ‘Looked after children’ are defined as those in the care of their local authority
  - Supervised but at home / friends or family
  - Foster care or potential adopters
  - Residential care
- Population-wide study to examine the oral health of LAC and their use of dental and dental GA services compared with the general child population
- National demonstration project
  - Utilised linkage of national administrative data sources



# LAC Group (10,924) vs non-LAC (622,280)

OR = odds-ratio adjusted by age, sex and deprivation (SIMD)

## Tooth Extraction (GA)

	Yes	No	
LAC	967 ( <u>9%</u> )	9957 (91%)	10924
non-LAC	30253 ( <u>5%</u> )	592027(95%)	622280

**OR = 1.91 (1.78, 2.04)**

## Age 5 Urgent Dental Needs

	Yes	No	
LAC	209 ( <u>23%</u> )	685 (77%)	894
non-LAC	16533 ( <u>10%</u> )	15465 (90%)	171098

**OR = 2.06 (1.76, 2.42)**

## Regular Attendance at Dental Services

	Yes	No	
LAC	5519 ( <u>51%</u> )	5405 (49%)	10924
non-LAC	388934 ( <u>63%</u> )	233346(38%)	622280

**OR = 0.55 (0.53, 0.58)**

## Age 11 Urgent Dental Needs

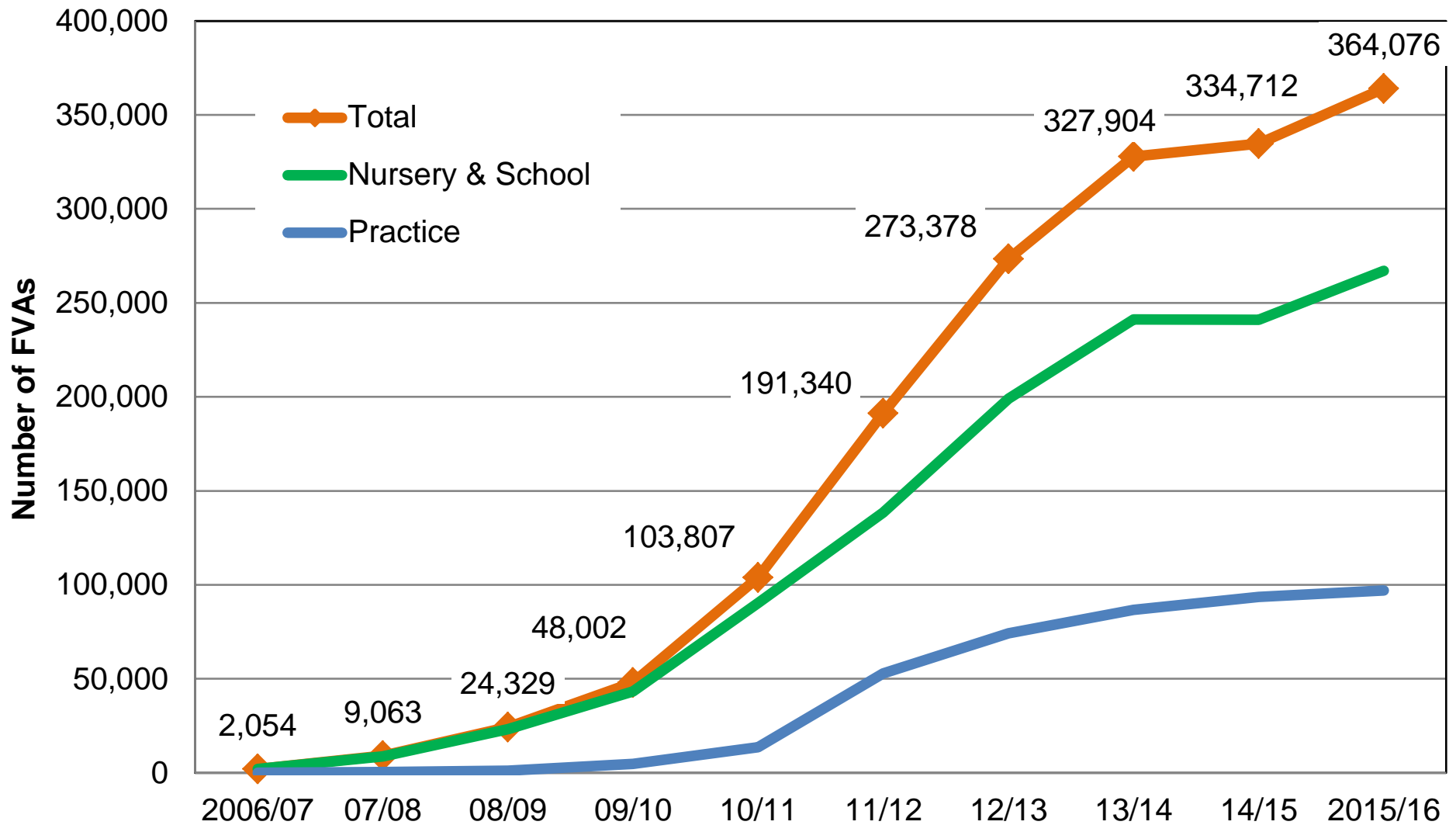
	Yes	No	
LAC	310 ( <u>7%</u> )	3987 (93%)	4297
non-LAC	4709 ( <u>2%</u> )	193801 (98%)	198510

**OR = 2.35 (2.08, 2.65)**

**Conclusion:** Looked after children are more likely to have dental treatment needs and less likely to access dental services even when accounting for sociodemographic factors.



# Number of fluoride varnish applications (FVAs) in Nursery & School and Practice settings, by academic year



# Questions



- How can oral health improvement activities identified in logic model be further optimised?
  - Process of referral from HV to DHSW
  - DHSW work
    - home support
    - linking families to general dental practice
    - linking to and provision of support to local community groups
  - How can rates of FVA in GDS be improved
- What is the added benefit of FVA in nursery / school setting over and above other elements of Childsmile?

# Questions



- How can data linkage analyses add to our understanding of the programme?
- What can we learn from other programmes?
- What can be recommended from evidence base in relation to integrated upstream and midstream approaches from CRF NCD perspective?
- What should be the research-led, evidence-based strategy for the future direction of Childsmile?

# Acknowledgements



- **NHS Boards**
- **Childsmile teams**
- **General Dental Practitioners / Public Dental Services / Dental Public Health / Health Visitor**
- **Nursery and School staff**
- **Parents and children**
- **Information Services Division / Practitioner Services Division**
- **University of Dundee: Dental Health Services Research Unit / Health Informatics Centre**
- **NHS Education for Scotland**
- **NHS Health Scotland**
- **Childsmile Executive Committee**
- **University of Glasgow Dental School, Community Oral Health Section, Central Evaluation Team and research students**
- **National Services Scotland**
- **Scottish Government**

