

<b>Institution: The University of Manchester</b>
<b>Unit of Assessment: 3</b>
<b>Title of case study:</b> Changing national policy on school dental screening. (ICS-10)
<p><b>1. Summary of the impact</b></p> <p>School dental screening was a statutory function of the NHS. University of Manchester (UoM) research demonstrated that the national screening programme was ineffective and likely to increase inequalities in health and service utilisation. As a direct result of UoM research, the National Screening Committee recommended that the national programme should stop. This changed Departments of Health policy resulting in new guidance to the NHS, which stopped the screening programme and redirected resources to treatment services for vulnerable groups and prevention programmes. In 2010 in England the costs of a national screening programme were estimated to be £17m per year; money released for reallocation to other dental services.</p> <p><b>2. Underpinning research</b></p> <p><i>See section 3 for references [1-5]; see section 5 for corroborating sources (S1-S9); UoM researchers are given in bold. In REF3a and REF5 this case study is referred to as ICS-10.</i></p> <p>The impact is based on research that took place at the UoM from 1999 to 2008.</p> <p>The key researchers were:</p> <ul style="list-style-type: none"> <li>• <b>Martin Tickle</b> (Senior Lecturer, 2000-2005; Professor of Dental Public Health &amp; Primary Care 2005-date)</li> <li>• <b>Keith Milsom</b> (Honorary Professor of Dental Public Health, NHS/ University, 2004-2013)</li> <li>• <b>Andrew Blinkhorn</b> (Professor of Oral Health, 1995 -2007)</li> <li>• <b>Helen Worthington</b> (Reader, 1998-2003; Professor of Evidence Based Care, 2003-date)</li> <li>• <b>Anthony Threlfall</b> (Research Associate, 1999-2002; Research Fellow, 2002-2006)</li> </ul> <p>The aim of the research programme was to evaluate the effectiveness of school dental screening on population dental health and the utilisation of dental services. The programme comprised a series of 5 inter-linked studies. The key research steps were:</p> <ol style="list-style-type: none"> <li>1. We developed a new model of screening by obtaining consensus among clinicians for key criteria that should trigger a positive screening test [1].</li> <li>2. We tested the impact on population health and access to care of this new model against: a novel non-clinical screening test; current screening practice and a no-intervention control in a large (n~17,000) 4-arm pragmatic, cluster randomised control trial delivered in the school setting. The trial was undertaken in an area of high need in the North West of England in which access to NHS dental care was freely available to children. We found no effect on population health or access to services for any of the three interventions compared to the no-intervention control [2].</li> <li>3. We then assessed the effects of the screening programme on those individuals who had shown a positive result for tooth decay in their permanent teeth; a condition for which there was 100% agreement to trigger a positive screening and subsequent referral [1]. We found a social gradient in tooth decay: children from affluent areas had the least amount of decay whilst those from the most deprived areas had the most disease. The screening programme preferentially encouraged 'screened positive' children from affluent areas to visit the dentist, as the most disadvantaged children were least likely to attend. Also children from the poorest areas who did attend were least likely to complete a course of treatment [3]. Therefore our research demonstrated that the screening programme had the propensity to widen inequalities in health and the utilisation of healthcare.</li> </ol>

## Impact case study (REF3b)

4. To assess if the findings were representative of the national screening programme we undertook a national survey of all dental screening programmes in England and Wales [4]. This study demonstrated that the traditional model of screening tested in the trial was similar to that used by most services across England and Wales and therefore the outcomes of the trial were likely to be representative of the performance of the programme across the country.
5. A qualitative study [5] that reported the views of parents, teachers and school nurses strongly suggested that the screening programme was not amenable to a quick fix. The research also suggested that the resources used for screening would have a more beneficial effect if redirected to patient care or population primary prevention programmes.

**3. References to the research**

The research was published in peer reviewed international journals including the top journal in dentistry, the *Journal of Dental Research*. It was funded from NHS Executive North West Research & Development Fund and a NIHR Career Scientist Award to **Tickle**. The research was subject to the peer review processes of both of these funding bodies and was also peer reviewed by the UK National Screening Committee.

**Key Publications:**

1. Kearney-Mitchell PI, **Milsom KM, Blinkhorn AS, Tickle M**. The development of a consensus among primary care dentists of referral criteria for school dental screening. *British Dental Journal*. 2006 200:509-12; discussion 501. DOI: 10.1038/sj.bdj.4813525
2. **Milsom K, Blinkhorn A, Worthington H, Threlfall A**, Buchanan K, Kearney-Mitchell P, **Tickle M**. The effectiveness of school dental screening: a cluster-randomized control trial. *Journal of Dental Research*. 2006 Oct Edition 85(10):p924-8. DOI: 10.1177/154405910608501010
3. **Milsom KM, Threlfall AG, Blinkhorn AS**, Kearney-Mitchell PI, Buchanan KM, **Tickle M**. The effectiveness of school dental screening: dental attendance and treatment of those screened positive. *British Dental Journal*. 2006 Jun 24 Edition 200(12):p687-90; discussion 673. DOI: 10.1038/sj.bdj.4813724
4. **Threlfall AG, Milsom K, Catleugh M**, Kearney-Mitchell P, **Blinkhorn A, Tickle M**. A survey of school dental screening practise in community dental services of England and Wales in 2003. *Community Dental Health*. 2006 Dec Edition 23(4):p236-8. Paper available from UoM on request.
5. **Tickle M, Milsom KM**, Buchanan K, **Blinkhorn AS**. Dental screening in schools: the views of parents, teachers and school nurses. *British Dental Journal*. 2006 Dec 23 Edition 201(12):p769-73; discussion p767. DOI: 10.1038/sj.bdj.4814351

**4. Details of the impact** See section 5 for numbered corroborating sources (S1-S9).**Context**

Prior to this UoM research, school dental screening was a statutory requirement of the NHS but had never been systematically evaluated to determine if the resources consumed in this national programme improved health or reduced inequalities. There was also no knowledge of how many children with untreated disease accessed services and received appropriate care as a result of the national programme. The research by the UoM team comprehensively evaluated the effects of school dental screening for the first time and could find no benefit for population health and we provided evidence that the screening programme was likely to increase inequalities in health and utilisation of NHS dental services.

**Pathways to impact**

Throughout the planning and delivery of this research programme the UoM team had a very close working relationship with the Office of the Chief Dental Officer. This office has responsibility for dental policy in the Department of Health (DH) and was supportive of the research from inception to delivery. In 2004 the preliminary results of the study were discussed with policy makers from the Chief Dental Officer's office and the Chair of the UK National Screening Committee (NSC) Child Health Sub-Group. The NSC is a high-level standing committee that advises Ministers and the NHS in the four UK countries about all aspects of screening for all diseases and conditions. The NSC regularly reviews policy on screening for different conditions in the light of new research

**Impact case study (REF3b)**

evidence becoming available. Following these informal discussions the NSC formally invited **Tickle's** team to present the findings of the research programme set out in section 2 to a specifically convened one-day workshop with policy makers from the four UK countries, senior clinicians and representatives of stakeholder organisations, such as the British Dental Association. The research was subsequently peer reviewed by the NSC and formally considered by the NSC Child Health Sub-Group. In 2005 the NSC produced an interim report (S1) which summarised the methods and findings of the research set out in section 2 and concluded that *"The data as presented suggest that routine screening of school children at this age has no beneficial effect on their dental health. The study seems robust and the conclusion justified."*

In September 2006 the Programme Director of the NSC met with the English Chief Dental Officer to discuss the implications of the report and recommended that the DH should stop the national school dental screening programme. In January 2007 the DH issued formal guidance to the NHS in England (S2) which stated *"The recently published results of a large Randomised Control Trial have demonstrated that school dental screening (as currently undertaken) is ineffective at a population level in reducing levels of untreated disease and increasing attendance of those who need treatment."* The DH guidance went on to say that *"the UK National Screening Committee recommended to the UK Chief Dental Officers that there is no evidence to support the continued population screening for dental disease among children aged 6 to 9 years. The Committee's recommendation was based in part on the view that the resources currently used for screening could be used more effectively in other ways to tackle oral health inequalities."* The guidance advised PCTs to review their programmes in the light of advice from the NSC and *"where PCTs decide to discontinue with screening, how resources can be used most effectively to address inequalities in oral health in other ways."*

In Northern Ireland, the Department of Health and Social Services and Public Safety (DHSSPS) issued a policy statement on school dental screening in 2008 (S3) directly citing *"important research undertaken by the University of Manchester."* The policy document advised that school dental screening *"should cease once the screenings for the 2007/08 school year have been completed. Trusts are asked to redeploy the resources used on screening into the other priority business areas outlined in the Community Dental Service corporate plan, issued by the DHSSPS in September 2006."*

**Reach and Significance of the Impact****Impact on national policy and the NHS**

As a result of this radical change in national policy, school dental screening ceased across England (S4) and Northern Ireland (S3). The research and its impact received national media coverage by the BBC (S5). The resources previously used for screening were redirected into providing primary prevention programmes and treatment services for vulnerable groups. An external review for the UK NSC (S4) in 2013 estimated that this has freed up on average 4-5% of workforce hours (dentists and dental nurses) of salaried primary care services.

**Key Beneficiaries of Impact**

Following the suspension of the school dental screening programme NHS resources were redirected to expand primary prevention programmes and clinical services provided by the Community Dental Service (CDS). This service is responsible for providing community based prevention programmes targeted at high need, socio-economically disadvantaged communities. The CDS also provides clinical care services for patients with special care needs and also safety net access services. The main beneficiaries of the redeployment of CDS resources are patients with impairments or disabilities who need access to dental care, localities with poor access to dental care and disadvantaged communities with high levels of dental need that can benefit from targeted prevention programmes. Therefore some of this resource would have been redirected into improving access to dental services, some into prevention programmes so the impact in terms of additional patients seen or disease prevented is difficult to quantify accurately. However, a re-introduction of school dental screening was proposed in the Conservative Party (S6) prior to the 2010 general election and a figure of £17m a year in England alone was ear-marked for the

## Impact case study (REF3b)

programme. Based on average annual costs of CDS salaried dentists and dental nurses this would equate to funding approximately 120 senior dental officers and nurses each year. At a conservative estimate this workforce would be able to provide care for an additional 250,000 patients each year.

**On-going policy impact**

In 2010 the Conservative Party planned to reintroduce screening (S6). **Tickle** wrote to the then shadow Secretary of State for Health to draw his attention to the strong evidence-base which demonstrates that this policy would not be effective. This stance was supported by the Chief Dental Officer (S7) and the policy was subsequently changed to a broader one prioritising the improvement of children's dental health (S8,9) This means that the school dental screening is unlikely to be revived and precious NHS resources will be spent on more effective interventions, a position which has been reinforced by recent developments. In 2013 the NSC revisited the evidence base for school dental screening and in a new report (S4) currently out for consultation, recommends no change in the policy again citing research undertaken by the UoM and stating that no further research has been published to refute this conclusion (S4).

**5. Sources to corroborate the impact Individuals who can provide letters of support:**

- S1 National Screening Committee, Dental screening in 6-9-year-old children. NSC interim report (2005) [http://www.screening.nhs.uk/policydb\\_download.php?doc=146](http://www.screening.nhs.uk/policydb_download.php?doc=146)
- S2 Department of Health Gateway Reference 7698 Dental Screening (Inspection) in Schools and Consent for Undertaking Screening and Epidemiological Surveys January 2007 [http://www.pcc-cic.org.uk/sites/default/files/articles/attachments/guidance\\_on\\_screening\\_consent.pdf](http://www.pcc-cic.org.uk/sites/default/files/articles/attachments/guidance_on_screening_consent.pdf)
- S3 Department of Health, Social Services and Public Safety Future Policy On Dental Screening (Inspection) in Schools, March 2008 [http://www.dhsspsni.gov.uk/2008\\_02school\\_dental\\_screening\\_policy.pdf](http://www.dhsspsni.gov.uk/2008_02school_dental_screening_policy.pdf)
- S4 Spiby J. Screening for Dental Caries in Children aged 6 to 9 years. External review against programme appraisal criteria for the UK National Screening Committee (UK NSC) Version: Two Consultation Start: June 2013 UK National Screening Committee [www.screening.nhs.uk/policydb\\_download.php?doc=286](http://www.screening.nhs.uk/policydb_download.php?doc=286)
- S5 National Media Coverage: BBC February 2007 <http://news.bbc.co.uk/1/hi/health/6383065.stm>
- S6 Conservative Party Manifesto document 'Transforming NHS dentistry. Innovating for higher standards and greater access to care' <http://www.edocr.com/doc/7304/transforming-nhs-dentistry-innovating-higher-standards-and-greater-access-care-conservative>
- S7 Michael Lea. Free dental checks for every 5-year-old under Tory plans Daily Mail 2009 <http://www.dailymail.co.uk/health/article-1183929/Free-dental-checks-5-year-old-Tory-plans.html>
- S8 Anika Bourley Tory U-turn on school dental screening plan Dentistry.co.uk <http://dentistry.co.uk/news/4670--Oral-health-Tory-U-turn-on-school-dental-screening-plan>
- S9 Freedom Fairness Responsibility. The Coalition: our programme for government. London: HM Government; 2010. [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_187876.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_187876.pdf)