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Abstract:
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Increased political enthusiasm for evidence-based policy and action has re-ignited interest in the use of evidence within political and practitioner networks. Theories of evidence-based policymaking and evidence-based practice are being re-considered in an attempt to better understand the processes through which knowledge translation occurs. Understanding the mechanisms through which policy is developed, and how practice results, is essential to ensuring effective evidence use. Nonetheless, a paucity of studies exploring the factors which shape healthcare delivery and their relative influence in different contexts remains.

This paper explores the processes involved in the conceptualisation and delivery of a complex intervention in Scotland's National Health Service (NHS) setting. It uses a national oral health programme for children (Childsmile) as an illustrative case, drawing upon key actors' perceptions of the absolute and relative influence of different drivers (evidence, policy and practitioner experience) to the development of the initiative. Framework analysis is used to thematically analyse documentary evidence and stakeholder accounts gathered through bespoke, in-depth interviews.

Findings suggest that Childsmile can be viewed as an example of an 'evidence-informed' intervention, blending available research evidence with knowledge from practitioner experience and continual learning through evaluation, to plan delivery. The importance of context was underscored, both in terms of the need to align with prevailing political ideology and in the facilitative strength of networks within the relatively small public health community in Scotland. Key actors' perceptions were found to support several existing theoretical models of translation. There are sufficient grounds to conclude that Childsmile is an example of 'intelligent policy making' (Sanderson, 2009), giving reason to be optimistic about the current model of policymaking and healthcare delivery in Scotland.

Sanderson, I. (2009). Intelligent policy making for a complex world: Pragmatism, Evidence

and Learning. *Political Studies*, 57, 699-719.

Intelligent policy making? Key actors' perspectives on the development and implementation of an early years' initiative in Scotland's public health arena.

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Research Highlights

- Greater understanding of how policy is developed and practice results, is essential to ensuring evidence is best used to improve public health.
- Yet studies exploring key actors' perceptions of the mechanisms through which, policy and practice develop are limited.
- This paucity is addressed by exploring the processes involved in the development of a complex, NHS intervention, in Scotland.
- Findings illustrate a blending of research evidence, tacit knowledge and innovation and underscore the importance of political context.
- As an example of 'intelligent policy making', the Childsmile case positively demonstrates the feasibility of knowledge transfer at a national level.

Keywords

Scotland, oral health, public health, NHS, evidence-based policy, evidence-based practice, practitioner experience, early years, Childsmile.

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Abstract

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of 'intelligent policy making' (Sanderson, 2009), giving reason to be optimistic about the current model of policymaking and healthcare delivery in Scotland.

Sanderson, I. (2009). Intelligent policy making for a complex world: Pragmatism, Evidence and Learning. *Political Studies*, 57, 699-719.

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Introduction

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2 In the past few decades political enthusiasm for evidence-based policy has re-ignited
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4 interest in the use of research within political, academic and practitioner networks (Jung et
5
6 al., 2010; Sanderson, 2009; Smith, 2007). The goal of evidence-based practice has been
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8 broadly embraced as evidence-based medicine has gained momentum. Pawson et al.
9
10 (2011) observe that from a hub in the world of clinical treatments, ambitions have spread
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12 outward to evidence-based public health, evidence-based management and evidence-based
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14 policy.
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20 Use of best available evidence is now widely recognised as central aim of Scottish and UK-
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22 wide policy-making (Jung et al., 2010; Sanderson, 2011; Smith, 2007). The 2010 White
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24 Paper *Equity and Excellence: Liberating the NHS* reaffirmed the UK Government's
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26 commitment to evidence-based policy within the National Health Service (NHS). A similar
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28 emphasis on evidence utilisation is evident in Scotland. Sanderson (2011) explains that the
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30 devolved government is seeking new policy approaches to the country's complex economic
31
32 and social problems, and that in doing so there has been a shift in focus towards outcomes,
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34 signalling a potential strengthening of the role of evidence in national policy making. Jung et
35
36 al. (2010) provide further testimony of the government's focus on evidence use; improving
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38 knowledge transfer from academic research outputs is a key indicator in Scotland's National
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40 Performance Framework.
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46 An increasingly sophisticated body of literature seeks to further understand and
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48 conceptualise the mechanisms through which evidence is translated into policy and practice,
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50 and the extent to which different factors influence this (Best & Holmes, 2010; Estabrooks et
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52 al., 2006; Graham et al., 2006; Jung et al., 2010). Understanding the different mechanisms
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54 through which policy is developed, and how practice results, is important in ensuring
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56 effective evidence use.
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1 Central to academic debates with regard to knowledge transfer, translational science and
2 evidence-use, is the definition of 'evidence' or 'knowledge' itself (Blake & Ottoson, 2009;
3 Dobrow et al., 2004; Nutley et al., 2003). While 'evidence' or 'knowledge' is often thought of
4 as being derived "from systematic research and analysis" (Weiss, 1980), it is argued that
5 tacit and explicit knowledge constitute valid evidence (Best & Holmes, 2010).
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12 A review of relevant literature suggests that those involved in developing policy to address
13 prioritised public health issues weave their way through complex systems, whereby relevant
14 evidence is often lost, misinterpreted or simply ignored. Many factors impact on evidence-
15 translation including: the social and political context (Dobrow et al., 2004; Elliot & Popay,
16 2000; Finlayson, 2004); personal and professional values, interests, beliefs and receptivity to
17 evidence (Dobrow et al., 2004; Elliot & Popay, 2000); conflicting demands on policy (Weiss,
18 1977); gaps between the knowledge required by key actors and research outputs (Weiss,
19 1977); and economic feasibility (Dobrow et al., 2004; Elliot & Popay, 2000).
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32 Weiss's enlightenment model (1977) states that "research provides the intellectual
33 background of concepts, orientations, and empirical generalizations that inform policy".
34 Weiss suggests that decision makers are often 'aware' of research evidence, which may
35 influence their thinking, rather than purposely seeking it out to support or suggest policy
36 solutions, and therefore that penetration of research findings is slow and indirect (Weiss,
37 1979). In considering research use by policymakers, Smith (2007), like Weiss, emphasises
38 the significance of 'ideas', noting that "once detached from specific research findings, ideas
39 are more easily open to differing interpretations and uses by various actors".
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52 Kingdon's (2011) 'policy windows' model has contributed to recent understanding of
53 research-policy relations (Guldbrandsson & Fossum, 2009; Smith, 2007). This model
54 suggests that the opportunity to change or develop a policy (known as a 'policy window')
55 occurs when three key elements converge at a single point in time: a problem is recognised,
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1 policy solutions are available, and the political climate is open to change. As 'policy
2 windows' are time limited, policy entrepreneurs are required to 'introduce and promote their
3 ideas' to policymakers timeously. Smith (2007) agrees that policy entrepreneurs have to
4 credibly "sell" ideas within policy circles and that, should an idea be thought to overtly conflict
5 with ruling political ideology, marketing to a policy audience may require a shift in the
6 meaning of the idea, or at least, a more flexible construction of the idea. Finlayson (2004)
7 also argues that the political context has a bearing on how persuasive ideas are "to
8 particular people at particular times".
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20 Turning to the relationship between evidence and health-care practice and delivery, a
21 substantive body of literature suggests that translation of evidence into health-care practice
22 can be marginal, inconsistent and slow (Brazil et al., 2005; Graham et al. 2006; Weiss, 1977,
23 1979). Novak et al. (2011) explain that while health professionals support evidence-based
24 practice ideologically, this does not necessarily translate into the provision of patient care.
25 They estimate that "10% to 40% of patients do not receive proven effective interventions and
26 more than 20% receive ineffective or harmful interventions".
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38 Many factors influence the extent to which evidence is translated into practice, including: the
39 presentation of evidence to practitioners (Bucknall, 2007); the existence of relationships
40 which facilitate evidence translation (Best & Holmes, 2010; Brazil et al., 2005; Graham et
41 al., 2006); perceived value of the evidence (Dobrow et al., 2004); practitioners ability to keep
42 up to date with the evidence base (Graham et al., 2006); and the social and political context
43 in which the translation occurs (Best & Holmes, 2010; Dobrow et al., 2004). Research
44 evidence needs filtering, interpretation, and application by individuals to the specific situation
45 (Bucknall, 2007). There are numerous theories of knowledge translation spanning many
46 disciplines (Best & Holmes, 2010; Graham et al, 2006).
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Despite increasing focus on the mechanisms through which evidence is used in complex modern societies, Smith (2007), notes that “limited attention has been given to exploring how key actors involved in research-policy dialogues understand the processes involved”. Petticrew et al’s (2004) study exploring civil servants’, policymakers’ and academics’ perceptions of evidence had made some in-roads into this under-researched area, and Smith’s own study, also exploring health inequality-related policy formation, made an important contribution. More recently, Cameron et al. (2011) considered the use of evaluative evidence in the policy-making process, and a number of studies have used a case study approach to consider research use in the health sector (e.g. Elliot & Popay, 2000; Kothari et al., 2005). Recent studies include Guldbrandsson & Fossum’s (2009) analysis of John Kingdon’s policy windows model across nine child health promoting initiatives in Sweden, and Jung et al’s (2010) case study exploring research use in the development of the Early Years Framework in Scotland.

Nonetheless a paucity of studies exploring the factors which shape healthcare delivery and their relative influence in different contexts remains. Sanderson (2011) argues that “given the complexity and lack of transparency around the way in which evidence is actually used in policy development and delivery, we have a weak and contested evidence base on this and a tendency to generalise from limited and particular circumstances”. He concludes that a clearer understanding of the way evidence is used by different actors and its impact in different contexts is needed.

This paper responds by exploring the processes involved in the conceptualisation and implementation of a complex intervention by the NHS in Scotland. It uses a national oral health programme for children (Childsmile) as an illustrative case, and draws upon key actors’ perceptions of the absolute and relative influence of different drivers (evidence, policy and practitioner experience) to the on-going development of the initiative. The key aims are to learn how these factors interact and contribute to the development and delivery of a health

1 service initiative, and to consider the extent to which the findings support existing theories of
2 knowledge translation. Ward et al. (2009) argue that “failing to translate research knowledge
3 into action in health care contributes to health inequities and wastes costly and time-
4 consuming research”. Only by understanding the processes through which programmes are
5 formed can we begin to ensure better use of appropriate knowledge and that interventions
6 are as effective as possible.
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15 **The Childsmile (CS) Programme**

16 The publication of ‘*An Action Plan for improving oral health and modernising NHS dental*
17 *services in Scotland*’ (Scottish Executive, 2005) led to the addition of oral health to
18 Scotland’s existing health demonstration portfolio, and to the establishment of Childsmile in
19 January 2006. In addition to improving children’s oral health, Childsmile aims to reduce
20 inequalities in dental health and improve access to dental services for all children living in
21 Scotland. The programme is tasked with acting as a testing ground for national action, and
22 providing a learning resource for the rest of Scotland by combining the best existing
23 evidence with innovative practice (Scottish Executive, 2004).
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36 Initially funded by the Chief Dental Officer as two separate programmes; ‘Childsmile Nursery’
37 was developed and implemented largely in NHS Boards in the East of Scotland, and
38 ‘Childsmile Practice’ in the West. Childsmile Nursery and Childsmile School (since 2007)
39 offers twice-yearly clinical prevention (fluoride varnish application) in targeted
40 establishments. Childsmile Practice offers support to families in the home or community
41 setting, facilitates regular attendance at a local NHS dental practice, and provides a link to
42 other community health improvement initiatives. Additionally, free daily supervised
43 toothbrushing is facilitated in all Scottish pre-five establishments, as well as P1 and P2 in
44 priority schools (Childsmile Core). The programme has encompassed workforce
45 development, creating the new roles of dental health support worker (DHSW), lay oral health
46 promoters, and extended duty dental nurse (EDDN), nurses trained to apply fluoride varnish
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to children’s teeth (a task previously reserved for dentists, dental hygienists and therapists) .

In 2008, Childsmile, Nursery, School, Practice and Core models were integrated into a single programme and rolled out across Scotland.

A comprehensive evaluation of Childsmile is led by a team at the University of Glasgow and supported by regional researchers employed within territorial NHS boards. A thorough process evaluation is nested within Childsmile’s evaluation strategy. This paper draws upon process evaluation activity aimed at explicating the origins of Childsmile. The authors comprise members of the evaluation team, one university-based, two NHS based.

Methods

Childsmile is presented here as an illustrative case study. The case study approach is described as being particularly useful “when there is a need to obtain an in-depth appreciation of an issue, event, or phenomenon of interest, in its natural real-life context” (Crowe et al., 2011) and for studying complex social phenomena where the questions being asked are ‘how’ or ‘why’ (Yin, 1994).

The primary data-collection method, in-depth individual interviews with key actors involved in the initial conceptualisation, strategic development and on-going delivery of Childsmile, afforded the opportunity to gain substantive insight into the viewpoints and perspectives of a range of actors while maintaining anonymity to a far greater extent than group research processes allow. This was essential in a highly politicised arena. Documentary review of policy documents, research evidence, professional guidance, published literature and programme documentation was also undertaken.

Preparatory methods including: documentary review, informal exploratory communications with programme proponents and on-going observation at programme meetings added to the authors’ existing knowledge of the programme and enabled an initial list of potential

1 interviewees to be drawn up, and an interview topic guide to be developed. All known
2 individuals who had contributed to Childsmile’s funding and subsequent strategic
3 development were purposively sampled. Interviewees were asked if any other key
4 stakeholders should be included in the study. One additional stakeholder was suggested
5 and subsequently contacted. All twelve stakeholders approached participated in an
6 interview.
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15 Participants were all employed in Scotland as academics or senior NHS staff, and two had a
16 dual NHS/academic role. The majority of interviewees occupied positions of power within the
17 hierarchy of the NHS, and in these terms were senior to the primary interviewer; however,
18 similarly to Smith (2007), a non-hierarchical relationship in which researcher and respondent
19 are “partners” (Campbell & Bunting, 1991) was sought.
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29 A semi-structured approach to interviews was taken, using a themed interview schedule
30 which focused questions around *a priori* issues derived from the aims and objectives of the
31 study: what factors (research evidence, practitioner experience and tacit knowledge, policy)
32 have influenced Childsmile’s strategic development and intended model of delivery?; what
33 has been their relative influence and how have these drivers interacted?; has this balance
34 changed over-time? ; has there been innovation? and what contextual factors have impacted
35 on the interplay between and influence of the various drivers?
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46 Transcripts were reviewed following each interview and any pertinent areas of enquiry or
47 ideas raised by interviewees were included in subsequent interviews.
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53 Interviews were digitally recorded and transcribed verbatim. Transcripts were anonymised
54 before further analysis. Illustrative quotes presented in this paper are prefixed by a letter
55 which identifies a random respondent number. No further information is attached to this
56 identifier to preserve anonymity.
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1 Data analysis utilised the 'Framework' method, well established as a transparent, systematic
2 and rigorous qualitative data management tool in applied policy research. The analysis
3 followed the key stages of 'Framework' analysis as described by Ritchie and Spencer
4 (1994): familiarisation, identification of a thematic framework, indexing, charting, and
5 mapping and interpretation. Transcripts were analysed within and across individual case
6 study units (individual interviews) using a 'framework' developed by drawing upon *a priori*
7 issues, emergent issues raised by the respondents, and analytical themes arising from the
8 recurrence or patterning of particular views and experiences (Ritchie & Spencer, 1994).
9 Initial categorisation was largely descriptive and heavily weighted to *a priori* issues. As more
10 transcripts were coded, considered and discussed by the authors, the framework became
11 more responsive to emergent and analytical themes. A process of discursive questioning
12 and agreement, through frequent team meetings, ensured the non-selectivity, validity and
13 reliability of the findings. The authors' existing knowledge of the programme and context
14 gained from preparatory methods cannot be separated from the process of transcript
15 analysis. Differences in findings between the interviews and other preparatory methods will
16 be reported.

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38 The University of Glasgow Medical Faculty Ethics committee approved the evaluation of
39 Childsmile. NHS clinical governance approval was obtained.

40 **Findings**

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46 Thematic analysis resulted in three clear chronological stages in programme development
47 and delivery: identification of the problem; development of a solution and the reality of
48 implementation.

49 **Identification of the problem**

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58 Programme documentation and interviewees' description of the programme's roots pointed
59 unequivocally to the development of Childsmile as a response to the problem of children's
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1 poor oral health in Scotland. The problem, as described by respondents, clearly met the
2 criteria for an important public health concern; in terms of the prevalence of the condition,
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4 the impact of the condition on the individual and on wider society and that effective
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6 treatments were available and moreover that the condition is preventable (Daly et al., 2009).
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10 Published Childsmile documentation cited five main strands of evidence for the extent of the
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12 childhood oral health problem in Scotland: high rates of child dental caries in 3- and 5- year
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14 olds; significant inequalities in oral health; low dental registration rates for young children;
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16 limited preventive activity; and oral health problems being the most common reason for
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18 children to have an elective general anaesthetic. Macpherson et al. (2010) stated:
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24 “The addition of a child oral health programme to the National Health
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26 Demonstration Project portfolio was a response to the persistently high
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28 rates of dental caries among children in Scotland. These high rates are
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30 compounded by significant inequalities in oral health and poor use of and
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32 access to services.”
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38 Scotland’s National Dental Inspection Programme (NDIP) was frequently referenced as
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40 evidencing the prevalence of the public health problem; Shaw et al. (2009) state 2008 NDIP
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42 results demonstrated that “almost half of Scottish 5-year olds experience significant levels of
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44 dental decay”. Scottish Dental Practice Board reports were also cited as demonstrating low
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46 rates of dental registration for children aged 0-2 years and highlighting limited preventive
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48 activity (Macpherson et al., 2010).
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53 Epidemiological evidence was viewed as directly instrumental in the realisation of the
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55 problem. However, the importance of personal experience and ‘anecdotal’ evidence was
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57 also clear. Examples included: working in extraction clinics where children attended for
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59 multiple extractions; working in deprived areas where treatment was not thought to be fully
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1 addressing oral health problems; and, the personal views of Health Visitors concerned that
2 no preventive information was being given to families that they thought required oral health
3 promotion advice:
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8 “I did the gas extraction clinic at the [hospital] one day a week...it was so
9 soul-destroying...to have child after child after child coming for multiple
10 extractions before they were school age...” (Respondent D)
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17 Respondents often spoke of ‘recognition of the problem building over some time’.

18 In particular, politicians’ acute awareness and sensitivity to increasing public concern over
19 lack of patient access to dental services, was frequently noted.
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25 Childsmile as ‘a response to a problem’ is in keeping with existing theories of how policies
26 and interventions develop (Best & Holmes, 2010; Jung et al., 2010) and fits with Kingdon’s
27 (2011) view that ‘recognition of a problem’ is a pre-requisite for the opening up of a ‘policy
28 window’. It is evident that heightening awareness of the issues surrounding children’s oral
29 health in Scotland acted as a catalyst for change.
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38 **Developing a solution**

39 Childsmile was viewed as Scotland’s “solution” to its child oral health problem. A number of
40 recurring themes were evident in key actors’ descriptions of programme development:
41 availability of evidence; political acceptability and influence; the development of ideas and
42 role of innovation; and the importance of key individuals/networks.
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51 *Availability of evidence*

52 Programme documents pointed to Childsmile being based on the ‘best available evidence’.
53 Shaw et al. (2009) describe the programme’s “well documented evidence-base”.
54 Documentary description and actors’ accounts emphasised the importance of using ‘gold
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1 standard' evidence comprising findings from randomised-controlled trials (RCTs) and
2 published clinical guidelines (Childsmile Programme Manual, 2011; Glasgow Dental School
3 Community Oral Health website; Macpherson et al., 2010; Shaw et al., 2009).
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8 Nearly all respondents perceived there to be strong scientific evidence underpinning the
9 programme for example SIGN 47, SIGN 83 and Marinho et al. (2002):
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14 "the Cochrane work on fluoride varnish was absolutely key, and still is,
15 actually...Marinho in a sense has probably been the most significant piece
16 of work for Childsmile." (Respondent J)
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24 Marinho et al. (2002) concluded that two to four fluoride varnish applications a year is
25 associated with a reduction in caries. This finding explicitly guided the development of
26 Childsmile's intervention strategy.
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33 While the importance of reliable, robust, scientific evidence was described as important to
34 formulating a response, as it had been to recognition of 'the problem', actors' written
35 accounts of the programme and their interview responses equally pointed to tacit knowledge
36 and experience from previous initiatives as an alternative source of evidence. Respondents
37 referred to this as "softer" evidence. To illustrate, many respondents, although supportive of
38 Childsmile's community development approach, noted that its evidence-base was limited,
39 with no RCT evidence. Practitioner experience was recognised as the foundation for
40 adoption of this approach:
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53 "...there still isn't a lot of evidence base, particularly for like community
54 development you could say...it's a mixture of what seemed to be happening
55 and learning lessons...the fact that our community development...had
56 shown definite improvements in oral health, so from that point of view, but it
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was a local evidence base rather than international evidence base...”

(Respondent L)

Experience gained from the Possilpark Pre-5 Oral Health Gain Programme (a community-development initiative in a disadvantaged area of Glasgow designed to promote dental health through a wide range of community activities) was highlighted as a key learning point for the development of Childsmile Practice (Macpherson et al., 2008). Respondents described “trying to apply thinking from elsewhere” and thus, utilising a range of experiences.

“you pick up experience, you’re never very sure when you’re using it and when you’re not, it’s just always there” (Respondent G)

It was clear that, when looking for a solution to the problem of poor child oral health stakeholders looked not only to “gold standard” evidence but also tacit knowledge and prior practice. Where there was no hard or fast scientific evidence, “values and ideas” had a role to play. Childsmile’s case supports the assertion that multiple sources and types of evidence often come into play in the development of policy and practice (e.g. Best & Holmes, 2010).

A number of respondents explained that Childsmile would continue to evolve, responding to new evidence, not only from outwith the programme but as a result of learning derived from the programme itself. As a demonstration programme, Childsmile was “expected to evolve in response to ongoing monitoring, evaluation and stakeholder feedback” (Macpherson et al., 2010). Many respondents highlighted the programme’s potential to contribute to the evidence base:

“...Childsmile is in a position to actually contribute to the evidence base rather than draw on what was, at that time, available to us” (Respondent J)

1
2 *Political acceptability and influence*
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4 Actors' accounts openly acknowledged that to be 'acceptable', solutions sought had to be
5 both evidence-based and fit with political ideology. They described a political context where
6 there was increasing recognition over poor dental health of the population, a political will
7 conducive to testing out suitable approaches to addressing the problem, and a desire to
8 contribute to the evidence base. However, water fluoridation was not viewed as a politically
9 expedient solution to oral health problems, even though the evidence lay in its favour.
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11 Towards Better Oral Health in Children (2005), indicated that most public respondents were
12 against water fluoridation. This opened an opportunity to develop alternative solutions:
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24 "…if we couldn't deliver water fluoridation, it was much more about
25 prevention based on some of the issues that were coming through
26 Childsmile but also on the broader issues of nutrition and things like that, so
27 we were almost giving government a two or three strand strategy which had
28 been out to consultation." (Respondent H)
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38 Respondents noted the more "pragmatic approach" taken in Scotland differed to that in
39 England where attempts at water fluoridation has resulted in on-going legal battles. The
40 Dental Action Plan (Scottish Executive, 2005), was viewed by respondents as a "positive
41 way" forward in a time of negative publicity around oral health and the broad direction
42 contained within it as giving the impetus to begin Childsmile:
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51 "there has been an enthusiasm to implement the evidence that we know
52 and that's been skilfully taken through any and all political routes open..."
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56 (Respondent C)
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1 Respondents described how the ideas contained in the Dental Action Plan, and the
2 development of potential solutions, were built upon the foundations of wider policy direction
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4 at that time, including a move toward prevention and anticipatory care, evident through
5
6 policies such as Better Health Better Care (Scottish Government, 2007). A process of
7
8 continual 'shaping' of programme principles and actions to stay in alignment with wider
9
10 policy developments was described. This was regarded as essential to the programme's
11
12 future. Examples given were aligning Childsmile with the Healthcare Quality Strategy for
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14 NHS Scotland (Scottish Government, 2010), and linking with the Early Years Framework
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16 and Getting It Right For Every Child (GIRFEC) approach (Scottish Government, 2008).
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18 Respondents also reported "important linkages" with the Scottish Dental Clinical
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20 Effectiveness Programme (SDCEP), who developed guidelines on the management of
21
22 caries in children (SDCEP, 2010), enabling Childsmile to position the programme centrally in
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24 terms of influencing the dental profession.
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31 More direct political influence was also evident in respondent's accounts: To satisfy a
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33 minister enthusiastic about a school dental service, Childsmile's nursery programme was
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35 extended into Primary Schools.
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40 In the context of a poor child oral health record, increasing publicity over lack of access to
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42 dental services and a lack of political will to fluoridate water, the 'political climate' was open
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44 to an alternative solution, again fitting with John Kingdon's (2011) model. Political
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46 acceptability was central to providing the opportunity for new ideas to be developed and
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48 tested:
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53 "It was an opportunity, when the government clearly understood the nature
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55 of the problem and provided resources to do something about it in a way
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57 that we hadn't been given the opportunity to do in the past..." (Respondent
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59 G)
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Ideas and innovation

Supporting several theoretical explanations of the mechanisms through which policy and practice develop (Weiss, 1977; Finlayson, 2004; Smith, 2007), the importance of ideas was a strong theme in accounts of Childsmile’s development. Respondents spoke of ‘broad ideas’ being promoted through the DAP.

“... there wasn’t an awful lot of detail, as these documents purposely do that, to give you the scope and...the flexibility to build around that.”

(Respondent E)

From this base, ideas for action were described as “evolving naturally”, initially as an action driven response to fulfil the objectives set out in the DAP, then later in a broader sense to effectively address the public health problem in hand. Respondents described initial meetings as “exploratory” and “quite informal” providing an environment conducive to working out the best approach. Ideas were further refined through on-going meetings.

Several respondents noted that the aims of the programme were not initially specified in detail, instead developing over time. For example, with regards to reducing inequalities there was considerable variation in the extent to which respondents thought the programme’s approach was clearly agreed from the outset: some spoke of simply trying to target children “with the most disease first”, while others gave more sophisticated accounts of a universal and targeted approach adopted on the basis of existing evidence on how best to reduce inequalities. Most respondents acknowledged that the programme’s approach to reducing inequalities had required on-going development. This matches the experience of other Scottish initiatives such as Starting Well (Mackenzie et al, 2010).

Respondents explained that the policy context described above, installed a sense of liberty to develop programmes which fitted with their own informed understanding of the best way

1 forward. There was a strong sense of freedom to innovate in actor's accounts, often
2 reported in relation to the extension of dental nurses' role within their practice:
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6 "[the] skill mix bit, was very innovative, and just the fact that we were doing
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8 this...universal and...you know the targeted bit, was fairly innovative at the
9
10 time as well..." (Respondent L)
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15 Stakeholders described a sense of being empowered to contribute their experience and
16 learning to the development process. This bolstered perceptions of an innovative process,
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18 as did the opportunity to shape the programme through continued learning through the
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20 experience of delivery.
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26 *Importance of key individuals/networks*

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28 The importance of key individuals and networks was frequently discussed. Smith (2007)
29
30 argues, policy entrepreneurs (individuals) are required to "sell" ideas and have credibility
31
32 within policy circles. The standing of key individuals and relationships within the Childsmile
33
34 case is supportive of Smith's view. Actors described how key influencers (policy
35
36 entrepreneurs) promoted ideas or solutions at government level by sharing their knowledge,
37
38 expertise and prior experiences. Respondents recognised that, critically, those key
39
40 individuals had seized an opportunity to align priorities across the dental field. Informal
41
42 discussions over the content of the DAP allowed these key proponents early involvement in
43
44 generating ideas towards a solution:
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51 "...a couple of us [were asked] to sort of informally look at the wording of
52
53 the Dental Action Plan before it was actually published...and of course
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55 then, it was easy...for us to start work because we already had the agreed
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57 wording in place..." (Respondent J)
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Close knit networks were often described as beneficial in sharing ideas. The involvement of both academics and health practitioners in key groups was perceived as a catalyst and vehicle for the sharing of ideas. This was considered an important facilitating feature of the Scottish context:

“I think it’s [Scotland] absolutely the right size for this sort of thing to work well, and you know the Universities to be involved, and the key clinical people leading on some of the...work, it’s because people wear different hats and they’re on different groups, you can achieve a better result I think than in a much bigger country where it’s much more challenging.”

(Respondent J)

Respondents’ sense of a particularly supportive Scottish public health forum supports Jung et al.’s (2010) conclusion that devolution, a relatively small population, strong policy communities and distinctive knowledge exchange funding streams have allowed Scotland to “forge some unique paths”.

Reality of implementation

Any planned intervention is subject to change once it moves forward to implementation in the ‘real world’. Two key themes, relating to the extent to which ideas were implemented in reality, were evident in respondents’ accounts of delivering Childsmile: control over the idea, and the journey of the idea.

Control over the idea

Perceptions of control over implementing programme ideas in the ‘real world’ were discussed. Creating a shared vision for the programme among *all* stakeholders was viewed as requiring on-going effort. Respondents expressed varying degrees of concern that lack of

1 a shared vision or a shift away from the original ethos of the programme may impact on
2 Childsmile's success:

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6 "...there's that strange sort of situation you'll find where you're almost sort
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8 of slightly losing, I suppose it's control, control's maybe not quite the right
9
10 word, but you've got less influence...in how it's being implemented as time
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12 has gone on, and it gets slightly further away from what the original vision
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14 was..." (Respondent L)
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20 As discussed earlier, local context shaped the delivery of Childsmile at NHS Board level.
21
22 This fits with existing hypothesis that research evidence/ideas require "interpretation" and
23
24 "application" to specific circumstances by individuals (e.g. Bucknall, 2007). The local
25
26 interpretation of ideas left a sense of loss of influence or shared vision for some stakeholders
27
28 involved in developing initial programme ideas, whereas others accepted that, while they
29
30 could pass on the programme's ethos and suggestions for programme implementation to
31
32 NHS Boards, tailoring to local context was inevitable and could be beneficial.
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38 *Journey of the idea*

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40 While it was generally acknowledged that Childsmile was being implemented as intended, it
41
42 was evident that key ideas had been translated into practice to differing degrees. This is
43
44 unsurprising in light of the numerous factors identified as influencing the passage of
45
46 knowledge and ideas into action (e.g. Best & Holmes, 2010; Graham et al., 2006).
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48 Accounts of the extent to which translation had occurred, fitted with, and can be further
49
50 illuminated by, considering them in the context of, Smith's (2007) categorisation of
51
52 'successful', 'partial' and 'fractured' journeys. The journeys of two key ideas, pertaining to the
53
54 development of Childsmile's workforce, are used as illustration: the extension of the role of
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56 dental nurses and the creation of a Dental Health Support Worker (DHSW) role.
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1 Respondents' perceived the creation of the EDDN role as a *successful* journey.

2 Interestingly, the idea of adopting a 'skills mix' approach within the dental practice setting
3 arose from the need to address a problem: dentists did not have the capacity to deliver
4 Childsmile's extra health promotion activity. Moreover, a perceived lack of UK evidence was
5 acknowledged, although respondents did recognise their use of international evidence of
6 similar dental nurse role extensions and the successful introduction of the skill mix approach
7 in the general medical context as a basis for advocating the role extension. The perceived
8 success of the role, evidenced by the number of nurses trained and their satisfaction levels,
9 was viewed as a major achievement. This was underscored by the perceived difficulty of
10 translating this idea into practice. Respondents described working through a regulatory
11 environment and pushing boundaries to gain General Dental Council (GDC) approval for the
12 role:
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40 "we've been pushing at the regulatory envelope for what you're allowed to
41 do with people, because the regulations were never designed with a public
42 health setting in mind, they were designed to protect dentists working in a
43 dental practice..." (Respondent C)
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66 Again the issue of timing was critical, a change in policy with regard to GDC Dental Nurse
67 registration was seized as an opportunity to extend the nurses' roles.

68 In some contrast, actors' accounts suggested that the DSW role went through a *partial*
69 journey. While many aspects of the original vision for this role were translated, several
70 respondents questioned whether a key principle behind the role creation, that of DSWs
71 being community peers that parents could identify with, had been lost due to the wider
72 economic context.

1 The role was originally based on key stakeholders' and other demonstration programmes'
2 (e.g. Starting Well's) experience of lay health workers. Thus, it was envisaged that DHSWs,
3 recruited from the community in which they would work, would support families to access
4 dental care. However, several respondents explained that the wider economic context had
5 influenced the characteristics of candidates who applied for posts. Those who were
6 appointed were often more qualified than required and did not come from similar
7 backgrounds to those they were employed to support. Some NHS Boards were obliged to
8 put the post through a redeployment system prior to external advertising:
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20 "...our initial ideas were that the health support workers would come from
21 the community, actually the reality is they're from more kind of health
22 service, so the reality of trying to deliver it is you're in a NHS model..."
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26 (Respondent A)
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31 Another early principle underpinning the role, that DHSWs would employ a community
32 development approach, had not translated fully into practice. Respondents spoke of
33 considerable ambiguity around what 'community development' meant and as a result this
34 aspect of the original vision for the role lost focus and was reduced to sign-posting to
35 community activities:
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44 "...everything quite quickly got so focused on the practice side of it, I don't
45 know that that [community development] was kept to the forefront, or was in
46 the thought process, I think that bit did get lost..." (Respondent I)
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53 The findings support Smith's (2007) observations that ideas are open to interpretation once
54 removed from research findings and that external contextual factors influence how far ideas
55 travel on their journey into practice. Our findings also suggest that, to be translated, ideas
56 need to be transparent and easily communicable.
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Concluding Discussion

1
2 This paper has considered the Childsmile case to explore the processes involved in the
3
4 conceptualisation and implementation of a complex, national, NHS initiative. The authors'
5
6 unique positions within Childsmile's evaluation team afforded a rare opportunity to explore
7
8 the origins of public health practice within the Scottish context. Several respondents noted
9
10 that they appreciated the chance to reflect on their involvement.
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15 Childsmile was conceived, funded and developed in response to growing recognition of a
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17 problem and planned on the basis of best available research evidence, tacit knowledge and
18
19 experience from previous initiatives. The programme was initially shaped by prevailing
20
21 political ideology, open to some extent to direct political influence and continually aligned
22
23 with new policy developments in a process of consolidation.
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29 In the context of a substantial divide between the rhetoric of evidence based policy and
30
31 practice and what happens on the ground, Childsmile can be viewed as successful example
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33 of knowledge translation. The Childsmile story, as told by key proponents, closely fits
34
35 Kingdon's (2011) model; Childsmile demonstrated that an opportunity to develop a policy
36
37 ('policy window') occurred as the recognition of a problem converged with the availability of
38
39 policy solutions and political will to provide solutions.
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44 Where gold standard evidence was lacking, stakeholders looked to their own tacit
45
46 knowledge and experience. This contributed to a sense of freedom to innovate, as did the
47
48 lack of detail in the policy document introducing the initiative. The need for innovation can be
49
50 viewed not as a weakness but instead as an opportunity. As Ludbrook (2011) explains
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52 'evidence should not be the enemy of innovation where there is a sound basis for action.'
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55 Over time, with evaluation in place, the programme looks towards the evidence it creates
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57 from its own delivery.
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The prominence of ideas within the thematic analysis supports Weiss's (1977) and Smith's (2007) view that it is 'ideas' that influence the policymaking process. Individuals and networks were viewed as central to the development of ideas and ultimately the ability to develop and deliver the programme. Similarly to Jung et al. (2010), a strong sense of a supportive Scottish context was conveyed in respondents' accounts. The size of the country, and its relatively small public health community with strong networks and connections between academics, practitioners and policy makers, allowed distinctive policy directions to be taken (Jung et al., 2010).

Childsmile supports Smith's (2007) concept of the differing types of journey that ideas can take on the road to delivery. While, on the whole, the programme was perceived as being delivered as conceived, interpretation of ideas, tailoring to local context within boards, the wider social and economic environment, and the need to work within regulations all impacted on the translation of ideas into practice, and thus the extent of influence of Childsmile's original drivers (evidence, experience etc.). Some respondents described a sense of losing some aspects of the shared vision as they recalled the original ethos of the programme. However, on-going evaluative feedback provided an arena for stakeholders to review the journey of specific ideas and take action to enable successful journeys, where this was thought beneficial. One such example would be DHSWs' community-development remit.

On returning to the question posed in our title, we conclude that Childsmile can be described as an example of 'intelligent policy making' (Sanderson, 2009). Sanderson (2011) elaborates:

"from Deweyan pragmatism derives a framework of 'practical rationality' within which policy making is a deliberative process to derive 'appropriate' courses of action on the basis of 'intelligence', comprising the best available scientific evidence together with other forms of valid knowledge – the

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practice wisdom and tacit knowledge of practitioners, the views of interest groups and citizens”

A key concept within Sanderson’s vision of “intelligent policy making” is the aspiration for policies and resultant action to be more realistically ‘evidence-informed’ (based on ‘best-available evidence’, tacit knowledge and experience which can be tested through interventions) rather than ‘evidence-based’ (based purely on rigorous scientific evidence of what works). This description matches that of Childsmile’s developmental origins.

This paper is a step towards addressing an identified gap in understanding how evidence is used by actors in different contexts, by drawing upon their own perceptions and understanding of the processes involved (Sanderson, 2011; Smith, 2007). Case studies have inherent strengths such as affording rich understanding through in-depth analysis. Although a single case study can be limited on grounds of generalizability, cross-study analysis, comparing and contrasting findings across different contexts, can add to the wider knowledge base. When studied at a national level as in the Childsmile case, the potential for international comparison exists.

While in the current economic climate, there is always the danger that the richness of a flexible delivery model, which responds to on-going learning and programme improvement through evaluation and practitioner experience will be rationalised, the conclusion that Childsmile can be described as an example of ‘intelligent policy making’, gives reason to be optimistic about the future of healthcare provision in Scotland.

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