Equipping the dental workforce to safeguard children from maltreatment and manage dental neglect

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Dedication

This work is dedicated to family. To my family, for the joy we have shared. To the families I have worked with, for all they have taught me.

Abstract

Safeguarding children is everybody's responsibility and a dental team responsibility. Studies were conducted on the theme of equipping the dental workforce to protect children at risk of maltreatment and to manage dental neglect.

Paper 1 is a narrative review with case examples outlining the scope of safeguarding issues in child dental health. It addresses interpretation of oral findings as indicators of abuse and neglect, dental professionals' contribution to child protection and ways to enhance working with paediatricians.

Papers 2 and **3** report on a 2005 cross-sectional postal survey of UK paediatric dentists' child protection training, experience and practice. Of 449 participants (62% response rate), 67% had 'ever suspected' abuse but only 29% had 'ever referred' to children's services. The commonest self-acknowledged barrier was lack of certainty about the diagnosis (78%). 60% saw children with neglected dentitions daily. Findings informed the design of nationally-distributed guidance, *Child protection and the dental team*, evaluated in **Paper 4.** Views of 451 NHS practitioners surveyed (47% response rate) revealed insights on its influence on practice.

In 2016, **Paper 5** returned to survey paediatric dentists '11-years-on' from Papers 2 and 3. 'Ever suspected' and 'ever referred' had increased to 82% and 61%, with a step-change in child protection experience (≥5 referrals in 5 years up from 0.4% of dentists to 14.6%); barriers to referral had reduced. The proportion seeing dental neglect daily was unchanged.

Papers 6-9 describe and evaluate further initiatives and innovations to support safeguarding practice: a national policy document, a paediatric liaison nursing communication pathway and a 'was not brought' pathway.

Conclusion: The UK dental profession has been supported to contribute to safeguarding children at risk of maltreatment and manage dental neglect. Progress is evidenced by substantial change in self-reported knowledge, experience and practice. Scope for further improvement remains and continued support is necessary.

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Table 1 Author contributions to included published work (Papers 1-9)

	Concept	Study design and methodology	Data (or literature) acquisition	Data analysis	Interpretation and discussion	Manuscript drafting	Manuscript revisions and final approval
Jennifer Harris *	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 2, 3, 5, 6, 8, 9	1, 2, 3, 5, 6, 7, 8, 9	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 2, 3, 4, 5, 6, 7, 8, 9
Claire Elcock		2, 3, 5	2, 3, 5	2, 3, 5	2, 3, 5		2, 3, 5
Peter Sidebotham *		6	6		2, 3	6	2, 3, 6
Richard Welbury	2	2, 3			2, 3		2, 3
Jane Bradbury		4	4	4			4
Jenny Porritt				4	4	4	4
Firoozeh Nilchian				4			4
Chris Franklin	4				4		4
Sarah Baker				5	5	5	5
Lucy Ridsdale		6	6	6	6	6	6
Fiona Gilchrist			6		6	6	6
Richard Balmer *	6	6	6	6	6	6	6
Ruth Skelton					6	6	6
Charlotte Spencer			7	7		7	7
Halla Zaitoun	7	7	7	7	7		7
E. Jane White		7			7		7
Jennifer Kirby		8	8	8	8	8	8

Key to numbered papers:

1 Harris, *Arch Dis Child*, 2018
2 Harris, Elcock, Sidebotham and Welbury, *Br Dent J*, 2009a
3 Harris, Elcock, Sidebotham and Welbury, *Br Dent J*, 2009b
4 Harris, Bradbury, Porritt, Nilchian and Franklin, *Br Dent J*, 2011
5 Harris, Baker and Elcock, *Int J Paediatr Dent*, 2022
6 Ridsdale, Gilchrist, Balmer, Skelton, Sidebotham and Harris, *Int J Paediatr Dent*, 2024 (* asterisk indicates authors of both the original 2009 document and the 2024 update)
7 Spencer, Zaitoun, White and Harris, *Br Dent J*, 2019
8 Kirby and Harris, *Br Dent J*, 2019
9 Harris, *Br Dent J*, 2021

Table 2 Key characteristics of included papers and overview of results and recommendations

	Author/s (year)	Title *Journal*	Study design	Context	Further description	Key content/findings	Importance of findings and/or recommendations
1	Harris (2018)	The mouth and maltreatment: safeguarding issues in child dental health *Archives of Disease in Childhood*	Invited narrative review with case examples	Working with paediatricians and other non-dental health care professionals	81 references, 15 case examples	The dental team can contribute to child protection by: • Recognition and response to signs of maltreatment in children and young people receiving dental care • Diagnosis, assessment of children's needs and planning when child protection concerns have been raised • Dental rehabilitation of neglect or oral injury	• New ways of interdisciplinary working must be developed to make better use of the combined skills of paediatricians and paediatric dentists • Strategic direction is needed to encourage research collaboration and avoid the topic falling through the gap between medicine and dentistry • Reciprocal input to medical and dental training at all levels would foster an understanding of each other's roles • Properly commissioned dental safeguarding leadership is needed
2	Harris, Elcock, Sidebotham and Welbury (2009a)	Safeguarding children in dentistry: 1. Child protection training, experience and practice of dental professionals with an interest in paediatric dentistry *British Dental Journal*	Cross-sectional postal survey	Paediatric dentistry national society, UK	789 mailed to all BSPD members in 2005 RR = 62.1% 490 analysed	• Post-qualification child protection training was not universal (87%) • 67% had ever suspected abuse; only 29% had ever referred: a 38% gap between recognising and responding • Record keeping regarding observations and concerns was not universal (82%) • Low levels of involvement in multi-agency management of maltreatment • Top self-acknowledged barrier to referral was lack of certainty about the diagnosis (78%); lack of knowledge of referral procedures was also a notable barrier (32%) • Only 1.5% had referred ≥3 cases in the previous 5 years	Child protection training must: • Improve • Include discussion of the perceived barriers to referral • Address common misconceptions • Ensure an adequate emphasis on response to child maltreatment, not simply its recognition • Be made mandatory Dental professionals need access to: • Dentally relevant child protection guidance • Advice • Reporting protocols • Local information
3	Harris, Elcock, Sidebotham and Welbury (2009b)	Safeguarding children in dentistry: 2. Do paediatric dentists neglect child dental neglect? *British Dental Journal*	Cross-sectional postal survey	Paediatric dentistry national society, UK	789 mailed to all BSPD members in 2005 RR = 62.1% 41 excluded 449 analysed	• 81.0% reported seeing children with neglected dentitions weekly (59.9% did so once daily or more often; 6.6% less than once a month) • High proportion always/sometimes implemented dental team actions (90%+) • Low proportion always/sometimes undertook multi-agency communication (57.7% discuss with other health professional, 4.1% refer to social services)	Dental professionals need access to: • Dental neglect guidance applicable to a UK setting • Administrative support • Modified diary schedules

(cont. ...)

	Author/s (year)	Title *Journal*	Study design	Context	Further description	Key content/findings	Importance of findings and/or recommendations
						• Multi-agency actions were more likely by those with postgraduate child protection training than without (OR 4.90), and by specialists than non-specialists (OR 2.52) • Salaried services dentists were more likely to 'discuss with other health professional' than those working in general practice or hospital settings (OR 3.48)	(…cont.) Further research is needed to: • Explore the relationship between dental neglect and general neglect • Determine evidence-informed thresholds for referral
4	Harris, Bradbury, Porritt, Nilchian and Franklin (2011)	NHS dental professionals' evaluation of a child protection learning resource *British Dental Journal*	Postal survey and mixed method evaluation	NHS dental practices, England	1,000 mailed to a random sample from NHS BSA in 2008, two years after distribution of CPDT RR = 46.7% 451 analysed	• 62.4% remembered receiving CPDT handbook or seeing the website and, of those, 92.6% had used it Of the 265 who had used it: • 75.1% had internet access at work; 90.3% could find handbook or website if needed; 76.2% had used it personally to improve knowledge, 68.4% as part of their dental team; • 'as a result of using it' 53.7% had identified a child protection lead, 60.5% had adopted a written child protection policy and 25.8% had arranged training • 3 respondents (1.2%) had made a child protection referral in the past two years • more than 75% agreed/ strongly agreed that it had improved their understanding of responsibilities, ability to recognise signs, know what to do, know where to find support and improved confidence • other influences: attending a course or lecture, reading journal articles, PCT clinical governance requirements and media reports	• Showed CPDT had influenced practice more than anticipated for a written educational resource • Provided insight into other influences on practitioners' knowledge, attitudes and practice • Confirmed that dental teams are active in making child protection referrals • Non-dentist team members also responded, confirming their involvement
5	Harris, Baker and Elcock (2022)	Paediatric dentists' role in child protection practice: progress over time? *International Journal of Paediatric Dentistry*	Repeated cross-sectional postal survey	Paediatric dentistry national society, UK	Repeat of the 2005 survey 575 mailed to all BSPD members in 2016 RR = 62.4% 295 analysed	• Post-qualification training was almost universal in 2016 (99.7%, p=0.000) • Proportion who had ever suspected maltreatment had increased (67.9% to 82.3%, p=0.000) and ever referred increased (30.7% to 61.0%, p=0.000); the gap between recognising and responding had narrowed to 21.3% in 2016 • More dentists in 2016 had made referrals on numerous occasions (≥5 referrals in 5 years up from 0.4% to 14.6%) • No change in frequency of seeing children with neglected dentitions • Self-acknowledged barriers to making referrals reduced • A subgroup who had 'suspected but never referred' were distinguished from those who had 'suspected and referred' by their 'lack of knowledge of referral	• Showed a step-change in the UK dental profession's level of child protection experience • And this in a field where previous studies globally have demonstrated a widespread, persistent and worrying shortfall in child protection training, experience and practice • Described the interacting factors that may have achieved this change • Highlighted the need for further guidance, advice, organisational and administrative support to help dental professionals protect (cont. …)

	Author/s (year)	Title *Journal*	Study design	Context	Further description	Key content/findings	Importance of findings and/or recommendations
						procedures' and 'lack of certainty about the diagnosis' (p=0.000), and by wanting to 'discuss suspicions with a dental colleague' before taking action (p=0.000)	(cont. ...) children at risk • Recommends developing a cohesive research agenda to determine the best strategy to reach those dentists left behind
6	Ridsdale, Gilchrist, Balmer, Skelton, Sidebotham and Harris (2023)	British Society of Paediatric Dentistry: A policy document on dental neglect in children *International Journal of Paediatric Dentistry*	National society policy and guidance	All sectors of dentistry, UK	Update to Harris, Balmer & Sidebotham (2009) Focus group, consultation on draft version, 64 references	• Defines dental neglect in the context of a contemporary UK understanding of child neglect • Acknowledges it may occur in isolation or be part of a wider picture of abuse and neglect • Details the impact on the child and factors to consider when assessing for dental neglect • Recognises that children with disabilities are more vulnerable to maltreatment and have the right to extra help and special care • Recommends a tiered response, with 3 stages of intervention according to level of concern • Makes recommendations for improvements in treatment provision, working together with other health and social care professionals, service organisation and training • Highlights the need for further research	• Thought to be the first dental neglect guidance in Europe when originally published in 2009 • Since then, widely adopted in the UK and beyond • In 2024, the recommendations remain broadly unchanged, but the document reflects progress made, changes in terminology and addresses the needs of both dental and non-dental health and social care professional audiences
7	Spencer, Zaitoun, White and Harris, (2019)	Role of the dental hospital-based paediatric liaison nurse in safeguarding children *British Dental Journal*	Pathway description and evaluation	Dental hospital	All children referred in 3-month period (n=104) in 2016	• Describes a 2-way communication pathway between dental hospital and public health nurses to facilitate information sharing about safeguarding concerns • Commonest reasons for dentists' referrals to PLN were dental neglect (66%) and missed appointments (50%) • Referred children were younger, more likely to require GA and to need more teeth extracted than those not referred to PLN; 89.4% lived in IMD quintiles 4 or 5 • New information obtained by the PLN prompted the dental team to make a child protection referral to social services in 6.7% of cases • Only 4 of 14 other UK hospital paediatric dentistry units had access to dental-specific PLN support or equivalent	• First description in the dental literature of a dental hospital-based paediatric liaison nursing service • Pathway meets recommendations of the triennial analysis of SCRs 2011-14, namely that communication must be two-way, must follow agreed pathways and be triangulated and verified • This evidences how the PLN role, working alongside hospital dental teams, can expand dentistry's contribution to safeguarding children

	Author/s (year)	Title *Journal*	Study design	Context	Further description	Key content/findings	Importance of findings and/or recommendations
8	Kirby and Harris (2019)	Development and evaluation of a 'Was Not Brought' pathway: a team approach to managing children's missed dental appointments *British Dental Journal*	Pathway development, description and mixed method evaluation	Community dental service	All children not brought in 8-month period (n=134 missed appointments, 91 children) in 2016	• States the requirements for an ideal WNB pathway and describes a newly devised pathway (WNB-CYP) • Of 1,238 appointments in an 8-month period, 134 were missed (WNB rate 10.8%) by 91 patients • WNB-CYP was followed consistently for 84.3% of WNBs (and 89.3% when later rolled-out city-wide) • When used, 71% of WNBs were rebooked after communication with parents within three weeks • Written information was shared with GMPs and other health and social care professionals for 27.5% WNB children and 1 child protection referral was made • Staff reported high levels of engagement and pathway acceptability; that it relieved uncertainty and supported decision-making, teamwork and interprofessional communication without increasing daily workload	• WNB-CYP provides an easy-to-follow way of facilitating early and consistent sharing of information about missed dental appointments • Improves dental team confidence, thus addressing the main self-reported barrier to making child protection referrals, 'Lack of certainty about the diagnosis', in relation to missed appointments (one of the commonest presentations of suspected maltreatment in dentistry) • Has since led to 3 further pathways and a BDA implementation guide • BDA promotes WNB-CYP for all practices and 51% use it (unpublished 2022 survey)
9	Harris (2021)	Of babies and bathwater: balancing support and challenge in a 'was not brought' approach to children's missed dental appointments *British Dental Journal*	Opinion	All sectors of dentistry, UK	18 references, 10 case examples (reproduced from Harris, 2018)	• Produced in response to a BDJ Letter to the Editor • Aims to encourage implementation of the full WNB-CYP pathway by reflecting on the reasoning behind certain deliberate features of the WNB-CYP pathway and the place of the WNB approach within the wider context of dentistry's involvement in safeguarding children • Gently corrects error to discourage watering down designed features of WNB-CYP • Highlights features of particular concern when diagnosing dental neglect • Includes 10 selected examples of safeguarding concerns observed in specialist paediatric dental practice	• Raises awareness of the WNB-CYP pathway • Mentions two new variant pathways (WNB-CCP/LAC and WNB-O) • Introduces the concept of 'support and challenge'

Key: BDA=British Dental Association; BDJ=British Dental Journal; BSPD = British Society of Paediatric Dentistry; CPDT = guidance handbook/website, *Child protection and the dental team: an introduction to safeguarding children in dental practice*; GDP = general dental practitioner; NHS BSA = NHS Business Services Authority; OR = odds ratio; PLN = paediatric liaison nurse; RR = response rate; SCR = Serious Case Review; WNB = was not brought; WNB-CYP, WNB-CYP/LAC, WNB-O = Sheffield Community & Special Care Dentistry's 'was not brought' pathways for children and young people, children who are the subject of a child protection plan or looked after or orthodontic patients.

Preface

The train trundled through the Peak District as we reached the final leg of our journey home. Over the previous three days in Dublin, I had been in the now familiar position of being the only dentist at a conference for child protection professionals. With my own oral presentation completed on the first morning, I had then sought out sessions to match my academic interests. I was now heading back to Sheffield with new-found friends who had themselves presented work on neglect: a social work PhD student and a Professor of Child Welfare. As views of the Hope Valley whizzed past the windows, Professor Jan Horwath turned to me and asked what research I was planning next. I had several ideas in the pipeline but, as a busy NHS clinician with an honorary University contract and numerous other responsibilities both at work and home, I felt my options were limited. *"You should do a PhD by publication,"* she said.

When I enquired of colleagues in the School of Dentistry, no one seemed to have heard of the 'by publication' route, but the description seemed written for me: *"...offered only to staff, as an alternative to the standard PhD [...]. It is designed to enable recognition of the research activities of those [...] who have published work but have not completed a PhD [...]."*

I would be required to produce a commentary linking my published work and outlining its coherence and significance. I would need to demonstrate a capacity to pursue research and scholarship, and make an original and substantial addition to knowledge, at least equivalent to a PhD in amount and quality. For co-authored publications, I would have to make my own individual contribution clear and explain the circumstances in which the work had been conducted. Finally, I would submit a CV with a focus on my research career and sit an oral examination.

When, in early 2024, I could at last make this long-held plan a priority, I did so. And here it is.

Declaration

I, the author, confirm that the thesis is my own work. I am aware of the University's 'Guidance on the Use of Unfair Means' (www.sheffield.ac.uk/ssid/unfair-means). This work has not previously been presented for an award at this, or any other, university.

Previously published peer-reviewed papers included in the thesis are listed on page 12. The copyright statements for each publication are provided in Appendix 1 (p. 115). Table 1 (p. 14) details the contributions made by me and my co-authors to each of the included publications. Table 2 (p. 15) describes the key characteristics of each paper, accompanied by a concise overview of the results and recommendations of each.

Jennifer Harris

05 December 2024

Abbreviations

ACPC	area child protection committee
AoCPP	Association of Child Protection Professionals (formerly BASPCAN)
BASPCAN	British Association for the Study and Prevention of Child Abuse and Neglect (now AoCPP)
BDA	British Dental Association
BSPD	British Society of Paediatric Dentistry
CDO	Chief Dental Officer (see also OCDO)
CD-ROM	compact disc read-only memory
CPDT	Child Protection and the Dental Team project/handbook/website
COPDEND	Committee of Postgraduate Dental Deans and Directors
CDS	community dental service
CPD	continuing professional development
CPP	child protection plan
CQC	Care Quality Commission
CYP	children and young people
DCP	dental care professional
DHE	Department of Health England
DNA	did not attend
GA	general anaesthesia
GDC	General Dental Council
GDS	general dental service

GDP	general dental practitioner
GMP	general medical practitioner
HDS	hospital dental service
IAPD	International Association of Paediatric Dentistry
IMD	Index of Multiple Deprivation
IOC	International Orthodontic Congress
IT	information technology
LAC	looked after child
LSCB	local safeguarding children board (now LSCP, local safeguarding children partnership)
NHS BSA	NHS Business Services Authority
NICE	National Institute for Health and Care Excellence
OCDO	Office of the Chief Dental Officer (see also CDO)
PLN	paediatric liaison nurse
PCEC	Policy & Clinical Effectiveness Committee in Paediatric Dentistry
PCT	primary care trust
PHN	public health nurse
QIRC	Quality Improvement & Research Committee
SCR	Serious Case Review (now Child Safeguarding Practice Review)
WNB	was not brought
WNB-CYP	Sheffield WNB pathway for children and young people
WTSC	Working Together to Safeguard Children

Chapter 1 Introduction

1.1 Child maltreatment

1.1.1 Child abuse and neglect

Child maltreatment (abuse and neglect) is a global public health problem (International Society for the Prevention of Child Abuse and Neglect (ISPCAN), 2018). Its impacts are multiple and far-reaching, not only damaging an individual's health and development in childhood but also causing numerous adverse effects lasting throughout the life course (Gilbert *et al.*, 2009; Radford *et al.*, 2013).

1.1.2 Child protection

Under the United Nations Convention on the Rights of the Child (UNCRC), ratified by the UK in 1991, children have a right to be protected from harm, including all forms of violence, abuse and neglect, and harm from drugs, sexual exploitation, trafficking and cruel punishment (Office of the United Nations High Commissioner for Human Rights, 1989).

The term 'child protection' describes the measures taken to protect those who are suffering, or suspected to be suffering, significant harm because of maltreatment (HM Government, 2023). Professionals working with children have a legal and ethical duty to act to protect children if they have concerns that a child is being abused or neglected (HM Government, 2023). In the UK, the statutory responsibility for child protection is shared by children's social services, health services and the police.

1.1.3 Safeguarding children

Child protection sits within a wider context of 'safeguarding and promoting children's welfare'. This includes providing early help and support as soon as problems are identified, preventing adverse impacts on children's health and development and enabling children to attain their full potential (HM Government, 2023).

Although organisational arrangements for safeguarding children remain subject to constant evolution, there has been since the late 1990s an unchanging underlying

expectation of multi-agency working, information sharing and partnership working between different agencies and together with children and their families (Department of Health, Home Office and Department for Education and Employment, 1999).

1.2 Dentistry for children

1.2.1 Children's oral health

Oral health is an important contributor to overall health and wellbeing, yet 3.5 billion people are affected by oral diseases, making these the most widespread of all conditions and diseases (World Health Organisation, 2022). Untreated dental caries (tooth decay) in permanent teeth is the commonest health condition worldwide despite being largely preventable (World Health Organisation, 2022). Marked inequalities are seen globally in both disease experience and in access to dental care (Peres *et al.*, 2019; Watt *et al.*, 2019). These inequalities are mirrored in the UK in both children and adults, with high levels of untreated dental disease strongly associated with social deprivation, and dental services unequally distributed (Steele and O'Sullivan, 2011; National Statistics, 2015; Mills, 2020).

Dental disease and its treatment results in multiple impacts on children and their families. It can cause pain, infection, difficulty sleeping and eating, missing school and social activities, often requiring parents to take time off work (Gilchrist *et al.*, 2015; Tsakos *et al.*, 2015). Tooth decay is the commonest reason for children aged five to nine years to be admitted to hospital, with decay-related tooth extractions costing the NHS an estimated £40.7 million per year. Children living in the most deprived communities are almost 3.5 times more likely to need a decay-related hospital episode of care than those living in the most affluent areas (Office for Health Improvement and Disparities, 2024).

1.2.2 Dental services

The majority of children in the UK receive dental care from the general dental service (GDS), also known as family dentists or high street dental practices. These are

independent contractor providers of NHS services (Baird and Chikwara, 2023). Children's NHS dental treatment is free-of-charge at the point of delivery.

In addition, NHS dental services are provided by salaried staff in the community dental service (CDS, also known as the salaried primary dental care service) and hospital dental service (HDS). The CDS provides care for eligible children who are unable to access GDS care: often because they have particularly high levels of untreated dental disease, have additional needs, perhaps require specialist dentistry or because they live in underserved communities. Hospital dental services provide a range of treatment on referral across the dental specialities, including treatments requiring general anaesthesia such as multiple dental extractions. Despite the clear differences in remit, children experiencing maltreatment could present for dental care in any setting - GDS, CDS or HDS. Currently there is also a small but growing private sector for both generalist and specialist dental care.

In the 12 months to 30 June 2023, 52.7% of children were seen by an NHS dentist (NHS Digital, 2023), down from 58.6% in 2018 prior to the pandemic (NHS Digital, 2018). Although not directly comparable, earlier data from the Child Dental Health Survey 2013 put self-reported regular attendance among 12 and 15-year-olds much higher at 81% and 82% (Health and Social Care Information Centre, 2015). Until then, children's attendance 'for a check-up' had climbed steadily over the preceding four decades (Murray, Vernazza and Holmes, 2015).

1.2.3 Dental professionals

When attending a dental appointment, children are commonly seen by several members of the dental team, a team usually led by a dentist. The dentist may be either a generalist (general dental practitioner, GDP) or a specialist. In the UK, dental professionals are regulated by the General Dental Council (GDC) which holds lists of registered dentists and dental specialists (three specialities - Paediatric Dentistry, Orthodontics and Oral Surgery - being those most often caring for children) and dental care professionals (DCPs), a term which includes dental nurses, dental hygienists, dental therapists and orthodontic therapists.

The dental team must adhere to standards of conduct, ethics and performance and must work within the scope of practice specific to their role (General Dental Council, 2013c; General Dental Council, 2013a). Non-clinical staff, such as receptionists and practice managers are also essential members of the dental team.

1.3 Safeguarding and child oral health

1.3.1 The interface between dentistry and safeguarding children

The dental team, like all other healthcare teams, has an important part to play in working together with other agencies to safeguard children (Harris *et al.*, 2006; HM Government, 2006; Fisher-Owens *et al.*, 2017). Unique factors related to the nature of dental disease, the structure of dental services, the dynamics of the dental team itself and of dental professionals' interaction with children and their families all affect how this role is performed (Welbury *et al.*, 2003). For this reason, the interface between dentistry and safeguarding children merits consideration - this is the context of my thesis.

1.3.2 Assumptions

In keeping with practice in UK health and social care during the time period this work was undertaken (2004-present), I took as my starting point a rights-based approach and the paramountcy principle; children have a right to protection from harm (Office of the United Nations High Commissioner for Human Rights, 1989) and the welfare of the child is paramount (Children Act, 1989). I chose not to question the philosophy behind these principles, while acknowledging there might be value in doing so. Instead, I chose to accept them at face value and adopt a pragmatic approach.

My own research interests are rooted in exploring the practical outworking of dental teams' professional duty in a contemporary UK context, motivated by a desire to discover, initially for myself and then to share with colleagues, what it looks like for an ethical dental practitioner to safeguard children. Therefore, I have used throughout this thesis the definitions of physical, emotional and sexual abuse and neglect as detailed in the statutory guidance applicable in England, *Working Together*

to Safeguard Children (WTSC)(Department of Health, Home Office and Department for Education and Employment, 1999; HM Government, 2006; HM Government, 2023). These are definitions which apply to all the agencies involved in child protection and which, although broad in nature, have undergone only minor change in successive versions.

While my work is located primarily within dentistry, multiagency working forms a thread running through this commentary. This brings valuable opportunities for learning from other disciplines but also introduces communication challenges, notably differences in approach and professional language. Purkis *et al.* (2023)(p. 328) capture this eloquently when relating a social worker's experience of interprofessional practice in a paediatric dentistry clinic:

> *When social workers enter a career in healthcare, they encounter the language of illness and disease (Mizrahi & Abramson, 1985), which is foreign to social workers, since they are used to strengths based practice. Their perspective of person-in-environment and use of a biopsychosocial framework naturally avoid language that pathologizes or seems judgmental of the client.*

At an early stage I recognised that this phenomenon carried with it a risk of misunderstanding, particularly when making clinical judgements about dental neglect. Yet use of the term 'dental neglect' would be essential to describe the problem and seek solutions. In using this terminology, whether as practitioner or researcher, I do not intend to be judgemental of the patient or parent or to convey blame (see also Section 5.2.1, p. 87).

Notwithstanding the aforementioned consistency of WTSC definitions, the concept of child maltreatment is somewhat dynamic. Both the place of children in society and the definition of child maltreatment have changed dramatically over the centuries. Furthermore, at any given time, maltreatment is defined and understood differently by different professional groups and by individuals within those groups. In the time period studied, this has been most pronounced in relation to dental neglect and influences the interpretation of some of my data. For clarity, I have adopted a broadly chronological approach in my thesis, so that our understanding is seen to evolve. However, an exception is made for the first included publication which serves

to set the scene but was written once the issues were somewhat better understood than at the outset.

1.3.3 The scope of safeguarding issues in child dental health

The first of my included publications (Paper 1) is a narrative review outlining the scope of safeguarding issues in child dental health, illustrated with brief case examples (Harris, 2018). It considers the interpretation of oral findings as indicators of maltreatment and discusses the contribution that dental professionals can make to child protection. Written at the invitation of the Editor in Chief for the journal of the Royal College of Paediatrics and Child Health, *Archives of Disease in Childhood*, it also explores the potential for enhancing how dentistry works together with paediatricians.

This paper draws on contemporaneous medical and dental research literature, including that related to oral health related quality of life, alongside authoritative evidence-based reviews and guidance documents including, from the UK, those of NICE (National Collaborating Centre for Women's and Children's Health, 2009), the Cardiff Child Protection Systematic Review Group (Bhatia *et al.*, 2014; Royal College of Paediatrics and Child Health, 2017b; Royal College of Paediatrics and Child Health, 2017a) and the contemporaneous triennial analysis of serious case reviews (SCRs)(Sidebotham *et al.*, 2016).

1.3.4 Published work: Paper 1

Paper 1 Harris, J.C. (2018) The mouth and maltreatment: safeguarding issues in child dental health, *Archives of Disease in Childhood*, 103(8), 722-729. https://doi.org/10.1136/archdischild-2017-313173

The mouth and maltreatment: safeguarding issues in child dental health

Jenny C Harris[1,2]

From the first cry of a newborn baby, the first smile, first tooth, first word, the mouth plays a key role in children's health and development. It benefits from a whole team of dental health professionals dedicated to maintenance of its essential and lifelong functions in communication and feeding. Sometimes the mouth becomes the focus of abuse or neglect. In the context of safeguarding and promoting welfare, both dental *health* and dental *care* are recognised as notable aspects of children's needs.[1 2] Nevertheless, it is uncommon for paediatricians and dental professionals to work sufficiently closely together to ensure that oral health is fully included in multiagency assessment and planning for children experiencing maltreatment.

The aim of this article is to outline the scope of safeguarding issues in child dental health. It will consider the interpretation of oral findings as indicators of maltreatment, discuss the arguably underused contribution that dental professionals can make to child protection and will explore the potential for enhancing working together with paediatricians. The intention is to stimulate discussion and debate.

ORAL SIGNS OF CHILD MALTREATMENT

Examination of the mouth '*should be part of every child protection assessment that the paediatrician undertakes*'.[3] Anything less should be recognised as an incomplete examination of the child. However, it is acknowledged that doctors may not recognise oral signs of maltreatment as readily as those affecting other parts of the body.[4 5] If there is obvious dental decay or other pathology, the child should be referred for a dental opinion.[3] While dental decay (caries) as a potential indicator of neglect is the most obvious sign, signs of physical abuse, sexual abuse and conditions associated with emotional harm may all be observed in the oral cavity.

Dental caries and dental neglect

Dental caries is one of the most common diseases of childhood both in the UK and worldwide. In the Child Dental Health Survey 2013, 31% of children aged 5 years in England, Wales and Northern Ireland had obvious decay experience in their primary teeth and 46% of individuals aged 15 years in their permanent teeth. Despite access to free National Health Service (NHS) treatment, disease in 28% of children aged 5 years and 21% of individuals aged 15 years remained untreated and was classed as severe or extensive in 13% and 15%, respectively.[6] UK trends since the 1970s indicate a falling prevalence overall, but this preventable disease is now concentrated in a minority of children,[7] being strongly associated with social deprivation. Higher than average levels of decay are also reported internationally in various vulnerable groups, including children maltreated, looked after, with a history of adverse childhood experiences and those of substance-using parents.[8–13] Among these, some suffer dental neglect, defined in the UK as '*the persistent failure to meet a child's basic oral health needs, likely to result in the serious impairment of a child's oral or general health or development*'.[14]

The sequelae of untreated dental caries include acute or chronic pulpitis or periapical periodontitis (all of which can cause toothache of varying severity), dental abscess, facial swelling, discharging sinus (whether intraoral or on the face) or spreading and occasionally life-threatening orofacial infection.[15] Children complain of stopping playing, difficulty eating and sleeping and of not going to school[16] or being tired at school.[17] Further adverse impacts include unsightly dental appearance and, particularly in preschool children, failure to thrive and reduced quality of life.[18] If awaiting treatment, for example general anaesthesia for tooth extraction or restoration, repeated antibiotics may be needed as an interim measure. A now significant body of evidence shows that receiving appropriate dental treatment results in catch-up growth and improved quality of life.[18]

Dental caries has a complex aetiology. Caries risk status is determined by a large number of physical, biological, environmental, behavioural and lifestyle-related factors. These include high numbers of cariogenic bacteria, inadequate salivary flow, insufficient fluoride exposure, poor oral hygiene, frequent dietary sugar consumption, method of infant feeding and poverty.[19] Parental influences are known to be important, particularly in younger children.[20 21] Night-time bottle-feeding and between-meal snacking are associated with increased decay rates. In contrast, lower rates of decay are observed in families with supervised tooth brushing habits and regular dental attendance, but some factors lie outside parental control. Therefore, differentiating dental caries from dental neglect is difficult, not least because it lacks precise clinical findings or thresholds to aid the distinction.[22]

Dental neglect may occur alone and act, when recognised, as a potentially valuable indicator prompting referral of a family to receive early help[23] or it may be one indicator of broader or more serious neglect requiring assessment and intervention.[24] Dentists, whether working in hospital, community or general practice settings, recognise dental neglect as a common problem[25 26] that affects children of all ages.[27 28]

So how can we distinguish between dental caries—the disease—and dental neglect—the sign of maltreatment? Failure to seek, or delay seeking, dental care (whether for caries or other significant oral pathology) with adverse dental consequences are highlighted as cause for concern,[4 14 29] guidance now evidenced by the first systematic review.[22] In the UK, where NHS dental care is available free-of-charge for children, complaint of difficulty finding a dentist should never be accepted as an excuse without careful enquiry. Some simple diagnostic pointers to be used as a 'rule of thumb' are shown in box 1. For further discussion, differential diagnoses and a glossary of dental terminology, the reader is referred to an illustrated article written specifically for a medical audience.[30]

Intraoral injuries

Accidental injuries to the mouth are very common, particularly in the first 10 years of life.[31] When considering injuries to the teeth alone, worldwide population-based surveys show that that one-third of all

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Box 1 Diagnosing dental neglect: a 'rule of thumb'

Features of particular concern

- Obvious dental disease: untreated dental disease, particularly that which is obvious to a layperson or non-dental health professional.
- Significant impact on the child: evidence that dental disease has resulted in a significant impact on the child.
- Failure to obtain dental care: parents or carers have access to but persistently fail to obtain treatment for the child.

Excerpt from table first published in Harris [30] used with permission of Elsevier.

preschool children suffer a traumatic dental injury involving the primary dentition. A quarter of all school children suffer trauma to the permanent dentition, rising to almost one-third of adults, with variation both within and between countries.[31]

Repeated accidents in childhood may give cause for concern about neglect to provide adequate supervision, but the type of maltreatment usually associated with intraoral injuries is physical abuse. The head and neck region is frequently the target of abuse, with injuries occurring in 59%–76% of physically abused children.[32–37] Intraoral injuries are far less commonly observed, making up 2%–7% of all recorded injuries in children assessed for physical abuse (see table 1),[32–38] leading many to suggest it is likely that abusive intraoral injuries often go undetected.[32 34 35 39] Several factors are probably involved: bleeding stops quickly after minor oral soft tissue trauma, injury to the inside of the mouth remains hidden from view of the casual observer and the oral mucosa heals quickly, often without active treatment and usually without obvious scarring. Furthermore, the oral cavity is possibly not always fully explored or the examining doctor may lack training in how to conduct an optimal examination.[5 40] Standard dental techniques use additional bright lighting, a mouth mirror and soft tissue retraction, record findings on an expanded mouth map[41] and dental chart and use calibrated examiners in research. In a study in Brazil, where forensic dentists contributed to expert medical reports, a much higher prevalence of intraoral injury was recorded at 12.4% of confirmed cases of physical abuse (table 1).[37]

Types of abusive injury to the soft tissues of the mouth include bruising, petechiae, lacerations, swelling and burns.[39] The most common site is the lips, in one study accounting for 80.4% of 133 confirmed abusive intraoral injuries,[37] but injury can occur anywhere in the mouth and no site is specific to abuse. Fractures and luxation injuries of the dental hard tissues (broken or loose teeth) accounted for 5.2% of intraoral injuries in the same study: mainly fractured maxillary incisors,[37] also the most common teeth to be injured accidentally.[31] Bizarre cases of intraoral injury have also been reported: examples being an adult bite to an infant's tongue and three siblings with missing teeth where forcible tooth extraction had been used as a punishment.[39]

Detection of 'sentinel injuries', defined as minor abusive injury occurring some time prior to serious abuse, importantly represent an opportunity to protect a child before abuse escalates. A case–control study found that 27.5% of 200 abused infants aged under 12 months had

Table 1 Intraoral injury in child maltreatment

Author	Setting	Years of study	Number of children	Type/s of abuse	Confirmation of abuse	Proportion of children with injury to head, neck, face and mouth (HNFM) (%)	Intraoral injuries as a proportion of all injuries (or cases)	Children examined by dentist Dentist was available
Becker *et al*[32]	Massachusetts, USA	1970–1975	260	Physical	Diagnosed	65	6% n=14	No Not stated
da Fonseca *et al*[33]	Minnesota, USA	1985–1989	1248 502 in subset	All types Physical	Suspected Suspected	37.5 75.5	2% n=42	No Yes, general practice or oral surgery resident available, plus 24-hour paediatric dentistry resident backup
Jessee[34]	Texas, USA	1993–1994	266	Physical	Suspected	66.2	2.1% n=11 (2.6% of cases)	No Not stated
Naidoo[35]	South Africa	1992–1996	300	Physical *with* orofacial trauma	Proven	Not applicable (all had HNFM injuries)	7% n=41	No Yes, 24-hours on-call maxillofacial registrar available
Cairns *et al*[36]	Scotland, UK	1998–2003	230	Physical	Suspected	59	(0.5% of cases) (n=1 case)	No Implied that specialist or consultant paediatric dentist was available
Cavalcanti[37]	Joao Pessoa, Brazil	2003–2006	1070	Physical	Confirmed	56.3	(12.4% of cases) (n=133 cases)	Yes Forensic dentist contributed to expert medical reports
Dorfman *et al*[38]	Multicentre (20 sites), USA	2010–2011	2890	Physical	Level of concern scale 1–7 (definitely not to definitely inflicted)	Not stated	(3.3% of cases) (n=96 cases)	Not routinely requested

a previous sentinel injury, of which intraoral was the type of injury in 11%, second only to bruising in 80%.[42] In contrast oral injury in non-abused control infants was rare, leading to the recommendation that a history of any oral injury in a 'pre-cruising' child of this age evaluated for abuse should heighten the level of suspicion. The latest evidence from a large multicentre study found high rates of occult injuries in children under 10 years with oral injury evaluated for abuse with risk persisting beyond infancy.[38]

A torn upper labial frenum has attracted particular attention in the literature because, although a trivial injury in itself, it has been observed in association with high level of concern or severe or fatal abuse, usually in children aged under 5 years.[38 43 44] Other than a direct blow to the mouth, proposed mechanisms of abusive injury, such as forced feeding, are unsubstantiated by evidence. Frenal tears also result from a range of accidental causes, but the supporting literature is sparse.[39] Neither is there any evidence regarding children presenting outside of hospital settings: a gap in the literature. Of note, interpretation of upper labial frenum injury must take account of morphological variation both between individuals and as the dentition matures; its alveolar insertion continues to migrate away from the gingival margin into adolescence.[45]

As with any injury, an oral injury must never be interpreted in isolation but must always be assessed in the context of medical and social history, developmental stage, explanation given, full clinical examination and relevant investigations.[39] If then still unexplained, it must prompt a full investigation to exclude the presence of other occult injuries. Healthcare providers should be cautious of blanket acceptance of normal accidental events in ambulatory children as explanation and must refer if concerned.[38]

Oral signs of sexual abuse

Oral signs of sexual abuse, whether as trauma or sexually transmitted infection, are said to be rarely obvious on examination.[4] Specific information about examining for oral manifestations of sexual abuse and interpreting any findings is conspicuously absent from authoritative guidance documents,[3 29] the primary focus being on anogenital signs and infections.[46]

Published evidence is mainly in the form of individual case reports. Unexplained injury or petechiae at the junction of the hard and soft palate may be evidence of forced oral sex.[4] Reported in less than 1% of sexually abused children,[46] the characteristic oral lesions of syphilis are chancre in primary syphilis, mucous patches or snail-track ulcers in secondary syphilis and leukoplakia or gumma in tertiary syphilis.[47] Oral gonorrhoea may manifest as pharyngitis or gingivitis but is usually asymptomatic.[47] Oral findings are common manifestations of HIV infection in children, particularly oral candidosis, herpes simplex virus infection, linear gingival erythema, parotid enlargement and recurrent aphthous ulcers.[48] In prepubertal children where there is no clear evidence of vertical transmission, these infections would be alerting features to suspect sexual abuse.[29] The significance of oral warts in relation to sexual abuse is unclear.[4] Adult women survivors of childhood sexual abuse self-report higher prevalence of a range of dental conditions, including bruxism (tooth clenching and grinding) and temperomandibular dysfunction.[49]

When sexual abuse is suspected, children should always be promptly referred to specialist centres with the expertise to conduct forensic examination according to accepted evidence-based standards including, when appropriate, mouth swabs for semen and DNA.[3 46]

Other oral and dental signs of maltreatment

Certain oral conditions are recognised as potential alerting features of emotional distress in children and young people and, for completeness, deserve brief mention because maltreatment should be included in a full differential diagnosis of underlying causes. Examples are: oral ulceration or 'gingivitis artefacta' due to self-harm; extremely poor oral hygiene in self-neglect; symptoms of temperomandibular dysfunction, tooth grinding or clenching; and perhaps tooth position (orthodontic) abnormalities exacerbated by habits such as persistent digit sucking (of potential concern only if persisting well beyond the age considered developmentally appropriate).

DENTISTS AS CONTRIBUTORS TO SAFEGUARDING CHILDREN

The role of dental professionals as contributors to safeguarding children falls into three areas:

- recognition and response to signs of maltreatment in children and young people receiving dental care
- contribution to diagnosis, assessment of children's needs and planning when child protection concerns have been raised
- dental rehabilitation of neglect or oral injury.

Recognising and responding to signs of maltreatment

Dental professionals are generally considered to be in a good position to recognise signs of maltreatment and to safeguard and promote children's welfare. Dental treatment is carried out in close personal contact and takes time. Injuries to the head and neck, and to other parts of the body visible in a clothed child, are readily observed. As encouraged in the current British Society of Paediatric Dentistry 'Dental Check by One' campaign, regular dental prevention visits are advised, starting by a child's first birthday.[50–52] This means that otherwise healthy children who have no need for appointments with other healthcare providers may nonetheless be well known to their dentist. General dental practitioners (GDPs) often treat several members of a family, so they may be aware of information relevant to parenting capacity, such as parental chronic illness or mental health condition. Furthermore, the visit provides an opportunity to observe interaction between children and parents: usually a caring parent comforting an anxious child but occasionally, when children are unable to cooperate with treatment due to anxiety or other reason, a frustrated parent provoked such that emotional or physical abuse is witnessed in the dental surgery. Occasionally, a child discloses maltreatment to a trusted dental professional.

Children with complex dental problems and those with medical, developmental or behavioural needs may be under the care of specialist or consultant paediatric dentists who in the UK are mainly based in hospitals or the community dental service. Children with disabilities are more likely than their non-disabled peers to experience maltreatment, especially neglect,[53] and are recommended to have more frequent dental care,[50] giving particular opportunity to recognise a range of safeguarding concerns as demonstrated in table 2.

In 2005, 67% of UK paediatric dentists self-reported previously suspecting maltreatment of a child in their care,[54] almost double that reported by GDPs[55] and the highest recorded in a summary of similar surveys internationally between 1998 and 2010.[56] Those with previous child protection training were more likely to have suspected maltreatment (71% vs 47%) and made a referral to social services (33% vs 8%).[54] In relation to dental

Table 2 Ten selected examples of safeguarding concerns observed in specialist paediatric dental practice

Case*	Category of maltreatment suspected	Scenario and identified concerns
1.	Neglect	Eleven-year-old boy with autism; delay seeking treatment for severe toothache affecting eating, sleeping and school participation; missed appointment to assess need for dental extractions under general anaesthesia; dental neglect.†
2.	Neglect	Siblings aged 7 and 6 years; missed clinic appointments for routine dental care; parental mental health problems; repeated toothache and acute dental infections; dental neglect.†
3.	Physical abuse	Six-year-old boy with neurodisability; fractured front tooth noted by school; had not sought dental care; no explanation for an injury that would have required considerable force.
4.	Physical abuse	Four-year-old; perplexing presentation; mismatch between reported symptoms and observed oral condition; inappropriate requests for prescription medication; suspected fabricated or induced illness.
5.	Emotional abuse	Thirteen-year-old girl; concerning parent–child interaction observed at dental appointments; mother blaming child for dental anxiety, making derogatory remarks about child's appearance and scapegoating in comparison with siblings.
6.	Emotional abuse	Fourteen-year-old boy; recent behavioural change; child and mother disclosed witnessing violent incident in the home and father self-harming.
7.	Emotional neglect	Seven-year-old girl; concerning parent–child interaction observed at dental appointments; parent unresponsive and seemingly indifferent to child's need for comforting and encouragement.
8.	Other	Ten-year-old boy; repeated dental injuries; credible accidental explanations; delayed presentation for treatment but attributed to dental anxiety; mother smelled strongly of alcohol.[81]
9.	Other	Ten-year old with complex needs missing from education; moved into the area without registering for school; not accessing any other healthcare provision
10.	Other	Twelve-year-old girl; mother unaware of child's daily toothbrushing routine; child lives at a friend's house because mother works nights; undisclosed private fostering arrangement.

*Selected from the author's caseload in community clinic (cases 1–9) or dental hospital settings (case 10) in the period 2003–2016.
†Similar scenarios to cases 1 and 2 are frequently encountered.

neglect, which 81% reported seeing at least weekly, multiagency communication was more commonly undertaken by those with training.[25] In Sweden, a study of reasons for 147 dental referrals to social care showed that neglect and missed appointments were the underlying concerns in 145 cases.[28] Missed healthcare appointments are consistently a common finding in Serious Case Reviews (SCRs),[57] but in dentistry, as in other fields of healthcare, only recently are they being fully considered from the perspective of safeguarding the child.[58 59]

All dental professionals have a responsibility to refer children to social care when they have concerns about maltreatment,[60] yet lack of knowledge or confidence, barriers to action and shortcomings in practice are regrettably common.[5 22 55 56 61] Even among paediatric dentists, a gap is evident between 67% ever having recognised and 29% ever having referred concerns.[54] These gaps reflect dentists' dilemmas about their contradictory roles of supporting or reporting families, differentiating compromised well-being from significant maltreatment and perceived shortcomings of the child protection system.[62] Lessons learnt in a number of SCRs indicate that harm might have been avoided had dental professionals raised concerns earlier.

An insightful qualitative study in the northeast of England explored inhibitors and facilitators to dentists' involvement in child protection.[61] Isolation of dentistry in relation to other healthcare providers was identified as a major barrier which, despite a revolution in communication and information technology, remains to this day. In other respects, significant advances have been made, notably with raising dentists' awareness. Whereas the UK and much of Europe previously lagged behind the USA, training and guidance is now readily available. A Department of Health-funded educational resource, *Child protection and the dental team*,[63] was distributed to every NHS dental practice in England and Scotland in 2006 and updated online in 2013. Evidence regarding the profession's learning needs[25 54 61] was used in developing its key messages. Tackling the greatest barriers to referral, it reassured dentists that, first, they should refer concerns rather than wait to be certain maltreatment had occurred and, second, they would never be solely responsible for making the diagnosis but could rely on the advice and support of experienced child protection professionals. Written educational materials typically only have a small beneficial effect yet reported usage and change in professional practice was unusually high,[55 64] perhaps reflecting dentists' hunger for advice; 93% of those who remembered receiving the document had used it, with many attributing improved knowledge, confidence and actions to a direct result of following its guidance.[64]

While professional and statutory guidance[63 65] makes it clear that frontline health professionals with concerns should themselves make direct referrals to social care, child protection paediatricians may yet receive requests from dentists for advice: for assistance with interpreting the significance of observed injuries, the dental findings in relation to a child's general welfare or judging the level of harm. Case examples and opportunities to pool expertise are detailed in table 3.

With effective local leadership and stakeholder involvement, improvements in information sharing can be achieved. In a recent published example of good practice, a Named Doctor for Safeguarding Children led developments related to a general anaesthetic dental extraction service.[66] Better integration of dentistry into patient administration and record keeping systems would be a further step forward. Simple changes such as adding a field to hospital electronic records for the GDP's address would enable such basics as exchanging copies of relevant clinical correspondence.

Contributing to diagnosis and assessment of children's needs

When invited to do so, a child's usual GDP or paediatric dentist can contribute a report for case conference or care proceedings, including the dental history, any previous concerns, any observed strengths and an outline of the child's dental needs.

Table 3 Paediatric dentists and paediatricians pooling expertise to safeguard children: case examples and opportunities

Role of dentist	Actions undertaken by dentist: case examples	Potential consequences for the child if not done	Role of paediatrician
1. Recognising and responding to signs of maltreatment or other vulnerability concerns	(A) Case 3, table 2. Discussed concerns with parent and informed of intention to share information; same-day appointment given to restore fractured tooth; immediate child protection referral to children's social services regarding suspected physical abuse. (B) Case 10, table 2. Shared information with school nurse via paediatric liaison nurse; school lateness had also been noted; further action taken by school nursing with children's social services to ensure safe and effective care arrangements in place.	► Missed opportunity to support the family at an early stage. ► Signs of maltreatment not identified until a crisis develops. ► Missed opportunity to intervene before the child is seriously harmed or dies, identified later at Serious Case Review.	► Offer telephone advice for dentists on how to interpret findings. ► Make this offer known and be approachable. ► Encourage dentists to escalate their concerns if met with an inadequate or inconsistent response from social services.
2. Contributing to diagnosis and assessment of children's needs when maltreatment is suspected	(A) Report for child protection case conference provided in response to a request from social services regarding two siblings: *Facts:* sibling A: 9-year-old with autism spectrum disorder (ASD)—dental records indicated limited engagement with public health programmes; untreated decayed primary tooth present at school screening in two successive years; no response to letter offering treatment. Sibling B: 14-year-old: no record of any previous contact with our service. *Opinion:* very limited evidence but possible emerging pattern of neglect of sibling A; advised to check if seeing any other dentist/dental service (ie, GDP or hospital); advised of need for twice daily supervised toothbrushing, limited frequency of dietary sugar, attendance for required dental care. *Outcome:* both children were placed on a Child Protection Plan. (B) Statement for the court provided in relation to care proceedings: *Facts:* 10-year-old child with congenital heart defect and ASD: referred by community paediatrician aged 2½ years; seen since on 15 occasions accompanied by father; recent CPP (category: emotional abuse). *Opinion:* (1) strengths in relation to regular attendance for preventive care, good parental motivation to support his oral health and (2) recent concerns related to observations of increasingly anxious and avoidant behaviour including violence and aggression to dental staff. *Outcome:* interim care order.	► Relevant dental findings (concerns or strengths, or a combination of both) not made available resulting in underestimation or overestimation of extent of neglect. ► Incomplete health assessment. ► Missed opportunity to include dental treatment as a requirement of a child protection plan and to monitor progress.	► Alert social care if child protection medical assessment does not include dental assessment. ► Prompt social services to request a report from child's dentist or make direct referral. ► Set up new referral pathways, routinely requesting specialist paediatric dentistry dental examination or opinion.
3. Rehabilitation of dental and oral effects of maltreatment	(a) Ten-year-old boy (case 8, table 2): dental treatment completed under local analgesia over several visits; fractured teeth restored with adhesive composite resin restorations; carious primary teeth restored; permanent molars fissure sealed; advice on caries prevention given; safeguarding actions completed as previously published.[81] (b) Recently adopted siblings, previous CPP (category: neglect): 7-year-old in mixed dentition with multiple carious primary teeth, some adequately restored, others with chronic infection and unrestored; 5-year-old with caries free primary dentition; advice given on caries prevention (diet, toothbrushing, fluoride); older sibling commenced acclimatisation prior to fillings and extractions; treatment ongoing.	► Child suffers impact of prolonged untreated dental disease or injury, for example, pain, infection, tooth loss and poor dental appearance. ► Preventable adverse impacts of maltreatment persist into adulthood.	► Include dental rehabilitation – child protection plans – health plans for looked after children who have been maltreated. ► Signpost families to seek regular dental care. ► Consider copying-in dentist to clinic letters regarding significant health issues. ► Support local innovation in dental care pathways for vulnerable groups.

GDP, general dental practitioner; CPP, child protection plan

Inexperienced dentists may require assistance to contribute. Such input is usually valued by other professionals (see brief case examples in table 3, role 2) but at the present time in the UK is rarely requested.

Several authors cited in table 1 concluded that specialist paediatric dentists should *routinely* examine all children being assessed for suspected physical abuse. It is anticipated that this would both increase detection of abusive oral injuries and also alert paediatricians to oral diseases and developmental conditions that might be mistaken for maltreatment. In Glasgow since 2009 oral assessments by a dentist have been successfully integrated into comprehensive medical assessment pathways for children with varied safeguarding concerns, mainly neglect.[67] This generates a standardised dental appendix to the paediatrician's medical report for a child protection case conference, including an oral care plan and targets agreed with parents. Case examples illustrated the potential benefits of this innovation.[67] Long-term evaluation, particularly if reporting additional diagnostic yield and improved outcomes for children, could provide compelling evidence for wider adoption of this practice.

One circumstance when paediatricians must always seek advice is in relation to bite marks. An abusive human bite is unique among physical injuries since its pattern can potentially identify or exclude a specific perpetrator.[68] Occasionally, certainty is enhanced by DNA retrieval. Early referral of suspicious injuries to forensic

dentists (forensic odontologists) is essential.[69]

Rehabilitation of oral injury or neglect

Maltreated children and young people have a right to enjoy '*the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health*'[70] yet are twice as likely to have poor self-perceived oral health than their non-abused peers, increased to 23-fold for those with multiple forms of abuse.[11] They should be supported to receive necessary dental care.

Treatment of dental caries improves quality of life.[18 71] Evidence-based preventive treatments such as fluoride varnish and fissure sealants[50] are free of charge on the NHS, simple to provide and easily accepted by children, with the benefits of disease reduction lasting to old age. Advice on smoking, alcohol and healthy eating is given alongside dental recommendations, using a common risk factor approach, with potential for wider health gains and for empowering the recovering child.

Restoration of traumatic dental injuries (fractured and loosened teeth) is essential because of the importance of front teeth in facial appearance. Poor dental appearance affects quality of life,[72] exposes children to adverse social judgements by their peers[73] and affects life opportunities. Successful treatment often requires both careful emergency management and long-term specialist treatment, with prognosis strongly influenced by promptness and quality of care. For those with malocclusion, orthodontic treatment (straightening teeth with braces) in adolescence leads to improvement in emotional and social well-being.[74] As treatment takes many months, young people require support to maintain scrupulous oral hygiene, motivation and attendance that are essential to treatment success, a particular challenge for those without parental support or a stable home life, for example, if moving between residential placements.

Past maltreatment may affect a child's ability to cope with dental treatment, necessitating additional anxiety management with behavioural techniques or sedation. In particular, sexual abuse can cause long-lasting dental fear extending into adulthood,[75] but this can be successfully managed by access to appropriately adjusted or special care dental services.[76]

Regrettably, inclusion of a requirement to address dental needs is commonly overlooked in child protection plans so the opportunity to intervene while the family is receiving social services support and monitoring is missed. All families should be asked if they have a dentist and, if not, paediatricians must not hesitate to refer them. It is possible to achieve high levels of subsequent attendance, with 81% in one study.[9 77] Development of local interagency networks facilitates referral and ensures that children receive care from appropriately skilled staff, whether GDPs or specialists, at a convenient location. Looked-after children, for example, have higher treatment needs and poorer access to dental health services than the general population[78] and may benefit from designated care pathways.[79]

POOLING OUR EXPERTISE

This review shows that safeguarding in child dental health has a much wider scope than is often realised—recognising, responding and rehabilitating. To make good decisions for maltreated children and young people, we all need the best possible research evidence, training and leadership. There is great potential to develop new ways of interdisciplinary working that make better use of the combined skills of paediatricians and paediatric dentists.

Some important research questions remain to be addressed, falling through the gap between medicine and dentistry. Clinical implications for practising clinicians are sometimes unclear or not generalisable between settings. Strategic direction is needed to build strong interdisciplinary collaborations that pool our expertise.

The UK dental profession has moved a long way in the past decade, and its specialist and professional societies have actively encouraged educational developments.[14 63] Medicine and dentistry must learn from each other by reciprocal input to training at undergraduate to specialist level, fostering an understanding of each other's roles and making new opportunities for paediatric dentists and doctors to train side by side.[80]

Unfortunately, dentistry in the UK has no statutory requirement for safeguarding clinical leadership, falling under the already stretched remit of Designated and Named Doctors. This means that current progress is largely reliant on the goodwill of enthusiasts. It is now time to move beyond these ad hoc arrangements to commissioned dental leadership working to ensure that our two disciplines collaborate to better meet the needs of vulnerable children and young people.

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1.4 Summary: the context of this thesis

This opening chapter has described the twin contexts of this thesis: on the one hand, child protection and safeguarding children and, on the other, children's oral health and dental care. In Paper 1, I demonstrated the link between the two and gave case examples illustrating how this applies in clinical practice. I showed that the dental team's interpretation of oral findings as indicators of maltreatment must encompass:

- Dental caries and neglect
- Intraoral injuries
- Oral signs of sexual abuse
- Other oral and dental signs of maltreatment.

Further, that the dental team can contribute to child protection by:

- Recognition and response to signs of maltreatment in children and young people receiving dental care
- Diagnosis, assessment of children's needs and planning when child protection concerns have been raised
- Dental rehabilitation of neglect or oral injury.

In this paper, I have also made recommendations for change which will be discussed in a later chapter (see Chapter 5 Discussion, p. 84). Thus, it has been highlighted that a contemporary understanding of safeguarding in dental practice comprises three domains: *recognising, responding* and *rehabilitating*. Furthermore, dental neglect has been given the prominence it merits but has not always received. This point is further justified by more recent publications confirming dental neglect as the commonest reason for dental professionals' child protection referrals (Brattabø, Bjørknes and Åstrøm, 2018), as a common finding in children at risk of abuse or neglect under investigation or care of social services (Duda *et al.*, 2017; Kvist, Annerbäck and Dahllöf, 2018) and by the data to follow hereafter in Papers 3, 5, 7 and 8 of my thesis.

In summary, in Paper 1, I updated, extended and clarified our evidence-based understanding of the dental team's role from a 2018 standpoint. At that time, we had seen over a decade of rapid developments in UK practice and of increasing research

interest in the field globally, almost from a standing start. In the next chapter, I will look back over the origins of this period of change.

Chapter 2 Dentistry's involvement in child protection

2.1 Background

2.1.1 The Victoria Climbié Inquiry

When 8-year-old Victoria Climbié died in February 2000, she had evidence of 128 separate injuries on her body (Lord Laming, 2003). Murdered by her aunt and her aunt's partner, she was the latest of a number of children killed by maltreatment to receive high profile national media attention. An independent statutory inquiry was set up by the Secretary of State for Health and the Home Secretary, with Lord Herbert Laming as Chair, to make recommendations how such an event might be prevented in future. The Victoria Climbié Inquiry heard evidence between September 2001 and July 2002 (Lord Laming, 2003). In both national and local news, there was frequent discussion of children being failed by the system and angry criticism of health and social care professionals. When Lord Laming's report was published in January 2003, it became the catalyst for unprecedented change in UK practice.

2.1.2 Every Child Matters

In May 2003, guidance for everyone working with children and families on what to do when concerned about a child was produced and sent to health professionals by the Chief Medical and Chief Nursing Officers (Department of Health *et al.*, 2003a; Department of Health *et al.*, 2003b). In September 2003, the UK Government set out proposals to reform delivery of services for children, young people and families in the Green Paper, *Every Child Matters* (HM Government, 2003)(see Glossary, p. 134). It placed emphasis on preventing abuse and neglect, improving multi-agency working and encouraging early intervention.

2.1.3 Insights from dentistry

At the time, child protection had received scant attention in dentistry and the onus fell on professionals to seek information themselves. The topic was neither specified in the GDC's *Standards Guidance* (General Dental Council, 2005) nor in requirements for undergraduate dental curricula (General Dental Council, 2002;

Mather *et al.*, 2022). It would be another decade until the GDC designated safeguarding children and young people as a recommended topic (General Dental Council, 2013b).

Coverage in contemporary textbooks (then commonly used by students and young practitioners) was inconsistent, tending to emphasise physical abuse, particularly in relation to orofacial injury, and with briefer attention, if any, paid to neglect or how to respond. For self-motivated practitioners keen to explore the topic in greater depth, the options were to participate in multi-agency courses provided by local child protection professionals, to attend postgraduate courses offered by various providers, or to seek out relevant publications. For subscribers to the *British Dental Journal*, the most comprehensive coverage of the subject had been a 1998 series of three articles, these noting that the journal's previous contribution on the topic had been in 1986 (Murphy and Welbury, 1998; Welbury and Murphy, 1998a; Welbury and Murphy, 1998b).

The peer-reviewed scientific literature was mainly comprised of epidemiological studies of injuries to the head and neck (da Fonseca, Feigal and ten Bensel, 1992; Naidoo, 2000; Cairns, Mok and Welbury, 2005a), case studies or series (Maguire *et al.*, 2007; Håkstad *et al.*, 2024) or postal surveys of the self-reported child protection training, experience, attitudes and practice of dentists, paediatric dentists or dental students across the USA or in individual US states (Saxe and McCourt, 1991; McDowell, Kassebaum and Fryer Jr., 1994; Adair *et al.*, 1997; Ramos-Gomez, Rothman and Blain, 1998; Bsoul *et al.*, 2003). Similar surveys had been conducted in Australia (John *et al.*, 1999; Kilpatrick, Scott and Robinson, 1999) but not at that time in the UK. However, a qualitative study with focus groups of GDPs in the North East of England had yielded detailed insights into the inhibitors and facilitators to dentistry's role in child protection (Welbury *et al.*, 2003). The overall picture was of a dental profession with a superficial understanding of how to recognise child maltreatment, but unprepared to take necessary action if concerned about a child. This was a precarious situation.

In relation to dental neglect, the American Academy of Pediatric Dentistry had first adopted a definition in 1983 (American Academy of Pediatric Dentistry, 2005)

which was incorporated into joint guidelines with the American Academy of Pediatrics on *Oral and Dental Aspects of Child Abuse and Neglect,* in place since 1999 (American Academy of Pediatrics Committee on Child Abuse and Neglect and American Academy of Pediatric Dentistry, 2000). Yet scientific literature in relation to dental neglect was notably sparse. Once case reports and educational articles were excluded, primary research was found to be restricted to a few epidemiological studies in highly specific populations with limited generalisability, such as children of US military personnel (Badger, 1986; Greene, Chisick and Aaron, 1994; Greene and Chisick, 1995), or studies testing a dental neglect scale (Thomson, Spencer and Gaughwin, 1996; Jamieson and Thomson, 2002). There was no published research focussed on dental team awareness of, or attitudes to, dental neglect. In relation to managing dental neglect, just two localised intervention programs had been described, again in the USA (Badger, 1982; Butts and Henderson, 1990).

2.1.4 Raising the question of dental neglect

On 15 March 2002, I participated in a four-hour child protection training session for Rotherham Community Dental Service led by a senior nurse advisor in child protection. We were advised that dental neglect should prompt a child protection enquiry or referral, something that was not common practice at the time.

Afterwards, I made enquiries which confirmed that, unofficially, dental neglect was widely viewed by UK opinion leaders as an issue too difficult to tackle, given the high prevalence of both dental caries and non-attendance, and dentists often themselves known not to be treating primary dentition caries, so called 'supervised neglect' (personal communication, 02 April 2002, own contemporaneous notes, source withheld). Later it emerged that a consultant paediatric dentist and former BSPD President had tried to raise the question with the profession as early as 1997 but without success (Crawford, 2006). It seemed that, not only in the UK but also on a global scale, there was a singular lack of acknowledgement of dental neglect as the most significant child protection issue facing dentistry or of provision of guidance on managing it.

2.1.5 A local initiative

In February 2003, the Rotherham PCT Child Protection Department convened a multi-agency Dental Neglect & Child Protection Working Group. I was nominated to represent the Community Dental Service together with a dental nurse colleague. The group also included a health visitor, school nurse and the child protection nurse advisor.

My contribution was to produce and disseminate local child protection procedures for dentistry. Within this, I developed original guidance for managing dental neglect by extrapolation from a local child protection procedures document, adapting to a dental context the Rotherham Area Child Protection Committee (ACPC) guidance given for initial management of suspected *general* neglect (South Yorkshire Area Child Protection Committees, 2001)(Section 5.2). This took the form of three stages of intervention, emphasising the support that should be offered to families initially by those professionals first recognising the problem rather than immediate referral to social services (see Table 3, p. 36).

I presented our finished *Guidelines for Child Protection for the Dental Team* to the local Oral Health Advisory Group (OHAG) in June 2004. The document was circulated to Rotherham GDPs in October 2004 and published by the South Yorkshire and East Midlands Regional Postgraduate Deanery as an open-access e-book (Harris *et al.*, 2004).

2.1.6 Advocating for change

By 2004, our CDS team had come to realise that the changing child protection landscape demanded an urgent change in practice. We had ourselves moved to the conclusion that responding effectively to dental neglect was not as difficult as we had thought. We could echo Lord Laming's words from The Victoria Climbié Inquiry (2003)(p. 13, paragraph 1.66):

> *I am convinced that the answer lies in doing relatively straightforward things well. Adhering to this principle will have significant impact on the lives of vulnerable children.*

It was a message we were keen to share. Specific national guidance for child protection in dentistry was still not forthcoming so, on 13 July 2004, I wrote to Professor Raman Bedi, Chief Dental Officer (CDO) for England, advocating for training to be made mandatory and guidance to be provided for dental teams. I was invited to deliver a proposal in person at the Department of Health offices in London on 3 November 2004. He then invited me to convene a multi-disciplinary expert group and, following submission of a fully costed proposal, I was commissioned and funded to lead a consultation, and to design and produce a primary-care-led child protection learning resource for the dental team.

Table 3 Principles for initial management of neglect, as adapted to managing dental neglect

	Stage of intervention, according to level of concern	**Guide for action**
1	Preventative single agency response	Raise concerns with parents Offer support Set targets Keep records Monitor progress
2	Preventative multi-agency response	Liaise with other professionals Check the Child Protection Register* Agree a joint plan of action Review at agreed intervals
3	Referral to social services	If the situation is too complex or deteriorating

Source: *Child protection and the dental team: an introduction to safeguarding children in dental practice* (Harris *et al.*, 2006)(p P3.9[1]), adapted from Rotherham ACPC's Procedures 2001, Section 5.2 (South Yorkshire Area Child Protection Committees, 2001). * 'Check the Child Protection Register' was correct terminology at the time; subsequently changed to, 'Check whether the child is the subject of a child protection plan'

[1] Page numbering as in document cited

2.1.7 A commissioned educational resource for the dental team

The Child Protection and the Dental Team (CPDT) Project was commissioned as one of a series of interactive e-learning projects for dentistry from the Department of Health England (DHE) issued on CD-ROM. Meeting as an independent expert group for the first time in January 2005, we first set out to understand better the dental team's learning needs.

2.2 Understanding the dental team's learning needs

2.2.1 A survey of child protection training, experience & practice

A postal survey was undertaken to investigate the dental team's training and experience in child protection, reported practice in child protection referral and to identify potential barriers to making referrals. Members of the British Society of Paediatric Dentistry (BSPD), a specialist society, were chosen as a convenience sample of dental professionals with an expressed interest in paediatric dentistry (n=789). The questionnaire was adapted from one previously used with GDPs in Scotland in 2003 by Cairns *et al.* (2005b). In Paper 2, together with my co-authors, I describe the findings of the BSPD survey and our recommendations arising from it (Harris *et al.*, 2009a).

2.2.2 A survey of paediatric dentists' management of dental neglect

In an additional section of the survey, new questions were included to elicit paediatric dentists' self-reported experience and management of children with neglected dentitions. This section was developed *de novo* in relation to the South Yorkshire ACPC three stages of intervention for managing early neglect (see Section 2.1.5 above), enabling us to compare reported contemporary practice with a new structured framework for managing dental neglect (Table 3, p. 36). Paper 3 reports the dental neglect survey findings and the recommendations arising (Harris *et al.*, 2009b).

2.2.3 Published work: Paper 2

Paper 2 Harris, J.C., Elcock, C., Sidebotham, P.D. and Welbury, R.R. (2009) Safeguarding children in dentistry: 1. Child protection training, experience and practice of dental professionals with an interest in paediatric dentistry, *British Dental Journal,* 206(8), 409-414. http://doi.org/10.1038/sj.bdj.2009.307

Safeguarding children in dentistry: 1. Child protection training, experience and practice of dental professionals with an interest in paediatric dentistry

IN BRIEF

- Few dental professionals with child protection training have experience of making referrals.
- There is a wide gap in practice between recognising signs of child abuse and neglect and responding effectively.
- This may indicate missed opportunities to save children from continuing abuse.
- There is a need for improved child protection information, support and training for dental professionals.

PRACTICE

J. C. Harris,[1] C. Elcock,[2] P. D. Sidebotham[3] and R. R. Welbury[4]

VERIFIABLE CPD PAPER

Following several highly publicised inquiries into the deaths of children from abuse and neglect, there has been much recent interest in the role and responsibility of all health professionals to protect children at risk of maltreatment. The findings of a postal questionnaire, sent in March 2005 to 789 dentists and dental care professionals with an interest in paediatric dentistry working in varied settings in the UK, are presented in a two-part report and discussed in the context of current multi-agency good practice in safeguarding and promoting the welfare of children. This first part explores reported child protection training, experience and practice. There was a significant gap between recognising signs of abuse and responding effectively: 67% of respondents had suspected abuse or neglect of a child patient at some time in their career but only 29% had ever made a child protection referral. The dental profession is alerted to the need to ensure necessary appropriate action to safeguard children is always taken when child abuse or neglect are suspected.

INTRODUCTION

On 31 March 2008 there were 29,200 children in England who were the subject of a child protection plan (previously referred to as 'on child protection registers') because they were suffering, or were at risk of suffering, significant harm because of abuse or neglect.[1] It is known that many more are vulnerable to maltreatment. In the published findings of a high profile inquiry in 2003 into the death of an 8-year-old girl, Victoria Climbié, Lord Laming made recommendations about procedures and training for all agencies in regular contact with children.[2] The need for child protection training for all health professionals was highlighted.

Dental professionals (dental practitioners and dental care professionals) have regular contact with children and families, some of whom will have no other contact with healthcare services. Oro-facial trauma in children commonly presents to dentists[3] and signs of physical abuse often present in the oro-facial region.[4,5] Dental professionals are therefore in a good position to recognise and report suspected cases of abuse and neglect in order to safeguard and promote children's welfare. Indeed, UK dental professionals are required by government guidance to work together with others to safeguard children[6] and by ethical standards guidance to find out about and follow local child protection procedures.[7] However, previous research has shown that dentists feel unprepared to take on such a role and are unsure what to do if they suspect that a child has been abused.[3,8,9]

In 2005, the Department of Health (England) commissioned a working group to develop an educational resource on child protection for primary-care dental teams[10] in association with the Committee of Postgraduate Dental Deans and Directors (COPDEND). As part of the project all members of the British Society of Paediatric Dentistry (BSPD) were contacted with an invitation to share examples of good practice or learning needs. This gave the opportunity to carry out a study, prior to widespread implementation of the changes recommended by Lord Laming, with a group of dental professionals with a common interest in children's dentistry. The aim of the study was to investigate the training and experience in child protection of BSPD members, to investigate their reported practice in child protection referral and to identify potential barriers to making such referrals.

METHODS

A self-administered postal questionnaire was sent in March 2005 to all 789 UK-based members of the BSPD: dentists and dental care professionals (DCPs) working in all types of practice settings: hospital/academic, salaried services and general practice. Overseas members received the mailing 'for information only' and the

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investigators were excluded. The questionnaire was based on one previously used by a co-author,[9] adapted both to incorporate all categories of child maltreatment (emotional abuse, sexual abuse and neglect, in addition to physical abuse) and to include DCPs in addition to dentists. The amended version had been piloted with a small group of DCPs to confirm its clarity and effectiveness in eliciting the required information. Reassurances regarding the strict procedures observed for anonymity were explained in a covering letter. A reply-paid envelope was enclosed for return of the completed questionnaire. A repeat mailing was sent to non-respondents ten weeks later, based on a numerical coding to ensure respondents' anonymity.

Advice taken prior to commencing the work indicated that ethical approval was not required for a study of this nature. Approval from BSPD Council was obtained to permit mailing to the society's membership.

The questionnaire also included a section on dentists' management of children with neglected dentitions, to be reported in the second part of this two-part report.

A data capture sheet was created and data were entered into a spreadsheet using double data entry and electronic verification. Statistics were generated using Statistical Package for Social Sciences (SPSS Inc.) and data were tested and comparisons made using 2-way Chi-squared and Mann-Whitney U tests.

RESULTS

Five hundred and twenty-three replies were received. After exclusion of ten returned from invalid addresses and 23 from retired members, 490 completed questionnaires were available for analysis (62.1% response rate). Responses came from a wide geographic area with all UK postgraduate deanery areas represented. Demographic data are presented in Table 1.

Child protection training

The findings regarding child protection training are shown in Table 2a. Twenty six percent of respondents reported child protection had been included at undergraduate or initial training level. Significantly more reporting this were female (p = 0.034) and more recently qualified (p = 0.000).

Eighty-seven percent of respondents had undergone some form of post-qualification child protection training. This included significantly more specialists in paediatric dentistry than non-specialists (95.6% v 82.9%, p = 0.000), more female than male respondents (88.5% v 81.0%, p = 0.035), more working

Table 1 Demographic data

Category	Respondents	
	n	%
Gender (484)		
Male	126	26
Female	358	74
Years since qualified/working in dentistry (490)		
Less than 10	85	17
10-19	117	24
20-29	208	42
More than 30	80	16
Job type (532†)		
General dental practitioner	55	10
Salaried service dentist	286	54
Hospital/academic dentist	162	31
Dental care professional	27	5
Other	2	0.4
Specialist in paediatric dentistry (486)		
Yes	135	28
No	351	72

Figures in brackets indicate number of responses to item. † >490 as some respondents have >1 job type

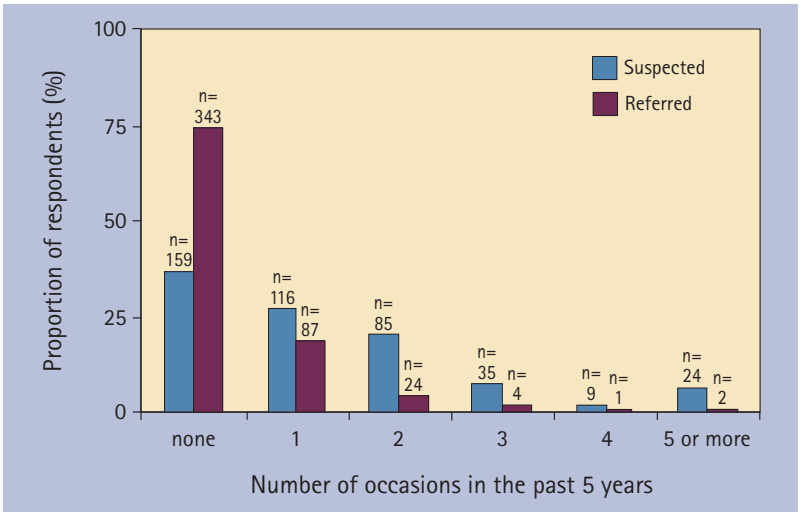

Fig. 1 Distribution of the proportions of respondents by the number of occasions they had suspected abuse* and made child protection referrals† in the past five years (number of responses to item * = 428; † = 461)

Table 2 Reported (a) child protection training and (b) experience and practice

	Respondents	
	n	%
(a) CHILD PROTECTION TRAINING		
Child abuse/child protection included in undergraduate or initial training (483)	128	26
Have attended child abuse/child protection training since qualification (489)	423	87
Acknowledge own need for further training (470)	376	80
Aware of multi-agency child protection courses in local area (478)	178	37
(b) CHILD PROTECTION EXPERIENCE AND PRACTICE		
Agree dental team well placed to recognise signs of abuse (485)	456	94
Ever suspected abuse of a child patient (488)	329	67
Know anyone can make a child protection referral (488)	405	83
Ever made a child protection referral to social services/police/NSPCC* (485)	142	29
Ever suspected abuse but decided not to refer (429)	153	32
Prefer to discuss suspicions with a dental colleague before taking action (474)	414	87
Have seen a copy of their local Area Child Protection Committee Procedures (481)	296	62
Attended a child protection case conference (484)	43	9
Attended court as a witness in a child protection case (484)	9	2
Sat on a multi-agency child protection committee (484)	29	6

Figures in brackets indicate number of responses to item. *National Society for the Prevention of Cruelty to Children

Table 3 Factors affecting the decision to refer in cases of suspected child abuse

Factor	Respondents agree	
	n	%
Lack of certainty about diagnosis (469)	368	78
Fear of family violence to the child (459)	244	53
Fear of consequences to the child from statutory agency intervention (458)	240	52
Concerns about confidentiality (453)	159	35
Fear of family violence to self (449)	144	32
Lack of knowledge of referral procedures (452)	143	32
Fear of litigation (452)	132	29
Impact on the practice (458)	19	4

Figures in brackets indicate number of responses to item

in the salaried services than in other job types (p = 0.000), and fewer general dental practitioners (GDPs) (p = 0.002). There was also evidence of a tendency for those who had undergone such training to have been qualified for longer (p = 0.064).

Of those who had received post-qualification training, for 24% (n = 102) this had been delivered only ever as a single lecture and for 8.5% (n = 36) only ever by a dentist alone acting as trainer. Thirty-three percent had received multi-agency training, where this was described as training delivered by health professionals with social services, police and education. Other options were training delivered by other health professionals, with or without a dentist.

Previous post-qualification training was associated with significantly more awareness of local multi-agency training courses (40.7% v 14.3%; p = 0.000). Eighty percent of respondents acknowledged their need for further training in child protection. Significantly fewer requesting this had already had training (78.0% v 92.2%; p = 0.011).

Child protection experience and practice

The findings regarding child protection experience and practice are shown in Table 2b. Approximately two out of three respondents had previously seen a case suspicious of abuse but fewer than one in three respondents had ever made a child protection referral. This represents a 38% gap between recognising and responding in cases of suspected abuse. When those who had ever referred were compared to those who had never done so, there was no significant effect of gender, years since qualifying or job type. Previous post-qualification child protection training was associated with significantly more suspecting abuse (70.8% v 47.0%; p = 0.000), knowing that anyone can refer (87.6% v 53.0%; p = 0.000) and making a referral (32.8% v 7.6%; p = 0.000).

Nearly a third of respondents confirmed, in answer to an additional question, that they had at some point in the past suspected abuse but decided not to refer the child. There was no significant difference in the proportion of respondents who had ever done this according to gender, years since qualifying, job type or previous post-qualification child protection training.

Of those who had suspected abuse, 82% recorded their observations in the clinical records. Significantly more of those who did make a record had undergone post-qualification child protection training compared to those who had not received training (86.7% v 56.7%; p = 0.000). There was no significant difference according to gender, years since qualification or job type.

The frequency distribution of respondents by the number of occasions on which they had suspected and referred abuse in

the preceding five years is shown in Figure 1. Sixty-eight respondents (15.9%) had suspected three or more cases in the preceding five years yet only seven respondents (1.5%) had referred three or more cases in that time.

Eighty-seven percent of respondents agreed that they would prefer to discuss their concerns about a child with a dental colleague before taking any further action. Significantly more of these were more recently qualified ($p = 0.002$).

Responses to the factors which might affect the dental professional's decision whether to make a referral when suspecting abuse are shown in Table 3.

DISCUSSION

This cross-sectional study was carried out with a large group of individuals with an interest in paediatric dentistry and encompassed a wide geographical spread. BSPD is a charitable educational society with a stated aim of promoting the oral health of children. The membership includes teachers and opinion leaders in the field and the society publishes guidelines on the dental care of children. Members may be specialist paediatric dentists, other specialists (eg orthodontists), salaried and community dentists, interested general practitioners and dental care professionals. Their views are important as many are dedicated to and experienced in treating children and some practise dentistry predominantly or exclusively for children.

Our response rate of 62.1% compares well to that achieved in other postal surveys of this nature[3,9,11-13] which include sensitive questions.[14] BSPD membership data were not available for comparing the demography of responders with non-responders. However, since responses were received from 135 specialists in paediatric dentistry (60.5% of the 223 on the General Dental Council's specialist register[15]), and all but a few specialists were BSPD members, it can be estimated that the proportion of specialists amongst responders was representative.

It is relevant that the study took place prior to the General Dental Council's inclusion of an explicit statement about child protection in revised standards guidance,[7] emphasised in a subsequent statement.[16] Furthermore, at the time, child protection training was not uniformly a mandatory requirement for employees of healthcare trusts.

Child protection training

The finding of a rate of reported undergraduate child protection training of 26% is similar to that found in GDPs in Scotland in 2003 (19%)[9] and dentists in California prior to 1998 (28%).[11]

A high proportion of respondents (87%) had undertaken post-qualification training, comparing very favourably with 16% as found in both the aforementioned studies.[9,11] The likely explanation for the magnitude of the difference is that dental professionals choose to attend training relevant to their field of interest. Even so, it falls short of achieving Lord Laming's recommendation, in the report of the inquiry into the death of Victoria Climbié, that 'all those working in primary healthcare services for whom contact with children is a regular feature of their work' should receive training.[2]

In the majority of cases, post-qualification child protection training had been provided by other health professionals or other agencies. This is good for two reasons: firstly, these are the people working daily in child protection and, secondly, it gives dental professionals the opportunity to meet staff whom they might contact for advice or to refer a child. However, 24% had received training only ever in the form of a single lecture and 8.6% only ever from a dentist alone. Brief training interventions may be satisfactory for raising awareness[17] but are unlikely to equip dentists fully with the knowledge and skills needed to carry out the challenging task of recognising concerns about a child and responding effectively.

Child protection concerns and referral – mind the gap!

Our study demonstrates a significant gap between recognising signs of abuse and responding effectively. Under contemporary guidance[18,19] there may have been cases where the initial concerns raised were discussed with suitably experienced colleagues, deemed not to require child protection referral but to require arrangement of other support for the family. However, this is unlikely to account fully for the discrepancy, leading to the conclusion that potentially one third of suspected cases of abuse are not referred. We consider that the magnitude of the gap may indicate that on numerous occasions members may have been able to initiate intervention to save a child from continuing maltreatment but failed to do so.

In addition, those who had suspected abuse did not always record their observations in the child's records. Incomplete record keeping and exchange of information have been repeatedly identified as contributing to previous failures to protect children.[2,20-22]

To our knowledge, the proportion who had ever suspected abuse (67%) is higher than demonstrated in previous studies worldwide with general dentists[9,11,12,23-29] and amongst the highest of those with an interest in paediatric dentistry.[13,24-27] This may be due to increased knowledge or vigilance in the study group or may reflect a higher prevalence of maltreatment in their child patients. However, the gap between the proportion who had ever suspected abuse and the proportion who had ever referred a child (29%) is wider at 38% than previously observed.

Previous post-qualification child protection training was found to be associated with certain markers of knowledge or good practice, but a cause and effect relationship must not be inferred. This could simply reflect that the dental professionals chose to attend training because they had encountered such clinical situations before or because they had a pre-existing positive attitude to promoting children's welfare.

The magnitude of the gap between recognising and responding to concerns about child maltreatment, in a cohort with such a high uptake of post-qualification child protection training, raises the possibility that training prior to 2005 increased dental professionals' ability to recognise signs of abuse yet did little to encourage or enable them to refer children for help.

Perceived barriers to action

Factors influencing professional judgements when identifying and referring

child maltreatment are wide ranging. The process of assessment and decision-making has been described as 'both a head and heart activity.'[30] Dentists' self-reported barriers to referring child abuse have been widely investigated in both quantitative[3,9,11,12,25,26] and qualitative studies.[8]

Lack of certainty about the diagnosis was perceived to be the biggest barrier to referral in this study, as also reported by Cairns *et al*.[9] This is of interest because a dentist is not required to make the diagnosis of abuse before making a referral. That is the shared responsibility of a multi-agency child protection team. The threshold for referral to such a team is when the dental professional has concerns that a child may be at risk of significant harm.

Fifty-two percent indicated that fear of the consequences to the child from intervention might affect their decision to refer. This suggests that dental professionals may mistrust or have misconceptions about current child protection practice. The reality is that children's services (formerly social services) are often able to work with families to help them make their own arrangements for the protection of their child. It is estimated that fewer than 1% of children referred end up in judicial proceedings,[31] and in such circumstances 'the child's welfare shall be the court's paramount consideration.'[32]

Thirty-five percent of respondents were concerned about confidentiality and 29% about litigation; lower than in comparable studies.[9,26] Either through training or, alternatively, through their regular work with children, this cohort may be more aware of the ethical responsibility and legislative framework that allows them to share information where the need to safeguard the child's welfare overrides the need to keep information confidential,[7,33] and that they themselves will be protected against legal action if they act 'in good faith.'[34]

Thirty-two percent reported lacking knowledge of referral procedures. Access to a copy of the local child protection procedures was higher than previously reported for GDPs in Scotland[9] but still falls short of ideal.

Closing the gap

The findings of this study cannot be taken to represent a current picture of UK dental team child protection training and experience as a whole. Most significantly, the majority of dental care for children in the UK is provided by GDPs working as independent contractors, unlike the salaried working circumstances of 90% of these respondents. A range of factors are known to inhibit GDPs from taking a role in child protection[8] yet salaried employment status may reduce barriers to training and action. One might also expect a tendency for respondents to over-report action taken rather than under-report, given the media attention in recent years in all parts of the UK to the tragic consequences of failed communication about abused children[2,20] so these findings may tend towards that of a 'best case scenario.'

However, the message from successive studies is clear: dental professionals find child protection to be a difficult and challenging area of work. This particular study shows that this is no different for dental professionals who are committed to paediatric dentistry, despite previous child protection training. Measures now need to be taken to ensure that *all* dental professionals are not only competent to recognise signs of child maltreatment but also to always take action to report it. We need to close the gap between recognising and responding.

As others have recommended in the past, improvements in child protection training are necessary.[3,8,9] It should be included in all pre-registration training curricula for dentists and DCPs. We consider the topic should also be specified as mandatory for continuing professional development. Reports of child protection training initiatives for general medical practitioners[35–37] give helpful practical insight into how this can be achieved for professionals with busy working lives. Training should include discussion of the perceived barriers to referral, address common misconceptions and ensure an adequate emphasis on response to child maltreatment, not simply its recognition.

Some authors have focussed their recommendations on the need for better information, advice and reporting protocols for dentists.[13,26] Provision of concise, dentally-relevant guidance is a potential solution. To this end since the time of this study and informed by its findings, a Department of Health (England) funded educational resource has been provided for dental teams in primary care.[10] Dental practices need to supplement this with additional local information since procedures are locally determined by Local Safeguarding Children Boards. Formal evaluation of the resource is pending.

In our study 87% of respondents agreed that they would like to discuss a case with a dental colleague prior to making a referral, as did 81% of GDPs in Scotland.[9] However, the low levels of experience of making referrals we observed suggests that, at the present time, there may be very few adequately experienced paediatric dentists in the UK to provide comprehensive advice on child protection to colleagues. We recommend that the referring dentist or DCP should always seek further advice from child protection advisors in health or children's services.

There is currently no uniform requirement nor manner of ensuring that, at a local level, all dental professionals have ready access to the training, information and support needed in order to fulfil their child protection responsibilities. It is the joint responsibility of dentistry and the multi-agency child protection services to see that this happens.

In the words of one researcher, 'Dentists are just one example of a health service discipline that needs to move from accepting they may have a role, to a position of being effective, accountable practitioners acting in accordance with established policies and procedures and as part of an interprofessional network.'[38]

CONCLUSION

This study describes the child protection training, experience and practice of UK dental professionals who have an interest in paediatric dentistry. A high level of uptake of post-qualification child protection training was found. Despite this, a wide gap was demonstrated between the number of BSPD members suspecting abuse and those taking action, in

terms of both child protection referral and record keeping. The majority of respondents acknowledged their need for further training. Such training should address identified barriers to making referrals and should be accompanied by information and support in order to enable the effective safeguarding of child dental patients.

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2.2.4 Published work: Paper 3

Paper 3 Harris, J.C., Elcock, C., Sidebotham, P.D. and Welbury, R.R. (2009) Safeguarding children in dentistry: 2. Do paediatric dentists neglect child dental neglect? *British Dental Journal,* 206(9), 465-470. https://doi.org/10.1038/sj.bdj.2009.356

Safeguarding children in dentistry: 2. Do paediatric dentists neglect child dental neglect?

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IN BRIEF

- Discusses dental neglect in relation to a contemporary UK understanding of good practice in safeguarding children.
- Managing dental neglect is part of daily practice for many paediatric dentists.
- Acknowledges that preventive dentistry and good communication with families already contribute to promoting child welfare.
- Recommends that dentists should communicate more often with other health and social care professionals.

PRACTICE

In this second part of a two-part report, further findings of a postal questionnaire sent in March 2005 to dentists with an interest in paediatric dentistry working in varied UK settings are presented and discussed in the context of current multi-agency good practice in safeguarding and promoting the welfare of children. Using insights gained from a survey of self-reported management of children with neglected dentitions, this paper explores whether paediatric dentists neglect child dental neglect. The authors conclude that current practice already includes much that contributes to promoting children's oral health and wellbeing. However, in a society where children continue to suffer as a result of abuse and neglect, they warn that improvements are needed in communication between dentists and other health and social care professionals if children's welfare is to be safeguarded and promoted effectively and future tragedies avoided.

INTRODUCTION

Child neglect is a form of child maltreatment and is defined as 'the persistent failure to meet a child's basic physical and/or psychological needs, likely to result in the serious impairment of the child's health or development.'[1] In the year to 31 March 2008, 45% of the 34,000 children in England who became the subject of a child protection plan were recorded under the category 'neglect.'[2] Neglect affects all aspects of children's health and development. It may result in failure to thrive, frequent injuries, developmental delay, behavioural problems and even death in childhood. The long-term effects, including poor educational attainment and increased prevalence of a range of physical and mental health problems, persist into adulthood.[3]

Neglect may involve a parent or carer failing to ensure access to appropriate medical care or treatment, yet children's rights legislation makes it clear that 'Children have a right to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health.'[4] The need for health care, including dental care, is one dimension of a child's developmental needs.[1] Untreated dental disease impacts on children's health and wellbeing, commonly causing pain.[5-7]

Since neglect has risk factors in common with dental caries, including socio-economic deprivation,[8] signs of neglect may be an incidental finding in child dental patients. In addition, dentists may become aware that a parent or carer's responsibility to maintain a child's oral health and to access dental care is not being fulfilled. Dentists have an ethical and moral duty to follow local child protection procedures[9] and to ensure that children's rights are respected and their needs are met. The dental team's compliance with principles of good practice derived from agencies that lead and work regularly in safeguarding children has not previously been investigated.

The aim of this study was to investigate paediatric dentists' self-reported management of children whom they describe as having neglected dentitions and to relate the findings to current good practice in safeguarding and promoting the welfare of children. The key question posed by the study was, do paediatric dentists neglect child dental neglect?

METHODS

An anonymous self-administered postal questionnaire was sent in March 2005, as described previously,[10] to all 789 members of the British Society of Paediatric Dentistry (BSPD): dentists and dental care professionals (DCPs) working in hospital/academic, salaried and general practice settings. DCPs were excluded from completing the section of the questionnaire reported in this part of the study since they are not personally responsible for treatment planning but work to the prescription of a dentist.

Advice taken prior to commencing the work indicated that ethical approval was not required for a study of this nature. The survey received approval from BSPD Council to be mailed to the society's membership. A reply-paid envelope was enclosed for return of the completed questionnaire. A repeat mailing was sent to non-respondents ten weeks later.

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Questions regarding the management of children with neglected dentitions were grouped in a separate section of the questionnaire (Fig. 1) which followed on from earlier sections enquiring about training, experience and practice in child protection. Participants were first asked to estimate the frequency with which they saw children with neglected dentitions during the course of their work, selecting from six options ranging from 'more than once a day' to 'once a year.' They were then asked to estimate how frequently they employed each of nine possible actions when responsible for the follow-up of these children. Responses were selected from the following alternatives: always, sometimes, rarely and never. An additional free-text action option, 'other, please specify,' was offered.

The questions reported in this part of the study were developed *de novo*. The nine actions a dentist might take were developed by extrapolation from an example of a local multi-agency child protection procedures guidance document.[11] The guidance given for initial management of suspected neglect was interpreted for a dental context. A dental treatment option, 'treat pain and infection,' was included as a control question. The questions were piloted prior to use to confirm clarity and effectiveness in eliciting the required information. The procedures observed to ensure respondents' anonymity have been fully described previously.[10]

Data were entered into a spreadsheet using double data entry and electronic verification. Data were entered into SPSS (SPSS Inc.). Descriptive data are presented, and comparisons made using Chi-square tests.

ABOUT YOUR MANAGEMENT OF CHILDREN WITH NEGLECTED DENTITIONS
The final two questions are for dentists only.

20. Approximately how often do you see children with neglected dentitions?

More than once a day		Once a month	
Once a day		Once every 6 months	
Once a week		Once a year	

21. When you are responsible for their follow-up, how do you manage these children?
(Please tick the column that best describes what you do)

	Always	Sometimes	Rarely	Never
Treat pain and infection				
Record your findings				
Explain your concerns to parents				
Give advice on preventing dental disease				
Set targets for improvement				
Review progress				
Discuss with other health professional (e.g. health visitor/school nurse)				
Make a Child Protection Register enquiry				
Refer to Social Services				
Other, please specify _____				

Fig. 1 Questions regarding management of children with neglected dentitions

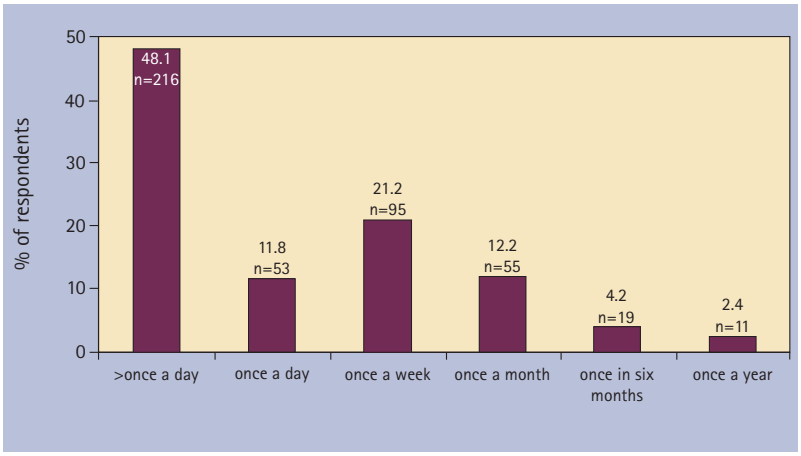

Fig. 2 Paediatric dentists' reported approximate frequency of seeing children with neglected dentitions

RESULTS

Questionnaire response

Four hundred and ninety completed questionnaires were available (62.1% response rate) as reported previously.[10] Forty-one were excluded (DCPs or not currently clinically active) leaving 449 responses for analysis.

The demographics of the respondents have been described previously.[10] The sub-group included in this analysis were very similar: 27% male, 30% registered specialists in paediatric dentistry, and holding jobs in general dental practice (12%), salaried services (64%) and hospital and academic posts (36%).

Reported frequency of seeing children with neglected dentitions

Eighty-one percent of respondents stated that they saw children with neglected dentitions once a week or more frequently. 59.9% reported this once daily or more often. Only 6.6% saw such children less frequently than once a month (Fig. 2).

Reported dental team management of children with neglected dentitions

The results for the six questions related to actions taken solely by the dental team are among those shown in Figure 3. When managing children with neglected

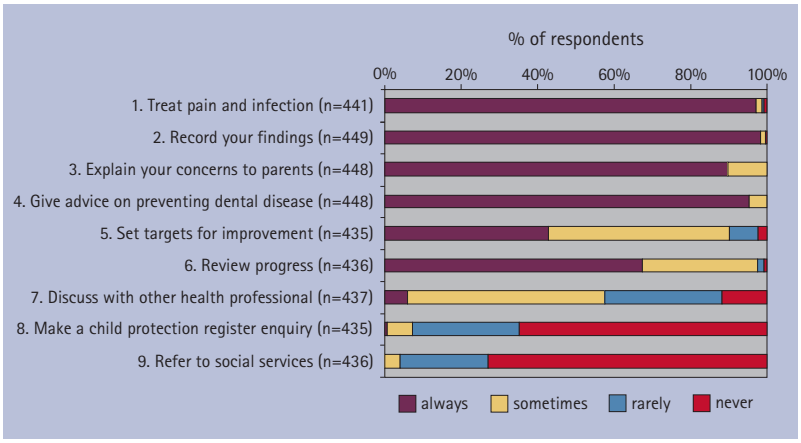

Fig. 3 Paediatric dentists' reported management when responsible for following up the child (1–6 dental team actions; 7–9 multi-agency communication actions)

dentitions, a clear majority of respondents always or sometimes 'explain concerns to parents' (100%), 'give advice on preventing dental disease' (100%), 'record findings' (99.6%), 'treat pain and infection' (98.9%), 'review progress' (97.5%) and 'set targets for improvement' (90.1%). There was almost universal acknowledgement that all of the six action options were used on at least some occasions. 'Set targets for improvement' was the least used of the proposed actions: 42.8% reported always doing this with 2% never doing so.

Reported multi-agency communication regarding children with neglected dentitions

Proposed actions involving multi-agency communication were less frequently undertaken on a regular basis: 57.7% of respondents always or sometimes 'discuss the case with other health professional,' 7.4% 'make a child protection register enquiry' and 4.1% 'refer to social services' (Fig. 3).

More of those with previous postgraduate child protection training would ever (always, sometimes and rarely responses combined) undertake each type of multi-agency communication compared to those without training (discuss with other health professional 90.9% v 68.6%; make a child protection register enquiry 39.7% v 7.8%; refer to social services 29.8% v 8.0%) (Table 1). Fewer general dental practitioners would ever undertake multi-agency communication compared to those working in other settings. Significantly more salaried services dentists always or sometimes 'discuss with other health professional.' More registered specialists in paediatric dentistry would ever undertake each of the three types of multi-agency communication compared to non-specialists (discuss with other health professional 93.8% v 85.4%; make a child protection register enquiry 52.3% v 28.6%; refer to social services 40.6% v 21.4%). More of those who reported seeing children with neglected dentitions daily would ever undertake each type of multi-agency communication compared to those who saw dental neglect less often (discuss with other health professional 91.8% v 81.0%; make a child protection register enquiry 40.5% v 26.7%; refer to social services 31.5% v 19.6%).

Free-text responses, reporting other actions taken, all related to communication with other specified health professionals either by direct discussion or by sending copies of clinical letters.

DISCUSSION

Questionnaire response

The general limitations of this study and the factors influencing the interpretation of data have been discussed in the first part of this report.[10]

We chose to use the term 'neglected dentition' in the questionnaire and did not supply a definition, instead allowing respondents to apply their own interpretation. We chose not to use the term 'dental neglect' since there is no agreed UK definition to date. The American Academy of Pediatric Dentistry's definition[12,13] was not suitable as it focusses on parental motivation rather than the persistence of neglect and impact on the child and is therefore inconsistent with a contemporary UK definition and understanding of child neglect.[1] We make no deliberate distinction in meaning between the two terms and, since the more usable term 'dental neglect' has recently come into common usage both in dentistry and amongst other health and social care professionals, we will use both interchangeably in our discussion.

Reported frequency of seeing children with neglected dentitions

The results demonstrate that many UK paediatric dentists regard the neglected dentition as a common presenting condition in children in day-to-day practice. One needs to ask what these dentists understood by 'neglected dentition' when they completed the questionnaire. Dental caries is the predominant dental disease of childhood.[6] It is a common but preventable disease. Respondents may have interpreted the term as meaning preventable disease, untreated dental caries, neglected necessary treatment or, perhaps more likely, a combination of these.

Reported dental team management of children with neglected dentitions

The management options given were developed from multi-agency good practice guidance and fall within the domains of either preventive dentistry or communication; all straightforward but time-intensive actions for a dental team. The results indicate almost universal acceptance of most of these measures amongst paediatric dentists as being essential in the management of dental neglect. 'Set targets for improvement' and 'review progress' were the less frequently used actions. We conclude that the dental profession might learn from accepted multi-agency good practice guidance that setting targets and reviewing progress might usefully be undertaken more often.

Table 1 Proportion of dentists reporting ever taking action involving multi-agency communication when managing children with neglected dentitions, by previous child protection training, job type, specialist registration and frequency of seeing children with neglected dentitions (2-way Chi-square test)

	Discuss with other health professional			Make a child protection register enquiry			Refer to social services		
	%	p	OR (95% CI)	%	p	OR (95% CI)	%	p	OR (95% CI)
Postgraduate child protection training									
Some training	90.9	0.000	4.55 (2.28, 9.01)	39.7	0.000	7.75 (2.73, 21.74)	29.8	0.001	4.90 (1.72, 13.89)
No training	68.6			7.8			8.0		
Job type									
General dental practitioner	60.0	0.000	0.14 (0.07, 0.27)	13.7	0.000	0.25 (0.11, 0.57)	11.8	0.011	0.32 (0.13, 0.78)
Salaried services dentist	92.8	0.000	3.48 (1.90, 6.36)	38.0	0.201	1.33 (0.87, 2.04)	28.9	0.302	1.29 (0.81, 2.04)
Hospital/ academic dentist	88.7	0.759	1.11 (0.60, 2.06)	40.9	0.112	1.41 (0.93, 2.13)	30.9	0.253	1.33 (0.85, 2.06)
Paediatric dentistry specialist registration									
Specialist	93.8	0.015	2.58 (1.18, 5.65)	52.3	0.000	2.75 (1.79, 4.22)	40.6	0.000	2.52 (1.61, 3.95)
Non-specialist	85.4			28.6			21.4		
Frequency of seeing children with neglected dentitions									
≥ once daily	91.8	0.002	2.61 (1.43, 4.79)	40.5	0.005	1.87 (1.21, 2.90)	31.5	0.011	1.89 (1.17, 3.04)
< once daily	81.0			26.7			19.6		

OR odds ratio; CI confidence interval

Reported multi-agency communication regarding children with neglected dentitions

It is known that much child neglect is under-reported and never comes to the attention of the authorities.[14] Current policy emphasises the role of all health professionals in early identification of neglected children, thus enabling intervention to safeguard and promote their welfare before problems worsen.[1] Yet the three specified actions involving communication with other agencies were undertaken by these dentists much less frequently than the dental team type management options. To some extent this might be expected, since dental neglect shows a spectrum of severity and the approach to its management would be proportionate in each case. Referral to social services (now known as 'children's services') would only be expected when the child was thought to be suffering significant harm, being denied access to urgent or important medical services, or the situation was too complex or deteriorating despite best efforts.[11]

Dentists with previous child protection training were more likely to report taking any of the three specified multi-agency communication actions when compared to their untrained peers. This may indicate that training had been effective in encouraging communication. However, it could simply reflect that dentists with a predisposition for multi-agency working chose to attend training whereas others did not.

The vast majority of UK children receiving dental care do so in general dental practice yet the lowest levels of multi-agency communication actions were reported by dentists working in this setting. General dental practice is particularly prone to factors considered to be 'inhibitors' to adoption of a child protection role.[15] Concerns about abuse and neglect have been described as 'a picture building up over time' or 'fitting a jigsaw together', so services providing continuing care for children may be better placed to safeguard children than those where treatment provision is on an episode of care basis, as commonly occurs in hospital dental departments.

In contrast, significantly higher levels of discussion with another health professional were reported by those working in the salaried and community dental services. Such dental services are often co-located in clinics with other healthcare professionals, thus facilitating communication and understanding of other professional roles. They also often have links both with social care professionals through provision of dental services for disabled people and historical links with education via school dental screening programmes. Furthermore they tend to serve socio-economically deprived areas, this being associated with a higher prevalence of child maltreatment.[8]

Welbury *et al.*[15] found that GDPs practising in some geographical areas were likely to consider child neglect a cultural norm and to have lower expectations of children's presentation, so-called 'cultural relativism.' One might anticipate that dentists might similarly become desensitised to dental neglect such that those who see it most often are least likely to take effective action. It was therefore heartening to find that, amongst these dentists, there was no evidence to support this; rather, those dentists who reported seeing dental neglect frequently were more likely to undertake multi-agency communication than those who saw it less often. Perhaps, the act of naming the problem as dental neglect is the first step to managing it effectively?

Is dental neglect neglected?

Our search of the dental literature revealed little published research on dental caries or dental neglect in relation to child abuse and neglect, whether epidemiology, assessment or management. Epidemiological studies investigating the relationship between dental neglect and child neglect are few and have methodological limitations or are not generalisable to the UK population.[16-20] Greene *et al.*[18] found that a pooled sample of abused and neglected children in US military families had eight times as many untreated carious permanent teeth as controls.

At the time of our study, media criticism of communication failures between UK health and social care professionals had been widespread.[21-24] It is concerning that so few respondents had ever made a referral to social services, in spite of previous child protection training.[10] This may indicate that paediatric dentists recognise signs of concern when they see children with dental neglect but fail to take appropriate action, demonstrating again a gap between recognising and reporting abuse as noted worldwide and discussed in our previous report.[10] Alternatively, it suggests that paediatric dentists do not directly equate dental neglect with the child being at risk of significant harm from general neglect.

In some cases of dental neglect, dental management alone may be sufficient to educate families and correct any previous neglectful situation. However, we suspect that there may often be co-existing signs of general neglect and are of the opinion that our results indicate that a valuable opportunity to intervene early and prevent ongoing child neglect may be missed.[25]

The way forward

This work provides a snapshot of the self-reported practice of UK dentists with an interest in paediatric dentistry in 2005. Encouragingly, it shows that many of the principles of management of early suspected neglect, as derived from an example of multi-agency child protection procedures, are already employed almost universally by these dentists in their management of dental neglect in children. These principles are embodied in the accepted contemporary employment of a preventive care philosophy coupled with clear communication with children and parents. However, the present study raises the likelihood that, while paediatric dentists clearly do not neglect dental neglect completely they, and probably the dental profession as a whole, could more frequently go further to safeguard and promote child welfare in cases of dental neglect.

Informed by the early findings of this study, an educational resource commissioned by the Department of Health (England) was widely circulated in 2006.[26] This included a preliminary description of the features of dental neglect in children and guidance on its management. If this guidance is to be followed effectively, it is essential to ensure that current and future changes in organisation and funding of both general dental services and salaried services do not inhibit a multi-agency approach. If dentists are to play a greater role in safeguarding children, for example by rigorously following up missed appointments and contacting other professionals, they will require increased administrative support and modification of traditional clinical diary schedules.

In England, the newly established Local Safeguarding Children Boards are charged with the responsibility to set out thresholds for child protection referral[1] yet, in the case of dental neglect, have at present a paucity of evidence on which to base their decisions. This study sheds some light on how dental neglect is regarded by UK paediatric dentists but highlights the need for further research; both to explore and define the relationship between dental neglect and general neglect and to develop meaningful thresholds for intervention.

CONCLUSION

The majority of UK paediatric dentists treat children whom they describe as having neglected dentitions on a daily basis. The dentists almost universally take a range of appropriate actions aiming to promote their oral health. Yet only a small proportion regularly communicates with other health and social care professionals about these children in line with current guidance and procedures for safeguarding children. Further research is needed to elucidate the relationship between dental neglect and general neglect and to determine evidence-informed thresholds for child protection referral. In the interim, multi-agency communication should always be considered in such cases to ensure that children's welfare is safeguarded and promoted.

The authors would like to thank the staff of Ferham Dental Clinic, Rotherham for assisting with administration of the questionnaire and BSPD members for participating. They would also like to thank Jean Russell of the University of Sheffield for statistical advice. Data collection was carried out as part of an educational project commissioned and funded by the Department of Health (England) in association with the Committee of Postgraduate Dental Deans and Directors. A research grant from the British Association for the Study and Prevention of Child Abuse and Neglect (BASPCAN) provided additional funding. The views expressed here are those of the authors alone.

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2.2.5 Invitation to share examples of good practice

Also enclosed with the BSPD questionnaire was an optional structured free-text response form inviting respondents to share views and any examples of good practice. Additionally, 17 dental team professional organisations and specialist societies were separately consulted for views and suggestions.

2.2.6 Shared examples of good practice

Responses sharing good practice were received and transcribed (n= 250, 51.0% of the 490 respondents). Available resources did not permit detailed analysis but a summary of the findings, as shown in Table 4, was presented as a scientific conference poster (Harris, Franklin and Welbury, 2006).

Table 4 Respondents' views (n=250) on previous child protection training and examples of good practice

BSPD members had valued:
• Multi-agency courses (hearing other viewpoints; meeting local professionals to whom they might refer) • Information on how to refer a child when they have concerns • Discussion of relevant case scenarios (with input from a dentist) • Information on how to recognise child abuse and neglect • Concise summary of procedures (easy-to-follow flow chart)
BSPD members had since improved their:
• Record keeping (more detail; include diagrams; note even seemingly trivial injuries; check basic details at every visit) • Information sharing (both within the dental team and with others e.g. health visitors and school nurses; some formal arrangements e.g. for reporting dental trauma, repeated failed appointments)

2.3 Identifying the gaps

2.3.1 Child protection training, experience and practice

The survey confirmed that dental professionals at the time were unprepared for a role in child protection, and this even in those with an interest in paediatric dentistry whom one might expect ought to be best prepared and most experienced (Paper 2).

In Paper 2, I and my co-authors showed that post-qualification child protection training was not yet universal. Most worryingly, while 67% of respondents had at some point suspected abuse of a child patient, only 29% had ever made a child protection referral. This equates to a gap of 38% between *recognising* and *responding*: more had *not* referred children when concerned than had. Very few had repeat experience of referring cases: just 1.5% had referred three or more cases in the five years to 2005 and there were low levels of involvement in multi-agency management of cases. Record keeping regarding relevant observations and concerns also fell short. This suggests that on numerous occasions dental professionals may have been in a position to initiate intervention to save a child from continuing maltreatment but failed to do so.

The concerns about under-reporting raised by our survey were consistent with those of similar UK studies reporting at around the same time, notably that conducted with GDPs in Scotland in 2003 (Cairns, Mok and Welbury, 2005b) and with GDPs as compared to general medical practitioners (GMPs) and community nurses in Northern Ireland in 2002/03 (Russell *et al.*, 2004; Lazenbatt and Freeman, 2006). However, the proportion who had ever suspected abuse was amongst the highest in any previous study globally, as later summarised by Laud *et al.* (Laud *et al.*, 2013), indicating a high level of recognition of signs of maltreatment. Yet, worryingly, the 38% gap between recognising and responding – a failure to respond appropriately – also matched the highest reported elsewhere (Adair *et al.*, 1997).

Our further findings in Paper 2 contributed to better understanding the relative importance of different barriers to making referrals. There was a need not only to address gaps in knowledge but also to correct known misunderstandings and to include reassurances where there was unfounded professional hesitancy. The

objectives and draft content of *Child protection and the dental team*, by this time well underway, were modified accordingly.

I and my co-authors further recommended that child protection training must improve in quality, be made mandatory and be readily incorporated into busy working lives, learning from what had worked well in comparable settings, such as with GMPs (Hendry, 1997; Polnay and Blair, 1999; Bannon *et al.*, 2001). Training should include discussion of the perceived barriers to referral, address common misconceptions and ensure adequate emphasis on response to child maltreatment, not simply its recognition.

Additionally, in Paper 2, I advised it was essential for dental professionals to be supported with information, advice and reporting protocols, specifically concise, dentally relevant guidance for dental teams working in primary care. While our intention was to address as many of these issues as possible in the *Child protection and the dental team* resource itself (the immediate context and stimulus for the survey), our recommendations went above and beyond the scope of the project alone, touching on the need for change throughout the system.

2.3.2 Management of dental neglect

The survey findings regarding dental neglect (Paper 3) presented a mixed picture. Undoubtedly, it was worrying to find that UK paediatric dentists encountered children with neglected dentitions so frequently in their day-to-day practice, despite dental caries being a preventable disease: 81.0% of respondents did so once a week or more frequently, 59.9% at least once daily. However, in relation to management of dental neglect, the picture was somewhat more encouraging: dental teams frequently took actions that reflected similar principles to that advised in local multi-agency guidance for managing early general neglect (Table 3, p. 36). In relation to actions taken in response to more severe concerns, there was substantial need for improvement, dental neglect being so frequent an occurrence yet so rarely resulting in multi-agency communication (42.3% rarely or never did so) or child protection referral (95.9% rarely or never). This was particularly concerning in relation to GDPs, who see most UK children, and often do so on a continuing care basis, but had the

lowest levels of multi-agency communication (odds ratio for 'discuss with other health professional'/'make child protection register enquiry'/'refer to social services'= 0.14/0.25/0.32, p<0.000/0.000/0.011) when compared to CDS or HDS dentists.

The work I described in Paper 3 was uniquely important because, in the absence of any previous research on managing dental neglect, it established an initial evidence-base for understanding UK paediatric dentists' current practice and learning needs. The findings appeared fully congruent with what I had myself observed and when reflecting on my own practice, that of my colleagues and on discussion with fellow dental professionals. On this basis, I deemed it appropriate to tentatively include the 'three stages of intervention' (Table 3, p. 36) in original, newly written guidance on dental neglect in the draft version of CPDT, recognising that this advice was just a starting point and would need further work.

Furthermore, in Paper 3, together with my co-authors, I highlighted that administrative support and modified diary schedules would be necessary for dental teams to adequately fulfil their safeguarding responsibilities. We urged that a multi-agency approach must not be inhibited by organisational factors and lack of funding. We noted the need for further research, both to explore and define the relationship between dental neglect and general neglect and to develop meaningful thresholds for intervention.

2.3.3 Sharing good practice

The findings resulting from our invitation to share views and good practice were used to further refine the objectives of the CPDT project and inform the content. A key point made by respondents was the need for concise guidance (Table 4, p. 40), reminiscent of Lord Laming's Inquiry (2003):

> *Judging by the material put before the Inquiry, the problem is less about the ability of staff to read and understand guidelines, and more about the huge and dense nature of the material provided for them. Therefore, the challenge is to provide busy staff in each of the agencies with something of real practical help and of manageable length. The test is simply one of ensuring the material actually helps staff do their job.*

2.4 Summary: mind the gap!

In summary, Papers 2 and 3 confirmed that UK dental professionals in 2005 found child protection to be a difficult and challenging area of work and, importantly, raised the alarm to 'mind the gap' in the dental team's:

- Child protection training
- Recognising and responding to child abuse and neglect
- Involvement in multi-agency management of cases of child maltreatment
- Multi-agency communication in response to dental neglect.

Our recommendations centred on the need for improvements not only in training, but also in provision of support to the dental team in the form of:

- Concise dentally relevant guidance and advice
- Reporting protocols
- Administrative assistance
- Supportive organisational and funding structures.

These themes will be taken up in Chapter 3, when I will focus on the moves taken thereafter to develop consistency in dentistry's practice in relation to safeguarding children, and in Chapter 4 when I will go on to describe more recent innovations to support sustained improvements in practice.

Chapter 3 Towards consistency in safeguarding practice

3.1 Changing times

3.1.1 Completion of the educational resource

The CPDT expert group met between January and November 2005 under my chairship to plan, design and independently author the commissioned resource (CPDT Expert Group, 2005). Between meetings I managed all aspects of the project. It was conducted in association with the South Yorkshire and East Midlands Regional Postgraduate Deanery which provided oversight on behalf of the Chief Dental Officer for England.

An early realisation was that, in contrast to previous DHE e-learning projects which had repackaged known wisdom in an interactive format, the main challenge would be to work out first what good safeguarding practice would look like in dentistry before finding a way to communicate that to a primary care audience. To this end, in addition to the survey already described in Chapter 2, practical recommendations and documentation were tested in the field by two dental teams reporting back to the expert group: a GDS in Devon and a CDS in South Yorkshire, our 'Child Safeguarding Practices.'

On completing draft materials in summer 2005, we invited a panel of critical readers (n=15) with expertise in paediatrics, multi-agency training (from backgrounds in both health and social services), primary care dentistry and paediatric, special care and forensic dentistry to review and comment (CPDT Expert Group, 2005). Amendments were made in the light of their suggestions. Amongst much newly developed original writing receiving approval from the reviewers was content advocating the three stages of intervention for management of dental neglect (Table 3, p. 36) and six tips for practice management in relation to safeguarding children (see Table 5, p. 46).

Table 5 Reorganising: how to prepare your practice to safeguard children. Tips for best practice.

1. Identify a member of staff to take the lead on child protection
2. Adopt a child protection policy
3. Work out a step-by-step guide of what to do if you have concerns
4. Follow best practice in record keeping
5. Undertake regular team training
6. Practise safer staff recruitment

Source: *Child protection and the dental team: an introduction to safeguarding children in dental practice* (Harris *et al.*, 2006)(p P4.1[2]).

Around this time, the growing urgency and interest in child protection among paediatric dentists (beyond our working group) was reflected in BSPD's choice of invited speakers at the Teachers' Branch 2004 Study Day and Annual Conference 2005. Further, the first UK book for the dental team about abuse was published, including abuse of both children and vulnerable adults and domestic violence (Sinha *et al.*, 2005).

3.1.2 Publication of child protection guidance for dentistry

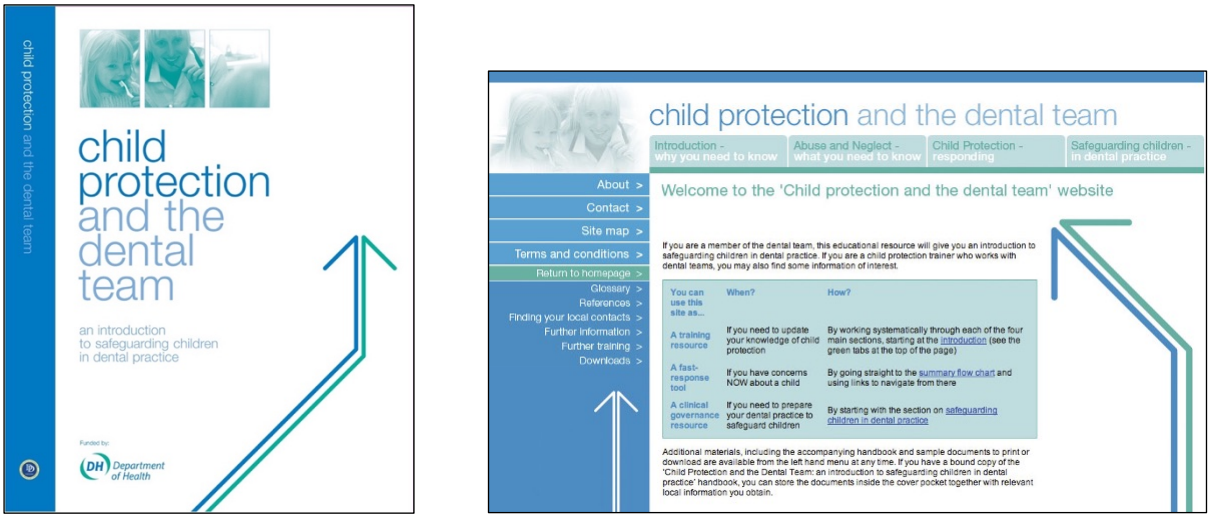
Child protection and the dental team: an introduction to safeguarding children in dental practice was published by the Committee of Postgraduate Dental Deans and Directors (COPDEND UK), bearing the Department of Health logo and endorsed by the British Dental Association (BDA) and the Faculty of General Dental Practice UK (Harris *et al.*, 2006)(Figure 1, p. 47). It was officially launched on 18 May 2006 by Health Services Minister, Rosie Winterton MP, at the British Dental Conference and Exhibition (British Dental Journal, 2006; CPDT Expert Group, 2007).

The final resource was produced in three alternative formats: a 58-page wire-bound softback colour printed handbook with 4 photocopiable loose leaves in a cover pocket, an equivalent PDF copy to download or an equivalent open-access

[2] Page numbering as in document cited

website. It gave comprehensive advice on both clinical practice and practice management under five chapter headings: *Responsibility, Recognising, Responding, Reorganising* and *Resources*.

Figure 1 ***Child protection and the dental team: an introduction to safeguarding children in dental practice*, handbook cover and website homepage**



Nine thousand copies of the handbook were distributed, free of charge, by the NHS Business Services Authority (NHS BSA), one to each NHS dental practice in England. Distribution to salaried services was administered separately by the project group in Sheffield, with additional copies sent to dental schools, dental hygiene and therapy schools, consultants in dental public health, consultants in paediatric dentistry and organisations which had responded to the consultation. In Scotland, distribution included an addendum for Scotland and was funded by the Scottish Executive. In Wales and Northern Ireland distribution followed later (CPDT Expert Group, 2007) bringing the total distributed to 10,500 copies.

Enclosed with each copy of the CPDT handbook was a covering letter from the Chief Dental Officer, unequivocally commending it to dental teams and encouraging its use to help meet their safeguarding responsibilities (Appendix 2, p. 116). Furthermore CPDT was cross-referenced in two key contemporaneously-published

national documents: in the latest version of *Working Together to Safeguard Children* (HM Government, 2006)(p. 55, Section 2.71) in which it was billed as 'guidance for all dental practice staff' in an expanded sub-section specifically mentioning dental teams for the first time, and in the *Primary Care Dental Services Clinical Governance Framework* (NHS Primary Care Contracting, 2006).

3.1.3 Surge of interest

In the weeks after the launch, the guidance featured prominently in the dental press and the authors received notable direct messages of appreciation and feedback (Appendix 3, pp. 117-119). The British Dental Journal led with an editorial entitled 'Everyone's responsibility' (Hancocks, 2006). There followed a sustained surge of interest in dentistry's role in safeguarding children as a matter for training, continuing professional development, clinical governance and improvements in patient care.

In November 2006, subsequent to a conversation at CPDT's exhibition stand at a child protection conference, the NSPCC invited a first representative from dentistry to its Health Liaison Committee (established 2001 with the purpose of sharing matters of mutual interest). I gave an invited presentation on dental neglect. The BDA and BSPD were regularly represented thereafter. BSPD established a new role of Safeguarding Children Representative as a co-opted Council member, ultimately leading to numerous other collaborations.

At the request of the Chief Dental Officer, the CPDT handbook was reprinted in 2007 and 2009, bringing the total number of copies eventually distributed to approximately 15,000. To enable individuals to purchase personal copies if wished, a small surplus was placed with a dental publisher, Stephen Hancocks Ltd., with the facility to gain verifiable CPD added somewhat later in 2012. By then safeguarding children and young people was soon to be designated as a GDC 'recommended CPD topic' in 2013 (General Dental Council, 2013b).

Safeguarding children had gained momentum in dentistry, appearing to have moved from the shadows to become a topical issue for the profession. But what impact had there been on practice? Formal evaluation was required.

3.2 Evaluating the impact of guidance on primary care dentistry

3.2.1 An evaluation of NHS dental professionals' use of CPDT

To evaluate the impact of CPDT, a postal survey was conducted in September 2008. A self-administered questionnaire was designed to elicit dental practitioners' opinions and use of the resource. The objectives were to assess whether they remembered receiving it, had used it, had found it useful and had changed their practice as a result. Sent via the NHS BSA to a random sample of 1,000 dental practices with NHS contracts, the questionnaire was to be completed and returned by the relevant lead person at the practice. Researchers with no prior involvement with the CPDT project were included in the team so that roles could be allocated to prevent or manage potential bias or conflict of interest. In Paper 4, we describe the findings and implications of the survey (Harris *et al.*, 2011).

3.2.2 Published work : Paper 4

Paper 4 Harris, J.C., Bradbury, J., Porritt, J., Nilchian, F. and Franklin, C.D. (2011) NHS dental professionals' evaluation of a child protection learning resource, *British Dental Journal,* 210(2), 75–79. https://doi.org/10.1038/sj.bdj.2011.3

NHS dental professionals' evaluation of a child protection learning resource

J. C. Harris,[1] J. Bradbury,[2] J. Porritt,[3] F. Nilchian[4] and C. D. Franklin[5]

IN BRIEF

- Confirms that a widely-distributed child protection learning resource for the dental team has been widely used.
- Shows this has had a significant impact on practitioners' self-reported knowledge, confidence and practice organisation.
- Enables readers to consider whether they themselves may find the resource useful for continuing professional education.

EDUCATION

The aim of this survey was to evaluate the impact of an educational child protection resource which had been developed and made available, free of charge, to all NHS dental practices and salaried primary dental care services in England and concurrently published online. A postal questionnaire was sent to a random sample of 1000 NHS dental practices to assess whether the learning objectives of the educational resource had been met. A total of 467 questionnaires were completed (46.7% response rate). Almost two thirds of participants (63.4%) remembered receiving the Child Protection and Dental Team (CPDT) handbook or seeing the website and almost all of them had used (looked at or read) it and felt able to access it if needed. Of the 265 users, 76.2% felt it had improved their knowledge of child protection, 60.5% had adopted a child protection policy, 53.7% had identified a child protection lead and 25.8% had arranged further training as a result of using the educational resource. The findings from the evaluation indicated that the learning objectives of the CPDT educational resource had been met and highlighted ways in which the resource could be further improved to effectively meet the needs of dental professionals.

INTRODUCTION

UK dental professionals are required by statutory guidance to work together with others to safeguard children[1–3] and by ethical standards guidance to find out about and follow local child protection procedures.[4] Indeed, many dentists who regularly treat children report that managing dental neglect is part of daily practice.[5] However, previous research has shown that dentists feel unprepared to take on a child protection role and are unsure what to do if they suspect that a child has been maltreated.[6–8] In 2005, the Department of Health (England) commissioned a working group to develop an educational resource on child protection for primary care dental teams.[9] Working in association with the Committee of Postgraduate Dental Deans and Directors (COPDEND), the working group designed the '*Child Protection and the Dental Team*' handbook and website to give all members of the dental team a basic awareness of child protection issues so as to encourage them to identify local contacts for advice and referral.

The content of the handbook was organized into five sections: 'Responsibility' (the responsibility of the dental team to be knowledgeable about child protection), 'Recognising' (how to recognise abuse and neglect), 'Responding' (what to do if abuse or neglect is suspected), 'Reorganising' (making organisational changes within the practice to meet child protection responsibilities) and 'Resources' (additional information to photocopy/download). The handbook was sent free of charge to all NHS dental practices and salaried primary dental care services (c. 9,000) in England in May/June 2006 and the website published concurrently (http://www.cpdt.org.uk/). Different distribution arrangements applied in other parts of the United Kingdom.

AIM AND OBJECTIVES

The aim of this project was to evaluate dental practitioners' opinions and use of the CPDT learning resource. The specific objectives of this study were to assess whether practitioners from NHS dental practices remembered receiving the resource, had used it, found it useful and had changed their practice as a result.

MATERIALS AND METHODS

Subjects and design

Written confirmation from the National Research Ethics Service, which indicated that formal ethical approval was not necessary for this service evaluation, was obtained before commencement of the study. A sample size of 500 was selected to yield a 95% confidence interval of ± 5%, assuming 30% of participants recalled receiving the resource. We anticipated a 50% response rate after two mailings. Therefore, questionnaires were mailed out to a random sample of 1000 dental practices with NHS contracts from the NHS Business Service Authority (NHS BSA)'s database in September 2008. This was two years after the dental practices should have received their copy of the educational resource (May/June 2006) distributed by the same method. The covering letter asked the recipient to complete the questionnaire

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or to pass it on to the relevant lead person in the practice if that was not her/him. Each questionnaire had a unique identifying number, which was linked to an address, to ensure anonymity. A second copy of the questionnaire was sent to those practices which had not responded after one month.

The two authors of this paper (JCH, CDF) who were also members of the CPDT authorship team and working group had no involvement in the administration of the survey, data entry and analysis.

The design of the evaluation questionnaire was informed by a recent Cochrane systematic review on increasing response rates to postal questionnaires[10] and comprised one A3-sized sheet of paper printed on both sides in colour and folded to produce an A4-sized 'booklet', with the questions on the two inside pages only. A copy of the questionnaire may be obtained from the corresponding author. Cognitive interviews were conducted with eight dental professionals responsible for child protection to check for their understanding and interpretation of the questions included within the questionnaire[11] and minor modifications were made as a result of this process to improve clarity.

Outcome measure

The self-completion questionnaire obtained demographic information on the staff member's age, gender and job role within the dental practice. In order to identify which practices would have received a copy of the resource the questionnaire asked staff to indicate whether their practice had held an NHS contract in May/June 2006. The questionnaire also consisted of closed questions requiring either yes/no answers or the selection of a response from a five-point Likert scale to indicate strength of agreement/disagreement. Information obtained included whether the handbook had been received and used to improve knowledge of child protection, which actions had been implemented as a result of using the resource, and which other factors had influenced child protection knowledge, attitudes or practice in the past two years. Additionally, there were two open-ended questions that asked dental practitioners to provide feedback on what they found the most useful about the CPDT resource and what they found least useful about the resource. Finally, they were invited to write any other feedback.

Table 1 Characteristics of NHS dental practice participants who had used (looked at or read) the resource (n = 265)

		Used the resource	
		%	n
Gender	Female	42.8	113
	Male	57.2	151
Job role	Therapist/hygienist	1.1	3
	Dental Nurse	3.0	8
	Dentist	75.0	198
	Practice manager	16.7	44
	Receptionist	2.7	7
	Other	1.5	4

One respondent did not declare gender and job role

Table 2 Impact of the educational resource (percentage of NHS dental practice participants who had used the resource answering 'yes')

Questionnaire item*	n	%
Have internet access at work (265)	199	75.1
Have internet access at work and have seen the website (249)	58	23.3
Could find the handbook or website if needed (226)	204	90.3
Have used the resource to improve knowledge of child protection...		
i) personally (244)	186	76.2
ii) as part of their dental team (244)	167	68.4
iii) as part of wider group learning (209)	51	24.4
As a result of using the resource the practice has...		
i) identified a staff member to lead on child protection (255)	137	53.7
ii) adopted a written child protection policy (258)	156	60.5
iii) arranged child protection training for one or more of the team (248)	64	25.8

*Figures in brackets indicate number of responses to item

Data analysis

SPSS (version 16) was used to provide a descriptive analysis of the quantitative data. Qualitative data from the open-ended text questions were analysed using thematic content analysis.[12]

RESULTS

Descriptive analysis

Of the 1000 evaluation questionnaires sent to NHS dental practices, 473 were returned; one was 'undelivered'; five were uncompleted and 467 were completed (46.7% response rate). However, 16 participants who had completed the questionnaire indicated that their dental practice did not have an NHS contract at the time the CPDT resource was distributed and were therefore excluded from the analysis, resulting in a sample size of 451.

A total of 286 (63.4%) remembered receiving or seeing the handbook or website and of this group 265 (92.6%) had used (looked at or read) the resource. The subsequent analysis uses the responses from the 265 participants who had used the handbook or website. Most of the respondents who had used the resource were dentists (75.0%) and the majority were male (57.2%) (see Table 1). The age range was from 21 years to 72 years, with a mean age of 46.3 years (SD = 8.8 years).

Three participants (1.2%) had made a

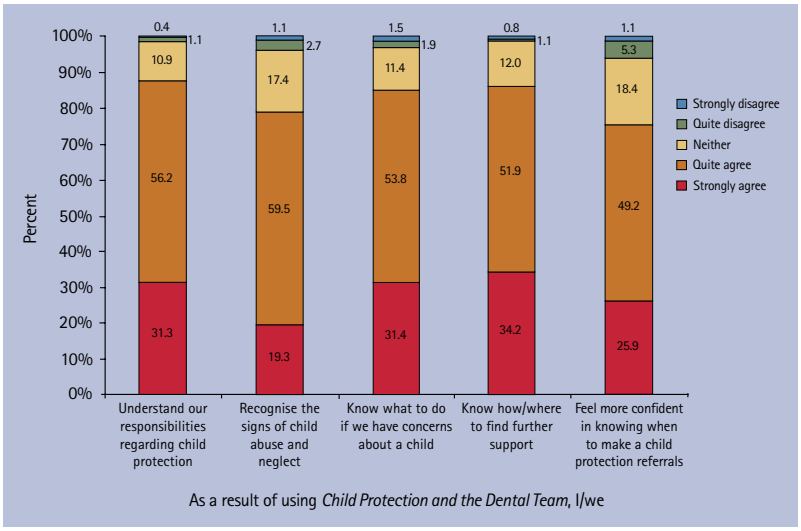

Fig. 1 The impact of the educational resource on practitioners' knowledge and practice of child protection

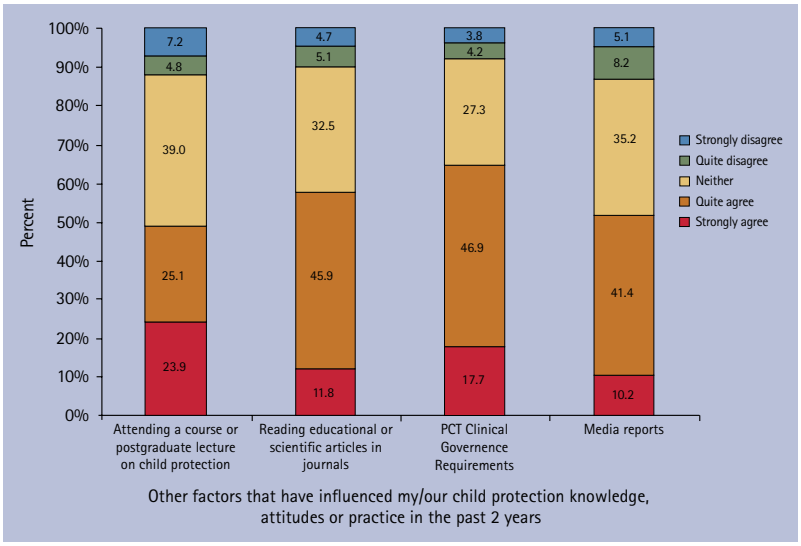

Fig. 2 Other factors which had influenced practitioners' knowledge, attitudes or practice around child protection

child protection referral in the previous two years; 259 had not made a referral and three could not remember.

Use and impact of the educational resource

Seventy-five percent of the participants had access to the internet at work and 23.3% with workplace internet access had seen the CPDT website (Table 2). Most participants knew where to locate the handbook or website should they need it (90.3%) and many had used at least one of these educational resources to improve their knowledge of child protection personally (76.2%), as part of their dental team (68.4%) and as part of wider group learning (24.4%). As a result of using the resource, over half of participants had identified a member of staff to lead on child protection and had adopted a written child protection policy (53.7% and 60.5% respectively). Around one quarter of participants had arranged child protection training for themselves or other members of their team as a result of looking at the resource (25.8%).

Participants' views on the effect of the resource on their knowledge of child protection were very positive. More than three quarters of the staff from NHS dental practices agreed or strongly agreed that, in the two-year period since receiving the CPDT resource, the resource had increased their knowledge of their responsibilities, how to recognise child abuse and neglect, what to do if concerned, where to find support and further information and increased confidence in knowing when to make a child protection referral (see Figure 1).

Figure 2 summarises the other factors that had influenced the child protection knowledge, attitudes and practice of practitioners in the two year period since receiving the CPDT handbook. Almost two thirds of participants reported being influenced by NHS Primary Care Trust (PCT) Clinical Governance requirements (64.6%), more than half of participants had been influenced by media reports (51.6%) and educational or scientific journals (57.7%) and almost half had been influenced by attendance at a continuing professional development (CPD) course on this topic (49.0%).

Positive feedback on the educational resource

Dental practitioners provided positive feedback on many different elements of the educational resource including the presentation of the booklet and website, the practical information included in the resource and the impact of the educational resource on influencing and developing their practice in this area.

In relation to the presentation of resource, the layout, ease of use, clarity and appropriateness of the language were all praised:

'*The general layout and sections make it quite a readable source of quite a difficult subject*'

'*The website was very informative and easy to navigate. Information easily found*'

Participants felt that the practical information included within the resource (for example, signs of child abuse and neglect) was particularly useful. Documents in the 'Resources' section, which could be photocopied or downloaded, also attracted favourable comments. Among these, the 'flowchart for action', which summarises the steps that should be taken when there are concerns about the welfare of a child,

was the most popular document within the resource. Participants also commented on the usefulness of including contact information for further information and advice:

'*Flowchart for referral – outlining the procedures in a straightforward and unambiguous manner*'

'*Guidance for observing signs of abuse*'

'*Most relevant was who/where/how to contact professionals for 'outside' help*'

The value of the CPDT resource for developing practices related to child protection was also discussed. Practitioners spoke of how the resource had increased the dental team's awareness of the issue of child protection and had increased staff confidence and capability to meet their child protection responsibilities:

'*Bringing awareness to the practice*'

'*Enabled us to audit our practice and develop further our practice*'

'*Help to set up child protection policy*'

Recommendations for how to improve the resource

The analysis of participants' responses, including what they 'least liked' about the resource, enabled a series of recommendations to be developed for how the educational resource could be improved. These included the need for additional content in the resource, the provision of regular updates on the subject, making the resource more concise/brief and increasing the availability of the resource.

Some practitioners felt that additional information about who could be contacted for advice/information and case studies could have been included in the resource:

'*Telephone numbers of who to contact locally for advice or central telephone number – who can then give telephone numbers for local help. Book has no help telephone numbers*'

It was proposed that regular updates could be sent out to practices to keep staff informed about the issue of child protection and that amendments to the resource should be conducted and disseminated, as necessary:

'*To send regular updates/amendments*'

Some practitioners suggested that the resource would benefit from being shorter and more concise. A number of professionals felt that the length of the booklet was a potential barrier in the use of this resource by dental care staff:

'*I understand it is complicated and very involved subject, which is very emotive and raises strong feelings; but I feel it should wherever possible be simplified. Something smaller and less formidable in volume would encourage other staff to read it*'

'*Should be a concise booklet that could be read over lunch*'

Notably, a number of professionals indicated they would like to see the resource publicised more and made more widely available:

'*Advertise website more*'

'*More copies for staff to take away*'

A minority of participants commented that they did not find the resource useful and some felt that they received all the necessary information they required from attending courses or from existing policies/literature on the subject of child protection:

'*Our PCT has its own comprehensive safeguarding children policy and procedures, training etc. For our service using this Child Protection and the Dental Team package would have been a confusing duplication*'

'*I find going to courses more helpful*'

DISCUSSION

Interestingly, more than two years after the CPDT educational resource had been made available to NHS dental practices, two thirds of participants who should have received it remembered doing so and almost all of them felt they could locate the handbook or the website if needed. The booklet was more widely used than the website, suggesting that updating the website alone may not be an effective method of reaching most practices.

Over three quarters of practitioners who accessed the resource felt that the CPDT resource had influenced their knowledge of child protection (responsibilities, recognising signs of abuse, what to do, useful contacts, appropriate actions) and increased their confidence in knowing when to make a child protection referral. Around a half reported that their dental practice had adopted a written child protection policy as a result of receiving the handbook. Therefore, while previous research has found that written educational resources typically only have a small beneficial effect on professional practice,[13] from the findings in this study, it appears that the CPDT resource did have a significant impact on practitioners' knowledge, confidence and practice organisation relating to child protection.

Approximately half of the practitioners felt that PCT clinical governance requirements, educational and scientific articles, courses and media reports had also influenced their attitudes, knowledge and practice around child protection. This reveals that practitioners develop their knowledge of child protection issues through a wide variety of methods.

Participants were overwhelmingly positive about the presentation of the educational resource and the usefulness of the information it included. Some staff discussed how using the resource had raised their awareness of child protection and described the different ways that it had directly influenced their practice. However, a number of recommendations for how the resource could be improved were suggested, which included: updating the resource regularly; raising dental practitioners' awareness of the booklet and website; and increasing the availability of the booklet to dental practices. Some staff also felt that the booklet should be shorter to encourage all members of the dental practice to read the resource. One method of encouraging staff to access the resource without compromising the depth of information provided in the CPDT handbook could be to develop a pocket or summary CPDT booklet, which contains basic information about child protection and signposts practitioners to specific sections of the CPDT handbook for more detailed information.

Although posted to the lead dentist at each practice, responses were received from non-dentists. This suggests that the child protection leadership role in dental practices is undertaken by different team members and that the resource had reached beyond dentists to staff who held other roles within the dental team. These observations support earlier findings from a 2007 survey of UK dental therapists, which revealed that 48% of dental therapists had a copy of the CPDT handbook.[14]

Furthermore, the resource had been used for both individual and team learning.

While the evaluation provided some insight into the impact of the CPDT educational resource on dental practitioners' practice, the study was not without limitations. It should be recognized that just under half of the NHS dental practitioners invited to participate in the study completed and returned evaluation questionnaires. It is possible that a proportion of those practices which did not participate in the study may have not held an NHS contract in May/June 2006 and, therefore, may never have received the CPDT resource. However, it is also possible that those staff who participated in the study had a particular interest in child protection or held strong opinions about the resource. Therefore, the perspectives and experiences of those staff who participated in the study may not be representative of all staff working in NHS dental practices.

It is not known whether increased knowledge and confidence actually resulted in practitioners taking appropriate action when concerned about a child. No baseline information on frequency of child protection referrals by the dental team is available for comparison. However, the finding that 1.2% of users had made a referral in the past two years confirms that dental practitioners are active in bringing children's needs to the attention of the agencies responsible for child protection and could consequently be instrumental in saving a child from ongoing maltreatment.

CONCLUSION

Approximately two thirds of dental staff who completed the evaluation questionnaire remembered receiving the CPDT educational resource. The majority of staff who had used the resource reported that it had made a positive contribution to their knowledge of child protection.

Our thanks go to the NHS BSA, those individuals who participated in the cognitive interviews and therefore helped in the design of the evaluation questionnaire and to all of the dental practitioners who took the time to complete the evaluation questionnaire. We would also like to acknowledge the positive contributions made by Dr Zoe Marshman and Professor Peter G. Robinson who provided advice on the conduct and interpretation of this evaluation. The handbook and website were funded by the Department of Health. However, the funding source had no involvement in the design of this study or collection, analysis and interpretation of data.

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3.2.3 Use and impact of CPDT

In Paper 4, we found that the majority of NHS dental professionals (62.4%) remembered receiving the CPDT handbook or seeing the website and, of those, 92.6% had used it and 90.3% were confident they could find it if needed. Furthermore, CPDT had influenced self-reported practice more than is anticipated for a written educational resource. Key findings are summarised in Table 2 (p. 15), both quantitative findings and the results of qualitative analysis of free-text answers which revealed both positive feedback and suggestions for improvement. A contemporaneous Cochrane review found that clinical practice guidelines typically only have a modest beneficial effect on professional practice (Farmer *et al.*, 2008) yet these practitioners reported substantial improvements in their knowledge, confidence and practice organisation as a direct result of using the handbook or website.

Both dentist and non-dentist team members responded on behalf of their workplaces, thus confirming involvement of the whole dental team in safeguarding leadership. The survey confirmed that dental teams in NHS general practice were active in making child protection referrals. Three respondents (1.2%) in the sample of 1,000 practices (randomly taken from the NHS list of approximately 9,000) had made a child protection referral in the preceding two years. If extrapolated to the GDS as a whole, this is equivalent to 13 children in England per year being referred to social services by a dental professional at the most conservative estimate (3 x 9,000/1,000 = 27 per 2 years; / 2 = 13.5 per year): thirteen children assessed for risk of significant harm because of maltreatment who might otherwise have slipped through the net.

This was, to our knowledge, the only published data from which the number of child protection referrals in England by GDPs and their teams could be estimated. The true figure is likely higher because the question was asked of the individual, not the whole dental team at the responding practice, and this calculation assumes no referrals by non-responders to the survey. The background numbers of referrals prior to 2006 is not known, nor is it known whether any of these referrals were directly attributable to use of CPDT. Furthermore, it should be noted that self-reported accounts of referral are prone to recall and social desirability biases.

Ideally, to identify referral trends, one would obtain accurately dated referral data directly from local safeguarding children boards (LSCBs). Our understanding at the time was that LSCB records of referrers' occupations did not identify dental professionals as a separate category. To date only Kvist and colleagues (2017), in one municipality in Sweden, have taken the more rigorous approach of examining social services data, reporting in detail not only the changes in prevalence of reporting during 2008 to 2014 but also the main child protection issue of concern and the socioeconomic distribution of areas from which reports originated.

Finally, our survey provided brief but unique insight into other self-acknowledged influences on practitioners' knowledge, attitudes and practice. Almost two thirds (64.6%) agreed ('quite agree' plus 'strongly agree') that NHS clinical governance requirements had been influential. The proportions were 51.6% for media reports, 57.7% for reading educational or scientific journal articles and 49.0% for attending a child protection continuing professional development (CPD) course or lecture. The highest proportion of 'strong' agreement was in those influenced by a CPD course or lecture (23.9%), perhaps indicating the persuasive effect of face-to-face contact with educators. Interestingly, with respect to the influence of media reporting, peaks in traffic to the CPDT website tended to coincide with national media coverage of serious cases, such as the death of baby Peter Connolly ('Baby P'), suggesting that incidents in the news may prompt dental professionals to improve their practice (CPDT Project, 2013).

These external factors, and perhaps others beyond the scope of our questioning, may explain the apparent success of CPDT in changing professionals' self-reported practice within a relatively short 2-year timeframe. A more recent Cochrane review acknowledges that multifaceted approaches and secular trends are both important factors in relation to impact (Giguère *et al.*, 2020). The CPDT project as a whole has some features of a multifaceted intervention, if viewed as not being limited to provision of educational materials alone but including the related CPD availability and educational and scientific presentations and publications which followed (see Section 3.2.4, p. 53 and Section 3.3.1, p. 54). Considering the influence

of secular trends, it undoubtedly benefitted from the increased interest in and government prioritisation of safeguarding children in the mid-to-late 2000s.

In the Netherlands, an online survey which evaluated GDPs' use of an information brochure and five step action plan makes for an interesting comparison (van Dam, van der Sanden and Bruers, 2015). The 'reporting code for dental professionals' (RCD) was nationally-distributed in 2012 by the Royal Dutch Dental Association (KNMT), prior to introduction in 2013 of legally mandated reporting of domestic violence and child abuse (KNMT, 2023). When surveyed two years later (an equivalent interval to our Paper 4), only 51% had implemented the reporting code. The proportion of GDPs acknowledging some influence of the guidance on their knowledge/confidence and alertness/actions was very different in these studies – 75% or more for CPDT, 30% for RCD – the UK without legally mandated reporting, the Netherlands with. It is unclear whether this difference should be attributed to different legal environments or the content of the guidance. However, feedback provided by GDPs in both studies could prompt helpful amendments if such resources are later updated.

3.2.4 Additional perspectives on impact of CPDT

External, independent perspectives on the usage and impact of CPDT can be found in the work of other researchers, inferred from citations in the scientific literature or from requests received to collaborate on other projects.

Notably, in a 2010 postal survey in Scotland four years after publication, 55% of GDPs said they had read the CPDT handbook (Harris C. M., Welbury and Cairns, 2013).[3] A significantly greater proportion of those either with child protection training or who had read CPDT recognised features of dental neglect, when compared to those without training or prior use of CPDT ($p<0.005$). The same paper credited CPDT as having raised awareness of child protection and signposted it as a source of reassurance and information to address practitioners' outstanding worries.

[3] Note that Dr CM Harris, later known as Dr Park, is unrelated to the candidate

A further perspective on the ongoing impact of CPDT was obtained in 2013 by sending an electronic survey to all UK members of the Consultants in Paediatric Dentistry Group (n=83). The aim was to explore current opinion on CPDT's ongoing role, particularly in relation to its personal use by UK consultants, in supporting teaching and likely impact if discontinued. Twelve of 14 UK undergraduate dental schools were represented in the responses. An unpublished report of the findings is included as Appendix 4 (pp. 120-124).

In 2013, having obtained additional short-term funding from COPDEND, the CPDT website design and content was reviewed and fully updated, and future funding options were appraised. Following negotiations, web hosting of CPDT was transferred to the BDA in March 2016, maintaining free-of-charge open access for all dental professionals to its content, with a three-hour verifiable CPD option added in June 2016 as a BDA membership benefit.

3.3 A changing landscape in paediatric dentistry

3.3.1 New perspectives in the UK and around the world

Over the decade between the mid-2000s and mid 2010s, it appeared that there had been a transformation in the UK dental profession's position in relation to safeguarding children – moving from 'passive onlooker' to actively engaged. The GDC had strengthened professional regulatory guidance, first with a statement about the dental team's responsibilities in relation to protection of children and vulnerable adults (General Dental Council, 2008), then adding it as a CPD 'recommended topic' (although stopping short of making it 'highly recommended') (General Dental Council, 2013c; General Dental Council, 2013b) while establishment of CQC inspections of healthcare providers, including primary care dental practices, ensured compliance with safeguarding governance requirements across all settings (Care Quality Commission, 2010; Care Quality Commission, 2015).

Evidence of interest and changing UK practice in dental team involvement in recognising and responding to maltreatment, at least within the speciality of Paediatric Dentistry, was seen in a greater number of related scientific conference

presentations (Appendix 5, pp. 125-126). Meanwhile international research interest was observed in peer-reviewed scientific publications: increasing both in *number* as the surveys of self-reported knowledge, attitudes, training, experience and practice were widely replicated (Laud *et al.*, 2013) and in *variety* as new research questions were posed (Kvist *et al.*, 2012; Kvist *et al.*, 2013; Kvist *et al.*, 2014b; Kvist *et al.*, 2014a). In the USA, which had led the way in recognising the need for training (Needleman, MacGregor and Lynch, 1995), there were now publications on new developments in training programmes (Ivanoff and Hottel, 2013; Shapiro, Anderson and Lal, 2014; Raja *et al.*, 2015).

There were ongoing opportunities to share my learning with new or wider audiences: whether by invitation or proactively, in person or in print, and with policy makers or practitioners (Appendix 6, pp. 127-129). Amongst these were the first ever symposium on dental health and child welfare for child protection professionals at the BASPCAN (now AoCPP) Congress in Edinburgh in 2015. Later the same year, when the UK hosted two international dental congresses, safeguarding was showcased in themed sessions at the IAPD and IOC congresses in Glasgow and London. Educational update articles were provided for journals favoured by clinicians (Harris, Sidebotham and Welbury, 2007; Balmer, Gibson and Harris, 2010; Harris, 2012) and new chapters developed for established dental textbooks (Harris, 2010; Harris and Welbury, 2012).

3.3.2 A repeat survey of paediatric dentists' training, experience & practice

In 2016, together with co-authors, I repeated the 2005 cross-sectional postal survey to UK paediatric dentists. Initially conducted to analyse their training needs, this time the purpose was to investigate progress in the intervening period. This we referred to as the '11-years-on' study, included here as Paper 5 of the thesis (Harris, Baker and Elcock, 2022). The aim was to examine trends over time in paediatric dentists' child protection practice and to explore factors associated with making referrals.

3.3.3 Published work: Paper 5

Paper 5 Harris, J.C., Baker, S.R. and Elcock, C. (2022) Paediatric dentists' role in child protection practice: progress over time? *International Journal of Paediatric Dentistry,* 32(5), 714–723. https://doi.org/10.1111/ipd.12950

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ORIGINAL ARTICLE

Paediatric dentists' role in child protection practice: Progress over time?

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Abstract

Background: Child maltreatment (abuse and neglect) is a global public health problem. Healthcare professionals must contribute to safeguarding and promoting the welfare of children at risk.

Aim: To determine whether paediatric dentists' rates of child protection training, experience and practice have changed and to identify factors currently associated with maltreatment recognition and referral.

Design: A pre-piloted anonymous questionnaire was mailed to the UK-based British Society of Paediatric Dentistry members in 2005 ($n = 789$) and 2016 ($n = 575$). Analysis was conducted for practising dentists.

Results: Response rates were 66.3% in 2005 and 62.4% in 2016. Increases were observed in respondents' postgraduate child protection training (87.2% vs. 99.7%), multi-agency training (27.9% vs. 49.2%), ever suspected (67.9% vs. 82.3%) and ever referred child maltreatment (30.7% vs. 61.0%). The proportion who had suspected maltreatment but never referred a child reduced from 37.2% to 21.3%. Having referred more than five times in the preceding five years rose from 0.4% to 14.6% of respondents, yet those seeing children with neglected dentitions daily or more frequently remained unchanged.

Conclusion: This repeated cross-sectional survey demonstrates a substantial improvement in UK paediatric dentists' training and practice, but a gap remains between suspecting and referring maltreatment concerns such that some children remain at risk.

KEYWORDS

child abuse, child maltreatment, child neglect, child protection, dental education, dental professionals, ethics

1 | INTRODUCTION

Child maltreatment (abuse and neglect) is a global public health problem.[1] It has diverse and long-lasting adverse effects on all aspects of children's health and development.[2] In the USA alone, it is estimated that 1720 children died from abuse and neglect in 2017, a rate of 2.32 per 100 000 children.[3] During childhood, 8.9% of UK children under 11 years, 21.9% of young people aged 11–17 years and 24.5% of young adults (18–24 years) report having experienced maltreatment at least once.[4] Health professionals, including dental professionals, have an important role in 'child protection': recognition of children at risk of significant harm from maltreatment and referring them to social services (also known as child welfare or children's services).[5,6] Increasingly, a wider role in 'safeguarding and

promoting welfare' includes early referral of vulnerable children for family support before a crisis occurs.

Amongst dental professionals, there is a wide variation in practice globally[7]: 15%–67% self-reported having ever-suspected maltreatment of a child in their care. Yet, a smaller proportion (3%–47%) had ever referred to social services, irrespective of differing professional settings or job roles.[7] Where earlier surveys have subsequently been repeated, modest improvements in dentists' recognition and response to maltreatment have been reported.[8–10] The Nordic countries report the highest rates of referrers,[10,11] but gaps in practice between having suspicions and making referrals remain and it is unclear whether this is because of inadequate training or other factors. One such factor may be dentists' response to dental neglect. Dental neglect is an important issue,[6,12] which has been downplayed in the oral health literature,[13] yet is now evidenced as the most common reason for dentists' child protection reports in Sweden and Norway.[14,15]

The aim of this study was to examine trends over time in the child protection practice of UK dentists with an interest in paediatric dentistry (hereafter referred to as 'paediatric dentists') and to explore factors associated with making referrals. Our research questions are as follows:

1. How has paediatric dentists' child protection training, experience and practice changed over a 11-year period from 2005 to 2016?
2. What are the demographic, training, experience and attitudinal factors associated in 2016 with paediatric dentists' decisions to refer suspected child maltreatment?
3. What demographic, training, experience and attitudinal factors distinguish in 2016 paediatric dentists who have suspected maltreatment but never referred their concerns from those who have suspected and referred?

Why this paper is important to paediatric dentists

- Paediatric dentists have the opportunity to recognise signs of child maltreatment (abuse and neglect) and the responsibility to refer concerns to social services (child welfare services).
- Previous studies globally have demonstrated a widespread, persistent and worrying shortfall in child protection training, experience and practice.
- This UK paper shows a substantial improvement after 11 years yet highlights the need for further guidance, advice, organisational and administrative support to help dental professionals protect children at risk.

2 | MATERIALS AND METHODS

A postal questionnaire used in our previous 2005 survey[16] was revised and updated (see Appendix S1). It included a total of 63 items, in six sections (demographic details, child protection training, child protection experience, management of dental neglect, management of missed appointments and recent changes to practice). The findings from the first three sections of the questionnaire (32 items) are reported here; the remainder, including questions focussed on UK-specific service delivery and others newly included in 2016, will be reported separately. The majority of questions required yes/no responses, for example, 'Have you ever suspected child maltreatment (abuse or neglect) in one of your patients?' 'Yes/no'. Other questions required selection of the appropriate response from options provided, for example, 'On how many occasions in the last 5 years?' 'One/two/three/four/5-9 times/10 or more'. Pre-testing was conducted by cognitive interviews[17] with nine dental professionals from varied clinical backgrounds, checking for understanding and interpretation of questions. Further minor amendments were made to improve clarity.

As in the 2005 survey, the 2016 participants were all UK-based members of the British Society of Paediatric Dentistry (BSPD): 575 dentists and dental care professionals (DCPs) working in all types of practice setting. Questionnaires were printed, and each assigned a unique identifying number linked to a participant's address. The mailing, conducted in May 2016, included a cover letter explaining the study's purpose and giving assurance of anonymity. Reminders were sent using email and social media. After eight weeks, non-respondents were identified by number only to receive a repeat mailing. Our methods were informed by evidence on how to increase response rates.[18]

The study received ethical approval from the University of Sheffield, UK (ref. 007488).

2.1 | Statistical analysis

Data were entered into IBM SPSS Statistics v.24 in duplicate and electronically verified. The file was merged with the 2005 dataset, and exclusion criteria were applied: not clinically active, work outside the UK or non-dentists. DCPs were excluded because of insufficient numbers to permit separate analysis ($n = 15$). The first step was a descriptive analysis of the study variables, followed by

the chi-squared tests to examine changes in training and practice over the 11-year period (Research Question 1). Missing data were excluded, and results expressed as valid per cent. Respondents were classified into three groups according to self-reported past experience of maltreatment recognition and response: 'never suspected and never referred' (NSNR), 'suspected but never referred' (SNR) and 'suspected and referred' (SR).

To address Research Question 2, Spearman's correlations were carried out between ever referred child maltreatment (yes/no) in 2016 and all demographic, training, experience and attitudinal factors.

For Research Question 3, the chi-squared tests were carried out between the SNR ($n = 64$) and SR ($n = 177$) groups in 2016 for each of the demographic, training, experience and attitudinal factors. The NSNR ($n = 49$) group was not included in this analysis.

3 | RESULTS

In 2016, 359 responses were received, a response rate of 62.4% (490 and 66.3% in 2005). After the application of exclusion criteria, responses from 295 practising UK dentists were available for 2016 analysis (not clinically active = 47; work outside the UK = 2; non-dentists = 15) and 448 from 2005 (breakdown of reasons for exclusion not available). Demographic data demonstrated an increased proportion of women (26.9% in 2005 vs. 82.5% in 2016) and registered specialists in paediatric dentistry (29.5% vs. 38.3%) in 2016 (see Table 1). A number of missing responses per item are reported as Supporting Information available online.

3.1 | Change over time

Changes in respondents' reported training between 2005 and 2016 are summarised in Table 2A. In 2016, all but one respondent had completed child protection training since qualification (87.2% vs. 99.7%). There was an increase in the proportion of respondents who had undertaken half-day or longer courses (76.7% vs. 90.5%) and courses taught by multi-agency trainers (27.9% vs. 49.2%).

The proportion of respondents who had ever suspected maltreatment of a child in their care increased from 67.9% to 82.3% and for those who had ever made a child protection referral to this had risen from 30.7% to 61.0%, thus narrowing the gap between recognition and response from 37.2% to 21.3%. For those who had ever suspected or ever referred maltreatment, they had done so more frequently in the 5 years leading up to 2016 than prior to 2005. In

TABLE 1 Demographics of respondents in 2005 ($n = 448$) and 2016 ($n = 295$)

	Proportion of respondents % (*n*)			
	2005	**2016**	χ^2	***P* value**
Gender				
Male: female	73.1:26.9 (324:119)	17.5:82.5 (51:240)	231.520	0.000***
Years since qualified				
Less than 10	17.4 (78)	21.7 (64)	30.319	0.000***
10–19	23.7 (106)	29.5 (87)		
20–29	42.4 (190)	23.4 (69)		
More than 30	16.5 (74)	25.4 (75)		
Job type[a]				
General dental practitioner	(55)	12.9 (38)	-	-
Community/salaried service	(286)	46.8 (138)		
Hospital/academic	(162)	38.3 (113)		
Other	(2)	2.0 (6)		
Specialist in paediatric dentistry				
Yes: no	29.5:70.5 (132/315)	38.3:61.7 (113/182)	6.145	0.013*

Note: Chi-squared test, *p*-values: * < 0.05; ** < 0.01; *** < 0.001.

[a]In 2005, 'tick all that apply' was required; therefore, proportion not reported because some responders had more than one job type; in 2016, 'main job role' was required.

TABLE 2 Reported (A) child protection training, (B) experience and practice, (C) frequency of seeing children with neglected dentitions and (D) factors affecting decision to refer in cases of suspected child maltreatment

	Proportion of respondents % (*n*)			
	2005	**2016**	χ^2	***P* value**
A. Child protection training				
Child protection included in undergraduate training	25.6 (113)	42.5 (124)	24.727	0.000***
Undertaken child protection training since qualification	87.2 (390)	99.7 (294)	52.461	0.000***
Training was a half-day course or longer	76.7 (296)	90.5 (267)	23.568	0.000***
Trainers were multi-agency (eg, health with social services, police, education)	27.9 (125)	49.2 (145)	34.517	0.000***
B. Child protection experience and practice				
Agree dental team well placed to recognise signs of child maltreatment	93.9 (416)	97.6 (284)	5.895	0.020*
Ever suspected child maltreatment	67.9 (303)	82.3 (241)	19.335	0.000***
Ever made a child protection referral to social services/police/NSPCC	30.7 (136)	61.0 (177)	66.318	0.000***
Prefer to discuss suspicions with a dental colleague	86.8 (376)	86.5 (249)	0.021	0.884
Have seen a copy of local SCB procedures	62.4 (274)	80.5 (236)	28.356	0.000***
Attended a child protection case conference	9.7 (43)	18.6 (55)	11.937	0.000***
Attended court as a witness in a child protection case	2.0 (9)	3.4 (10)	1.262	0.256
Provided a written report for the court[a]	-	23.1 (68)	-	-
Sat on a multi-agency child protection committee	6.3 (28)	6.8 (20)	0.057	0.811
Used the CPDT handbook or website to help decide what to do[a]	-	54.8 (161)	-	-
C. Frequency of seeing children with neglected dentitions				
6 monthly or less frequently	6.3 (27)	8.2 (24)	1.647	0.437
Weekly or monthly	33.6 (145)	30.1 (88)	-	-
Daily or more frequently	60.2 (260)	61.6 (180)	-	-
D. Factors affecting decision to refer in cases of suspected child maltreatment				
Lack of certainty about diagnosis	77.7 (334)	52.9 (153)	49.084	0.000***
Fear of family violence to child	53.0 (222)	58.8 (171)	2.326	0.128
Fear of consequences to child from statutory agency intervention	53.7 (225)	33.8 (97)	27.531	0.000***
Concerns about confidentiality	35.6 (148)	16.4 (47)	32.684	0.000***
Fear of family violence to self	31.8 (130)	27.5 (79)	1.464	0.228
Lack of knowledge of referral procedures	30.2 (124)	11.8 (34)	34.473	0.000***
Fear of litigation	29.1 (120)	22.0 (63)	4.485	0.035*

Note: Chi-squared test, *p*-values: * < 0.05; ** < 0.01; *** < 0.001.

Abbreviations: CPDT, Child Protection and the Dental Team (Harris et al, 2006/13); NSPCC, National Society for Prevention of Cruelty to Children; SCB, Safeguarding Children Board (or Area Child Protection Committee in Scotland).

[a]Question not asked in 2005.

2005, 4.9% of all respondents ($n = 24$) had suspected maltreatment five or more times in the preceding five years, rising to 27.1% ($n = 80$) in 2016. For referring maltreatment to social services five or more times, the proportion rose from 0.4% of all respondents ($n = 2$) in 2005 to 14.6% ($n = 43$) in 2016.

With respect to respondents' allocated groups for self-reported past experience of maltreatment recognition and response, the proportion in both the NSNR (31.9% vs. 16.9%) and SNR groups (37.3% vs. 22.1%) was lower in 2016, with a corresponding substantial increase in the SR group (30.8% vs. 61.0%), those dentists who had experience of both suspecting and referring maltreatment (Figure 1).

More respondents in 2016 agreed that the dental team is well placed to recognise maltreatment (93.9% vs. 97.6%), had seen local safeguarding board procedure documents (62.4% vs. 80.5%) and had attended a child protection case

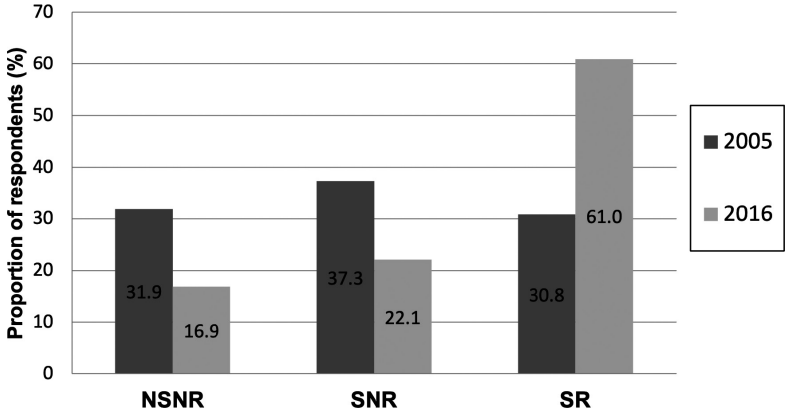

FIGURE 1 Paediatric dentists in 2005 ($n = 448$) and 2016 ($n = 295$) who had 'never suspected and never referred' (NSNR), 'suspected but never referred' (SNR) and 'suspected and referred' (SR)

conference, the latter rising to almost a fifth of respondents (9.7% vs. 18.6%) (see Table 2B). Attendance at court as a witness and involvement in multi-agency child protection committees remained unchanged and low. The 2005 survey preceded publication of UK-wide distribution of child protection guidance for the profession, *Child Protection and the Dental Team* (CPDT)[19]; in 2016, 10 years after its publication, 54.8% of respondents reported having used it to help decide what to do. Seeing children with neglected dentitions remained a frequent occurrence (Table 2C), with three in five dentists reporting this daily or more often in both 2005 and 2016.

Self-acknowledged factors, or barriers, affecting decision-making whether to refer a child when suspecting maltreatment are shown in Table 2D. All saw significant reductions in 2016 compared with 2005, with the exception of 'fear of family violence to the child', which became the most frequently rated factor in 2016, and 'fear of violence to self'. The largest reduction was observed in 'lack of certainty about the diagnosis' (77.7% vs. 52.9%). 'Impact on the practice' was also investigated, but very low frequencies were reported (4.1% vs. 2.4%).

3.2 | Factors associated in 2016 with decision to refer suspected maltreatment

A number of factors were significantly associated with having ever referred suspected maltreatment. Being a specialist in paediatric dentists, having seen a copy of local Safeguarding Children Board (SCB) procedures, having attended a child protection case conference, attended court as a witness in a child protection case, provided a written report for the court, sitting on a multi-agency child protection committee and having used the CPDT handbook or website were all positively associated with having ever made a child protection referral to social services. Of these, the strongest positive correlates were being a specialist (correlation coefficient: $\rho = 0.340$, $P = <0.001$) and having provided a report for the court ($\rho = 0.319$, $P = <0.001$). Conversely, main job type being general dental practitioner (GDP) rather than community/salaried service or hospital/academic, having undertaken training as a single lecture (rather than a half-day or longer course), training delivered by a dentist alone (rather than with multi-agency partners), preference to discuss suspicions with a dental colleague before taking action and seeing children with neglected dentitions less frequently were all negatively associated with having ever referred to social services (ie, 'barriers' to referral). Likewise, all the factors affecting decision to refer (lack of certainty, fears of violence and lack of knowledge, as in Table 2D) were confirmed as barriers to referral, lack of certainty about diagnosis being most strongly so ($\rho = -0.307$, $P = <0.001$). Further detail is available online in Table S3.

3.3 | Factors distinguishing in 2016 dentists who have suspected maltreatment but never referred concerns from those who have suspected and referred

The chi-squared analysis indicated that there were some significant differences in the factors between the SNR and SR groups (see Table 3). Most notably, those dentists in the SR group compared with the SNR group were more likely to be: community/salaried or hospital/academics than GDPs, and registered specialists in paediatric dentistry than non-specialists. The SR group was less likely to prefer to discuss suspicions with a dental colleague before taking action, less likely to fear litigation, consequences to the child from social services intervention, less likely to feel they lacked knowledge of referral procedures or certainty about diagnosis, or to have concerns about confidentiality. Although lack of certainty about the diagnosis

TABLE 3 Chi-squared analysis of the 2016 demographic, training, experience and attitudinal factors for the dentists who have suspected maltreatment but never referred their concerns (SNR group; $n = 64$) and those who have suspected and referred (SR group; $n = 177$)

Factor	SNR group % (number)	SR group % (number)	χ^2	*P* value*
Gender Male: female	17.2:82.8 (11:53)	14.9:85.1 (26:148)	0.18	0.67
Job type				
• GDP	22.2 (14)	5.1 (9)	16.76	0.000***
• Community/salaried	47.6 (30)	49.4 (87)		
• Hospital/academic	30.2 (19)	45.5 (80)		
Specialist in paediatric dentistry Yes: No	20.3:79.7 (13:51)	50.8:49.2 (90:87)	17.91	0.000***
Years since qualified				
• Less than 10	21.9 (14)	17.5 (31)	2.60	0.46
• 10–19	31.3 (20)	31.1 (55)		
• 20–29	18.8 (12)	28.2 (50)		
• More than 30	28.1 (18)	23.2 (41)		
Child protection in UG training Yes: No	39.1:60.9 (25:39)	46.0:54.0 (80:94)	0.91	0.34
Half-day course or longer Yes: No	90.6:9.4 (58:6)	94.9:5.1 (168:9)	1.48	0.22
Multi-agency training Yes: No	46.9:53.1 (30:34)	55.9:44.1 (99:78)	1.55	0.21
Dental team well placed to recognise signs of maltreatment Yes: No	98.4:1.6 (62:1[a])	98.9:1.1 (173:2[a])	0.74	0.79
Discuss suspicions with a dental colleague Yes: No	98.4:1.6 (61:1[a])	79.2:20.8 (137:36)	12.68	0.000***
Concerns about impact on the practice Yes: No: N/A	3.3:68.3:28.3 (2[a]: 41:17)	2.3:70.9:26.9 (4[a]: 124:47)	0.27	0.87
Fear of family violence to child Yes: No	66.7:33.3 (42:21)	55.1:44.9 (97:79)	2.55	0.11
Fear of family violence to self Yes: No	24.2:75.8 (15:47)	23.0:77.0 (40:134)	0.04	0.85
Fear of litigation Yes: No	32.4:67.7 (20:42)	14.4:85.6 (25:149)	9.48	0.002**
Fear of consequence to child Yes: No	47.6:52.4 (30:33)	26.4:73.6 (46:128)	9.53	0.002**
Lack of knowledge of referral procedures Yes: No	24.2:75.8 (15:47)	5.2:94.8 (9:165)	18.10	0.000***
Lack of certainty about diagnosis Yes: No	75.8:24.2 (47:15)	42.0:58.0 (73:101)	20.96	0.000***
Concerns about confidentiality Yes: No	22.2:77.8 (14:49)	8.6:91.4 (15:159)	7.97	0.005**
Seen ACPC/SCB procedures Yes: No	71.9:28.1 (46:18)	86.9:13.1 (153:23)	7.51	0.006**
Attended child protection case conference Yes: No	12.5:87.5 (8:56)	24.9:75.1 (44:133)	4.24	0.039*

(Continues)

TABLE 3 (Continued)

Factor	SNR group % (number)	SR group % (number)	χ^2	*P* value*
Attended court as a witness Yes: No	0.0:100.0 (0[a]: 64)	5.6:94.4 (10:167)	3.77	0.052
Provided written report Yes: No	6.3:93.8 (4[a]: 60)	34.5:65.5 (61:116)	19.00	0.000***
Sat on child protection committee Yes: No	1.6:98.4 (1[a]: 63)	10.7:89.3 (19:158)	5.20	0.023*
Used CPDT handbook or website Yes: No	45.3:54.7 (29:35)	64.2:35.8 (113:63)	6.93	0.008**
Frequency of seeing children with neglected dentitions			15.10	0.001**
6 monthly or <	12.7 (8)	4.5 (8)		
Weekly or monthly	42.9 (27)	24.4 (43)		
Daily or >	44.4 (28)	71.0 (125)		

[a]Cells with fewer than five participants.

was a barrier for far fewer respondents overall in 2016 compared with 2005 (2005 vs. 2016 = 77.7% vs. 52.9%), it remained a barrier for 75.8% of the SNR subgroup and was the factor that most strongly distinguished this subgroup from the SR group.

4 | DISCUSSION

Studies globally have demonstrated a widespread, persistent and worrying shortfall between expected standards and dentists' self-reported child protection training and practice.[7,20] Our findings in this study show that UK paediatric dentists now report being better trained, more experienced and more actively involved in child protection than they did in 2005. Post-qualification child protection training is in effect universal, and there has been an increase in the time spent on training. Furthermore, 90.5% have now been taught by trainers from multi-agency backgrounds, the very agencies with which they will communicate when actually referring a child, likely to facilitate a deeper understanding of each other's perspectives and improve the quality of information sharing.

In 2016 compared with 2005, a higher proportion of paediatric dentists had ever suspected maltreatment and had ever referred to social services, and the gap between the two had narrowed. Furthermore, more paediatric dentists had referred on numerous occasions, representing a step change in the level of child protection experience within the UK dental profession. We interpret this as an improvement in recognition and response rather than an increased overall prevalence of maltreatment in the population, consistent with the interpretation given to national longitudinal datasets.[21]

Kvist and co-workers (2017)[14] found that dental neglect and repeated missed appointments were the main reasons for verified referrals from dental services to child welfare services in Sweden, against a background of increased dental referrals between 2008 and 2011. They too attributed the increasing referrals to dentists' greater awareness rather than an increase in maltreatment. In our study, this conclusion is further supported by the finding that, in both 2005 and 2016, paediatric dentists reported a similar frequency of seeing children with neglected dentitions, a daily or more frequent occurrence for around 60% of respondents in 2005 and remaining so 11 years on. Note that definitions of dental neglect do vary.[6,12,13]

Other markers of increased awareness and involvement in child protection were also observed. In 2016, 23.1% had contributed to child protection processes by writing a report for the court and more than half of respondents (54.8%) had used the CPDT handbook or website to help them decide what to do: both new questions posed in 2016. Yet, rates of attendance at court as a witness and sitting on a multi-agency child protection committee, the latter with the opportunity to influence local strategy and policy, remained unchanged and low, presumably because few dentists are invited to do so.

With respect to barriers to making a referral, the approximately 20% drop in frequency between 2005 and 2016 points to an increased professional confidence in child protection decision-making. Further evidence for this comes from our observation that although the proportion of paediatric dentists who wanted to discuss the case with a dental colleague before taking action remained unchanged in 2016 (86%), of those who did *not* want to, most had both suspected and referred maltreatment (our SR

group), presumably confident to proceed alone. Yet, 98.4% of the SNR group *wanted* to discuss first: a clear indication that support would be welcomed.

Of barriers to referral, only fear of family violence to the child and fear of violence to self remained unchanged over the decade, the former taking over from lack of certainty about the diagnosis as the most frequently reported barrier and affecting the SNR and SR groups equally. This suggests that, even with familiarity and experience, child protection remains challenging for paediatric dentists, thus placing an ethical obligation on employers to acknowledge and support dentists with this additional emotional burden. Furthermore, with lack of certainty about diagnosis now being the factor that most strongly distinguishes those remaining who have seen but never referred (SNR) from those who have referred (SR), it bears repeating that you do not need to be certain of a diagnosis of child maltreatment before referring; that will be established by a group of experienced child protection professionals, but what you must do is share your concerns appropriately.[19] This principle was emphasised in the UK's CPDT guidance, which was informed by the results of our 2005 survey.[16]

These findings present an undeniably encouraging picture, the magnitude of change outstripping the modest improvements demonstrated in similar follow-up studies,[8–10] albeit over varying time periods. Although we cannot establish causation, the improvement is likely to have resulted from many interacting initiatives in the interim years, driven both by dental and safeguarding professionals with, variably, local, regional or national scope. These include improvement in frequency, quality and availability of relevant training, widespread provision of dental-specific national guidance, increased requirements of employers and the professional regulator, and access to advice and support for decision-making, all occurring against a backdrop of media reporting and societal change in attitudes to maltreatment which dentists acknowledge also influence their practice.[22]

Notwithstanding progress, there remains potential for further improvement. Much child maltreatment remains undetected. Each and every failure to recognise or respond to child maltreatment could be a missed opportunity to save a child from continuing harm; it contravenes accepted guidance and, in countries where maltreatment reporting is mandatory, breaks the law.[23] Boosting, firstly, recognition of maltreatment by those who have never suspected nor ever referred (our NSNR group) and, secondly, response to maltreatment by those who have suspected but never referred (our SNR group) are the logical targets for intervention.

The dental child protection literature in general (predominantly comprised of many country-specific cross-sectional surveys of self-reported practice) commonly proposes more frequent training as the primary solution, often with few other suggestions proffered, but once that is in place, what next? Our 2016 findings shed some light on the ongoing barriers to make referrals, which if addressed in training could improve its effectiveness.

Brattabø and co-workers (2019)[24] recently used reasoned action theory to explore the socio-cognitive factors involved in intention-to-report (refer) maltreatment. They suggested that to strengthen intention, educators should focus on the value and positive consequences for the child, family and society, the resources available and how to overcome obstacles, and to attend to dental professionals' expectations and feelings.

In our 2005 study, we recommended guidance and advice, with the addition of, particularly in relation to dental neglect, organisational and administrative support.[16,25] In a study of barriers to dental professionals' communication with child welfare services in Norway, Rønneberg and co-workers (2019) likewise highlighted the importance of developing national guidelines to reduce uncertainty.[20]

Access to advice could be achieved by employing an experienced dentist in a regional role, for example, in England, by echoing the roles of 'designated' and 'named' professionals for safeguarding children.[26] Whereas in our 2005 study[16] we concluded that there were very few UK dentists with adequate experience to advise colleagues, the present study indicates that this would now be feasible.

Alternatively, advice could be obtained from safeguarding professionals. A dental hospital-based paediatric liaison nursing service was shown to promote integrated multidisciplinary working with public health nurses, facilitating assessment of harm to children and prompting additional referrals to social services.[27] More recently, examples of innovative practice in organisational and administrative support have been published, including model referral pathways for vulnerable children to facilitate their dental care and streamline the additional workload.[28–31]

With respect to limitations of this study, our findings relate to dentists with a specific interest in children so are likely to represent a 'best case scenario' for UK dentistry where the majority of children attend general dentists. Generalising to other groups of dentists and other countries globally should be done cautiously. Nevertheless, the progress seen here is important because a special interest society's members include leaders of children's dental services, those who provide care for children with the severest dental disease and who both advise and train colleagues. This questionnaire relied on self-reported practice and, as such, may have been biased by recall of past events or social desirability of certain actions. The observed demographic changes between 2005 and 2016 reflect workforce trends.

With dental neglect and safeguarding children from maltreatment increasingly recognised as important issues around the world, our findings could be used to inform interventions in countries where improvements have yet to be seen. What will then be needed is a cohesive dental research agenda to determine the best strategy to reach those dentists who remain left behind with respect to child protection skills and experience. In parallel with this, we must explore of the causes of dental neglect and, notably, its relationship with poverty, social exclusion and the social determinants of health.

UK paediatric dentists in 2016 reported being better trained, more experienced and more actively involved in child protection than they did in 2005. They show increased professional confidence in decision-making, and the gap is closing between recognising child maltreatment and responding. A gap still remains between suspecting and referring maltreatment concerns such that some children remain at risk.

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CONFLICT OF INTEREST

The authors declare no other potential conflicts of interest.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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3.3.4 Observed improvements in UK training, experience and practice

In Paper 5, I and my co-authors demonstrated that between 2005 and 2016, post-qualification child protection training had increased and was almost universal (87.2% vs. 99.7%, p<0.000), with more time spent training and more frequently with multi-agency trainers. We observed a substantial improvement in practice, as indicated by an increase by 2016 in the proportion who had 'ever suspected' (67.9% vs. 82.3%, p<0.000) and 'ever referred' maltreatment (30.7% vs. 61.0%, p<0.000) and a narrowing of the gap between recognising and responding from 37.2% to 21.3%. In 2016, more paediatric dentists had made referrals on numerous occasions. Fifty five percent had used the CPDT handbook or website to help them decide what to do. There had been no change in their reported frequency of seeing children with neglected dentitions; for 61.6% this was a daily or more frequent occurrence in 2016 (60.2% in 2005, p=0.437).

There was an overall reduction in the proportions of respondents acknowledging barriers to making referrals in 2016. We identified 'lack of certainty about the diagnosis' was the factor that most strongly distinguished the subgroup who had 'suspected but never referred' (SNR) from those who had 'suspected and referred' (SR)(p<0.000). Of the SNR subgroup, 98.4% wanted to discuss with a dental colleague before taking action (compared with 79.2% of SR, p<0.000). GDPs accounted for 22.2% of the SNR subgroup but only 5.1% of the SR group (p<0.000). These results are important because they may contribute to understanding how to reach those dentists left behind, particularly those (often GDPs) who are aware of having seen maltreatment but have not yet ever made the necessary referral to protect children at risk (see also Section 3.3.7, p. 61).

3.3.5 The global context

Cross-sectional surveys of dental professionals' child protection knowledge, training, experience and practice have now been conducted with dentists, DCPs and students in almost all sectors of dentistry (Al-Habsi *et al.*, 2009; Chadwick *et al.*, 2009; Clarke *et al.*, 2019) and in countries scattered widely around the globe, with examples from Europe (Cukovic-Bagic *et al.*, 2015), the Middle East (Al-Dabaan, Newton and Asimakopoulou, 2014), Asia (Hussein *et al.*, 2016), Africa (Bankole, Denloye and

Adeyemi, 2008), North America (Thomas, Straffon and Inglehart, 2006), South America (El Sarraf *et al.*, 2012) and Australasia (Kilpatrick, Scott and Robinson, 1999).

Paper 5 is notable because it demonstrated that, over the 11 years between 2005 and 2016, a step-change occurred in increased child protection involvement of UK paediatric dentists. This substantial improvement happened where previous studies globally continued to demonstrate a widespread, persistent and worrying shortfall in dentistry's child protection training, experience and practice. In Laud and colleagues' undistinguished league table, the UK paediatric dentists of 2005 were already among the better performers (Laud *et al.*, 2013). Notwithstanding UK progress made by 2016, since much child maltreatment remains undetected, we highlighted the potential for yet further improvement.

3.3.6 The longitudinal context

There remain gaps in knowledge of how the dental team's child protection practice develops over time. We have identified only five research groups to date, in addition to our own, which have attempted to investigate this, using one of three methods:

- Repeated cross sectional surveys, with narrative comparison made to an earlier survey with similar sampling (n=4): from Massachusetts, USA (Becker, Needleman and Kotelchuck, 1978; Newcity, Ziniel and Needleman, 2011a; Newcity, Ziniel and Needleman, 2011b; Newcity, Ziniel and Needleman, 2011c), Texas, USA (Kassebaum, Dove and Cottone, 1991; Bsoul *et al.*, 2003), Scotland, UK (Cairns, Mok and Welbury, 2005b; Harris C. M., Welbury and Cairns, 2013) and Denmark (Uldum *et al.*, 2010; Uldum *et al.*, 2017)
- Repeated cross sectional surveys, with results of both presented together and statistical analysis of change in comparison to an earlier survey with the same or similar sampling (n=3): from the UK, our own Paper 5 compared to Papers 2 and 3 (Harris *et al.*, 2009a; Harris *et al.*, 2009b; Harris, Baker and Elcock, 2022), from Norway (Åstrøm *et al.*, 2024) and Finland (Alapulli *et al.*, 2023; Alapulli *et al.*, 2024).

- Follow-up survey of individual respondents with statistical comparison of self-reported change in their own practice (n=1): analysis of a subset of the data from the Norway surveys (Åstrøm, Berge and Brattabø, 2022)

These studies are summarised in Table 6 (p. 60). Note that comparisons should be made with caution due to differences in time intervals, terminology used to describe maltreatment and professional groups sampled. Furthermore, all are prone to recall and social desirability biases. Nevertheless, our findings for UK paediatric dentists' engagement with child protection continue to compare favourably with elsewhere, with levels of reporting better only in Norway (Åstrøm, Berge and Brattabø, 2022; Åstrøm *et al.*, 2024). All but one repeated survey demonstrate at least some improvement over time in recognition ('ever suspected') and response ('ever referred/reported'), yet of variable magnitude and sometimes with a widening gap between the two.

That from Finland is unique among the more recent repeated surveys to show a reduction (or deterioration) in dental team reporting over time, specifically in relation to child *physical* abuse between 2008 and 2019 (21.0% vs 8.7%, $p<0.001$)(Alapulli *et al.*, 2024). More respondents acknowledged worries about reporting physical abuse in 2019 than in 2008. This occurred despite training in recognising signs of physical abuse increasing between 2008 and 2019 (5.9% vs 36.4%, $p < 0.001$). Reporting behaviour overall (when not restricted to physical abuse) was moderate in 2019, at 50.3% 'ever suspected' and 26.9% 'ever referred', with no comparison available from 2008. The authors speculated whether mandatory reporting to not only child welfare services but additionally to the police, introduced in Finland in 2012 for sexual abuse and expanded to physical abuse and severe neglect in 2015, may have accounted for the changes observed. Interestingly, there is no academic consensus whether mandatory reporting is effective in improving child safeguarding outcomes (Parliament. House of Commons Library and Foster, 2024).

The work of Åstrøm, Berge and Brattabø (2022) in Norway is interesting because responders were followed up individually, revealing a mixed picture of self-reported stability and change in practice at the individual level. 'Stable reporters'

comprised over 50%, while 'stable avoiders' accounted for 25%, the remainder changing their reporting behaviour in a favourable or less favourable direction over the five-year time period. Further investigation of the factors leading to changed behaviour could yield ideas to consolidate conditions for favourable change and limit the less favourable.

Table 6 Repeated surveys of child protection experience

Study	Country	Sample	Type of maltre atment	Survey 1 / 2	Time inter val (yrs)	Proportion of respondents who had ever suspected (%)	Proportion who had ever referred/ reported (%)
Bsoul *et al.* (2003)	Texas, USA	Dentists	CA	1986 /2001	15	Increased 36 to 50	Increased 19 to 25
Newcity *et al.* (2011)	Massachu setts, USA	Dentists	CA	1978 /2009	31	Decreased 8 to 4.2 *	Increased NR to 1 *
Harris, C.M. *et al.* (2013)	Scotland, UK	Dentists (GDPs)	CA (2003) CAN (2010)	2003 /2010	7	Increased 29 to 37	Increased 8 to 11
Harris, J.C. *et al.* (2022)	UK	Dentists (with interest in PD)	CAN	2005 /2016	11	Increased 67.9 to 82.3 p<0.000	Increased 30.7 to 61.0 p<0.000
Uldum *et al.* (2017)	Denmark	Dentists, DHs	CAN	2008 /2013	5	Increased 13.6 v 40.8	
Alapulli *et al.* (2024)	Finland	Dentists, DHs, DNs	CPA	2008 /2019	11	Decreased 21.0 to 8.7 p<0.001	1.1 (data reported for 2019 only)
Åstrøm *et al.* (2024)	Norway	Dentists, DHs (in PHDS)	CAN	2014 /2019	5	NR	Increased 60.0 to 69.9 p<0.001 OR (95% CI) =1.6 (1.3-1.8)

Key: CA = child abuse; CAN = child abuse and neglect; CI = confidence interval; CPA = child physical abuse; DH = dental hygienists; DN = dental nurses; GDPs = general dental practitioners; NR = item not reported; OR = odds ratio; PD = paediatric dentistry; PDHS = public dental healthcare services; * Newcity *et al.* (2011) reported proportion who had suspected/referred 'in past 12 months'

3.3.7 Potential for further research

We concluded Paper 5 by recommending that further guidance, advice, organisational and administrative support must be provided to dental professionals. Furthermore, we called for the development of a cohesive research agenda to determine future strategy. Additionally, on recent reflection, I now suggest that new approaches may be required to reach some practitioners.

The sampling strategy for the BSPD surveys (Papers 2, 3 and 5, in which the accessible population was the same as the target population for this select group of dentists with an interest in paediatric dentistry), coupled with the high response rates, allow us to draw much stronger inferences from the BSPD data. Our identified SNR subgroup constitute a group who in 2016 remained both uncertain and reluctant or resistant to changing their practice, despite universal training. Moreover, this is an insensitive threshold; there were likely others too, allocated to the SR group, who had suspected but not always referred. The factors which distinguish the SNR group (Table 3 of Paper 5) point to a need for more focus on the perspectives, working environment and support needs of GDPs. Likewise, there is a need to consider the uncertain practitioners – those who 'prefer to discuss suspicions with a dental colleague' and 'lack certainty about the diagnosis' – irrespective of workplace setting. In future, both must be involved as essential collaborators in research teams.

3.4 Summary: signs of improving practice

In summary, in Chapter 3 my two included papers (Papers 4 and 5) together demonstrated that by the mid-2010s the majority of responding UK dental professionals had used dental-specific national guidance. Amongst those with an interest in paediatric dentistry, engagement in post-qualification child protection training was almost universal. Dental teams and individuals self-reported having implemented new organisational and clinical governance measures in their dental practices and acknowledged their increased knowledge and experience, including making child protection referrals to children's social services.

Papers 4 and 5 enumerated the many interacting initiatives in the UK that may have contributed to this substantial change, driven by both dental and safeguarding professionals at local, regional, devolved nation and UK national level. These included widespread provision of accessible dental-specific guidance, improvement in frequency, quality and availability of relevant training, increased requirements of employers and the professional regulator, and access to advice and support for decision-making, all occurring against a backdrop of media reporting and societal change in attitudes to maltreatment which, as we showed in Paper 4, dentists acknowledge also influence their practice. We acknowledge the limitations of recall and social desirability biases and urge caution in interpreting causation.

Yet, despite sizeable gains, and the UK dental profession becoming established as a recognised contributor to safeguarding children from maltreatment, it was clear that the work was not yet finished. Dental professionals faced ongoing challenges. Innovative work would be needed to promote good practice. Further research would be necessary in relation to those practitioners who remain resistant to change. In the next chapter, I will discuss publications related to selected additional initiatives in this regard.

Chapter 4 Innovations to support good practice

4.1 The ongoing challenges

4.1.1 Recurring themes

As the dental profession increasingly shouldered its responsibility to contribute to safeguarding children, several key challenges emerged. Some were shared with all healthcare disciplines, others were unique to dentistry. Recurring themes included:

- Recognising and responding to dental neglect
- Information sharing
- Managing missed appointments.

4.1.2 Potential solutions

The leading recommendation of numerous surveys identifying shortcomings in dental teams' child protection practice was to provide more training for dental teams (Bsoul *et al.*, 2003; Cairns, Mok and Welbury, 2005b; Al-Habsi *et al.*, 2009) – recent training and more hours of training being associated with increased likelihood of making child protection referrals (Birungi *et al.*, 2024). Some authors also stressed the importance of providing guidelines (Al-Habsi *et al.*, 2009; Chadwick *et al.*, 2009). In contrast, even by the early 2010s, less attention had been paid to the constraints under which dental teams work, something that had long been suggested to fundamentally impact the dental profession's potential to contribute to protecting children (Welbury *et al.*, 2003).

Welbury *et al.* had clearly elucidated 'inhibitors' and 'facilitators' to a child protection role for dentistry (Welbury *et al.*, 2003). Informed by this, it had been my contention, as presented to the CDO (England) in 2004, that provision of guidance and training alone were unlikely to achieve the necessary sea change in practice; it would also be essential to modify dentistry's environment and structures to make child protection easier to incorporate into daily routines and workload (a recommendation we repeated in Papers 3 and 5).

Similar views were shared by child protection professionals. In a commentary on professional decision-making in the journal *Child Abuse Review*, Ayre (2013) pointed out the shortcomings of depending on "exhortation, training and proceduralisation" (p. 27) to achieve performance improvement. He urged a deeper look at why professionals frequently seem to do the wrong thing in practice even when they know in principle what to do, concluding (p. 27):

> *...we may exhaust all our energies in exhorting workers and managers to do X in the future, but while the practical realities of their daily working lives constrain them to do otherwise, our exhortations may be in vain.*

Further studies were initiated to address aspects of the key ongoing challenges we had identified (dental neglect, information sharing and missed appointments). Three projects resulting in published work will now be presented in this chapter.

4.2 Dental neglect policy and guidance

4.2.1 Recognising and responding to dental neglect

Dental caries is the commonest dental disease of childhood. Although preventable, it has a complex aetiology, exhibiting interaction between societal, environmental, commercial, family and child factors (Selwitz, Ismail and Pitts, 2007; Kim Seow, 2012; Tinanoff *et al.*, 2019). Therefore, differentiating *dental caries* from *dental neglect* is difficult, not least because it lacks precise clinical findings or thresholds to aid the distinction (Bhatia *et al.*, 2014). Furthermore, treatment of dental caries is prone to incomplete adherence to both preventive advice and attendance for appointments. In an article exploring adherence to medical treatment, Davie (2013) drew attention to the particular difficulties of long-term conditions, especially those which are diagnosed in the pre-symptomatic phase, require sustained dietary change and necessitate treatment that may be unpleasant – all features of dental caries.

As described in Chapters 2 and 3, CPDT had provided initial guidance to practitioners on how to recognise and respond to dental neglect. However, we acknowledged at the outset that our advice (Harris *et al.*, 2006)(pp P2.9-2.10, P3.9-

3.10[4]) was based largely on expert opinion, there being little published scientific literature at the time directly addressing dental neglect. In the absence of other sources, we had used the American Academy of Paediatric Dentistry's definition (American Academy of Pediatric Dentistry, 2005) as an interim measure despite considering it to be inconsistent with UK statutory guidance because it by placed primary emphasis on establishing a 'wilful' motive for neglect, rather than emphasising the impact on the child. We had advised that the term dental neglect should be reserved for situations where there was failure to respond to a known significant dental problem (Harris *et al.*, 2006)(P2.10[5]). However, it was clear that a UK definition was desirable, with supporting clinical guidelines consistent with the latest version of *Working Together to Safeguard Children* (HM Government, 2006).

4.2.2 Developing a BSPD policy document

Back in June 2006, soon after the launch of CPDT, I had been approached by the Royal College of Surgeons of England's Policy and Clinical Effectiveness Committee in Paediatric Dentistry (PCEC) to be lead author of a new UK dental neglect policy document for BSPD. In accordance with the protocol provided, I convened a development group. Between 2007 and 2009 we conducted a literature review, drafted the document and consulted BSPD members and dental, medical and child protection stakeholder organisations. After final revisions, the *BSPD policy document on dental neglect in children* was published online (Harris, Balmer and Sidebotham, 2009).

This document included the first agreed UK definition of dental neglect as "the persistent failure to meet a child's basic oral health needs, likely to result in the serious impairment of a child's oral or general health or development." In using the terms 'persistent' and 'serious impairment', we chose that dental neglect should mirror the wording of the WTSC definition of neglect (HM Government, 2006). In a paper which later discussed the challenges inherent in defining and recognising

[4] Page numbering as in document cited
[5] ditto

general neglect, Taylor *et al.* (2024) highlighted these as, "key words in the definition", adding that:

> *...one off or occasional shortcomings would not warrant a child protection plan, and some level of 'poor quality' care is tolerated, in the interests of family autonomy and diversity of lifestyles in a democratic society. The challenge for child protection professionals is deciding when those limits have been passed.*

Note that we have always made it clear that the dental team's contribution is simply to recognise and share concerns about dental neglect. A diagnosis of general neglect is not the dentist's decision to make but will be the shared decision of a group of experienced child protection professionals (Harris *et al.*, 2006).

In concluding the BSPD policy document, our recommendations encompassed the following domains:

- Treatment provision
- Working together
- Service organisation
- Training
- Research.

4.2.3 Progress in understanding dental neglect

Over the following decade, responding to dental neglect became an accepted essential part of UK paediatric dentistry, as indicated in new commissioning standards (Office of the Chief Dental Officer England, 2018)(paragraph 9.3, pp. 18-19; paragraph 10.8, p. 23). The BSPD policy document, and particularly its definition of dental neglect, was frequently cited in research (Appendix 7, pp. 130-138). All domains of its recommendations saw progress, particularly in relation to developing interdisciplinary communication and care pathways for vulnerable children (Williams *et al.*, 2014; Park *et al.*, 2015; Jameson, 2016)(see also Papers 7 and 8 to follow) but also in understanding dental neglect and practitioner responses, both in the UK (Olive *et al.*, 2016; Colgan, Randall and Porter, 2018; Bradbury-Jones *et al.*, 2021; Collins, Forbes and Roebuck, 2022) and farther afield (Kvist *et al.*, 2013; Kvist *et al.*, 2014a; Kvist, Annerbäck and Dahllöf, 2018; Brattabø *et al.*, 2019).

During this time period, prominent publications of note were NICE guidance on *When to suspect child maltreatment* (National Collaborating Centre for Women's and Children's Health, 2009) and the Cardiff Child Protection Systematic Review Group's review of dental neglect (Bhatia *et al.*, 2014). The latter, known as the CODENT review used the same rigour as their previous 21 systematic reviews on physical child abuse and early child neglect. It benefitted from a comprehensive search strategy and rigorous screening of papers by a trained panel of multi-agency reviewers (of which I was one), overcoming the problem of how to retrieve papers when the topic sought, dental neglect, has often not been named explicitly.

In child protection circles, there was increasing recognition of dental neglect as an indicator of broader neglect (Brandon *et al.*, 2014). On occasions, children's prior contact with dental services featured prominently in SCRs. One such review specifically recommended that government should work nationally to raise dental practitioners' awareness of potential significant harm from dental neglect (City of York Safeguarding Children Board, 2010).

Continual opportunities arose to initiate proposals and accept requests to collaborate, often under the auspices of BSPD in my capacity as the society's NSPCC Health Liaison Committee & Safeguarding Children Representative (2007-2020). An example of the former was adapting the RCPCH/Advanced Life Support Group/NSPCC training course, *Safeguarding children: Recognition and Response in Child Protection (CPRR)*, such that paediatric dentistry specialty trainees could train alongside doctors, fostering an understanding of each other's roles (British Dental Journal, 2013) and, of the latter, contributing to South Yorkshire Police's *Child Matters* child neglect training (British Dental Journal, 2021; HM Inspectorate of Constabulary and Fire & Rescue Services, 2023; College of Policing, 2024). Dental neglect, and dentistry's understanding of it, was an issue in the spotlight.

In 2012, new research in Sweden in the Public Dental Service confirmed the beneficial impact of having referral guidelines in place (Kvist *et al.*, 2012). Clinics with a general neglect or dental neglect guideline in place were found to have contacted social services significantly more often than those without (general neglect 34% v 14%, $p<0.000$; dental neglect 30% v 6%, $p=0.008$) but, interestingly, with no

significant difference for physical or sexual abuse guidelines (30% v 21%, ns). Whilst local referral guidelines are not directly comparable with BSPD's publication, this evidence added tangentially to the growing justification to maintain and update the BSPD policy document.

4.2.4 Updating the BSPD policy document

In 2021, at the request of the Quality Improvement and Research Committee (QIRC), which had replaced PCEC, work began to update the BSPD policy document. This was at a time when BSPD was otherwise moving toward signposting external sources of guidance, rather than developing its own, in view of growing formalisation of guideline development and the considerable resources required to follow the highest standards. However, an exception was made for this topic in view of the lack of alternative resources. Together with my co-author, we met with the QIRC Chair to agree on the methods. Use of a recognised guideline development and appraisal tool, such as the AGREE II instrument (Brouwers *et al.*, 2010) was discussed but considered unsuited to the present context of managing a complex clinical situation rather than a clinical procedure. Input based on our experience and clinical judgement was explicitly requested by QIRC.

Additional authors were recruited to the team, a focus group was conducted with representative users, the literature review was updated, new content was added and stakeholders were consulted. The document was critically revised and updated, and the resulting publication is presented as Paper 6 of my thesis. Although the recommendations remain broadly unchanged, this version reflects the profession's progress in understanding dental neglect, makes updates to terminology and aims to better reflect the needs of both dental and non-dental health and social care professional audiences to enhance interdisciplinary working.

4.2.5 Published work: Paper 6

Paper 6 Ridsdale, L., Gilchrist, F., Balmer, R.C., Skelton, R., Sidebotham, P.D. and Harris, J.C. (2024) British Society of Paediatric Dentistry: a policy document on dental neglect in children, *International Journal of Paediatric Dentistry,* 34(2), 160-168. https://doi.org/10.1111/ipd.13120

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REVIEW

British Society of Paediatric Dentistry: A policy document on dental neglect in children

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Abstract

The British Society of Paediatric Dentistry's (BSPD) first policy document on dental neglect was published online in 2009. It proposed a new original definition of dental neglect, discussed the identification of dental neglect and recommended adopting a tiered response, with three stages of intervention according to level of concern. Furthermore, it detailed how the dental team should both contribute to the child protection process and implement wider measures to safeguard and promote children's welfare. Since 2009, these concepts have been widely adopted in the UK and beyond. Furthermore, there have been significant advances in both research and practice. Policy documents produced by the BSPD represent a majority view, based on the consideration of currently available evidence, and are tailored to a UK working environment. Although this updated document's recommendations remain broadly unchanged, this version reflects the professions' progress in understanding dental neglect and minor updates to terminology and, following a consultation process, has been amended to address the needs of two main audiences—dental professionals and nondental health and social care professionals—in order to enhance interdisciplinary working.

KEYWORDS

child maltreatment, child neglect, child protection, dental neglect, safeguarding children

1 | INTRODUCTION

The United Nations Convention on the Rights of the Child (UNCRC),[1] ratified by the United Kingdom (UK) in 1991, states specifically that children should be protected from all forms of neglect and negligent treatment, as well as having the right to the enjoyment of the highest attainable standard of health and full development. In 2017, the 47 member states of the Council of Europe, which includes the UK, pledged to eradicate all forms of child maltreatment as part of the United Nations 2030 Agenda for Sustainable Development.[2] UK guidance[3] asserts the important role all professionals have in protecting children and taking action to ensure they have the best outcomes.

1.1 | What is neglect?

Neglect can be defined as the persistent failure to meet a child's basic physical and/or psychological needs, likely

to result in the serious impairment of the child's health or development.[3] It is recognised as taking a range of different forms: emotional, medical, nutritional, educational and physical neglect, abandonment and failure to provide supervision and guidance.[4]

In March 2021, 50 920 children in England were the subject of a child protection plan of whom 48% were considered to be at risk of neglect.[5] It is the commonest category of maltreatment, exceeding emotional abuse (at 38%) and substantially exceeding both physical abuse (7%) and sexual abuse (4%). Similar findings are reported for children on child protection registers elsewhere in the UK. In Scotland, Wales and Northern Ireland, neglect was a concern in 43%, 40% and 48%, respectively (note slight variations in definitions of reporting categories).[6–8]

There is no simple diagnostic test for neglect, and thresholds for intervention can be difficult to establish. The inclusion of 'persistence' in the definition of neglect reflects that it takes time and repeated assessments to establish that neglect is occurring. More rarely, a child may present with severe neglect, which clearly reaches the threshold at the time of presentation. Children who are neglected often experience other forms of childhood adversity and may be at risk of other forms of maltreatment.[9]

1.2 | Oral health needs

To reach their potential for optimal oral health, children have a number of needs: a diet limited in the amount and frequency of sugar intake, a regular source of caries-preventive fluoride, daily oral hygiene and access to regular dental care to enable them to benefit from preventive interventions and early diagnosis and treatment of dental disease when necessary. Young children are dependent on parents and carers to meet those needs.

2 | IDENTIFYING DENTAL NEGLECT

2.1 | Definition

Dental neglect is defined as the persistent failure to meet a child's basic oral health needs, likely to result in the serious impairment of the child's oral or general health or development.[10]

Dental neglect may occur in isolation or may be an indicator of a wider picture of neglect or abuse. It may even be the first sign. When following our definition, first introduced in the 2009 version of this policy document, the diagnosis focusses on identifying unmet need rather than apportioning blame. As with many clinical conditions, there are multiple causes and contributory factors, all of which require careful consideration. There may be a range of family, environmental or service reasons why oral health needs are not being met, and these will be discussed later in the document.

Why this paper is important to paediatric dentists

- Paediatric dentists must be able to identify and assess children who are experiencing dental neglect and manage it appropriately.
- This paper describes a tiered response, with three stages of intervention, according to level of concern.
- Recommendations of the British Society of Paediatric Dentistry are tailored to a UK context but are likely to be of interest to a wider international audience.

2.2 | Impact of dental disease

Untreated dental caries may have a significant impact on children's lives. Dental caries can cause pain, infection, and difficulty sleeping and eating.[11–13] Symptoms such as pain may result in children missing school or other important social activities such as parties and family time.[11,13,14] Dental caries involving the pulp can lead to the pulp becoming necrotic and infected. Untreated chronic infection may be associated with damage to the underlying permanent teeth, restriction in growth and iron deficiency anaemia[15] and may lead to an acute facial swelling requiring antibiotics or hospital admission in cases of systemic infection. Indeed, children have died in the United States of America (USA) as a result of infection related to untreated dental caries leading to sepsis and meningitis.[16]

Studies that have investigated oral health-related quality of life have found a correlation between the number of carious teeth and the impact experienced. It should be, however, noted that one extensively carious tooth may be responsible for a myriad of impacts, whereas several teeth with less extensive caries may cause fewer impacts.[12] Therefore, practitioners should take both the extent and number of carious teeth into consideration when assessing the impact that untreated caries is having on the child. Using age-appropriate patient-reported outcome measures may aid clinicians in assessing the impacts that a child is experiencing.[17] This can help parents understand why treatment is required and additionally can provide evidence of the

impact experienced should it be required to support a referral for dental neglect.

It is also worth considering the effect of untreated dental disease throughout the life course. Young people who experience delays to the treatment of their dental caries will require more invasive and extensive restorative treatment, which affects the long-term prognosis of the teeth. This may mean that they require dental extractions in future or present with unrestorable teeth. Loss of teeth has been shown to be associated with increased impacts and negative effects on oral health-related quality of life in adults.[18]

Children who have had treatment for dental caries report fewer impacts following treatment.[19,20] In addition, weight gain and catch-up growth have also been reported following the treatment of carious teeth.[21,22] It should be noted that the relationship between weight and caries is multifactorial and difficult to assess despite the common risk factors for both caries and obesity.[23,24]

Many children with extensive dental disease will require a general anaesthetic (GA) to manage their carious teeth. Indeed, dental treatment under GA is the most common reason for children to have a GA in England.[25] Whilst it has been shown that impacts reduce following the treatment for dental caries under GA,[19] the procedure is associated with morbidity and mortality.[26–29] Caries detected and treated at an early stage can reduce the need for dental treatment under GA as more minimally invasive techniques can be used to restore teeth, which even young children may be able to manage without pharmacological adjuncts.

Although dental disease is an issue in its own right, it should be considered within the wider clinical and social picture. It may be one sign of many, which leads to a general diagnosis of neglect or abuse (child maltreatment). Dental professionals should be aware of the other signs of maltreatment and consider these when assessing the child.[30] It is worth noting that children at risk of general abuse and neglect are more likely to have dental disease.[31]

2.3 | Assessing dental neglect

The dental team is in a privileged position as health professionals, in that children are often seen regularly along with their families.[32] Indeed, this is the only area of health where it is recognised that this should occur. Changes in the child's behaviour or demeanour can therefore be recognised as well as observing family interactions.

When children are assessed, a thorough history and dental examination is important, with a special focus on the social history and potential risk factors for maltreatment. Although dental caries is the most common cause of oral disease,[33] children may also present with a range of other oral conditions, including hard and soft tissue anomalies, pathology and injuries, which can have a significant impact on the child, and this should not be overlooked.

There may be many reasons why a child's oral health needs are not being met. A number of clinical and non-clinical factors need to be considered when diagnosing dental neglect.

2.3.1 | High levels of decay in the general population

Dental caries is extremely common with almost half of 15-year-olds and a third of 12-year-olds having obvious decay experience.[33] Dental decay is the leading reason for hospital admissions among 6- to 10-year-olds in England.[34] Therefore, although dental caries is a preventable disease, its presence alone, even with extremely high caries levels, cannot always be regarded as dental neglect. It is not possible to have a threshold number for carious teeth, beyond which a diagnosis of dental neglect will be made. There are numerous factors that contribute to level of dental disease, including the use of sugared medicine, diet restrictions and dental developmental defects. Individual susceptibility should be taken into account when considering a diagnosis of neglect. Although extensive caries is a significant indicator of neglect, it should not be considered in isolation from other possible signs.

2.3.2 | Parental awareness

Presence of severe dental decay may result from lack of parental knowledge and understanding of its causes. A parent or carer's own fear of dentistry may lead some to avoid seeking care for their child, and this should be managed empathetically. Failure or delay in seeking dental treatment or to follow dental advice given and failure to provide basic oral care, however, are characteristics of dental neglect[35] and the welfare of the child must always be the paramount consideration.

2.3.3 | Access to care and oral health inequalities

Oral health has improved over recent decades, but significant inequalities remain.[36] In 2019, 5-year-old children living in the most deprived area of the country were almost three times more likely to experience dental caries than children living in the least deprived areas.[37] Access to care varies significantly across the country and availability of appropriate services depends on various factors,[38,39]

including the COVID-19 pandemic.[40] It is worth noting that children who have recently immigrated to the UK may have previously had limited access to dental care. All these factors should be considered, when estimating what constitutes reasonable dental attendance.

Distinguishing between neglect and material poverty can be difficult. It is important to balance recognition of the constraints on parents' or carers' ability to meet their child's needs with an appreciation of how those in similar circumstances are able to meet those needs.[41]

2.3.4 | Care provision

The care received by a child may vary significantly according to the dental professional's treatment philosophy and training. Various different treatment approaches have been shown to be successful in managing dental decay,[42] thus requiring careful consideration to assess whether dental neglect may be present.

2.3.5 | Autonomy of the child

The rights of children to participate in decisions about themselves are enshrined in the UNCRC.[1] Their freedom to make decisions about their care is, and should be, taken seriously. When considering dental neglect, particularly in older children, their competence to consent to or refuse dental treatment and the influence of their preferences on their prior dental care must be considered.

2.3.6 | Vulnerable groups

It is important to recognise that children who are most dependent on their carers' and least able to communicate, such as preschool and disabled children, are more vulnerable to all types of maltreatment.[43] Children with disabilities often need additional support to maintain good oral health, yet may find it difficult to tolerate toothbrushing, making it challenging for parents or carers to meet their oral care needs. Under the UNCRC, they have a right to extra help and special care.[1] Considering how those in similar circumstances have been able to meet needs can help assessment when oral hygiene is persistently poor.

2.3.7 | Features of concern

Although the factors above may influence the decision to diagnose dental neglect, they should not be barriers to reporting concerns. The impact of disease on the child including severity and frequency of pain should always be considered. The child's welfare is the primary consideration.

Features of particular concern for dental neglect include the following[43]:

- obvious dental disease:
  untreated dental disease, particularly that which is obvious to a layperson or nondental professional;
- significant impact on the child:
  evidence that dental disease has resulted in a significant impact on the child; and
- failure to obtain care:
  parents or carers have access to but persistently fail to obtain treatment for the child.

3 | RESPONDING TO SUSPECTED DENTAL NEGLECT

When there are concerns about possible dental neglect, a tiered response is recommended, with three stages of intervention, according to level of concern[44]:

(i) Preventive dental team management,
(ii) Preventive multi-agency management and
(iii) Child protection referral.

Using a tiered approach gives parents and carers the opportunity to engage with support for their child to receive the care they need, with escalation possible if this is not successful. This model for management does not override any local procedures that are in place, but can be used in parallel. The tiers can run concurrently where following each sequentially would result in delay and additional harm. If there are significant concerns from the outset regarding dental neglect or other features of abuse or neglect, then it will usually be appropriate to make a child protection referral immediately.

If you have concerns about a child or young person, it may be helpful to speak to a senior colleague, the child's GP, a named nurse or paediatrician and/or your local child protection team. Any service providing dental care should ensure that access to local and government guidance about safeguarding is available to all staff. Locally produced threshold documents or continuum of need documents may be particularly helpful when deciding whether to escalate concerns. Some systems have now been simplified such that they do not require the practitioner to differentiate between a referral for support and a referral for child protection.

3.1 | Preventive dental team management

Working *with* families should be the aim of preventive dental team management, for example by asking the simple question: 'How can we support you in looking after your child's teeth?' This approach aims to shift the emphasis from blame to support and provides the opportunity for collaboration. Support can come from any member of the dental team, including dentists, dental nurses, dental hygienists, dental therapists, receptionists and practice managers. The following guiding principles are recommended when providing the preventive dental team response[44]:

- Raise concerns with parents and carers,
- Explain what changes are needed,
- Offer support,
- Keep accurate records,
- Set targets for improvement and
- Review progress.

Immediate dental care should focus on relieving pain and other symptoms, followed by restoration of function and appearance together with measures to ensure the prevention of further disease.[45] In order to support families and to help minimise missed appointments, treatment planning should be realistic and achievable. It is good practice to ask parents how they think they can contribute and then to set goals by shared decision-making. Avoid requesting families to travel long distances if treatment could be provided locally.

Dental anxiety is a known barrier to accessing care.[46] If dental anxiety, or parental anxiety, is thought to be an underlying reason for failure to complete planned treatment, this should be discussed. It is essential to ensure appropriate anxiety management techniques have been offered to children and young people requiring treatment.

Rigorous follow-up is mandatory, and if dental care is interrupted by missed appointments or repeated cancellations, every effort should be made to re-establish contact with the family. A change in terminology highlights this. Children rely on their parents/carers to bring them to appointments, so using the phrase 'was not brought' to appointments in place of 'did not attend' encourages the dental team to view the significance of the situation from the child's perspective. Use of an agreed 'was not brought' pathway can be helpful to facilitate and ensure a consistent approach,[47] such as that endorsed by the British Dental Association.[48]

3.2 | Preventive multiagency management

If concerns remain following preventive dental team management, parental consent should be sought to consult other professionals who have contact with the child. This could include the child's:

- Health visitor,
- School nurse,
- GP,
- Paediatrician,
- Social worker and
- Early help worker.

It may be appropriate to contact children's social care to enquire whether the child is known to them. If a child is or has been known to social services, they may have had concerns raised about them previously. Liaising with other organisations enables recognition of shared concerns and/or identification of ways to better support children and families, including referral for early help.

Serious safeguarding incidents have highlighted the importance of effective information sharing between relevant agencies.[49] As a result of this, many areas have established multiagency safeguarding hubs or equivalent. They aim to bring together professionals from a range of agencies into an integrated multiagency team and can provide support and guidance in decision-making when there are concerns about children (or adults). The dental team should, jointly with other professionals, discuss any concerns about the child and seek to clarify what steps can be taken to support the family and address concerns. A joint plan of action should be agreed and documented.

The child's interests are paramount and override those of the parents.[50] Although seeking parental consent for information sharing is normally best practice, seeking consent is not appropriate if gaining it would put a child at risk of significant harm. This includes neglect. Parents and Gillick competent children should normally be notified if information is to be shared about them, but this is not required if it could affect the child's safety. Consideration must be given to sharing information appropriately, and reasons should be recorded. Guidance is available on how to share under these circumstances.[51] Each area will have a consent policy usually written on the basis of current guidance and legislation.[3]

3.3 | Child protection referral

If at any point there is concern that the child is suffering or is likely to suffer *significant harm* from dental neglect or other forms of abuse or neglect, a child protection referral should be made. The referral must be made following local child protection procedures. The reason for referral should be made clear, specifying the concerns and what they indicate in relation to harm or potential harm to the child. The commonest reasons for child protection referrals made by dental professionals are dental neglect and

deficiencies in parental care relating to missed appointments.[52] In most instances, parents should be informed a referral is being made, unless by doing so the child could be put at increased risk.

The dilemma of reporting concerns of child maltreatment has been acknowledged.[53] Identifying whether to undertake a supportive role or a reporting role can be a challenge. Lack of certainty about diagnosis, fear of negative consequences and lack of confidence in suspicions of maltreatment have been found to be barriers to dental teams reporting, along with fear of litigation.[54–57] Research shows that dentists have a higher threshold for social services intervention than other healthcare professionals and families.[56] Confidence in reporting, however, does appear to be improving, with a recent study finding that the number of paediatric dentists who have suspected maltreatment but have not reported it has significantly reduced when comparing 2016 with 2005.[58]

When a referral is made, there are numerous possible outcomes, including no action taken. This may be disheartening for the dental professional who raised concerns but should not prevent future referrals being made as the information may accumulate and eventually result in action. Although reporting may be challenging, the General Dental Council's 'Standards for the Dental Team'[59] documents the duty dental professionals have, to raise concerns when patients are at risk. The underlying principle is that the child's welfare is paramount.[50]

4 | PUTTING SYSTEMS IN PLACE

Safeguarding is not only about responding to individual concerns regarding a child or young person. Changing the working environment to ensure that risks to welfare are minimised is also essential. This includes putting appropriate systems in place and making sure that staff are trained to use them[44]:

1. Identifying a member of the dental team to lead on child protection. The child protection lead should keep a list of up-to-date local contacts for child protection advice and referral and ensure that safeguarding procedures and policies are up to date and regularly shared with the team.
2. Producing a child protection policy statement. This should affirm your practice or organisation's commitment to protecting children from harm and how this can be achieved.
3. Having clear guidance in place on what to do if you have concerns about a child.
4. Ensuring high-quality record-keeping. This should include routinely enquiring whether the family have any support from social services.
5. Undertaking regular child protection training.
6. Following safe recruitment processes to protect patients.

Collaborative working between professionals is fundamental when there are concerns about a child. There are numerous examples of effective dental pathways, which help support vulnerable groups and ensure that both oral health and general well-being are considered and promoted.[47,60–63]

5 | RECOMMENDATIONS

5.1 | Treatment provision

- Managing severe dental caries in children should be considered a healthcare priority.
- Children experiencing maltreatment should be prioritised for preventive dental care and given additional support to access dental services.

5.2 | Working together

- Collaborative working should be actively encouraged, between professionals and with families.
- Dental teams should establish strong links with other health and social care professionals to facilitate communication.
- Services involved in implementing child protection and safeguarding systems in the local area should consider seeking dental input.
- An oral examination should be undertaken and documented by the paediatrician as part of a child protection assessment. Formal dental and oral soft tissue assessment should also be undertaken by an appropriately trained dental professional.
- An oral health plan produced by a dental professional should be incorporated into the health plan for looked after children and children on a child protection plan.
- Formalised and funded regional strategic leadership of the oral health aspects of child protection should be provided by a named specialist or consultant in paediatric dentistry.

5.3 | Training

- All dental team members who have contact with children or young people should undertake appropriate safeguarding training.

5.4 | Research and innovation

- Dental neglect in children should be considered a priority for future research, with the recommendation that attention be given to known gaps in the literature.[64]
- Forming a clinical excellence network (CEN) to discuss dental care for children at risk of maltreatment should be considered.

5.5 | Working environment

- In every setting where children and young people are seen by the dental team, systems must be put in place to minimise risks of harm.

AUTHOR CONTRIBUTIONS

JCH led and, with RCB and PDS, wrote the original 2009 policy document on which this updated version is based. LR led the review, conducted a focus group, updated the literature review, managed the consultation and drafted initial updates to the manuscript. JCH, FG, RCB and RS contributed new material and critically revised the manuscript. RS represented the Royal College of Paediatrics and Child Health. All authors read and approved the final submitted version.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

Not applicable

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4.3 Information sharing

4.3.1 Multidisciplinary and multiagency communication pathways

Communication between different healthcare disciplines (*multidisciplinary* information sharing) and with other agencies, such as education, early years and social services (*multiagency* information sharing) is essential to effectively identifying and responding to the needs of children and families (HM Government, 2023; Department for Education, 2024). When practitioners are considering or suspect maltreatment, this may involve discussing concerns with experienced colleagues, gathering collateral information or making a referral for assessment (National Collaborating Centre for Women's and Children's Health, 2009). By sharing information early it may be possible to ensure that families receive early help to prevent needs from becoming more acute (Department for Education, 2024).

However, a recurring theme in lessons learned from SCRs is that professionals miss crucial opportunities to share information (Sidebotham *et al.*, 2016). Professional groups tend to work in 'silos', whether by working truly in isolation from other groups or by multi-agency working yet constrained by their own restricted perspective (Sidebotham *et al.*, 2016)(Section 7.6.1, pp. 178-9). Interdisciplinary communication pathways are often rudimentary or absent, as has been highlighted in relation to dentistry's working relationship with public health nurses (Bradbury-Jones *et al.*, 2013; Lewney *et al.*, 2019).

4.3.2 An information sharing pathway in a hospital setting

Public health nurses (PHNs, health visitors and school nurses) have an important role in child protection: ranging from prevention of maltreatment, through early identification of families with greatest need to receive targeted support and intervention, to referral of children at risk of significant harm (Appleton, 2011; Institute of Health Visiting, 2015; Harding *et al.*, 2019). PHNs are recognised as a key professional group that dental teams should work with in relation to safeguarding (Harris *et al.*, 2006)(pp P3.3, P3.9-3.10[6])(Harris, Balmer and Sidebotham, 2009; Ridsdale *et al.*, 2024). Furthermore, they are known to use dental neglect as a proxy

[6] Page numbering as in document cited

marker of broader neglect when making their own assessments and to act upon that information (Taylor *et al.*, 2009; Bradbury-Jones *et al.*, 2013).

In 2011, Sheffield's city-wide paediatric liaison nursing (PLN) service, which provides two-way communication between hospitals and community-based health professionals, was expanded to involve the dental hospital (DH) in response to the recommendations of a SCR. Paper 7 describes the new DH PLN service and reports findings of our evaluation from a dental team perspective (Spencer *et al.*, 2019). Our objectives were to identify the reasons why the DH team refer to the PLN, to determine what additional information is retrieved by the PLN to add to the dentist's assessment, whether any additional actions by the dental team are required on receipt of feedback from the PLN, and what proportion of children go on to complete necessary dental care.

4.3.3 Published work: Paper 7

Paper 7 Spencer, C., Zaitoun, H., White, E.J. and Harris, J.C. (2019) Role of the dental hospital-based paediatric liaison nurse in safeguarding children, *British Dental Journal,* 227(2), 158-163. https://doi.org/10.1038/s41415-019-0488-z

Role of the dental hospital-based paediatric liaison nurse in safeguarding children

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Key points

- Describes the role of a dental hospital-based paediatric liaison nurse in a formal two-way communication pathway between hospital dental teams and public health nurses (health visitors and school nurses).
- Evaluates the reasons for referral to the paediatric liaison nurse, further information retrieved, impact on number of referrals to children's social services and dental outcomes.
- Discusses how this role alongside hospital dental teams can help expand dentistry's contribution to safeguarding children.

Abstract

Aim Service evaluation of our dental hospital paediatric liaison nursing (DH-PLN) service which provides an additional route for information sharing about safeguarding concerns via an agreed pathway for two-way communication with public health nurses.

Method Retrospective analysis of clinical records of all children referred by DH teams to PLN in the three months October–December 2016.

Results One hundred and four children were referred; mean age was 6.2 years, 89.4% from Index of Multiple Deprivation (IMD) quintiles 4 and 5, and 70.2% were attending for dental general anaesthesia. The most common referral reason was dental neglect in 66.3%, followed by missed appointments in 50.0%. The PLN checked child health databases and shared information with health visitors and school nurses (46.2% and 53.8% respectively). Feedback retrieved included known child maltreatment risk factors in 7.7%. This prompted additional child protection referrals to children's social services for seven children (6.7%). Dental outcomes six months later were: treatment complete in 50.0%, treatment ongoing 28.8%, discharged to original referrer with treatment incomplete in 21.1%.

Conclusion This DH-PLN service promotes integrated multidisciplinary working, helping overcome barriers to dentistry's involvement in safeguarding. It facilitates more accurate assessments of risk of harm to children receiving dental care and prompts additional child protection referrals to social services.

Introduction

Healthcare professionals have a duty to safeguard children and promote their wellbeing by cooperating with colleagues within health services and with other agencies such as education, early years and social services.[1,2] In this context our understanding of the dental team's responsibility and potential to recognise concerns about child maltreatment has increased considerably in recent years,[3,4] yet research continues to show that dentists worryingly lack knowledge about thresholds for action.[5] Sharing information with health visitors and school nurses or with the child's general medical practitioner is often an appropriate first step in the process when a practitioner is considering whether a child may be at risk of harm.[6,7] However, communication pathways are often poorly developed,[5,8,9] and it has long been recognised that innovative changes in working practices are needed to support dental teams to participate effectively.[10]

Health visitors and school nurses, described hereafter as 'public health nurses', provide universal and targeted community-based services to children and young people across the 0 to 19 age range. They make an important contribution to the prevention of child maltreatment and to the early identification, recognition and referral of children who are at risk of or are suffering harm.[11,12] In order to successfully fulfil this role they need access to information about a child and their family, including all relevant health issues and events such as hospital admissions. Historically, clinical correspondence about hospital dental care has routinely only been addressed to the referrer, usually the child's general dental practitioner. Sharing information beyond this, while desirable and considered good practice,[6] is hampered by the lack of joined up healthcare systems.

Since the early 1990s Sheffield has benefited from a paediatric liaison service, a dedicated service for two-way communication between hospitals and community-based health professionals, mainly public health nurses. Its purpose is to promote integrated working across acute and primary care settings in the region, in order to safeguard children and promote their wellbeing. Sheffield Children's Hospital is commissioned to provide and manage this service which is staffed by a

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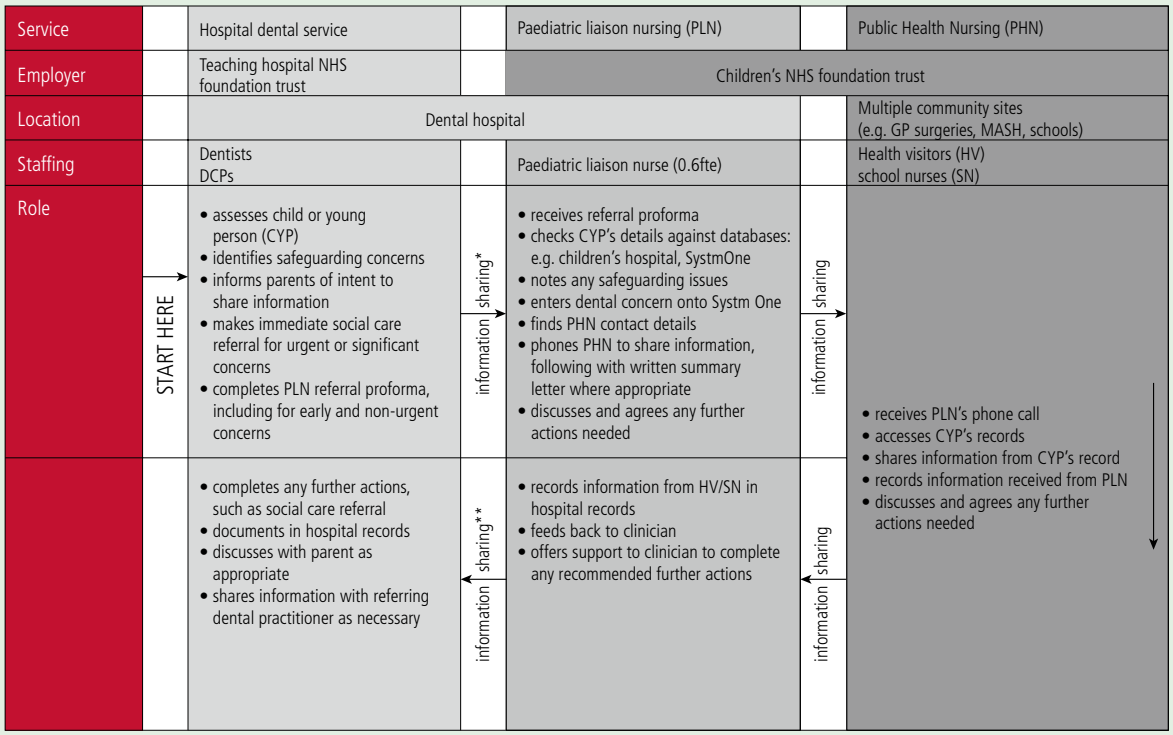
Fig. 1 Information sharing pathways in a dental hospital-based paediatric liaison nursing service



PLN = paediatric liaison nurse/nursing; CYP = child or young person; GP = general medical practitioner; MASH = multi-agency support hub
*for nature of information shared see Table 1 and Box 1; **for nature of information shared see Table 2

team of registered general nurses. Initially based in the three acute hospitals in the city and with the adult substance misuse service, it was expanded to include Charles Clifford Dental Hospital in 2011 as a result of the recommendations of a serious case review. Since that time, a paediatric liaison nurse (PLN) has worked three days a week in the dental hospital.

Dentists and dental care professionals (DCPs) in all departments can refer children to the dental hospital PLN (DH-PLN) using a standard proforma to initiate information sharing. This process follows an agreed pathway, as described in Figure 1. On receipt of referrals, the PLN accesses the child's electronic record on a range of healthcare databases to look for indicators of vulnerability. They note any alerts which highlight, for example, that the child is the subject of a child protection plan, is a looked after child, or that domestic violence has previously been reported in the family. They then contact the child's public health nurse by telephone to discuss directly. The PLN provides feedback to the referring dentist and offers them support to complete any further necessary actions arising as a result of new information. This includes advice and assistance to make a child protection referral to children's social care (hereafter referred to as 'social services') if the child is thought to be at risk of significant harm, if not already done.

In addition to documenting in the dental clinical records, the PLN service maintains a password-protected spreadsheet on a secure computer with details of referral information, any additional information retrieved, and all actions undertaken. The spreadsheet serves both as a method of organising workflow and tracking case management, and also as a record of service provision for generating activity reports to management for monitoring against the service level agreement.

Locally it is generally accepted that the PLN service enables health visitors and school nurses to better detect emerging problems and risk factors and so to plan targeted interventions to support vulnerable families. However, to our knowledge, the impact of such a service from the perspective of a host dental hospital has not been formally evaluated nor has such a service been described in the dental literature to date. We set out to do so for clinical governance purposes in our own organisation and in order to share any learning. Therefore, the aim of this paper is to describe the DH-PLN service and report the findings of our evaluation. Our objectives were to identify the reasons why the dental team refer to the PLN, to determine what additional information is retrieved by the PLN to add to the dentist's assessment, whether any additional actions by the dental team are required on receipt of feedback from the PLN, and what proportion of patients referred to the PLN go on to complete necessary dental care.

Methods

A service evaluation project proposal was registered with and approved by the host NHS trust (reference number 8092). Clinical records of all patients referred to the DH-PLN service in a three-month period between 1 October and 31 December 2016 were retrieved and examined by a single examiner (CS). Data collected on a standard proforma included age, gender, postcode and reason for PLN referral. The dental treatment modality

Table 1 Proforma reason selected by the dentist for referral of children (n = 104) to the paediatric liaison nursing service

Proforma referral category*	No of children (%)
Significant caries and/ or dental neglect	69 (66.3)
Failed to attend appointments**	52 (50.0)
No general dental practitioner	13 (12.5)
Dental hospital contacted social services	9 (8.7)
Delayed presentation for treatment	7 (6.7)
New trauma, not previously attended children's hospital emergency department	7 (6.7)
No general medical practitioner	0 (0)
Repeated emergency appointments	0 (0)

*each child may have more than one reason for referral
**proforma now updated to 'was not brought to appointments'[14]

Table 2 Information sharing, social services referrals, dental treatment modality and outcome for children referred to the paediatric liaison nurse (PLN) (n = 104)

	Number of children	
	n	(%)
Public health nurse contacted		
Health visitor	48	(46.2)
School nurse	56	(53.8)
Social services referral prompted by PLN involvement		
Referral completed	7	(6.7)
Referral not deemed necessary	97	(93.3)
Dental treatment modality		
General anaesthetic	73	(70.2)
Inhalation sedation	3	(2.9)
Local anaesthetic or non-pharmacological	14	(13.5)
Never attended for assessment	8	(7.7)
No treatment required	6	(5.8)
Dental treatment outcome (6 months after PLN referral)		
Treatment complete and discharged	48	(46.2)
Treatment complete and on recall	4	(3.8)
Treatment still in progress	30	(28.8)
Discharged with incomplete treatment	22	(21.1)

(general anaesthetic, inhalation sedation, local anaesthetic and/or non-pharmacological management) was noted and number of teeth scheduled for extraction (if extractions were needed). An arbitrary cut-off point six months after the date of PLN referral was calculated, at which the outcome of dental treatment was noted: whether treatment complete and discharged, complete and placed on recall, treatment still in progress, or discharged with incomplete treatment. Further data were collected from the PLN's spreadsheet. This included professionals contacted, information received and whether a social services child protection referral was subsequently made.

Data were entered into a spreadsheet (Microsoft Excel) and held on a secure trust computer. The Index of Multiple Deprivation IMD online tool[13] was used to determine deprivation scores using children's home postcodes and descriptive statistics were generated. Paediatric dentistry departmental information on incoming referrals, proportion requiring GA and average number of teeth extracted, was obtained from routine service monitoring records for comparison.

Results

Patient characteristics

A total of 104 (53 male and 51 female) children were referred to the DH-PLN in the three-month study period, a mean of 35 per month. Of these, 102 were referred from the paediatric dentistry department and two from orthodontics. There were no referrals from other clinical dental specialties. The mean age at referral was 6.2 years (standard deviation 3.7 years, range 0.7–17.4 years). Analysis of postcode data indicated that 89.4% of referred children lived in the two most deprived Index of Multiple Deprivation (IMD) quintiles (quintile 1 = 1.9%; 2 = 1.9%, 3 = 6.7%, 4 = 25.0%, 5 = 64.4%). For the majority of children (70.2%) the dental treatment modality was general anaesthesia. When extractions were needed, the mean number of teeth extracted was 9.2.

For comparison, paediatric dentistry departmental information indicated that the mean age of children referred to the department for all reasons was 7.2 years, 47% required treatment under general anaesthesia and, when extractions were needed, the mean number of teeth extracted was 7.4. The mean number of children referred to PLN per quarter in the two years 2016–17 was 106, as derived from PLN records.

Reasons for referral to PLN

The main reasons for referral are shown in Table 1. Seventy-five percent of patients had more than one reason for referral category. The commonest category was 'significant caries and/or dental neglect' in 69 of 104 cases (66.3%), followed by 'failure to attend appointments' in 50.0% of children. Nine children had been discussed with or referred to children's social services by the dental team before PLN involvement, for example to discuss with the child's named social worker (if they had one) or to make an informal enquiry or a child protection referral. Additional 'free text' reasons for referral and further information relevant to the child's wellbeing were frequently shared with the PLN (Box 1).

Information sharing

Information sharing, social services referrals, dental treatment modality and outcome are shown in Table 2. The person contacted by the PLN to share information with was the child's health visitor in 46.2% of cases and school nurse in 53.8%. Information gained from this discussion was shared back to the dental team (Box 2). In eight cases, or 7.7% of children referred to the PLN, new information was received about previously documented risk factors for child maltreatment and this, when considered together with information already known to the dental team, directly prompted making a child protection referral to social services in seven cases (6.7%).

Six months after PLN referral, the required course of dental treatment had been completed for 50.0% of children. For 28.8%, treatment was ongoing and 21.1% of children had been discharged to the original referrer, usually their general dental practitioner, with treatment incomplete (Table 2).

Box 1 'Free text' further referral information shared by the dentist with the paediatric liaison nursing service (frequency in brackets)

Electronic alert (Medway) noted on children's hospital records system (8); pain and/ or infection (6); child protection plan/social worker involvement (5); medical reasons (3); overweight (3); was not brought to appointment for general anaesthetic (2); health visitor referral/concern (2); underweight (1); unsure of family address (1); not starved for general anaesthetic (1); phone line unobtainable (1); eleven children in family (1); self-harm (1); history of child playing adult video games (1); disagreement between parents as to who should have brought child to appointment (1); unkempt appearance (1); mother and father away (1)

Box 2 Additional information retrieved by the paediatric liaison nursing service and shared back to the referring dentist (frequency in brackets)

Known risk factors for maltreatment, such as domestic abuse or parental alcohol dependence (8); history of tuberculosis infection in the family (2); excluded from school (1); poor school attendance (1)

Discussion

Sharing information is essential if the dental team is to meet its duty to safeguard and promote children's wellbeing. Indeed information sharing is described in government guidance as 'an intrinsic part of any frontline practitioner's job when working with children and young people.'[15] It helps to ensure that a child 'receives the right services at the right time and prevents a need from becoming more acute and difficult to meet.'[15] In an in-depth analysis of 66 serious case review reports in England between 2011 and 2014, undertaken to find out what went wrong and learn lessons when a child has died or been seriously harmed by maltreatment, only one was found where information sharing was not specifically mentioned.[16] The authors stated: 'the centrality of information sharing to effective child safeguarding cannot be stressed enough.'[16] They went on to stress the importance that communication must be two-way, must follow agreed pathways and be triangulated and verified; all features of our DH-PLN pathway.

Safeguarding concerns may present to the dental team with signs and symptoms of maltreatment, as concerning behaviour or interaction between children and parents or as direct disclosure of abuse.[7,17,18] Furthermore, a wide range of other signs of vulnerability can become apparent in the course of providing dental care.[4] Dentists must follow local safeguarding children procedures, including pathways for child protection referral to social services when concerned that the child is currently experiencing or is at risk of significant harm from abuse or neglect.[1] This DH-PLN pathway presents an additional route for information sharing and, particularly for less specific concerns, an opportunity to explore whether further action would be indicated, such as referral for early help for families needing additional support.

Unsurprisingly, our evaluation showed that referrals to the DH-PLN were primarily from the department of paediatric dentistry. In comparison to all children newly seen in the department, children referred to the PLN were younger (6.2 vs 7.2 years), more likely to require general anaesthesia (70% vs 47%) and to need more teeth extracted (9.2 vs 7.4). The most common reasons given were dental neglect (66.3% of referrals to PLN) or the child not being brought to appointments (50.0%). Note that PLN referrals are not a direct equivalent, but these findings echo those of two recent robust research studies in Sweden[19] and Norway[18] in which the same two reasons were most frequent when dentists made child maltreatment reports (child protection referrals) to social services: dental neglect/ grave caries; and missed appointments/not brought. Children living in areas of deprivation predominated in our sample, as in that of Kvist and colleagues.[19]

It is already known that UK dentists with an interest in paediatric dentistry commonly encounter dental neglect. In a 2005 survey, 80% reported seeing children with neglected dentitions weekly or more frequently.[10] At that time 42% said they rarely or never 'discuss these cases with another health professional' and 96% rarely or never 'refer to social services.' While we would expect practice to have improved now that clear guidance[6,7] and more training are available, barriers still remain. A UK study using fictitious vignettes found that fewer dentists correctly planned child protection actions for a child having multiple extractions of carious teeth under general anaesthesia, when compared to nurses and doctors.[5] Differentiating between dental caries and dental neglect can be challenging, although evidence to inform decisions is available.[20] Furthermore, paediatric dentists describe facing clinical and ethical dilemmas[21] which may result in fewer referrals to social services than would be expected if guidelines were followed completely. Our DH-PLN service provides a ready opportunity for discussion to be initiated on the dental team's behalf as a first step. In our study this process, specifically the information retrieved and feedback obtained from public health nurses, culminated in the dental team making a child protection referral to social services for an additional 6.7% of cases (seven cases in three months) where otherwise they would not have done so. Additional information retrieved was mainly alerts to known risk factors for child maltreatment, such as domestic abuse or parental alcohol dependence.

Six months after PLN referral, half the children had completed their dental treatment. For 28.8% it was still in progress and 21.1% had been discharged from the dental hospital with treatment incomplete. Without a control group it is not possible to say whether these dental outcomes had been improved by PLN involvement. Nevertheless, we are encouraged that research elsewhere demonstrates that public health nurses are both keen to receive feedback from dental services[8] and are

enthusiastic about supporting attendance and improving oral health in those most in need.[9]

It is important to note that children were only discharged back to the referring dentist with treatment incomplete if deemed not at risk of pain or infection. It is likely that some simply required preventive care, which could be provided more conveniently close to home by the primary care dentist, or the problem for which they had originally been referred had now resolved. All necessary safeguarding actions were first completed and a copy of the discharge letter was sent to the general medical practitioner. A question remaining is whether those children subsequently went on to complete dental care outside the timeframe of the study, whether in primary care or following re-referral to the dental hospital.

These findings serve as a reminder, as primary care dental practitioners will be well aware, that, despite best efforts, children discharged from dental hospital care may have both unresolved dental treatment needs and other vulnerabilities that require further management; a responsibility that is shared between hospital and primary care providers. Long waiting lists for treatment or long waits between consecutive appointments can make it particularly difficult to monitor children's progress in overstretched services, thus requiring practitioners to be constantly vigilant.

Interestingly, the department of orthodontics made low use of the PLN service relative to the number of children and young people attending. This is probably because the most common dental safeguarding concerns (dental neglect and missed appointments) apply less frequently to orthodontic patients, who are not usually accepted for treatment unless they have excellent oral health and motivation. However, children and young people with important safeguarding concerns have previously been identified by our orthodontic colleagues and we consider it essential that the DH-PLN maintains regular contact with all dental specialties which treat either children or adults who are parents, even those specialties that make less frequent use of the service.

This service evaluation generated a number of action points for our own attention, notably the aforementioned need to raise awareness of the service and for the PLN to maintain regular contact with all dental specialties. In addition, it provides evidence of impact on the number of referrals made to social services. Beyond this, our findings will to be of interest to others who are looking for innovative ways of supporting safeguarding practice in dentistry and may want to consider implementing something similar, perhaps prompted by new commissioning standards.[22] We found a wide variety of models of liaison nursing services described in the literature, including in mental health, intensive care, maternity and child health,[23] and safeguarding,[24] but none for dentistry. To find out more we contacted 15 UK hospital paediatric dentistry units by email and received 14 replies. Five reported access to dental-specific PLN support or equivalent (of which one had just been withdrawn due to lack of funding), four had contact with multiple PLNs at associated children's hospitals and the remaining five had no PLN service. In one unit 'safeguarding champion' was an alternative name for the role.

This service evaluation has a number of limitations. Had available resources allowed us to examine a larger sample of records, we would almost certainly have detected a wider range of less commonly encountered types of concern, risk factors and vulnerabilities. It is also important to acknowledge factors that were beyond the scope of this study. We do not know whether all children who might have benefited were referred to the PLN. Our results will have underestimated the total number of children with safeguarding concerns seen in the dental hospital, since some concerns will have been identified and fully handled by the dentists themselves without recourse to the PLN.

Evaluating what action the health visitors and school nurses took as a result of information received from the dental hospital via the PLN was also outside our scope. Anecdotally, although keen to avoid being used as a 'was not brought' follow-up service, they frequently contacted families to encourage dental attendance. We do not know to what extent they provided any other support to families or themselves made additional referrals to social services as a result of dental information sharing. Nor could we determine whether children's lives improved as a consequence of any of this activity.

The PLN role is a rare opportunity for paediatric nurses and the dental team to work together so closely, and we have observed that staff value this working relationship, but any wider benefits to both professional groups of this multidisciplinary approach remain unexplored. Further work would be beneficial to address these questions, to include an economic evaluation and to compare with a dental nurse acting in the liaison role.

Conclusion

The DH-PLN service enables two-way communication between the dental hospital and other healthcare professionals, mainly public health nurses, via an agreed pathway. This promotes integrated multidisciplinary working and helps overcome known barriers to dentistry's involvement in safeguarding children. The main reasons dentists refer to the DH-PLN to initiate information sharing are dental neglect or missed appointments. In addition, the DH-PLN retrieves additional information, which would be otherwise inaccessible to the dental team, from health records and discussion with public health nurses. Dentists receive feedback if other concerns have been identified elsewhere, such as domestic abuse or parental alcohol or substance misuse. This facilitates more accurate assessments of risk of harm to children receiving dental care and sometimes prompts additional dental team action such as making a child protection referral to social services.

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4.3.4 Integrating multidisciplinary working

Although Sheffield's dental hospital-based PLN service is not unique, this paper is to our knowledge the first and only description of such a pathway in the scientific literature. Our key findings are summarised in Table 2 (p. 15) and demonstrate that the pathway promoted integrated multidisciplinary working. Of note, PLNs retrieved information from PHNs and shared it with the DH – information that would have been otherwise inaccessible to the dental team. This enabled identification of additional children at risk who were then referred to social services for assessment.

Our paper has some parallels with a model since described in the US where a children's social worker was integrated within a US dental school clinic (Purkis *et al.*, 2023), They reported success in improving both dental attendance and interprofessional practice.

An alternative solution, often mooted, would be to give dental professionals access to an information database or to children's shared electronic patient records, like other primary healthcare professionals. To date, efforts in this regard have been halted by shifts in policy (Parliament. House of Commons Library, 2011) or thwarted by the incompatibility between dental IT systems and the NHS Spine (Office of the Chief Dental Officer England, 2018)(para. 10.8, p. 23). A preliminary report from Bradford CDS demonstrated the potential of allowing dentists SystmOne access, showing that additional information retrieved would have changed some aspect of the dental management or communication with other professionals for 8% of patients (O'Donnell *et al.*, 2018).

Developing a comprehensive child protection information system (CP-IS) that covers HDS, CDS and GDS dentistry would appear to have advantages yet would require both political will and advances in shared technology. Prototyping, including Sheffield CDS as a pilot site, has showed this to be possible (NHS Digital, 2021) but, in the interim, our DH-PLN pathway presents a validated model of a local solution.

4.4 Managing missed appointments

4.4.1 The problem of missed appointments

Health professionals' attention has been drawn to missed appointments as a potential indicator of neglect by both dental-specific guidance (Harris *et al.*, 2006; Harris, Balmer and Sidebotham, 2009) and by the NICE guideline CG89 (National Collaborating Centre for Women's and Children's Health, 2009); for dental teams these represent a well-known but wicked problem. Dentally-neglected children tend to attend only when in pain and therefore, when they do attend, the focus is necessarily on pain relief, sometimes to the exclusion of a more in-depth assessment of a child's overall health needs. The children causing most concern are least likely to return to the dental surgery.

Anecdotally, dentistry had become known to UK child protection professionals as a sector with a problem in this regard, a problem recognised by paediatric dentists themselves and the subject of much debate (personal communication, multiple sources, 2006 onwards). Our three cycle clinical audit conducted in Sheffield CDS between 2009 and 2012 calculated our own missed appointment rate as 11–12% (Harris, Firth and Chadwick, 2017). Although lower than the 21–32% reported in other UK dental settings at the time, we identified inconsistencies in follow up, despite our best efforts, leaving vulnerable children at risk. Peer-reviewed clinical effectiveness projects from other UK paediatric dentistry settings similarly reported omissions (Orton, Hutton and Brown, 2010; Halai and Stevens, 2013; Walley, Lee and Albadri, 2015; Hughes and Bhatia, 2016).

The size of the problem was later confirmed in Sweden when 'failure to attend appointments' was shown to be the commonest reason for dentistry's verified referrals to social care, accounting for 63% of 147 mandated reports between 2008 and 2014 (Kvist *et al.*, 2017). Likewise in a large survey of Norwegian dental professionals' self-reported referral behaviour, 'did not attend/was not brought' was a contributory reason in 67% (n=1, 214) of reports of concern (Brattabø, Bjørknes and Åstrøm, 2018).

4.4.2 'Did not attend' (DNA) or 'was not brought' (WNB)?

There are many different reasons why children miss dental appointments. Parents tell us these include forgetting, illness, no longer needing the appointment and occasionally more serious problems or priority clashes (Simons, Pearson and Dittu, 2015). Other reasons, such as inappropriate or inaccessible services or administrative error, can be attributed to the healthcare provider and be outside of parental control (Arai, Stapley and Roberts, 2014).

Since children are usually dependent on others to bring them to appointments, some practitioners began to question the use of the term 'did not attend' (Roe, 2010). Increasingly there were calls to use 'was not brought' (WNB) instead (Powell and Appleton, 2012). The rationale was that this 'reconceptualisation' encouraged healthcare professionals to consider the child's perspective when planning how to respond, particularly to think of the impact on the child of missing necessary healthcare. The WNB approach began to gain momentum (Munro, 2012; Roe, Appleton and Powell, 2015).

4.4.3 A 'was not brought' pathway in a community setting

In June 2014, colleagues in the Yorkshire and the Humber Regional Clinical Network of CDSs challenged me to develop a new pathway for managing children's and young people's (CYP) missed dental appointments. Our requirements for an ideal WNB pathway were to:

- Encourage and enable earlier and more consistent information sharing
- Provide a standardised approach
- Maximise efficiency by involvement of the whole skill-mixed dental team
- Reach a defined end point, at which efforts could be considered concluded
- Be easy to learn and apply consistently
- Be feasible without the need for additional resources.

Following preparatory work, I successfully applied for funding to host and supervise a Leadership Fellow in Paediatric Dentistry (Safeguarding Children) to assist with this project. Paper 8 describes the development, implementation and

evaluation of our joint work: the Sheffield CDS WNB-CYP pathway (Kirby and Harris, 2019b).

4.4.4 Published work: Paper 8

Paper 8 Kirby, J. and Harris, J.C. (2019) Development and evaluation of a 'was not brought' pathway: a team approach to managing children's missed dental appointments, *British Dental Journal,* 227(4), 291-297. https://doi.org/10.1038/s41415-019-0621-z

Development and evaluation of a 'was not brought' pathway: a team approach to managing children's missed dental appointments

Jen Kirby*[1] and Jenny C. Harris[2]

Key points

- Briefly reviews why children's missed dental appointments may be a safeguarding concern.
- Describes a new pathway for managing children's missed dental appointments.
- Presents results of an eight-month service evaluation, highlighting its impact on information sharing and dental team views.
- Proposes that this new WNB-CYP pathway can be recommended to other similar dental services.

Abstract

Introduction Children and young people's (CYP) missed healthcare appointments may be an indicator of neglect. Healthcare providers are encouraged to consider the child as 'was not brought' (WNB) and to assess the need for early multidisciplinary information sharing to safeguard and promote welfare.

Method A new WNB-CYP pathway (flowchart, template patient notes, template letters) for missed appointments was developed. After piloting at one community dental service (CDS) clinic for eight months, a service evaluation was conducted via retrospective review of records and semi-structured interviews with staff.

Results Of 1,238 appointments for CYP, 134 were missed (WNB rate 10.8%) by 91 children. The WNB-CYP pathway was followed consistently 113 times (84.3%) and, when used, three quarters of WNBs were rebooked after communication with parents within three weeks. Written information was shared in 25 cases with general medical practitioners and other health and social care professionals. Staff reported high levels of engagement and pathway acceptability; it relieved uncertainty and supported decision-making, teamwork and inter-professional communication without increasing daily workload. Following minor amendments, the pathway was rolled out service-wide with similar success.

Conclusion A new WNB-CYP pathway facilitated early and consistent sharing of safeguarding information with other professionals about missed CDS dental appointments and improved dental team confidence.

Introduction

Every child has a fundamental right to healthcare.[1] When children miss healthcare appointments, including dental appointments, it may be a sign of neglect and should be followed up rigorously as part of safeguarding and promoting their welfare.[2,3,4] Importantly, non-engagement with health services is frequently noted in serious case reviews (SCRs) conducted when children die or are seriously harmed by maltreatment.[5] Recent expert opinion has highlighted the need for healthcare providers to consider the child's perspective when planning how to respond, and advises considering the child as 'was not brought' (WNB) in place of the traditional terminology 'did not attend' (DNA).[6,7]

Previous work has identified safeguarding deficiencies in the context of primary care dentistry and has asserted the need to improve and enable information sharing between professionals.[8,9,10] A three-cycle audit conducted in our community dental service between 2009–2012 identified inconsistencies in following up missed appointments, despite best efforts.[11] Furthermore it was observed that management on a case-by-case basis was increasingly costly in dentists' time. Lessons learned from SCRs indicate that clear and robust processes are essential and must be evaluated periodically to ensure they are used effectively and remain fit for purpose.[12] In response to these circumstances, a new WNB pathway for managing children and young people's (CYP) missed dental appointments was developed. The aim of this paper is to describe this WNB-CYP pathway, its development, implementation and evaluation.

Methods

Setting

Sheffield Community and Special Care Dentistry (CSCD) provides specialist dental care for adults and children with disabilities including learning difficulties, communication disorders and complex medical needs,

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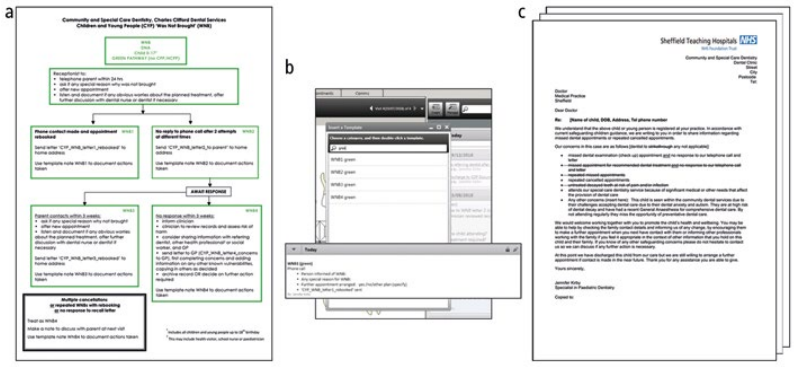

Fig. 1 Schematic to show components of the new 'was not brought - children and young people - green' (WNB-CYP green) pathway: a) flowchart; b) template notes shown as open windows in a de-identified example patient record in CS R4 Clinical+ (Carestream Dental UK); and c) template letters including 'WNB4 letter' to general medical practitioner. For an enlarged version of the flowchart see Figure 2

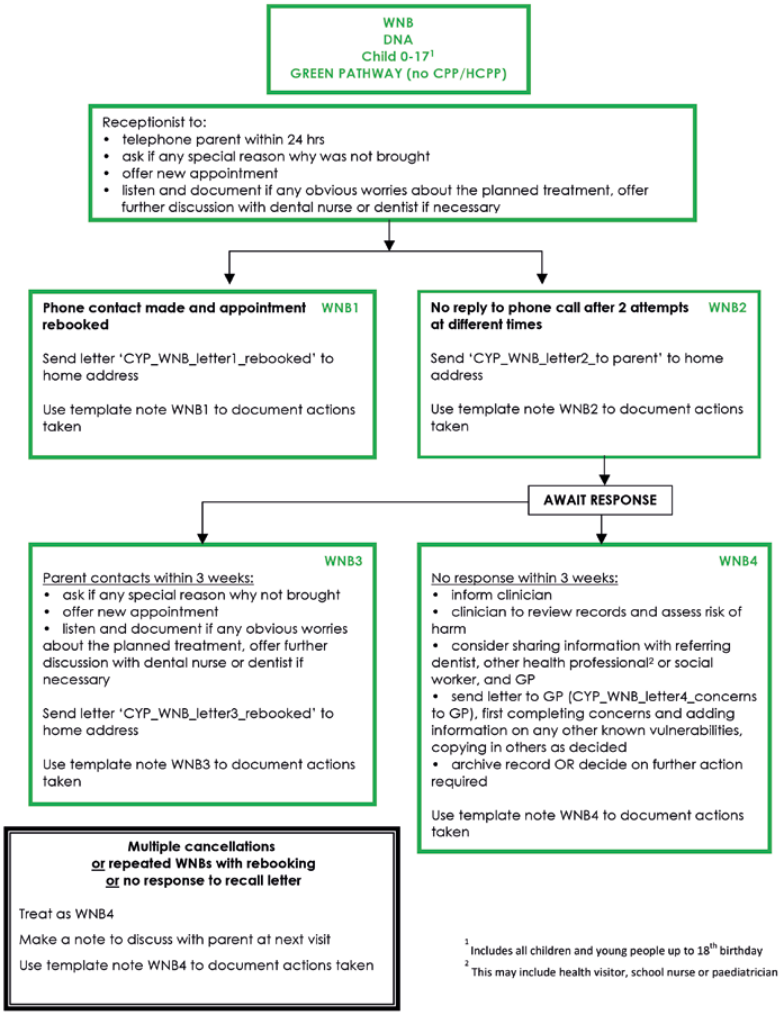

Fig. 2 'Was not brought - children and young people - green' (WNB-CYP green) flowchart

alongside speciality training, undergraduate outreach teaching and dental access roles. The service operates from seven clinic bases, employing a team which includes 22 dentists (12 full-time equivalent) and 31 registered dental care professionals. The ethos of the service includes a longstanding commitment to reducing barriers to healthcare by working with vulnerable families and those with additional needs in a supportive and inclusive manner.

Requirements

The requirements for an ideal WNB pathway were determined:

- To encourage and enable earlier and more consistent information sharing
- To provide a standardised approach
- To maximise efficiency by involvement of the whole skill-mixed dental team
- To reach a defined end point, at which efforts could be considered concluded
- To be easy to learn and apply consistently
- To be feasible without the need for additional resources.

Pathway development and implementation

Existing solutions used by four community dental services in the region were reviewed; none fully met our stated requirements. Therefore, a new WNB-CYP pathway was devised de novo consisting of three component parts:

- An explanatory flowchart
- Templates for clinical notes with prompts for action
- Editable template letters.

For an indicative representation of the components, see Figure 1. The full text is provided as 'Supplementary Material 1, 2 and 3'.

Numbering and colour were used to aid navigation and to acknowledge that additional modified colour-coded pathways would be required in due course for special circumstances, such as for children subject to a child protection plan and for vulnerable adults ('adults at risk'). A key element was an information-sharing letter to the child's general medical practitioner (GMP), known as the WNB4 letter. This letter had evolved from the consultant in paediatric dentistry's own clinical letters when previously managing missed appointment concerns on a case-by-case basis.

After multiple iterations of content and layout, the documents were sent for comment to local stakeholders including statutory named and designated safeguarding children

Table 1 Template notes for electronic record keeping at each stage of the Sheffield WNB pathway. Note that these include sufficient detail to function as a script

Stage	Description	Template note
WNB1	The successful contact of the parent/carer and arranging a further appointment within 24 hours after the missed appointment	Phone call Person informed of WNB: Any special reason for WNB: Further appointment arranged: yes /no/other plan (specify) 'CYP_WNB_letter1_rebooked' sent
WNB2	Attempts to contact the parent/carer unsuccessful and letter sent advising them to arrange a further appointment	Phone calls x2 no response 'CYP_WNB_letter2_to parent' sent
WNB3	The parent/carer contacts the dental clinic within three-weeks in response to the WNB2 letter	Parent responded to WNB letter 2 Any special reason for WNB: Further appointment arranged: yes /no/ other plan (specify) 'CYP_WNB_letter3_rebooked' sent
WNB4	Risk of harm assessed, letter sent to GMP and other professionals if appropriate when: no response to WNB2 letter within three weeks or after multiple cancellations or repeated WNBs with rebooking or no response to the recall letter.	No response to WNB letter 2 (or multiple cancellations/WNBs/no response to recall letter) Clinician reviewed records: yes/no Clinician assessed risk of harm: yes/no at risk/not at risk Need for information sharing considered: yes/no Decision to share information with: 'CYP_WNB_letter4_concerns to GP' letter sent: yes/no Copied to: Record to be archived OR note here any further action required

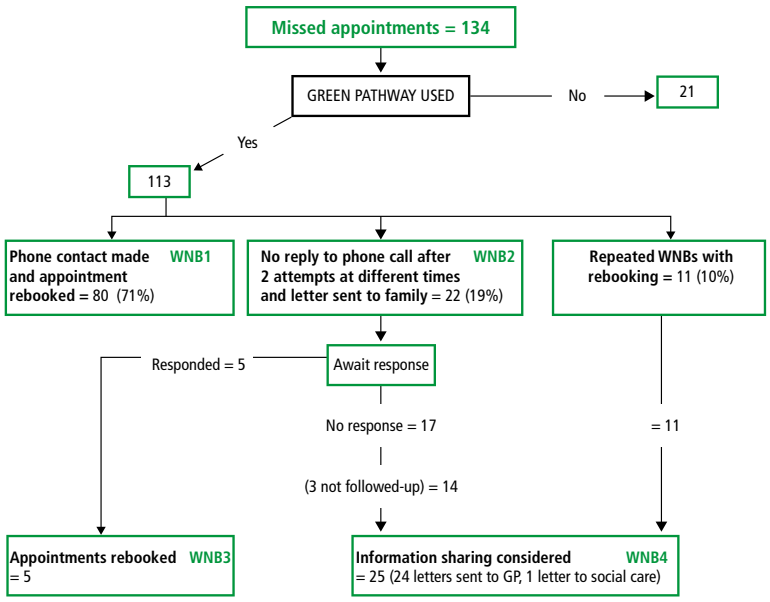

Fig. 3 Results of the evaluation of the pathway over an eight-month pilot period at one clinic site

professionals (nurse, doctor and GMP).[13] In parallel with this, elements of the proposed pathway were tested for six months by the safeguarding lead dentist (JCH) and dental nurse. Support of the senior management team was gained and, by role modelling and by creating and communicating a vision for change, wider staff interest and engagement was generated.

On receipt of stakeholder comments, further minor revisions were made and the final version (Fig. 2) was approved as a variant to Trust policy. The template clinical notes (Table 1) and letters were uploaded to the electronic clinical record-keeping system (CS R4 Clinical+, Carestream Dental UK). Laminated copies of the flowchart were distributed at one community clinic chosen as the pilot site. Informal one-to-one training was provided to the dental receptionist and senior dental nurse. These key staff members then trained other team members. The 'WNB-CYP green' pathway was introduced in January 2016.

Evaluation

A service evaluation project was registered and approved (Sheffield Teaching Hospitals NHS Foundation Trust, Clinical Effectiveness Unit reference no. 7697). The evaluation sought to assess the use of the pathway and to explore staff experiences and views on its acceptability. The project was limited to evaluating management of missed appointments and did not attempt to evaluate safeguarding children practice in general or child protection referral for any other concerns.

Pathway usage

All missed appointments for children (from birth until their 18th birthday) during the eight-month period from 1 January 2016 to 31 August 2016 were identified retrospectively from electronic clinical record and appointment books (R4 Clinical+). Each child's record and associated letters were reviewed. Data were collected by one investigator (JK) using a pro forma and entered into IBM SPSS Statistics software for analysis.

Dental team views

A purposive sample of dental team members was selected for interview, excluding those who had developed the pathway. Information was provided on what was proposed and, with interviewees' consent, semi-structured interviews were undertaken, audio-recorded and transcribed verbatim by one investigator (JK). Data collection and analysis were conducted concurrently until saturation was reached. Both authors independently read and reviewed the transcripts to identify

Table 2 Information sharing regarding children who reached WNB4 stage over an eight-month period at one clinic site

	Professionals who were contacted by the dental team*	Professionals who responded back to the dental team
Medical		
General medical practitioner	24	2
Social care		
Referral to social care	1	
Named social worker	2	
Local authority		
School nurse	3	
Health visitor	4	
Health inclusion team		2
Multi-agency support team		2

*n = 25 children; may be more than one professional contacted per child; three children – no information sharing

themes from the data, which they subsequently discussed to achieve consensus.

Results

Pathway usage

Of a total of 1,238 appointments for CYP in the six-month evaluation period, 134 were missed, a WNB rate of 10.8%. Ninety-one children missed one or more appointments, of whom 32 missed multiple appointments. The WNB-CYP pathway was used on 84% of occasions (113/134), as summarised in Figure 3. After 71% (80/113) of WNBs managed using the pathway, parents or carers (the term 'parent' will be used hereafter to denote either) were successfully contacted by telephone within 24 hours, re-booked and sent the appointment confirmation 'WNB1 letter'. Of these, 64% (51/80) subsequently attended with no further missed appointments. When attempts to contact the parent were unsuccessful and a 'WNB2 letter' was sent to the parent advising them to contact within three weeks to arrange a further appointment (WNB2), only five of 22 did so. Overall, after 75% (85/113) of WNBs managed using the pathway, contact was successfully made within three weeks and children's appointments rescheduled, or 63% (85/134) if considered from an 'intention to use the pathway' perspective.

For 17 children there was no response to either the phone call or letter. Information was shared with various health and social care professionals for 14 of these and for a further 11 who were 'fast-tracked' to this stage (WNB4) due to multiple WNBs or repeated cancellations (Fig. 3). This was a total of 25 children, or 27.5% of the 91 children with missed appointments. For one child, a child protection referral was made to social care (Table 1). In nearly all cases (24/25) a letter was sent to the GMP (23 WNB4 letters and one copy of social care referral). Concerns were additionally shared with other professionals in over a third of cases (n = 9), as detailed in Table 2. After this, six professionals (including two GMPs) actively responded back to the clinic by telephone regarding concerns in relation to these children (Table 2) and six parents initiated contact with the clinic to rebook. Further appointments were scheduled for 13 children. Eleven subsequently attended, including all nine where there had been communication with professionals in addition to the GMP.

There was good overall compliance with the individual elements of the pathway, the action prompts and use of the template clinical notes and letters. However, several points at which there was potential to make better use of the pathway were identified. At WNB1 stage, 10% of parents (8/80) were not sent written confirmation of the appointment. Three patients did not have information sharing considered at the WNB4 stage; all were subsequently contacted by the clinic. The template notes were not always used fully; in eight of the 25 at WNB4 stage, the clinician omitted to document whether they had assessed risk of harm. The final step, after completing all the necessary information sharing actions, was to 'discontinue' courses of treatment and to 'archive' the clinical record, which was completed for only eight of the 25 children and only by senior dentists.

Dental team views

Four interviews were completed with a dental receptionist, a senior dental nurse and two dentists (a dental officer and a specialist in special care dentistry). Analysis revealed five main themes: reflections on previous practice; the role of the pathway in promoting children's welfare; its reception from parents; positive impacts on staff; and ideas for further development.

Reflecting on previous practice

The team acknowledged that their previous management of children's missed appointments had been unstructured, inconsistent and in need of change. They recognised that they had tended to focus on pressures on parents, rather than correctly focusing on the needs of and impact on the child, and this left children at risk. Decisions had been considered the sole responsibility of the dentist:

'Well, it was haphazard and everybody did something different… So some patients were getting absolutely gold standard, and we were ringing every man and his dog about them, and other people weren't.' (Dentist 2);

'There were definitely ones that slipped through the net.' (Senior dental nurse).

Promoting children's welfare

Some team members noticed that using the terminology 'was not brought' had changed their attitude and helped to shift the focus onto the child:

'…those children did not choose not to come; they were not brought… It's not their choice, it's out of their hands.' (Dentist 1);

'It brings in another professional, and it is reaching out, and sharing information.' (Dentist 1).

The WNB pathway was felt to make decision-making and information sharing quicker and easier. The team recognised their important role in safeguarding and promoting children's welfare by identifying vulnerable children and sharing concerns:

'The pathway makes you question your next action… and you share information sooner.' (Dentist 1);

'Even if in your whole working life, it only saves one person's life, it makes it more than worth it.' (Dentist 2).

Reception from parents

Sending the WNB1 or WNB3 letter was thought to have prompted parents to consider their responsibility to bring their child for appointments. Some came personally to the clinic to apologise and re-book. Only one

parent was reported to be displeased but the receptionist was able to defuse the situation by explaining the reason for the new policy and that it applied to all:

'[the new pathway] made [parents] think "Oh, I won't do that again." So, having something physically telling them they had missed an appointment other than just a phone call.' (Receptionist);

'…when people [parents] receive the letter, they had come and apologised about missing the appointment…So when they receive the letter in the post, it makes them think.' (Receptionist).

Positive impacts on staff

Impacts on staff related to ease of use of the pathway, how they had incorporated it into the working day, the effect on teamwork, and relief of professional uncertainty. The team all welcomed the change. Some had initially felt daunted but they had found it easy to learn, particularly with repetition. All the interviewees readily referred to its specific stages by abbreviations, for example, WNB1, WNB2:

'The flow chart is really good, it is self-explanatory and really clear to follow.' (Receptionist);

'There is nothing to panic about… After you do one or two it's just like anything else you do on a daily basis on reception and you will do it automatically.' (Receptionist);

'Once you are doing it regularly, I think that is the key, doing it regularly and following it through each stage it becomes easy.' (Dentist 1).

Generally, the WNB pathway did not increase the daily workload for either reception staff or dentists, rather it helped them to make a decision quickly. Sometimes this was contrary to initial expectations:

'It is just the case of clicking a few extra buttons and type. It wasn't difficult or time consuming.' (Receptionist);

'…actually, instead of me taking the time to think, "Aww, what should I be doing? Where should I be contacting? Who should I speak to?" … the pathway saves you time.' (Dentist 1).

The whole dental team got involved, with the receptionist assuming a pivotal role in the daily tasks, training colleagues and monitoring. Every member felt engaged and empowered to contribute. They described helping each other, with the receptionist cited as the best source of advice:

'Yes, we are all working together to get the same result at the end.' (Receptionist).

Importantly, staff felt that the pathway provided reassurance that they were making the correct decisions:

Box 1 Amended WNB4 template note including question prompts to aid assessment and documentation of risk

WNB4 (green)

No response to WNB letter 2 (or multiple cancellations/no response to recall letter)

- Clinician reviewed records: yes/no
- Clinician assessed risk of harm: yes/no; at risk/not at risk

CONSIDER:

Why was the child attending?

Was any treatment required?

What is the impact of the child not attending?

- Need for information sharing considered: yes/no
- Decision to share information with:
- 'CYP_WNB_letter4_concerns to GP' letter sent: yes/no
- Copied to:
- record to be archived OR note here any further action required

'I do think it has made people not as worried about acting on things because they are following a set pathway… It has taken that massive responsibility off their shoulders.' (Dental nurse);

'So it feels like a bit of a safety net that I am following the right protocol and it is being followed up.' (Dentist 1).

Ideas for further development

Although recommending that the pathway should be implemented service-wide, some limitations were noted. The team requested further guidance regarding multiple missed appointments, as this appeared to be area of confusion. Some expressed frustration that they did not always receive feedback from other professionals when they shared information, and wondered if that information was valued:

'When they have a WNB4, and then they come back and have another appointment, and then they DNA again. So it's gone through the process once, do we start again?' (Receptionist).

The concept of considering children as 'was not brought' had encouraged all the team to also consider the welfare of vulnerable adults who miss appointments:

'They don't make their own appointment, they don't get themselves to appointments, as they are unable to.' (Receptionist);

'The first time I saw it I decided we were going to use it for adults.' (Dentist 2).

Discussion

Regular dental care ensures that children have the opportunity to receive interventions and treatment to prevent dental pain and infection. Parents are responsible for ensuring that they are brought to appointments so that their dental health needs can be met.[14] Yet parents report a variety of reasons for missing appointments including forgetting, illness, no longer needing the appointment and, occasionally, more serious problems or priority clashes.[15] Other reasons, such as inappropriate or inaccessible services or administrative error, may be the fault of the healthcare provider and out of parental control.

A supportive, respectful and understanding approach to missed appointments is essential but the needs of the child, rather than those of the parent, should be kept at the centre of our response.[16,17] It is neither appropriate to simply send a further appointment nor to discharge the child from further dental care without taking other action.[6] Robust processes should be in place to enable sharing information with other professionals and to encourage re-engagement with health services.[12] If the child's needs are persistently not met, a child protection referral to children's social care should be considered.[3,9] In the past, dentists infrequently communicated with other agencies when concerned about dental neglect and rarely made child protection referrals to social care.[18] However a recent study in Sweden found that, against a backdrop of increasing referrals from dentists, missed appointments was dentistry's most common reason for child protection referral.[19]

This service evaluation confirms that our new WNB-CYP pathway encouraged a focus on the child and improved the consistency of our management of missed appointments and information sharing. When the pathway was used, 75% of missed appointments were promptly and successfully rebooked after telephone or postal communication with

parents. For the remainder, children's records were individually reviewed to determine what action was necessary, with few exceptions, resulting in information sharing with a range of other health and social care professionals.

This transformational change, intended to benefit patients, also had perceived benefits for staff. They found use of a standardised pathway increased their job satisfaction and confidence, and did not adversely impact on their working day. The WNB-CYP pathway successfully involved the whole dental team where previously the responsibility had fallen solely on the dentist. Both reception and dental nursing staff welcomed a sense of shared responsibility. The pathway empowered them to manage nearly three-quarters of missed appointments independently of dentist advice. Reception staff noted that the process was not time-consuming and could be fitted into their working day. They reported that the WNB-CYP pathway appeared to be accepted by parents, prompting remarkably few adverse comments, and the team felt confident in their ability to handle these.

National guidance recommends that local systems should enable GMPs to take the lead in action following missed appointments.[20] Yet GMPs do not always receive adequate information to enable them to do this effectively.[21] For a full picture of a child's healthcare needs, it is imperative that dental practitioners share dental information with them. This pathway provided dental staff with more confidence to do so and reassurance of acting appropriately. Furthermore, the dental team often went beyond the express requirements of the pathway, as illustrated by over a third of occasions when information was shared with additional professionals.

However, the dental team did voice uncertainty over whether the information they shared was valued, as they received little direct feedback. We can infer that some GMPs took action on receipt of WNB4 letters because they and other professionals subsequently contacted our service about the children concerned. However, in the absence of direct and specific feedback, as is recommended by safeguarding guidance,[22] inferred feedback alone may not be enough to reinforce and maintain communication pathways and encourage future information sharing and referrals.

The missed appointment rate of 10.8% noted in this study is comparable to the 11–12% appointment rate in our previously published 2009–2011 audit.[11] Missed appointment rates in other UK dental settings have been reported between 16% and 32%.[15,23] Although reducing the missed appointment rate was not a specified aim of the WNB-CYP pathway, it may have the potential to do so in the long-term by changing parental attitudes and behaviour. This would be of interest for further study.

The main limitation during this pilot period was that the pathway was not always used (Fig. 3). Although we anticipated that this would be resolved as it became embedded in daily practice, this was noted for further evaluation when rolled out to other clinics. Guidance was strengthened at an early stage regarding multiple cancellations and repeated WNBs with re-booking, as potential indicators of disguised compliance,[12] with an advised threshold of two or more unexplained events before progressing to WNB4. Other points noted for improvement were the quality of documentation of the dentist's risk assessments (for example, previous dental pain or infection and untreated carious teeth) and the reluctance to 'discontinue' and 'archive' even when all information sharing actions had been appropriately concluded.

Roe's assertion that 'describing children as WNB rather than DNA is advocating for the child and placing the child at the centre' was clearly well received and struck a chord with our team.[16] Furthermore, it prompted them to also consider the needs of vulnerable adults who similarly require a family member or carer to bring them to dental appointments.

Action planning and further developments

As a result of the evaluation findings, an action plan was developed and implemented as follows:

- Add question prompts to the WNB4 template note to assist clinicians with assessing and documenting risk (Box 1)
- Roll-out the 'WNB-CYP green' pathway city-wide to all clinics, backed up with implementation support and guidance from a leadership fellow working alongside the team, and re-evaluate
- Offer to other community dental services in the region
- Adapt for children who are subject to a child protection plan and for looked after children, ensuring that named social workers are also informed; the 'WNB-CYP pink' pathway
- Work with stakeholders to develop and evaluate a version for vulnerable adults ('adults at risk'); the 'WNB-CYP purple' pathway
- Seek feedback from GMPs to explore their views on and response to receipt of the WNB4 letter.

The WNB-CYP pathway was implemented city-wide in CSCD clinics on 1 January 2017. After six months it had been used to manage 89.3% (159/178) of children's missed appointments, a slight improvement on the 84.3% (113/134) usage in the single-clinic pilot. Of these, information sharing was carried out for 40 (28%) of the 143 children with missed appointments, compared to 25 (27.5%) in the pilot period. Excellent staff engagement was again reported. Six children were not followed up, alerting us to the need for constant vigilance in following procedure if we are to ensure that vulnerable children cannot slip through the net.

A limitation of the evaluation is that it was not independent, the investigators being members of the same clinical team, which may have hindered identifying any shortcomings of the pathway if interviewees did not feel able to speak entirely freely. In keeping with a service evaluation project, our methodology was designed to generate information to support local decision-making. Nevertheless, our findings highlight the potential benefits, challenges and considerations of implementing a new approach to managing children's missed dental appointments which may be of interest beyond our own service.

We suggest that this WNB-CYP pathway can be recommended to other community dental services with similar WNB rates, case mix and organisational structure. We strongly recommend that this should be done in consultation and partnership with local safeguarding children professionals. There may also be merit in testing the pathway's effectiveness and acceptability in other settings, such as general dental practice and hospital dental services. Furthermore, it would be of interest to explore in more detail the views and responses of GMPs to our letters.

Conclusion

Use of a new WNB-CYP pathway encouraged a focus on the needs of the child and improved the consistency of management of children's missed appointments in a community dental service setting. It encouraged reappointment of children for necessary dental care in a timely manner, was acceptable to the dental team, and gave staff greater confidence to share information with the child's GMP and other health and social care professionals.

Acknowledgements and Contributor statement

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Contributor statement

JCH conceived, developed and implemented the initial pathway. JK and JCH together designed the evaluation, analysed and interpreted the data, formulated the action plan and drafted and critically revised the manuscript. JK conducted the data collection including interviews, further data analysis and implemented the action plan.

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4.4.5 Dissemination and additional WNB pathways

In Paper 8, my co-author and I showed that our new WNB-CYP pathway encouraged a focus on the needs of the child and improved the consistency of management of children's missed appointments in a CDS setting. It encouraged reappointment of children for necessary dental care in a timely manner, was acceptable to the dental team, and gave staff greater confidence to share information with the child's GMP and other health and social care professionals.

On the strength of these peer-reviewed findings the BDA recommended WNB-CYP, the 'green pathway', to all UK dental practices, publishing our concise, illustrated implementation guide, known as the *WNB toolkit*, to coincide with publication of Paper 8 (British Dental Association, 2019).

In a supplementary study - presented at a BSPD conference but as yet unpublished in the peer-reviewed literature (Kirby and Harris, 2019a) - views were sought from the 28 local GMPs who had received a total of 54 'WNB4' letters sharing information. There was strong support for the initiative. GMPs unanimously agreed it was both important and appropriate for dentists to share information with them about WNBs and found the WNB4 letter helpful in this regard.

After further development work, we added three additional pathways to the *WNB toolkit*, the 'pink, blue and purple pathways' (British Dental Association, 2020; British Dental Association, 2024), as shown in Figure 2 (p. 79):

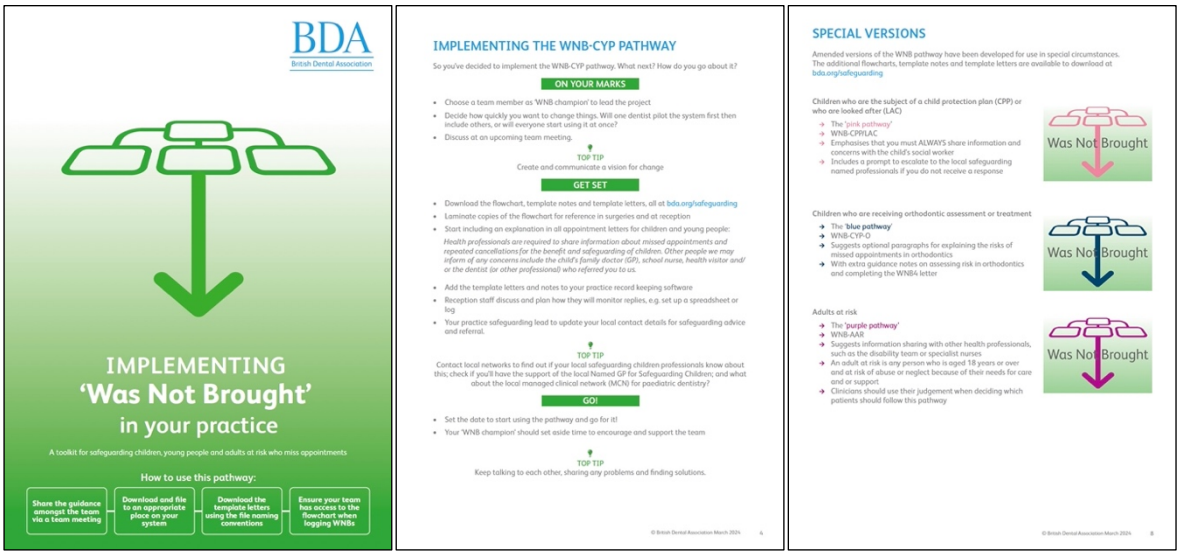
- WNB-CPP/LAC for children who are the subject of a child protection plan (CPP) or who are looked after (LAC)
- WNB-O for children who are receiving orthodontic assessment or treatment
- WNB-AAR for adults at risk (AAR)

4.4.6 Reception of the WNB-CYP pathway

The WNB-CYP pathway was well received from the outset. As noted above, the BDA endorsed it unequivocally on publication and adopted it as their own. This was further reinforced when featured in a BDJ editorial (Hancocks, 2020). Evidence of its reception came promptly when cited in peer-reviewed publications related to work

already underway (Cant and Tatham, 2021; Ondhia, Marshall and Kandiah, 2021). CDS and HDS teams around the UK informally shared with us that they were implementing it (Kirby J., personal communication), some making minor adaptations for local circumstances, others reporting their findings in published conference abstracts (Jones *et al.*, 2021; Peacock, Mohan and Cross, 2021; Hall, Hollis and Bailey, 2023; O'Rorke and Johnson, 2024). Additionally, 51% of 1,473 respondents to an, as yet, unpublished 2023 electronic survey to BDA members in all four UK nations said they now use it (Donnell, 2024).

Figure 2 Cover and selected pages of the WNB implementation guide, or *WNB Toolkit* (British Dental Association, 2024)



However, there was also indication that some dentists wanted to make significant changes and so to water down the pathway's features or to kick back with the opinion that it was not appropriate for primary care (Denholm, 2020; Kothari, 2023). The dental profession has previously shown a tendency to soften the terminology of maltreatment and its management (Hancocks, 2015) which risks losing something of the urgency and impact on children, if not corrected (Harris and Sidebotham, 2015).

The final publication included in this thesis began as a gentle rebuttal to a letter to the Editor published in the British Dental Journal (BDJ) which had suggested amendments to WNB-CYP (Denholm, 2020), in contradiction to the evidence on which WNB-CYP was based. The Editor-in-Chief invited me to extend my response in the form of an opinion article. In Paper 9 I did so, writing a reflection and reasoned defence of the deliberate design features of the WNB-CYP pathway that may, to some practitioners, seem counter-intuitive. The intended audience is the whole dental team, including those who might not read a full scientific paper. It places the WNB approach within the wider context of dentistry's involvement in safeguarding children and highlights features of particular concern when diagnosing dental neglect. It also reproduces the brief illustrative examples of clinical cases from Paper 1 for a new audience.

4.4.7 Published work: Paper 9

Paper 9 Harris, J.C. (2021) Of babies and bathwater: balancing support and challenge in a 'was not brought' approach to children's missed dental appointments, *British Dental Journal,* 231(2), 85-87. https://doi.org/10.1038/s41415-021-3218-2

Of babies and bathwater: balancing support and challenge in a 'was not brought' approach to children's missed dental appointments

Jenny C. Harris[1]

Key points

- Encourages adoption of a 'was not brought' (WNB) approach to children's missed dental appointments, putting the child's right to healthcare centre stage.
- Explains the in-built features of a published WNB pathway which help to avoid unresolved cases or disguised compliance.
- Advises that managing dental neglect and missed appointments requires a balance of providing support to families together with appropriate challenge.

Abstract

Prompted by a recent Letter to the Editor describing another team's experience of implementing the Sheffield 'was not brought' pathway for children and young people's missed dental appointments (WNB-CYP), its author reflects on the reasoning behind certain deliberate features of the pathway and the place of the WNB approach within the wider context of dentistry's involvement in safeguarding children.

Introduction

'Sorry I did not attend my appointment but I can't see over the steering wheel yet and I don't have enough pocket money to get the bus'. So begins the wavering voice of a serious little girl voicing a two-minute animation produced to explain to health professionals why they should be concerned about children's missed appointments.[1] In recent years, she has accompanied me at conferences and webinars as I have lectured on dental neglect to a variety of professional audiences, outshining my carefully prepared PowerPoint slides and stealing the show, rightfully putting a child's perspective at the centre of our efforts in safeguarding.

I had first come to know about the drive to reconceptualise 'did not attend' (DNA) or 'failed to attend' (FTA) to 'was not brought' (WNB) almost a decade ago, via Powell and Appleton's review paper[2] in a nursing journal, and by sharing in conversations at conferences of the International Society for the Prevention of Child Abuse and Neglect (ISPCAN) and its British counterpart, the Association of Child Protection Professionals (AoCPP, formerly BASPCAN), when presenting work on safeguarding in relation to dentistry. In safeguarding circles, dentistry was already known for having a big problem with missed appointments. Many of the children who most needed treatment were being denied their right to healthcare because they were not being brought through our doors.

In my own workplace, a city-wide community dental service (CDS), we had been working on a long-running clinical audit – but we had got stuck. Despite being alert to children's missed dental appointments as a possible indicator of neglect (Table 1), we were seemingly unable to communicate consistently enough with other professionals to make sure that children could never slip through our net.[4] When I talked to colleagues at regional paediatric dentistry network meetings, we all felt as if we were drowning in DNA admin for little gain and, crucially, still risked failing the vulnerable children and young people (CYP) who needed us most. It called for a new start. Taking a clean sheet of paper and numerous shared examples of what hadn't worked across the region, I set about designing a new pathway and promised I would get back to them.

A new pathway

Our aim was to produce a practical solution to encourage earlier and more consistent information sharing about safeguarding

Table 1 Diagnosing dental neglect: features of particular concern, adapted with permission from J. Harris, 'Dental neglect in children', *Paediatrics and Child Health*, 2012, Elsevier,[3] updated to reflect 'was not brought' terminology

Feature of concern	Further explanation
Obvious dental disease	Untreated dental disease, particularly when obvious to a layperson or non-dental health professional
Significant impact on the child	Evidence that dental disease has had a significant impact on the child, such as a history of pain or infection
Not brought for dental care	Parents or carers have access to acceptable dental care but persistently do not bring the child for treatment

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concerns using a standardised approach and making the most of the skills of the whole dental team. We wanted to play our part in identifying children at risk of neglect but, importantly, also to reach a defined end point at which we could consider dentistry's efforts concluded and responsibilities fulfilled. We hoped to produce something easy to learn and apply consistently, without need for additional resources. Altogether, quite a tall order.

After six months of testing with my own patients, multiple iterations of content and layout, and consultation with our local Named Professionals for Safeguarding, in January 2016, our clinic started using the new WNB-CYP 'green' pathway for all children and young people. I knew the pathway had prompted me and my immediate team to do what needed doing, but when it came to the crunch, would it work for others? The timely involvement in the project of a Leadership Fellow in Safeguarding Children enabled us to evaluate that in detail.

What we found was something of a pleasant surprise. Not only were we more consistent, but also staff talked with enthusiasm about the new approach. Managing missed appointments was no longer a chore. The simple swap to WNB terminology had changed their attitude and shifted the focus onto the child. They told us that using the pathway relieved their uncertainty and supported them in decision-making, teamwork and interprofessional communication without increasing their daily workload;[5] not bad for something that is simply a flowchart, some template patient notes, and letters to parents and general medical practitioners (GMPs).

After a bit of fine-tuning, we rolled the pathway out across the service. Now in the hands of 22 dentists at seven CDS clinics, the results were similar: good uptake (actioned for 89.3% of missed appointments) and prompting information sharing for 28.0% of 143 children who missed appointments in a six-month period.[5] Further work, as yet not peer-reviewed, showed that GMPs receiving our letters found them appropriate, important and helpful.[6] We then shared the WNB-CYP pathway with the profession in September 2019,[5] with the addition of a concise toolkit[7] from the British Dental Association (BDA) to aid implementation in other settings. Then we went back to the day job.

What happened next?

A year later, I was interested to see a *British Dental Journal* Letter to the Editor[8] reporting a team's experience of successfully implementing the WNB-CYP pathway in their own public dental practice in Scotland. In keeping with our own findings, it was pleasing to see their observation that immediate phone calls to parents after children's missed appointments promoted patient engagement, and using the pathway prompted substantial improvement in interprofessional information sharing for safeguarding and promoting welfare. Like us, they had had to develop a system to make sure that repeated cancellations did not go unnoticed.

Published resources often need to be adapted for use in different settings and in consultation with local stakeholders, so I was intrigued to see the amendments to the pathway that their team chose to make, in case we could learn from their experience. Their vulnerable client group sounded very similar to our own and the tone of their letter spoke of working with parents in a supportive and inclusive manner – the kind of team I like working in, the kind of team I think I'd like to care for me if I was a patient.

The key amendment they had made was to post out a new appointment even when unable to contact the parent after a WNB. With this change, I fear the loss of some of the WNB-CYP pathway's benefits. This prompted me to reflect on why we do what we do. For others considering the WNB-CYP pathway and deciding whether to adopt or amend it, it might be helpful to explain the reasoning behind some perhaps counter-intuitive yet deliberate features of the original pathway. It would be a shame if the baby was thrown out with the bathwater.

Why we do what we do

After a WNB, we do not simply send a further appointment unless we have first made contact with the parent. This is based on Kvist *et al.*'s observation that 'just arranging for a new appointment will result in another missed appointment'.[9] We have come to believe that to send further appointments without first contacting the parent does the child no favours, may compound a pattern of not bringing the child and may even mistakenly imply our collusion that it is acceptable to miss appointments. Instead, if there is no response to our phone calls or letter within three weeks, we now promptly assess risk of harm, share information with other professionals (such as health visitor, school nurse or social worker) if risk is high (or not, in cases where the impact of non-attendance on the child is considered minimal), write a 'WNB4 letter' to the GMP and then archive the records. Thus, we reach a defined end point at which our efforts can be considered concluded. We tell it straight: 'This child is not under the care of a dentist'. We no longer sit on an ever-growing pile of 'unsolved cases' who rarely or never attend. We no longer aid the parents in prolonged periods of disguised compliance.

Interestingly, many return soon after, often prompted by their GMP or other health or social care professional. We welcome them back and are pleased to fast track them back into care. Yet, we believe there is value in our prior clear end point to focus attention – both our attention and that of other professionals. We had never before seen such a level of supportive engagement from our local GMPs.

Importantly, we are prepared to let go those children whom we have assessed to be at lowest risk of harm. While we are always reluctant, there is a difference between a child who was caries-free when last seen who misses an appointment for fluoride varnish and one who has had repeated emergency antibiotics but has not yet been brought to complete the referral for the general anaesthetic extractions they so desperately need, with all the shades of grey in between.

Note that if we have significant concerns about neglect (whether general neglect or dental neglect), we will have already made a child protection referral to children's social care, or even better, we will have identified the need for support at a much earlier stage and referred the family for early help to the local multi-agency support team or equivalent, ideally pre-empting any missed appointments. For CYP who are the subject of a child protection plan (CPP) or who are looked after (LAC), the dental team must always additionally share information with the child's social worker and escalate any unresolved cases promptly, as recognised in the 'pink' WNB-CPP/LAC pathway, one of two variant WNB pathways newly added to the BDA toolkit.[7,10]

The wider context

Missed appointments may arguably be dentistry's biggest safeguarding issue, but they are not the only one. Likewise, a pathway for managing them, whether our WNB-CYP toolkit or any other, is only one tool among many needed along with supporting knowledge, skills and resources.[11,12,13] Using

guidelines is known to reduce uncertainty and increase reporting of concerns.[14] Table 2 gives examples from my own case load of the wide scope of concerns for which we need to be prepared.

It is important to add that the current COVID-19 pandemic has placed some children at increased risk of abuse and neglect. This comes at a time when they have had lengthy periods of lockdown with markedly less contact with education and health services where their voices might be heard and their needs seen.[17] Many families are facing additional hardships and challenges, such as unemployment, illness or bereavement. Therefore, considerable clinical judgement will be required in assessing individual cases to achieve the right balance when interpreting WNB policies. However, be aware, and beware, that as adults, we tend to empathise most readily with the adults in the situation rather than with the child. The child's welfare is paramount.[18] My watchword when managing dental neglect and missed appointments is 'support and challenge': I aim to give generous support together with gentle challenge. Further information is readily available in published guidance[11,12] and advice is always available from your local safeguarding children professionals when in doubt how to proceed.

Conclusion

As a profession, we have come a long way in a relatively short time to play our part in safeguarding children who attend our dental surgeries. Yet we have often felt powerless to help those who are not brought through our doors, sometimes those very children who most urgently need care. I hope that a WNB approach will displace DNA and FTA to prove its worth as an addition to the dental toolbox for safeguarding children, as much in other dental services as it has done in my own.

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Conflict of interest

Jenny Harris is an Honorary Member of Council of the NSPCC, awarded in 2018 in recognition of commitment to the development and promotion of safeguarding practice in dentistry. She served as the British Society of Paediatric Dentistry's Safeguarding Children Representative from 2007 to 2020.

Table 2 Ten selected examples of safeguarding concerns observed in specialist paediatric dental practice, reproduced with permission from J. Harris, 'The mouth and maltreatment: safeguarding issues in child dental health', *Archives of Disease in Childhood*, 2018, *BMJ* Publishing Group[15]

Case*	Category of maltreatment suspected	Scenario and identified concerns
1	Neglect	Eleven-year-old boy with autism; delay seeking treatment for severe toothache affecting eating, sleeping and school participation; missed appointment to assess need for dental extractions under general anaesthesia; dental neglect**
2	Neglect	Siblings aged seven and six years; missed clinic appointments for routine dental care; parental mental health problems; repeated toothache and acute dental infections; dental neglect**
3	Physical abuse	Six-year-old boy with neurodisability; fractured front tooth noted by school; had not sought dental care; no explanation for an injury which would have required considerable force
4	Physical abuse	Four-year-old; perplexing presentation; mismatch between reported symptoms and observed oral condition; inappropriate requests for prescription medication; suspected fabricated or induced illness
5	Emotional abuse	Thirteen-year-old girl; concerning parent-child interaction observed at dental appointments; mother blaming child for dental anxiety, making derogatory remarks about child's appearance and scapegoating in comparison to siblings
6	Emotional abuse	Fourteen-year-old boy; recent behavioural change; child and mother disclosed witnessing violent incident in the home and father self-harming
7	Emotional neglect	Seven-year-old girl; concerning parent-child interaction observed at dental appointments; parent unresponsive and seemingly indifferent to child's need for comforting and encouragement
8	Other	Ten-year-old boy; repeated dental injuries; credible accidental explanations; delayed presentation for treatment but attributed to dental anxiety; mother smelled strongly of alcohol[16]
9	Other	Ten-year-old with complex needs missing from education; moved into the area without registering for school; not accessing any other healthcare provision
10	Other	Twelve-year-old girl; mother unaware of child's daily tooth brushing routine; child lives at a friend's house because mother works nights; undisclosed private fostering arrangement

Key:
* = selected from the author's case load in community clinic (cases 1–9) or dental hospital settings (case 10) in the period 2003–2016.
** = similar scenarios to cases 1 and 2 are frequently encountered.

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4.4.8 Support and challenge

This short paper is important because it educates and encourages practitioners to realise the full benefit of the WNB-CYP and related pathways. By inclusion of case examples, the article emphasises the clinical context and places the child at the centre. In relation to working with children and families when managing dental neglect and missed appointments it introduces the concept of 'support and challenge': my aim as a clinician being to give generous support to families alongside gentle challenge. This is something that will be taken up in further discussion in Chapter 5.

4.5 Summary: consolidating change

In this chapter I have presented four papers describing three different initiatives or innovative approaches that have improved:

- Recognition and response to dental neglect by providing policy and guidance for both dental and non-dental health and social care professionals
- Information sharing by supporting multidisciplinary working
- Management of missed appointments by agreed pathways and involving the whole dental team.

These papers differ in their scale and ambition: Paper 6 presents a majority view and is intended to influence policy and practice throughout the UK, and perhaps beyond, while Papers 7 and 8 have described and evaluated two locally developed pathways in order to share innovative approaches that can be recommended to similar dental services wishing to improve their safeguarding practices. Finally, Paper 9 uses a different style of writing to clarify how best to implement one of these pathways.

Other UK teams have disseminated pathways and frameworks which address either similar issues in different ways or which approach different contemporary safeguarding challenges. Examples of publications on dental professionals' information sharing have centred on general anaesthetic dental extraction services in relation to dental neglect (Jameson, 2016; Brown, Grossman and Heming, 2022) and

CYP disclosure of potential self-harm (Hutchison, Burbridge and Moffat, 2023). Examples of referral pathways to facilitate timely oral health assessment include those offered to CYP undergoing comprehensive medical assessments for neglect (Park *et al.*, 2015), to looked after children (Williams *et al.*, 2014; Hurry *et al.*, 2023; Ridsdale, Johnston and Hearnshaw, 2023) or to more widely-defined disadvantaged groups including Gypsy, Roma and Traveller families, refugees and homeless families (Patel, 2021).

Sharing pathways by publication may assist dental teams to implement new safeguarding practices, perhaps especially where expertise, confidence or other resources may be lacking, Guidelines help professionals to *know* what the right thing is to do. The pathways described aim to enable professionals to *do* the right thing more easily.

Chapter 5 Discussion

5.1 The work presented

5.1.1 Overview of included papers

In this thesis I have presented publications related to equipping the dental workforce to safeguard children from maltreatment and to manage dental neglect. Over the course of four chapters, I have endeavoured to describe the coherence of this body of work, to discuss its significance and to set out how it has contributed to knowledge. Here, I will provide an overview chapter-by-chapter. The key characteristics of each included paper, together with a summary of the results and recommendations of each, can also be readily reviewed by referring to Table 2 (p. 15).

Chapter 1, by way of introduction, described the twin contexts for my thesis: on the one hand, child protection and safeguarding children and, on the other, children's oral health and dental care. It also set out my justification for using WTSC definitions and explained the assumptions I have adopted. A narrative review of the literature, Paper 1, outlined the scope of safeguarding issues in child dental health, illustrated with brief case examples. This showed that the dental team can contribute to safeguarding children and young people and protecting them from harm by activity in three domains: *recognising* maltreatment, *responding* to maltreatment and contributing to *rehabilitation.*

Taking The Victoria Climbié Inquiry in the early 2000s as a starting point, Chapter 2 explained the limited extent of dentistry's involvement in children's safeguarding, particularly the profession's rudimentary understanding of dental neglect. It went on to relate the sequence of events that led to the Department of Health England commissioning an educational resource for dental teams. Papers 2 and 3, initiated as part of that project, explored paediatric dentists' child protection training, experience and practice, contributing to a new understanding of the profession's learning needs. Having confirmed that UK dental professionals in 2005 found child protection to be a difficult and challenging area of work, the alarm was raised to 'mind the gap.' At a time when the topic of dental neglect was largely unaddressed in

research literature, particularly striking was finding how many paediatric dentists saw dental neglect daily, yet how few referred to social services, thus leaving children incompletely assessed for risk of maltreatment. Recommendations centred on the need for improvements, not only in training but also in provision of support to the dental team.

A time of change was heralded by publication and distribution of CPDT, England's first widely-distributed child protection educational resource for the dental team, as described in Chapter 3. My research focus then shifted to evaluating change over time. Paper 4 reported on the impact of CPDT on NHS dental practices in England after two-years of use. Paper 5 revisited paediatric dentists' training, experience and practice '11-years-on.' Both these papers provided evidence of a move towards greater consistency in safeguarding practice across all sectors of dentistry in the UK. However, despite a strong indication of progress, the potential for yet further improvement was highlighted, since much child maltreatment remains undetected, and some practitioners continue to find this a challenging field.

In Chapter 4, a range of innovations were presented that aimed to support good practice and consolidate the improvements already observed. Whilst varying in their scope, each of Papers 6, 7 and 8 contributed a practical tool or pathway to implement in the dental workplace. Papers 7 and 8 also reported on evaluation in the clinical environment once in use. Paper 9 provided additional clarification for practitioners. Taken together, these innovations built on learning from the earlier work and addressed some of the identified challenges across all sectors of UK dentistry (GDS, CDS and HDS).

5.1.2 Impact

The key impacts of my included papers have been woven throughout the commentary and further information is provided in the appendices. Appendix 7 (pp. 130-138) lists scholarly publications and policy documents, authored by others, which have cited these papers. Appendix 6 (pp. 127-129) lists invited presentations on safeguarding children and dental neglect, delivered to policy makers, international and national meetings and scientific conferences.

Related professional activity arising from my interest in safeguarding children (for example, national committee roles, advice to professional societies, design and delivery of related educational projects) is largely omitted from the commentary but is included elsewhere in my submission of a CV to the University as a requirement of the 'by publication' route for a PhD.

5.1.3 Strengths and limitations

The strengths and limitations of the included peer-reviewed papers have already been discussed in their published versions, as have the relevant ethical and governance issues current at the time of publication. When viewing the coherence of the work overall there is an essential additional consideration: its iterative rather than strategic approach.

In my mind, at the outset, it was my view (and the substance of my original presentation to the CDO in November 2004) that system-wide change would be needed if dentistry was to assume its place in effectively safeguarding children. Within this, my personal research priorities were initially determined by the CPDT project: extending the training needs analysis and evaluation beyond the requirements of the project to publishable standard, resulting first in Papers 2, 3 and 4, and returning to the topic in Paper 5. Subsequently, the direction was determined by personal interest and practicality, informed by the clinical challenges I faced at the time in the workplace in my primary role as an NHS clinician and in my additional roles in clinical management and as an educational supervisor. I sought to explore and explain previously hidden corners (Papers 1 and 6) and to advance quality improvement in services by plugging holes as I came across them (Papers 7, 8 and 9).

Generally, a strategic approach driven by research questions developed *a priori* would be judged more desirable, yet the benefit of pursuing this agenda amidst competing NHS responsibilities (patient care, governance, training and leadership) has ensured a firm focus on its clinical relevance, while developing the skills of a wider team. Gaps and unexplored questions remain. Of the many interesting topics that merit further discussion, I will limit myself to those that, in my view, seem most pressing.

5.2 Questions that remain

5.2.1 Understanding and managing dental neglect

Considerable progress has been made over the past two decades in recognising, responding to and managing dental neglect, yet gaps in our understanding persist. Assessing child neglect presents very specific challenges for practitioners (Haworth, Schaub and Montgomery, 2024; Taylor *et al.*, 2024) and dental neglect is no different.

In a 2018 critical synthesis of the international literature on the relationship between oral health and child maltreatment which spanned different disciplinary perspectives, Bradbury-Jones *et al.* (2021) highlighted widespread inconsistencies in current practice and a "fragmented and ad hoc nature to service provision." They identified four themes for planning of future research and practice: (1) exploring the complex multicausal nature of oral neglect and trauma; (2) supporting dentists to identify and respond; (3) supporting non-dentists to do the same; and (4) developing knowledge about affected children's treatment needs and experiences. Based on my own research findings and my professional experience, I agree with these recommended themes. However, the determinants of oral health are complex (Solar and Irwin, 2010) and will be difficult to unravel from the role of parental responsibility and autonomy in child neglect. The field is not without controversy.

Some dental researchers, using participatory approaches to support socially-excluded populations, have challenged the term 'dental neglect,' characterising it as a victim-blaming approach (Muirhead *et al.*, 2013). At a population level, perhaps, but in relation to individual neglected children, I disagree. The welfare of the child must be paramount (Children Act, 1989). As adults we tend to take the viewpoint of other adults in the situation and, in so doing, tend to overlook the child's lived experience of abuse or neglect. In contrast, naming the problem as 'neglect' can be a positive step to finding a solution. The history of safeguarding in dentistry over the past two decades has shown this to be true; rather than placing emphasis on apportioning blame, good practice is now firmly centred on the child's needs alongside supporting families to look after their own children's oral health yet not omitting an appropriate degree of challenge when necessary. It would be particularly valuable now to explore

children's views on this matter. Capturing the child's voice often brings a unique perspective. Dental research is now well placed to do this, having given increased attention to child-centred approaches in recent years (Kakhki *et al.*, 2024).

While awaiting further insights from dental neglect research (recommendations to follow in Chapter 6), and for the outcomes thereof to be translated into practice, dental professionals working in today's context must continue to make decisions daily for their child patients. The BSPD policy document (Paper 6) provides guidance that can be used to support decision making in individual cases. However, uptake of evidence-based guidance can be slow and incorporation into routine practice cannot be assumed (Bauer and Kirchner, 2020). With this in mind, I feel there is a need for further innovation: a more concise, user-friendly and engaging chairside tool or infographic on dental neglect. It could incorporate support to better understand risk and protective factors, to provide justification for information sharing and referral or even to assist in explaining referral decisions to parents. Furthermore, it might help align dentistry with other professional groups' thresholds for referral, a known challenge (Bradbury-Jones *et al.*, 2013; Olive *et al.*, 2016; Tuthill, Guest-Rowlands and Hingston, 2021).

The dental profession has already shown its appetite for such tools for safeguarding children – as with CPDT and the WNB pathways – as it has done for tools related to other new or challenging areas of paediatric dental practice, such as communication, orthodontic assessment and periodontal staging and grading (Harris, Marshman and Short, 2014; Scott and Atack, 2015; British Society of Periodontology and Implant Dentistry, 2024).

The relatively new field of implementation science reminds us to plan an implementation strategy from an early stage in developing any new innovation (Kirchner *et al.*, 2020): something to be considered as a matter of course in any future work. With addition of participatory methods that take account of the context and its complexity there is potential to bridge the gap between research and its translation into clinical practice. As discussed by Brocklehurst Brocklehurst, Baker and Langley (2021), this is best achieved by involving stakeholders, using qualitative methods and by applying systems thinking,

5.2.2 Dental neglect as a screening test

A further approach of interest would be to determine the sensitivity and specificity of dental teams' judgements about dental neglect when viewed as a screening test to detect general neglect. An ideal diagnostic test would have both high positive and negative predictive values, thus ensuring that those with the condition do not slip through the net and remain at risk of continuing maltreatment but also avoiding unnecessary multiagency investigation of children and families without the condition. Since the sensitivity and specificity of a diagnostic test are influenced by the prevalence of the condition in the population, a new framework could be developed to consider the utility of these judgements across workplaces where neglect is more or less common and where the working environment shapes the actions of dentists.

Scales for measuring dental neglect and related constructs have previously received attention in the literature (Thomson and Locker, 2000; Skaret *et al.*, 2007; Coolidge *et al.*, 2009) and might provide an initial foundation for future work if updated (particularly in relation to insights from child-centred research on impacts of dental disease) and brought together with equivalent multiagency assessment frameworks for general neglect.

5.2.3 Support for practitioners

Our early work highlighted that training and guidelines alone would be unlikely to result in change without additionally providing administrative and organisational support to practitioners. New referral pathways and better systems for sharing information may go some way to streamlining the added workload, but that workload must also be manageable. Prominent commentators in both health and social care have frequently and consistently raised this in messages for practice (Horwath, 2005; Horwath, 2007; Munro, 2011; Munro, 2012; Taylor *et al.*, 2024).

Munro's independent review of child protection in England (2011) cautioned against the custom of adding procedures and rules to help professionals avoid mistakes (paragraph 1.16, p. 19) which instead, "…create a work environment full of obstacles to keeping a clear focus on meeting the needs of children." Latterly, drawing learning from 12 SCRs involving neglect, Taylor *et al.* (2024) recommended

four ‘vital elements’ to support practitioners in the task of differentiating the added harms of neglect from poverty alone: training, effective supervision, manageable workloads and reliable systems for recording and sharing information. We must ensure that, in dentistry, we get this right so that dental practitioners are supported to make the best judgements to protect vulnerable children.

In the ‘11-years-on study’ we observed some practitioners had improved their practice and gained experience, while others were getting left behind (Paper 5). Proportions reporting fear ‘of family violence to the child’ and ‘to self’ were unchanged. In a detailed review of similar literature, Park (2021) (p. 196) described barriers to referral as comprising three groups: fears, uncertainties and lack of knowledge. However, her qualitative analysis of interviews conducted with Scottish dental professionals revealed “the overarching theme of fear as one of the key issues.” This raises important questions about what it means for dentists to be fearful in the workplace and serves as a prompt to find out what can be learned from other disciplines, such as nursing and social work, where it is accepted that personal feelings influence professional curiosity, judgement and decision-making (Horwath, 2007; Muirden and Appleton, 2022).

Health and social care professionals are frequently exposed to the traumatic experiences of others and may then themselves experience vicarious, or indirect, trauma (Molnar *et al.*, 2020). This has adverse consequences not only for their health and wellbeing but also for their professional decision-making. Investigating this phenomenon in the dental profession could be of value, then relating it to interventions available to prevent and reduce resulting trauma-related symptoms (Molnar *et al.*, 2020; Kim *et al.*, 2022). Furthermore, it would be interesting to explore the characteristics and experiences of those dental professionals who work with highly vulnerable children and families yet who successfully and regularly overcome the barriers in order to intervene effectively in maltreatment.

5.2.4 Attention to general dental services

As mentioned in the Introduction (Chapter 1), the majority of children in the UK receive dental care in the GDS. While the CPDT evaluation (Paper 4) gave

encouraging early signs of an increase in GDS dentists' self-reported knowledge and confidence, the longer term positive changes observed in Paper 5 were predominantly observed in CDS and HDS settings. Likewise, the majority of peer-reviewed research and innovation to date has been in the CDS or HDS and this pattern is also followed in emerging quality and service improvement work (Appendix 5, pp. 125-126). While CDS and HDS services are indeed important in addressing children's complex or acute dental needs, GDPs often have longer term relationships with children and families that provide regular opportunity to safeguard and promote welfare. It is therefore essential that GDS services are not overlooked in future planning: something easily done because of their independent contractor status and relative isolation from other NHS healthcare services and systems.

5.3 Final reflection

When challenged to explain how my own understanding of maltreatment has developed over time, and specifically in relation to the concepts of neglect and dental neglect, I find it hard to articulate. This may be because of the inextricable links between my roles as practitioner, educator, leader and researcher.

My own conviction in 2022 (as described in Section 2.1.4, p. 34), that dentistry's response was then inadequate, was as complete as it was sudden. It stemmed from the stark and uncomfortable contrast I saw between the requirements of statutory guidance and the stance of the majority of dentistry's opinion leaders at the time. I personally felt no option as a clinician but to accept that children are harmed by dental neglect and we have a responsibility to identify it and to share our concerns. This key message demanded a change from my own position of inaction. By 2004, I had moved from a position of feeling professionally challenged to cautiously confident then, with a mandate to do so and the support of colleagues, prepared to lead the dental profession on the same path. I soon found that other (non-dental) health and social care professionals were equally in need of guidance, confused by dental neglect, with a tendency either to overreact or, conversely, to explain away dental concerns.

Over the two decades since, detail and nuance have been added to my personal understanding of dental neglect but, overall, my views have changed remarkably little. My own position as a practitioner has been akin to the dentists described by Åstrøm, Berge and Brattabø (2022) as 'stable reporters'. As a researcher, my work has, if anything, reinforced rather than changed these views.

On reflection, I view my role has been to bridge the gap between the dental profession and child protection professionals with a consistent message to encourage meeting in the middle. I think this has been achieved by leading, on the one hand, dental teams to join me in accepting necessary change in safeguarding practice and, on the other, offering non-dental professionals a path to a more balanced understanding of dental concerns. Having seen a measure of progress, I now step away from this fascinating field, hoping that others will take the work forward, ask new questions and seek new solutions for protecting children.

Chapter 6 Conclusion and Recommendations

6.1 Conclusion

Dental teams have an important role to play in safeguarding and promoting children's welfare. They do this by recognising children who may be at risk of maltreatment, in responding appropriately by sharing information with children's services and in rehabilitating those who have experienced oral injury or dental neglect. Over the past two decades, advances have been made in the UK, as demonstrated by changes in practitioners' self-reported training, experience and practice. This has been supported by provision of educational materials designed to meet dental professionals' learning needs, including nationally-distributed guidance, published policy documents and innovative pathways for patient care. Scope for yet further improvement remains and continued support for the profession will be needed if change is to be maintained. Recommendations for practice, policy and research which arise from the research presented here are included below.

6.2 Recommendations for clinical practice

Dental teams, in their safeguarding work with children and families, are encouraged to:

- use published guidance and to implement evidence-based tools and pathways
- offer both generous support and gentle challenge when managing dental neglect
- when necessary, share information with other professionals, and develop local networks to facilitate this, both within and outside dentistry
- seek training to update and expand their knowledge and skills.

Clinical managers should support this work by:

- ensuring manageable workloads and the availability of administrative support.

6.3 Recommendations for policy

Health and social care policy should support:

- organisational structures, including IT systems, that encourage information sharing and interdisciplinary working
- commissioning of suitable safeguarding leadership for dentistry
- reciprocal input to medical and dental training at all levels to foster an understanding of each other's roles
- ensuring sufficient workforce to allow this to happen.

6.4 Recommendations for research and innovation

A research network should be convened, bringing together collaborators:

- from multidisciplinary backgrounds including dentistry, paediatrics, public health nursing, social work, children's services, law and ethics
- with varied expertise, including in clinical decision making, implementation science and systems thinking.

Priority should be given to research and innovation which aims to:

- investigate dental neglect, with attention to known gaps in knowledge including children's own perspectives and priorities
- develop a theoretical model of dental neglect, including consideration of the dynamic or relative nature of neglect
- evaluate the utility of a diagnosis of dental neglect to detect broader neglect
- explore the interface between dental neglect and the determinants of oral health
- co-develop with practitioners a concise tool to assist in assessing risk and protective factors and managing dental neglect
- develop training that is engaging and meets the needs of successive generations of dental professionals in the changing environments in which they work and evaluate resulting change.

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Appendices

List of Appendices

Appendix 1 Copyright statements

Paper 1

Article originally published in *Archives of Disease in Childhood*. Reproduced under the terms of BMJ Publishing Group Ltd.'s author permissions policy.

Papers 2, 3, 4, 7, 8 and 9

Articles originally published in the *British Dental Journal.* Reproduced under the terms of Springer Nature's author reuse guidelines.

Papers 5 and 6

Articles originally published in the *International Journal of Paediatric Dentistry.* Reproduced under the terms of Wiley's author reuse guidelines.

Appendix 2 Chief Dental Officer for England's covering letter

New King's Beam House
22 Upper Ground
London
SE1 9BW

Tel: 02076334144

May 2006

Dear Colleague

Subject: Child Protection and the Dental Team

I am very pleased to be able to provide you with a copy of *"Child Protection and the Dental Team"* which has been funded by the Department of Health.

This is a very important handbook in view of the responsibilities placed on all health care professionals to help prevent child abuse and neglect. In particular *"Working Together to Safeguard Children"* published by the Department for Education and Skills specifically mentions dentists and the dental team in this context. *"Child Protection and the Dental Team"* will go a long way in helping you and your practice to prepare for these responsibilities.

One copy is being sent to every dental practice in England but this is for all members of the dental team and I would recommend that everybody working in the practice takes the opportunity of reading it and that it is kept in a place of handy reference should the need to refer to it arise. You will also want to ensure that you know how to access the relevant website.

Section 4 of the handbook in particular provides very practical suggestions of what you need to do to ensure that your practice is prepared.

I should like to thank the members of the project team who developed this resource and also the Regional Postgraduate Dental Office in Sheffield for overseeing this project on my behalf.

Yours sincerely

Barry Cockcroft
Acting Chief Dental Officer - England

Appendix 3 External perspectives on CPDT: evidence of impact in 2006

PRESS AND PUBLICITY

British Dental Journal – 11 February 2006
News from the BDA: New publication on child protection. *Br Dent J* 2006; **200**: 130. doi: 10.1038/sj.bdj.4813295

Children Now – 6 June 2006
Health News: Child protection - Dentists sign up to children's agenda.
www.childrennow.co.uk/news

Dentistry - 8 June 2006
Child protection guide for dentists launched. Page 5

Dentistry Online - 8 June 2006
Child protection guide for dentists launched.

British Dental Journal - 10 June 2006
Editorial: Everyone's responsibility. *Br Dent J* 2006; **200**: 597. doi: 10.1038/sj.bdj.4813696

British Dental Journal - 10 June 2006
News: First child protection guide for dentists launched. *Br Dent J* 2006; **200**: 603. doi: 10.1038/sj.bdj.4813697

British Society of Paediatric Dentistry
News: Child protection and the dental team: an introduction to safeguarding children in dental practice. www.bspd.co.uk

Scottish Dental
Child Protection and the Dental Team.
www.scottishdental.org/resources/child_protection.htm

NSPCC Inform: The online child protection resource – w/c 5 June 2006
(a) CASPAR (Current awareness service for practice, policy and research) News>New publications; (b) Online resources; (c) Listed in NSPCC reading list for 'Medical professionals', August 2006. www.nspcc.org.uk/inform

Saferhealthcare – week 8-15 June 2006
National Patient Safety Agency/BMJ Publishing Group/Institute for Healthcare Improvement
News in brief: Dentists play a role in child protection. www.saferhealthcare.org.uk

Primary care contracting - Issue 31, 8 June 2006
New @ PCC>Dentistry update>New! Child protection and the dental team.
www.primarycarecontracting.nhs.uk

The DDU – 3 July 2006
Advice article – Child protection. www.the-ddu.com/dentist/news

BDA News – July 2006
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Issue **51**: 20. http://www.dpb.nhs.uk/archives/dentalprofile/dentalprofile_jun2006.pdf

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Child protection guide. *The Dentist* 2006; **22**(7): 8.

Primary Dental Care – Journal of the Faculty of General Dental Practice (UK)
Primary Dental Care 2006; **13**(3): 112.

Dental Nursing magazine
How dental teams can support child abuse victims. *Dental Nursing 2006;* **2**(6): 268.

The British Dental Nurses' Journal
First child protection guide for dental team launched. *The British Dental Nurses' Journal* Summer 2006; **65**(3): 21.

Networking – magazine of the British Dental Practice Manager's Association
News and legislation. Child protection and the dental team: safeguarding children in dental practice. *Networking* Autumn 2006: 16.

Vital – for the whole dental team
First child protection guide launched. www.nature.com/vital. *Vital* Autumn 2006: 9.

South East Sheffield Primary Care Trust
Health Moves: Annual Report 2005-2006: 2.

Rotherham PCT
Healthier Rotherham: Annual Report 2005-2006:10.

BACCH News – newsletter of the British Association for Community Child Health
News: First child protection guide for dentists launched. *BACCH News* Sept 06: 22.

Summons – Journal of the Medical and Dental Defence Union of Scotland
Knowing the Signs. *Summons* Autumn 2006:18-19.

Annals of the Royal College of Surgeons of England
Books received. General interest. *Annals of the Royal College of Surgeons of England* 2006; **88**: 696.

NHS Clinical Governance Support Team
Resources to support Clinical Governance in Dentistry - 12 July 2006. www.cgsupport.nhs.uk

Concord – the newsletter of Sheffield Health and Social Research Consortium
Congratulations to... *Concord*. Issue 17 Winter 2006

EXAMPLES OF FEEDBACK RECEIVED

'Thank you for... a copy of the most impressive report. I am delighted that you and your colleagues have taken forward this agenda in such a positive and constructive way. I wish you continued success in this important work.'
Lord Laming, author of the Victoria Climbié Inquiry

'The NSPCC Training and Consultancy Service welcomes this initiative'
Head of Child Protection Training Services, NSPCC

'Many thanks for remembering to send me a copy of your really excellent handbook. It is absolutely superb ... this copy will provide a valuable resource for staff in the Fitness to Practice department.'
President, General Dental Council

'This is guidance that should have a home in every dental practice in the land.'
Editor, British Dental Journal

'...I have been so impressed with the work that you and your team have done that I have made mention of it to a number of other Working Groups as a good basic format.'
Chair, Child Protection Standing Committee, RCPCH

'I greatly appreciate receiving a copy of this handbook. Please pass on my thanks and congratulations to all those who were involved in the production of the handbook.'
A dean of a dental school

'Have just finished reading this handbook over the weekend and wanted to congratulate you on a superb publication. Never an easy area in which to guide people but you have managed to produce an enormously informative AND user-friendly document.'
A consultant in paediatric dentistry

'The NAI guidance is absolutely excellent. Good job well done!'
A consultant in paediatric dentistry

'... the resource for dentists appears very well thought out and I imagine it will be extremely useful, not just to dentists and their teams, but also to others. Thanks for your contribution to my work.'
A named nurse safeguarding children

'We are trying to organise a child protection learning event with our dental teams which will include the website and associated documentation.'
A PCT clinical governance lead

'I can only say what a fantastic handbook and site you have developed. It's a great resource and I look forward to working with your dental colleagues in developing their skills in line with this.'
A nurse consultant in safeguarding children and executive committee member of the National Safeguarding Children Association for Nurses (NSCAN)

Appendix 4 External perspectives on CPDT: its use by UK Consultants in Paediatric Dentistry in 2013

REPORT

A survey of use of a child protection learning resource by UK Consultants in Paediatric Dentistry

BACKGROUND

The *Child Protection and the Dental Team* handbook and website was first published in 2006. A formal evaluation, carried out in 2008, demonstrated that the resource had been used by two-thirds of NHS general dental practitioners (GDPs) with the majority reporting a direct effect on their child protection knowledge or practice (Harris et al, 2011). Seven years after first publication, COPDEND requested further information on current use of the resource to inform future decision-making regarding funding. In order to gain a picture of current usage, a range of perspectives within dentistry are being sought. The perspective of consultants in Paediatric Dentistry is relevant because they have an important role as teachers, advisors and opinion-leaders with respect to child protection in dentistry. The aim of this survey was to describe current (2013) opinion of consultants in Paediatric Dentistry on the ongoing role of *Child Protection and the Dental Team* (CPDT) handbook and website. The objectives were:

- to determine whether consultants in Paediatric Dentistry personally use CPDT
- to determine whether the resource has an ongoing role in supporting teaching
- to gain perspectives on the possible impact on the profession if the resource were to be discontinued

METHOD

A single email was circulated to all UK-based members of the Consultants in Paediatric Dentistry Group (CPDG) (n=83) by the Honorary Secretary of the group on 15 May 2013 requesting their participation in a brief survey. The survey consisted of three open questions. A short deadline for reply was stated and no reminders were sent. Email responses were received and collated by the CPDT project lead. Emerging themes were identified and data collection continued until both a good geographic spread of respondents had been obtained and data saturation was reached.

RESULTS

Twenty three replies were received within 10 days (28% response rate). Twelve of the 14 UK undergraduate dental schools were represented in the respondents and more than 16 separate clinical centres, including both hospital sites and sites providing community-based consultant-led services.

The findings are reported using representative quotes, anonymised as necessary.

Consultant use of the website or handbook

Question 1. Have you the used (read or referred to or referenced) the *Child Protection and the dental team* website or handbook in the last year?

Respondents commonly reported either regular or occasional use of the website or handbook within the preceding year.

"I use the website all the time"

"I use the website regularly"

"Yes a few times for information and update"

"Yes I do look at the handbook"

"Yes, I have referred to it on many occasions"

"Very valuable resource that is easy to access"

Reported use was with respect to managing clinical cases and advising colleagues or when preparing teaching materials.

"*I have used the website in the last year; we occasionally get requests from child protection here to comment on cases"*

"I personally find it an excellent tool to use especially for teaching purposes"

Use of the resource in teaching

Question 2. Do you mention it in teaching? And to whom e.g. undergrads/ postgrads/ H&Ts/ GDPs/ other?

Respondents described using it when teaching a wide variety of groups of dental professionals, including dentists at all stages of undergraduate, postgraduate and specialty training and dental care professionals. In addition, its use for teaching medical colleagues and other health and social care professionals was reported.

"I think this is a fantastic guide and routinely refer to it in teaching Postgrads and section 63 courses whenever it may be relevant."

"I tell the [postgraduate students] about it and have actually taken some of my [undergraduate students] to the site to show them how easy it is to find."

"I refer to the website during undergraduate training, VT training and on section 63 courses."

"I refer to the website in just about all teaching sessions I give… so Medics, A&E Trainees, Foundation Trainees, VTs, DCPs (therapists and CDTs), undergrads (ours are Therapy undergrads), GDPs, social workers etc."

"…teaching to DFY2s, STRs and Medical teams especially A&E"

In addition to using it when teaching child protection, respondents reported referring to the resource in other commonly occurring contexts within paediatric dentistry and primary care dentistry teaching.

"Any subject related to caries, trauma, child management in addition to the obvious neglect and non-accidental injury etc."

"I mention it on trauma courses and the primary care masters course"

"I refer to it on section 63 pg courses when discussing caries"

The teaching described was delivered in a variety of settings, both within dental hospitals and elsewhere. There was wide geographic spread of use of the resource. Furthermore, consultants did not restrict their teaching to local groups but travelled throughout the UK.

"[We] reference this document on all our Section 63/DF1 dental trauma courses which are approximately 11 per year in Scotland/Northern Ireland/Wales"

Some consultants explained that they thought GDPs used the site after participating in face-to-face courses to subsequently reinforce learning.

"…it is a resource colleagues can return to and review after lectures. They also additionally use it as a resource in their local practices."

The ease of access for both teachers and learners was noted:

"It would take hours of trawling through other material to pull together such clear, detailed information"

"Very useful to undergraduates as a quick reference guide"

"I have it on my PC on the desktop… it's a very useful document"

Comments indicated that the resource was accepted as a valued and trusted source of information.

"I would say pretty much all of the GDP's and DF1s 'nod' in agreement that they have a hard copy [of the handbook] in practice"

"… the reference and website are on the list of references given every year to our UG and DCPs"

"It's the first resource I recommend for Child Protection information both at undergraduate and postgraduate levels! Says it all really....!"

Predicted impact if website were to be withdrawn

Question 3. What would be the impact, if any, if the website was withdrawn?

The consultants perceived that it would be a significant loss to the profession if the website were withdrawn. Concerns were expressed particularly with regard to the predicted adverse impact on GDPs who do not have access to the regular updates provided by some hospital trusts.

"…it is the most accessible website for GDPs and its loss would be a disaster"

"Accessible and clear to follow for dentists of all levels. Would be a huge loss"

"It will have a very negative impact on education and training of future dentists in addition to current practitioners"

"It is an invaluable resource for teaching child safeguarding and I would be extremely disappointed if the website were to be withdrawn"

"I think its withdrawal would be a shame. I think more from the GP point of view. Most hospital trusts have good in house policy documents but I don't think GDPs have the same support"

"This website acts as a great guide and provides support for those dentist with concerns [about children]"

Respondents pointed out the potential impact on children if it were withdrawn.

"We might even end up disadvantaging a child in need due to lack of this well recognised and used website"

"With the case of the Oxford paedophiles on the news today, I cannot see any sense in discontinuing it, we need to double our efforts at safeguarding vulnerable children. This cannot go."

Some considered that the website had an important role in explaining dentistry's role in safeguarding children to those outside dentistry. Others highlighted that it was already linked to other key guidance and publications.

"I think it is really important that we have a national/government publication and website covering this subject. For the dental profession as a whole, but also to highlight to all professions and the public the issues we face within dentistry and that we are engaged in the safeguarding of children"

"It has also been embedded into the [city] Oral Health Directorate Child Protection Policy"

The need for ongoing updating in order to maintain accuracy and credibility was recognised.

"…should be maintained and updated as necessary"

"Maintenance and updating of the website content is also crucial"

DISCUSSION

Seven years after publication, there was no indication that CPDT had outlived its purpose, run its course or been superseded by other resources. Instead consultants in Paediatric Dentistry reported recent and ongoing personal use of the resource, especially in preparing and delivering teaching. They expressed opinions of strong support for continuing provision of the website. If the website were to be withdrawn, they perceived that it would be a significant loss to the profession and potentially a risk to the safety of vulnerable children.

The findings with respect to use of CPDT in teaching were particularly striking and hitherto unrecognised. No such perspective was captured by the 2008 evaluation (Harris et al, 2011).

The large number of consultants indicating that they personally teach child protection is notable and that they do so not only in the context of dedicated child protection teaching but also when teaching other dental topics. They report using this resource to inform teaching for a wide variety of professional groups, both dental and other health care professionals. The teaching is provided in varied settings throughout the UK.

The website is currently in the final stages of being updated and is soon to be relaunched. The 2013 updates include an expanded reference and further information section, with weblinks to key government guidance and legislation, which is likely to be of considerable interest to this group to further support teaching.

This survey confirms that in the opinion of the consultants in Paediatric Dentistry, CPDT has an ongoing role in 2013. Views were captured from almost a third of the current consultant workforce. However the survey is not without limitations. The email approach was informal in nature, had a short deadline for reply and, since responses were received and collated by the CPDT project lead, respondents may have felt inhibited to raise ambivalent or negative views. Since no negative views were expressed, alternative methods would be required to capture these and any associated suggestions for improvement.

CONCLUSION

In 2013, the *Child Protection and the Dental Team* website remains valued by consultants in Paediatric Dentistry and has an established and ongoing role in supporting the teaching of child protection in the UK.

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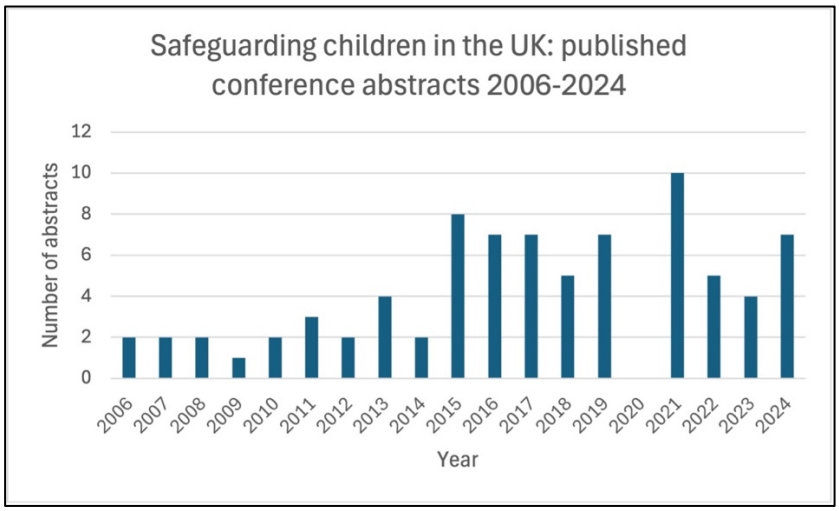
Appendix 5 Safeguarding children in the UK: published abstracts from paediatric dentistry conferences (2006-2024)

Aim: To explore the level of interest in safeguarding children from 2006 to the present, as demonstrated by emerging research and clinical governance presentations at annual national paediatric dentistry specialty conferences.

Method: A hand search was conducted of BSPD annual scientific conference abstracts published in supplements to the *International Journal of Paediatric Dentistry* 2006 to 2024 to identify all UK studies related to safeguarding children. Topics included, but were not limited to: child maltreatment, dental neglect, child protection, child protection training, missed appointments, record keeping, information sharing, pathways for vulnerable children, case reports. In years when the UK hosted international conferences and no separate BSPD scientific conference took place, the EAPD 2010 and IAPD 2015 abstract supplements were searched to identify projects with UK authors. Excluded: work conducted with no mention of safeguarding implications. Data collected: numbers of abstracts per year, authors, name of service and type of setting.

Results: Data were obtained for each year from 2006 to 2024 (n=18), with the exception of 2020 (conference cancelled due to the COVID-19 pandemic). There were a total of 80 published safeguarding abstracts during this period (min=1 in 2009; max=10 in 2021; see chart), increasing in number in the middle and later years. A total of 169 named authors were involved, representing work from 46 different dental services, relating to practice in HDS>CDS>GDS settings (n=38/26/3; 13=N/A).



Discussion: The annual number of published abstracts in safeguarding children has increased since the mid-2000s and this has been sustained since the Covid-19 pandemic. Many projects reported successful service improvements and identified the need for ongoing work. Limitations: the number of safeguarding abstracts as a proportion of total abstracts was not calculated; authors may change their names and be counted twice; further analysis of topics would be of interest.

Conclusion: Interest in safeguarding in paediatric dentistry continues. Safeguarding service improvements have been reported, largely in HDS and CDS settings, yet there remains potential for still further improvement in all settings.

Appendix 6 List of presentations delivered on safeguarding children in dentistry (2004-2024)

List includes invited lectures and scientific conference presentations on recognising and responding to child maltreatment, on dental neglect and on children's rights, personally delivered or delivered by co-authors or trainees where indicated.

INVITED PRESENTATIONS TO COMMITTEES AND POLICY MAKERS

May 2018	NSPCC Health Liaison Committee, NSPCC Head Office, London
May 2016	Chief Dental Officer's visit to Yorkshire and the Humber, Rotherham
May 2016	BSPD Stakeholder Day, Foundling Museum, London
Nov 2015	BDA Community Dental Services Executive Committee, BDA HQ, London
Sept 2015	NSPCC Health Liaison Committee, NSPCC Head Office, London
Feb 2014	Westminster Education Forum Keynote Seminar, London
Nov 2008	NSPCC Health Liaison Committee, NSPCC Head Office, London
Nov 2006	NSPCC Health Liaison Committee, NSPCC Head Office, London
Nov 2004	The Chief Dental Officer, Department of Health, London

INVITED LECTURES AT INTERNATIONAL MEETINGS

Dec 2022	International Centre for Oral Health Inequalities Research and Policy (ICOHIRP), University College London Dental Public Health
Sept 2015	International Orthodontic Congress (IOC), ExCel, London
Jun 2015	International Association for Paediatric Dentistry (IAPD), SECC, Glasgow
Oct 2007	Irish Dental Association Public Dental Surgeons Seminar, Westport, Ireland

INVITED LECTURES AT NATIONAL MEETINGS

Sept 2023	Society of British Dental Nurses, Birmingham
Mar 2022	Office of the Chief Dental Officer's (OCDO) webinar, ProDental CPD
Apr 2021	British Orthodontic Society Community Group (virtual lecture)
Sept 2019	British Orthodontic Conference, SECC, Glasgow
Jan 2018	RCPCH Insights convened by OCDO, Museum of London, London
Nov 2017	Central Committee on Hospital Dental Services Study Day, BDA HQ, London
May 2017	BDA's British Dental Conference and Exhibition, Manchester
Oct 2016	BDA CDS Group Annual Scientific Conference, Cutler's Hall, Sheffield
Apr 2013	British Association for the Study of Community Dentistry (BASCD), Buxton
Apr 2012	BDA's British Dental Conference and Exhibition, MCCC, Manchester
Sept 2011	British Association of Oral Surgeons (BAOS) Annual Conference, London
Sept 2009	BASPCAN National Congress, Swansea University
Jun 2008	British Association of Dental Therapists (BADT), Liverpool.
Mar 2008	Faculty of Dental Surgery Study Day, RCS England, London (initiator, co-convenor and lecturer)
Oct 2007	BASPCAN day conference, Thistle Hotel, Glasgow.
Jun 2007	NSPCC and the Welsh Systematic Review Group collaborative conference workshop, City University, London
May 2007	BDA Conference, Harrogate International Centre

Nov 2006 Forum for CDS MFDS Trainers and Trainees, RCS England, London

Nov 2006 Christian Dental Fellowship Annual Conference, Leicester

INVITED PRESENTATIONS AT REGIONAL MEETINGS

Nov 2023 BSPD South Yorkshire Branch & Dental Directions, School of Dentistry, Sheffield

Jun 2023 BSPD South Wales (virtual lecture)

Jun 2023 BSPD West Midlands, Birmingham Dental School

May 2023 BSPD Ridings Branch (virtual lecture)

Mar 2023 BSPD SE Branch (virtual lecture)

Feb 2023 BSPD NW & Merseyside joint meeting (virtual lecture)

Feb 2023 BSPD West of Scotland & East of Scotland joint meeting (virtual lecture)

Jan 2023 BSPD Northern Branch, School of Dental Sciences, Newcastle

Aug 2021 South Yorkshire Police 'Child Matters' training the trainers events (plus equivalent filmed presentation for approx. 3,000 SYP staff 2021-22)

May 2021 Sheffield and District Orthodontic Study Group (virtual lecture)

May 2018 BDA East Midlands Branch, Nottingham

Jan 2018 NIMDTA, Antrim, Northern Ireland (lecture and half-day workshop)

Nov 2017 BSPD NW Branch, MANDEC, Manchester

Jan 2013 BDA South Yorkshire Branch, School of Dentistry, Sheffield

May 2012 BSPD West of Scotland Branch, RCPS, Glasgow

Mar 2012 BSPD NW Branch, MANDEC, Manchester

Oct 2011 BSPD Northern Ireland Branch, City Hospital, Belfast

May 2011 BSPD Ridings Branch, University of Leeds

Jan 2010 BSPD Merseyside Branch, Alder Hey Children's Hospital, Liverpool

Jan 2009 BSPD Northern Branch meeting, School of Dental Sciences, Newcastle

Nov 2008 BSPD Midlands Branch & Section 63 Study Day, Birmingham Dental School

Mar 2007 West Midlands Deanery Vocational Trainers & Vocational Dental Practitioners Conference, Stratford-on-Avon

Feb 2007 London Dental Deanery, Royal College of Physicians, London (repeated Nov 2007)

Oct 2006 BSPD SE Branch, Guy's Hospital, London

Oct 2006 South Yorkshire branches BDA and BSPD and Sheffield & District Orthodontic Study Group joint meeting, School of Clinical Dentistry, Sheffield

SCIENTIFIC PRESENTATIONS AT INTERNATIONAL CONFERENCES

Jul 2018 IADR/PER General Session, London

The Mouth and Maltreatment (LUNCH & LEARN) and *UK paediatric dentists' child protection practice: improvement over 11 years* (POSTER)

Sept 2013 ISPCAN European Regional Conference, Dublin

Clinical audit of missed dental appointments in a city-wide salaried/community dental service in relation to child maltreatment (ORAL)

Jun 2009 IAPD Congress, Munich

Evaluation of an online and nationally-distributed child protection learning resource (ORAL)

Jun 2008 EAPD Congress, Dubrovnik

Multi-agency management of child dental neglect: three family case reports (POSTER)

Jun 2007 IAPD Congress, Hong Kong

Do paediatric dentists neglect child dental neglect? A UK survey (POSTER)

Jun 2006 EAPD Congress, Amsterdam

Development of a child protection learning resource for primary-care dental teams (POSTER)

Sept 2006 ISPCAN International Congress, York, UK

Child protection and the dental team: development of an educational resource for primary-care dental professionals in England (ORAL)

SCIENTIFIC PRESENTATIONS AT NATIONAL CONFERENCES

Nov 2016 BASPCAN/Child Abuse Review 25th Anniversary Conference, Birmingham

Paediatric dentists' management of dental neglect in children: 11-years-on (ORAL)

Apr 2015 BASPCAN Congress, Edinburgh

Mouth Matters: dental health and child welfare (SYMPOSIUM CONVENOR) and *Contemporary management of dental neglect* (ORAL)

Sept 2009 BASPCAN Congress, Swansea University

Evaluation of an online and nationally-distributed child protection learning resource for primary-care dental teams (ORAL)

Sept 2006 BSPD Annual Scientific Conference, Leeds

Child protection concerns and subsequent action taken: mind the gap (POSTER, winner of the BSPD Poster Prize)

CO-AUTHOR & TRAINEE PRESENTATIONS AT NATIONAL CONFERENCES

Sept 2019 BSPD Annual Scientific Meeting, Birmingham

General practitioners' perspectives on a 'Was Not Brought' letter for sharing information (POSTER, J. Kirby, winner of the BSPD Poster Prize)

Apr 2018 BASPCAN Congress, University of Warwick

Dentists' child protection training, experience and practice: a British Society of Paediatric Dentistry member survey (ORAL, C. Elcock)

Sept 2017 BSPD Annual Scientific Meeting, Manchester

Was Not Brought: evaluation of a new missed dental appointments pathway for children (ORAL, J. Kirby)

An audit of management of missed appointments (POSTER, A. Singh)

Sept 2013 BSPD Annual Scientific Meeting, Edinburgh

An audit of missed dental hospital appointments in relation to child maltreatment (POSTER, S. Gray)

Sept 2011 BSPD Annual Scientific Meeting, Newcastle

Audit of missed salaried service dental appointments in relation to child maltreatment (ORAL, L.M. Firth, shortlisted for the BSPD audit prize)

Appendix 7 Citations for included papers

List of citations in scholarly publications compiled from own records, University of Sheffield StarPlus and Dimensions (ap.dimensions.ai) between 22 and 25 October 2024. Listed in date order, most recent first. Excluded: publications included in this PhD submission, other own first author publications, and news articles.

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Glossary

Association of Child Protection Professionals (AoCPP)

Multidisciplinary membership association and charity which provides training, support and professional development for professionals working in child protection and adult safeguarding. Formerly the British Association for the Study and Prevention of Child Abuse and Neglect (BASPCAN).

British Dental Association (BDA)

Trade union and professional body for UK dentists, representing the interests of around 16,000 members working in all fields of dentistry, advancing the science, art and ethics of dentistry and improving the nation's oral health.

British Society of Paediatric Dentistry (BSPD)

Professional society and charity advocating for improvements in paediatric oral health and supporting development and delivery of high quality, accessible oral health care for all children and young people. Members numbered 650+ in 2024.

Care Quality Commission (CQC)

Independent regulator of health and social care in England since 2009. Inspects health and social care providers, including hospitals and dental practices, to ensure quality and safety, including compliance with *Outcome 7: Safeguarding people who use services from abuse* (Care Quality Commission, 2010). Asks 'The Five Key Questions': are services safe, effective, caring, responsive and well-led? (Care Quality Commission, 2015).

Children's services

Children's services are responsible for supporting and protecting vulnerable children. Terminology varies with jurisdiction. The following equivalent terms have been used in practice and in the scientific literature across the past two decades: social services, children's social care and child welfare services. In England, children's services are provided by the local authority: together with health and the police, they form the local Safeguarding Children Partnership which carries the statutory responsibility to protect children from maltreatment.

Committee of Postgraduate Dental Deans and Directors (COPDEND)

A forum comprised of all the Postgraduate Dental Deans and Directors in the UK whose role includes managing dental Foundation, Core and Speciality training, continuing professional development for the whole dental team and workforce development.

Every Child Matters

2003 document which set out the UK Government's proposals for reforming delivery of services for children, young people and families (HM Government, 2003). It focussed on supporting parents and carers, providing early intervention, accountability and workforce reform. It aimed to achieve five key outcomes for children: be healthy, stay safe, enjoy and achieve, make a positive contribution and achieve economic wellbeing.

General Dental Council (GDC)

Regulatory body for UK dental professionals, registering 44,209 dentists (05 January 2024) and 75,905 DCPs (03 August 2024). Its primary purpose is to protect patient safety and maintain public confidence in the dental professions. It sets standards, investigates complaints about fitness to practise, and ensures the quality of dental education.

National Society for the Prevention of Cruelty to Children (NSPCC)

The UK's leading children's charity, founded in 1883. Work is currently focussed on three goals: that everyone plays their part to prevent child abuse, to make sure that every child is safe online, and that children feel safe, listened to and are supported. This is achieved by work with schools, provision of therapeutic services, conducting research, running helplines, advising parents and campaigning for change. Since 2001, its Health Liaison Committee shares matters of mutual interest with healthcare associations, including the BDA since 2006 and BSPD since 2007.

Royal College of Paediatrics and Child Health (RCPCH)

Membership body for paediatricians, with about 22,000 members in the UK and internationally, with a role in postgraduate medical education, professional standards, research and policy.