

# Impact of the Covid pandemic on health care equity in NHS General Dental Practice.

Nathan Brown,<sup>1</sup> Richard Fenton<sup>2</sup> and Sara Harford<sup>3</sup>

<sup>1</sup>Clinical Adviser, NHS Business Services Authority, UK; <sup>2</sup>Anaesthetics, Southmead Hospital, UK; <sup>3</sup>Special Care Dentistry, Bristol Dental Hospital, UK

**Introduction:** Oral health inequalities existed before Covid, but the pandemic presented an unprecedented challenge for health services. Our aim was to determine whether patient groups at risk of health care inequality due to the pandemic could be identified from NHS dental claims. **Methods:** Secondary analysis of routinely collected NHS Business Services Authority data for patients treated by General Dental Practitioners in England and Wales between April 2019 and January 2022 to assess the effect of the Covid pandemic on claims for patients attending general dental practices. Data for treatment items claimed after the start of the first lockdown were compared to the pre-lockdown period. **Results:** The proportion of claims for child fillings, child extractions and child fluoride varnish application after March 2020 were lower than equivalent proportions for adults, in both England and Wales. Similarly, there were consistently fewer claims for fillings and extractions for patients claiming pension credit guarantee credit than all pensioners in both England and Wales. **Conclusion:** The Covid pandemic may have caused health care inequality for children and patients claiming pension credit guarantee credit. This may compound the inequality in oral health for these patients.

**Keywords:** Oral health, dentistry for children, dentistry for aged, dentistry public health

## Introduction

The Covid pandemic presented an unprecedented challenge for health services in the United Kingdom. The impact on patients directly and indirectly affected by Covid started to emerge during the first wave and continue as the recovery phase progresses. The pandemic has taken a disproportionate toll on people already facing the worst health outcomes, including some ethnic minority communities who have been at much greater risk of contracting and dying from Covid-19, and people living in the most deprived areas (Public Health England, 2020a; b). In March 2021, almost five million patients were waiting for planned hospital surgery, the highest number since modern records began; more than 436,000 patients had been waiting for more than one year (NHS England, 2021). Children's services have also reported decreased and delayed patient presentation for medical care and immunisations (Isba *et al.*, 2020; Lynn *et al.*, 2020; McDonald *et al.*, 2020). Suggestions for recovery and prioritising health and care include addressing ethnic and deprivation inequalities (The Kings Fund, 2020; 2021). Concerns have been raised about the unintended short- and long-term consequences of restrictions on children, including safeguarding, mental health, and in the long term obesity and mental health stemming from greater early years adversity (Hefferon *et al.*, 2021).

Before the pandemic, good oral health was not enjoyed equally across the population, with poor oral health disproportionately affecting the most vulnerable and socially disadvantaged individuals and groups (Public Health England, 2021). The first Covid lockdown interrupted normal dental services at the end of March 2020, with all non-urgent dental care deferred to minimise

face to face contact. Routine care resumed in June and July 2020 in England and Wales respectively, albeit at much-reduced capacity. The constraints of providing dental services within a pandemic, such as the suitability and availability of personal protective equipment (PPE), introduction of fallow time, staff availability and risks of aerosol generating procedures challenged the profession and reduced their capacity to treat patients. Patients were also concerned about visiting dental practices, which may have resulted in a reluctance to attend, and people who were most vulnerable to Covid were asked to shield.

By April 2021, the volume of care, as indicated by Units of Dental Activity had not returned to pre-lockdown levels and continuing delayed and unequal access to NHS dental care were being reported (Care Quality Commission, 2021; Healthwatch, 2020; Healthwatch, 2021).

Recognising patient groups experiencing health care inequality associated with the pandemic is important if we are to address oral health needs as we emerge and recover from the pandemic.

NHS dental patients treated in general dental practices fall into three categories; children (under 18, no charge), adults that pay NHS charges, and adults exempt from charges. The exempt adults may be adults/spouses claiming certain low-income benefits, in full time education and be women that are pregnant or have had a baby in the last 12 months (NHS, 2021). Pensioners struggling to make ends meet can apply for Pension Credit. Pensioners in receipt of the Guarantee Credit element of Pension Credit have their income topped up to a guaranteed minimum level, and Pension Credit Guarantee Credit (PCGC) is one of the low-income benefits that allows the most deprived

pensioners to qualify for free NHS dental treatment. These charge and exemption categories are identifiable in the NHS dental claims submitted by General Dental Practitioners (GDPs), along with the dental treatment provided.

The purpose of this secondary analysis of routinely collected data from NHS dental claims in England and Wales was to determine whether patient groups at risk of health care inequality due to the Covid pandemic could be identified from the NHS dental claim charge status and patient age. The groups included:

- Children (under 18 years)
- Adult charge paying
- Adult charge exempt
- Adult charge paying over the age of 65
- Adult charge exempt over the age of 65 (ie claiming PCGC)

### Method

NHS GDP claims data for the period April 2019 to April 2021 were obtained from NHS Business Services Authority. Treatment items on the claims were counted for the month in which the claim was submitted, along with the claim type (Band 1, Band 2, Band 3, Urgent). The patient age group and charge status included those aged under 18 (children), 18 and over (adults), over the age of 65 (>65), adults that paid NHS dental charges (adult fee paying), adults that were exempt from charges (adult exempt) and those that claimed PCGC (>65 PCGC).

Data were presented as the number of claims in a 20/21 month for each group as a proportion of the same groups claims for the equivalent month in the year before Covid.

### Results

The number of claims submitted by GDPs for dental treatment in England and Wales fell by more than 80% after the first lockdown at the end of March 2020 (Figure 1), and at the start of 2022 the number of claims remained much lower than pre-Covid levels. Claims for urgent treatment declined in April and May 2020, started to increase in June and July 2020, and by August 2020 had exceeded pre-pandemic levels in both countries (Figure 2). This continued, and between December 2020 and January 2022, the number of urgent claims were maintained at a level similar to pre-Covid levels. Claims for Band 1, Band 2 and Band 3 treatment increased slowly after resuming routine dental care in June 2020 (England) and July 2020 (Wales). In June 2021, Band 2 and 3 claims in England reached the pre-Covid level, but fell again to approximately 60-80% of the pre-Covid figures between July 2021 and January 2022. Band 1 claims did not exceed 70%. In Wales, Band 2 and 3 claims also peaked in June 2021 at approximately 65% of pre-Covid levels, and remained at approximately 60% figures by January 2022. Band 1 claims in Wales did not exceed 40%.

Claims submitted in England and Wales that indicated permanent fillings had not reached the pre-Covid level by January 2022, for both adults and children (Figure 3).

After the first lockdown, claims indicating extractions increased more rapidly than for permanent fillings, with adult extractions often exceeding 90% of previous year's after November 2020 in England and Wales. The proportion of claims for child extractions and fillings lagged behind adults in both England and Wales, particularly in the period up to March 2021 (blue line in Figure 3). In

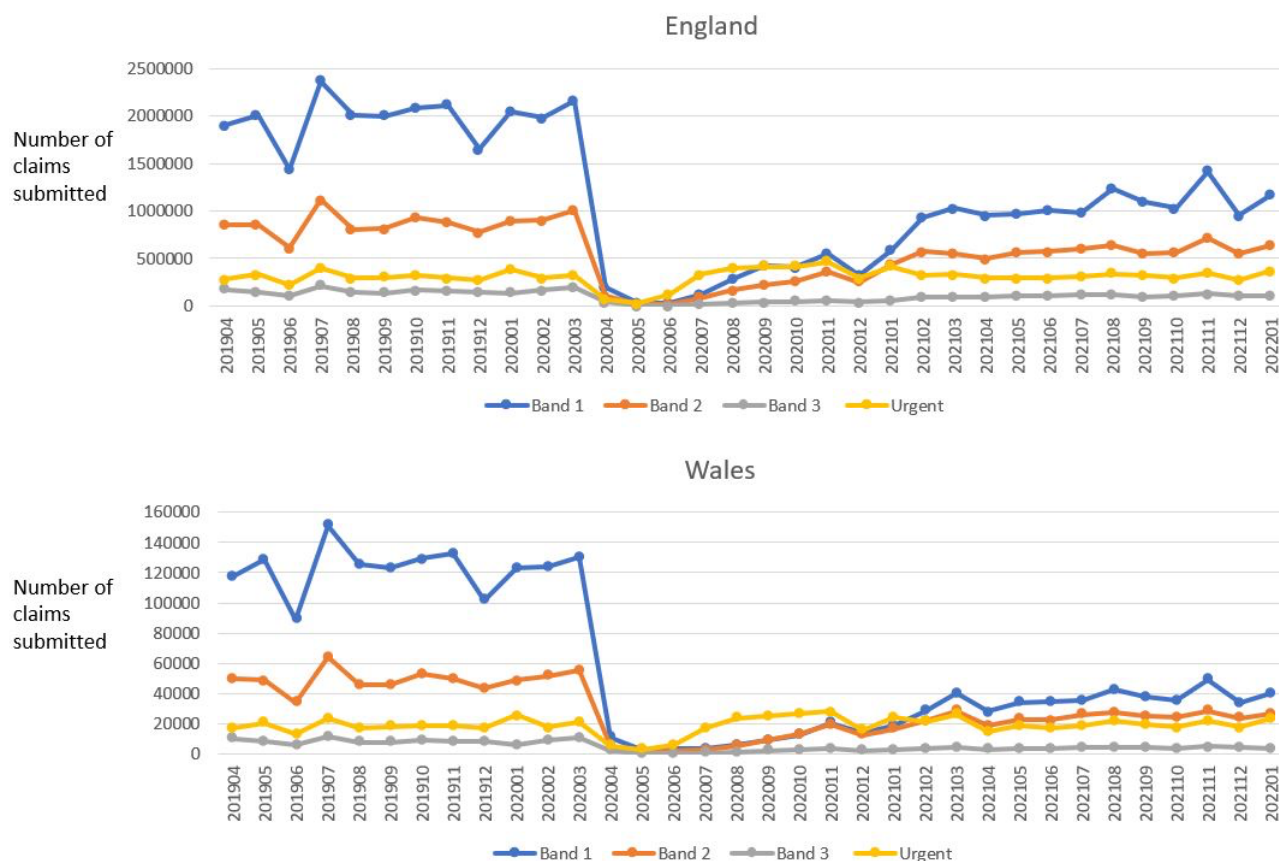


Figure 1. Claims submitted in England and Wales April 2019 to January 2022.

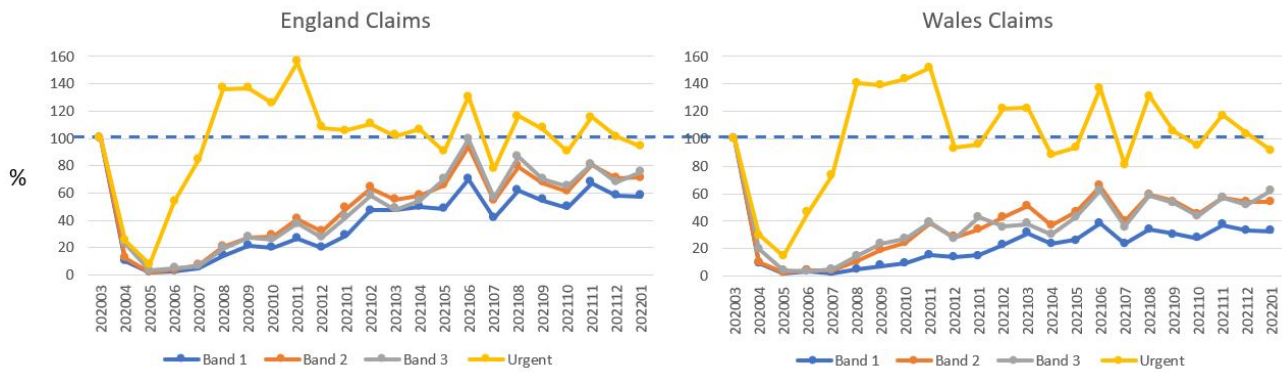


Figure 2. Claims submitted April 2020 to January 2022, as a proportion of those submitted in the same month in the preceding year.

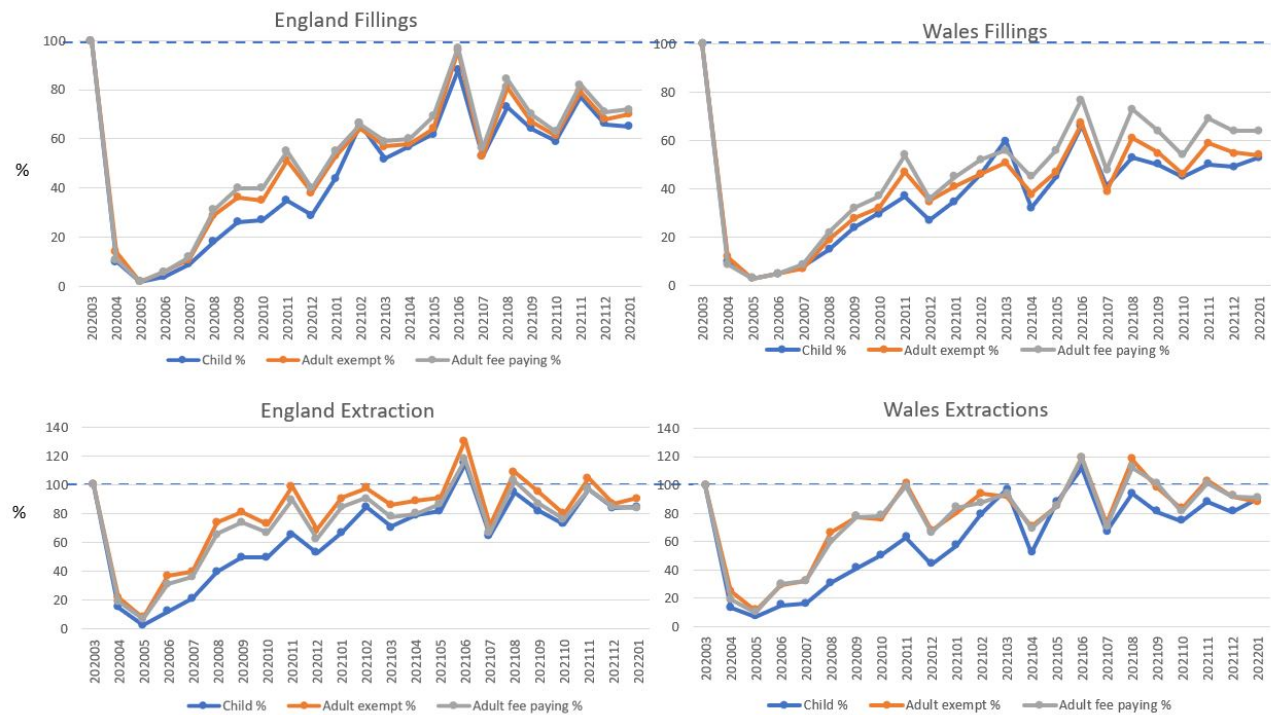


Figure 3. Children and adult claims indicating that a permanent filling or extraction had been provided, as a proportion of those submitted in the same month in the preceding year.

both England and Wales, claims scheduled April 2020 to March 2021 for fillings, extractions and fluoride varnish for adults were more likely than a claim scheduled in April 2020 to March 2021 for fillings, extractions and fluoride varnish for a child (Table 1).

In England, topical fluoride applications did not attain pre-pandemic levels up to January 2022. In Wales, data for topical fluoride application for adults changed after February 2021, exceeding pre-pandemic levels. For children in Wales, topical fluoride application exceeded pre-pandemic levels for one month only, June 2021. Progression back toward pre-pandemic levels for topical fluoride application was slower for children than for adults in both England and Wales, particularly in the period up to March 2021 (Figure 4, Table 1).

The pathway towards pre-pandemic levels for claims for patients over the age of 65 appeared to be similar to that of other adults. However, for patients claiming PCGC, claims for extractions or permanent fillings were consistently lower than other adults (Figure 5). This pattern persisted between April 2020 to January 2022.

## Discussion

The Covid-19 pandemic has had an enormous impact on the delivery of dental services. Routine dental care and face-to-face contact ceased, except patients that needed urgent care. NHS England and Welsh Government advised remote consultation and triage, including advice, analgesia or antimicrobials in line with prescribing guidelines (Welsh Government 2020a; NHS England, 2022). During April to July 2020, there were more prescriptions for dental antibiotics (Shah *et al.*, 2020). Routine dental care resumed (Welsh Government 2020b; NHS England, 2022) and dentists were asked to focus on patients requiring urgent dental care. Factors that contributed to the shortfall of Band 1, 2 and 3 claims included staff and PPE shortages, requirements related to aerosol generating procedures and fallow time, and patient concerns around the risk of covid transmission.

Urgent courses of treatment may include a permanent filling or extraction, as can a Band 2 or Band 3 course of routine care. Claims with extractions were closer to returning to pre-pandemic levels than for fillings, which

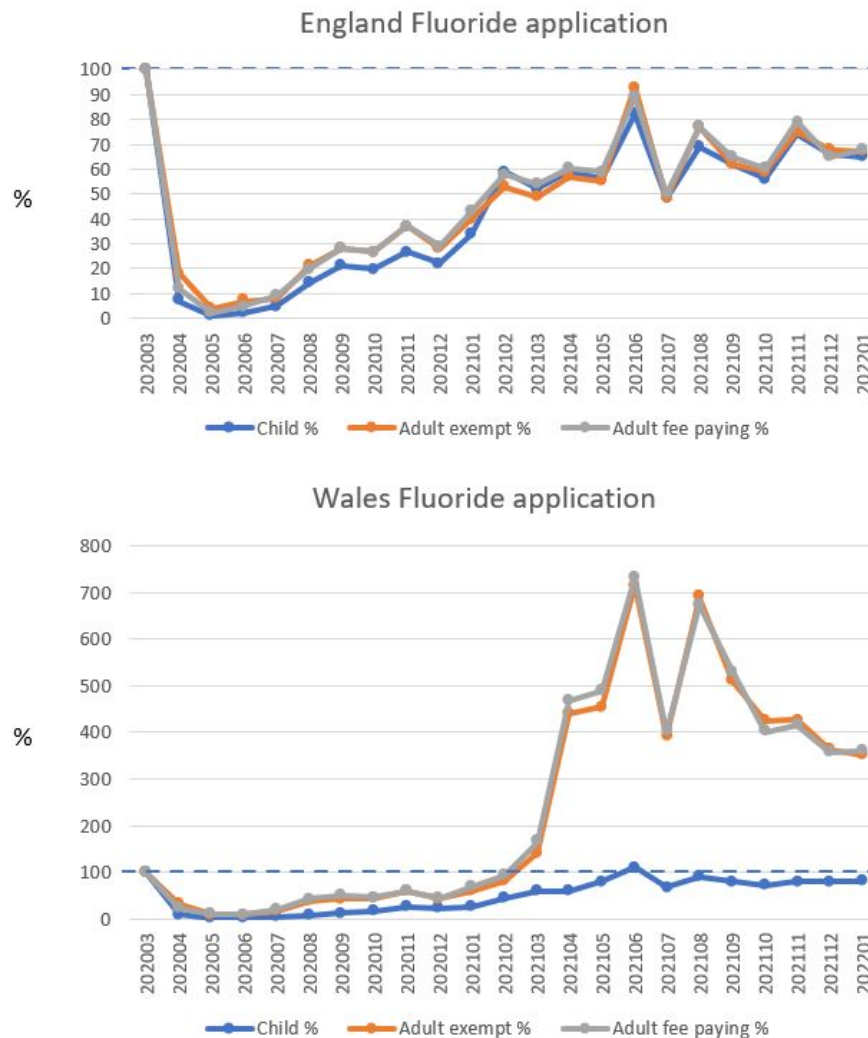


Figure 4. Children and adult claims indicating that topical fluoride application had been provided, as a proportion of those submitted in the same month in the preceding year.

Table 1. Claims for fillings, extractions and fluoride varnish for adults and children, April 2019 to March 2021.

		England		Wales	
		April 2019 - March 2020	April 2020 - March 2021	April 2019 - March 2020	April 2020 - March 2021
Fluoride varnish	Child	6,632,364	1,494,794	282,662	60,335
	Adult	713,089	195,807	115,318	72,860
Filling	Child	2,157,780	603,337	95,838	24,629
	Adult	6,334,921	2,201,000	398,138	117,534
Extraction	Child	511,887	232,465	22,220	7,601
	Adult	2,007,624	459,067	127,846	79,535

may be because patients needing extractions were more likely to experience symptoms that would make them seek care. The reduction in fillings may have consequences, if delayed treatment results in progression of disease such as loss of tooth vitality.

Claims for child extractions lagged behind those for adults. This may partly be due to an interruption in orthodontic services which were also affected by the pandemic. However, this would not explain the lag for child fillings and child topical fluoride applications. Fluoride varnish application is a key part of caries prevention in children (Public Health England, 2017; Scottish Dental Clinical

Effectiveness Programme, 2018) and should be actively promoted during the return to normal service to avoid consequences for children. The guidelines for fluoride varnish application were not adhered to consistently by GPs before the pandemic (Brown *et al.*, 2018; 2022) and so it is important not to allow any shortfall in prevention for children to exacerbate. Inequalities in child oral health existed pre-pandemic. For example, 34% of 5-year-olds in the 10% most deprived areas of the country had experienced dental caries, compared to 14% in the 10% least deprived areas (Public Health England, 2019). In England, over 43,000 children are admitted to hospital due to dental caries

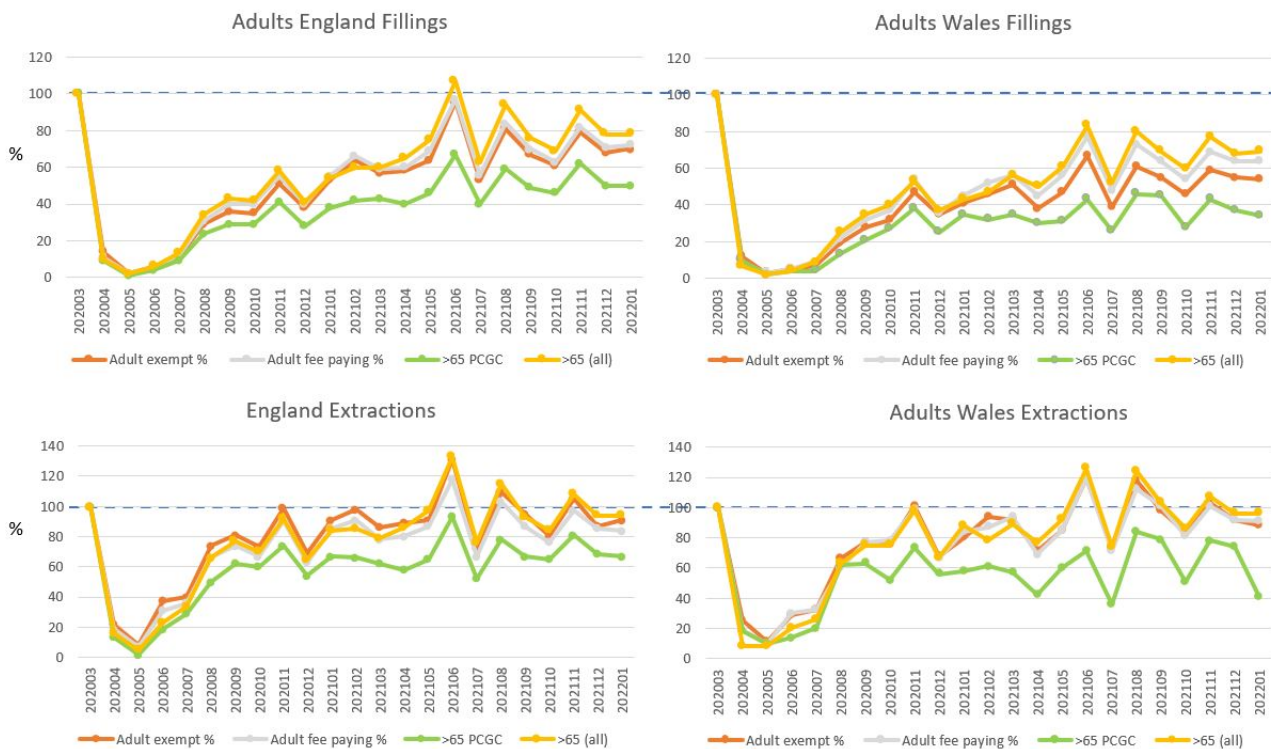


Figure 5. Adult claims and pensioner claims indicating that fillings or extractions had been provided, as a proportion of those submitted in the same month in the preceding year.

Table 2. Claims for fillings and extractions for adults over the age of 65, April 2019 to March 2021.

		England		Wales	
		Apr 2019 - Mar 2020	Apr 2020 - Mar 2021	Apr 2019 - Mar 2020	Apr 2020 - Mar 2021
Fillings	PCGC	64,035	15,569	3,721	735
	No PCGC	1,520,195	548,828	91,023	28,084
Extractions	PCGC	25,357	11,625	1579	690
	No PCGC	508,627	312,948	32,977	19,655

each year (The Royal College of Surgeons of England, 2019). Priority should be given to eliminating unintended consequences of the Covid pandemic, including health care inequalities, ensuring a larger gap does not occur.

Interestingly, by March 2021 fluoride varnish application for adults in Wales had exceeded pre-pandemic levels. This is likely to be a positive benefit of the introduction of GDP contract metrics by Welsh Government (2021), with financial implications for not meeting target. There are targets for fluoride varnish application, promoting good preventive practice. However, it is important that this benefit applies to child patients.

There were pre-pandemic oral health inequalities between charge-paying and exempt adult patients (Shah and Wordley, 2021). PCGC is only available to pensioners who fall below a certain financial threshold. A clear shortfall was apparent for patients receiving PCGC. Older people and those in the most deprived areas have been disproportionately affected by Covid (Public Health England, 2020a; Pijls *et al.*, 2021). At the peak of the first wave, more affluent people had better access to medical consultations, prescriptions and medical helplines (Davillas

and Jones, 2021). Given their increased risk, it is possible that patients claiming PCGC have been reluctant to seek dental care. However, this lag in treatment should be recognised for this group of patients, and equal access to dental services should be prioritised.

Since the onset of the pandemic, there have been renewed calls for a collaborative approach involving all healthcare workers (paediatricians, general practitioners, nurses, midwives, health visitors and dental professionals), parents, schools and other institutions to tackle oral health (Okike *et al.*, 2021).

Measuring the number of fillings and extractions provided may not be the best method to determine oral health care, or whether good quality services are being provided, particularly with the profession trying to move toward a preventive model of care. However, given that routine dental care has not fully recovered from the pandemic and concerns about access to NHS dental care have been highlighted, it is important to recognise that children and patients claiming PCGC are at risk of health care inequality, and therefore may be at risk of oral health inequality due to the pandemic.

In conclusion, children and patients claiming PCGC are experiencing worsened health care inequality because of the Covid pandemic. This risk should be acknowledged, and priority given to address any inequalities for those patients as recovery from the pandemic continues.

### Disclaimer

Any views expressed are those of the authors and not their organisations.

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