

A retrospective analysis of NHS patient dental charges in England, Scotland and Wales

Ivor G. Chestnutt*¹ and Anwen L. Cope²

Key points

Provides information for dental decision-makers and planners relevant to the setting of NHS patient dental charges.

Of relevance to the current debate on access to dental care in the UK.

Demonstrates differences in policies across England, Scotland and Wales.

Abstract

Objectives This analysis aimed to: i) review how patient dental charges (PDCs) changed over time in England, Scotland and Wales; ii) determine how these changes relate to a) inflation and b) minimum wages; and iii) how the charges have varied in the devolved administrations.

Methods Data were obtained from NHS and Office for National Statistics (ONS) records and historical valuations of the national living wage (NLW). General inflation was calculated using the ONS Consumer Price Index.

Results PDCs differed significantly between countries in relation to cost; which aspects of dental care require a charge; and value of payments ($p < 0.001$). PDCs in England for simple, intermediate and more complex care rose from £15.90, £43.60 and £194.00 in 2007, to £25.80, £70.70 and £306.80 in 2023. Adjusted for inflation, the 2007 prices equate to £25.53, £70.02 and £311.55, demonstrating that the relative costs have remained constant in England. In Wales, 2007 prices (inflation-adjusted):2023 prices for the three complexities of treatment were £19.27:£14.80, £62.23:£47.33 and £284.25:£204.43. In Scotland, PDCs for the four treatment items fell marginally when adjusted for inflation. The ratio of PDC:NLW fell by an average of 13.8% in England and 30.7% in Wales.

Conclusions There has been significant variation in the approach to PDCs across Great Britain both in terms of nominal costs and the degree to which these have kept pace with inflation.

Introduction

Care based on need from ‘the cradle to the grave’ and free at the point of delivery were founding principles of the NHS in 1948. However, by 1952, it became clear that as far as dental care was concerned, the government could not afford the dental needs of the population and patient dental charges (PDCs) were introduced.^{1,2} The PDC was based on the number of treatment items they received up to a predetermined maximum. Exemptions have been made for certain groups, namely

those in receipt of benefits and more recently, low income (Box 1).³ Nursing and expectant mothers and children have also been exempt from PDCs.

The NHS general dental services (GDS) contract introduced in England and Wales in 2006 meant that non-exempt patients were required to pay one of four PDCs based on the complexity of their treatment (Table 1). However, the PDC applicable in England and Wales was not the same. In Scotland, patients continue to pay on a fee-per-item basis, up to a maximum of £384 or 80% of treatment cost. In November 2023, changes were introduced

to the dental contract in Scotland to encourage the delivery of more preventive care and the number of items of treatment reduced from over 700 to 45,⁴ but the principles of patient charges remain the same. In essence, the basics of who must pay remains the same as those introduced in the mid-twentieth century.

In the financial year before the COVID-19 pandemic (2018–2019), of the 27.97 million courses of NHS dental treatment provided to adult patients in England, 76.3% had to pay towards their care, contributing £854.6 million to NHS reserves.⁵ The corresponding data for Wales show that of the 18 million courses of

¹Professor and Honorary Consultant in Dental Public Health, Cardiff University School of Dentistry, Heath Park, Cardiff, CF14 4XY, UK; ²Clinical Senior Lecturer and Honorary Consultant in Dental Public Health, Cardiff University School of Dentistry, Heath Park, Cardiff, CF14 4XY, UK.

*Correspondence to: Ivor G. Chestnutt
Email address: chestnuttig@cardiff.ac.uk

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Box 1 Types of benefit that qualify for exemption for patient charge for NHS dental care

- Income support
- Income-based Jobseeker's Allowance
- Income-related Employment and Support Allowance
- Pension Credit (Guarantee Credit)
- Universal Credit – but only if earnings in last assessment period were £435 or less, or £935 or less if in receipt of element for a child or have limited capability to work
- Those eligible under the NHS low-income scheme.

NHS dental treatment provided in Wales, 61.2% required patients to contribute to the cost of their care directly out of pocket. That equated to £36.4 million pounds.⁶ A recent review by the King's Fund and University of York concluded that there have been very few empirical studies on the effect of dental charges and they claimed no evidence beyond the 1990s.⁷

As with any means-tested system, it is those who are just on the wrong side of the exemption line that are likely to struggle the most. This includes those adults who come from marginalised communities. The current cost of living crisis is likely to add to the general difficulties in affording NHS dental services.⁸

Since 1999, health has been a devolved responsibility in the UK. The approaches

taken to PDCs by the administrations in Whitehall, Edinburgh and Cardiff have varied substantially.

The analysis reported in this paper aims to review:

- How PDCs have changed over time in England, Scotland and Wales
- How these changes relate to a) inflation and b) minimum wages
- How the charges have varied in relation to policies adopted in the different administrations.

Materials and methods

Dental data sources

Data on PDCs and related measures of clinical activity were obtained from NHS Digital,⁵ StatsWales⁶ and Scottish Dental⁹ websites. In England and Wales, PDCs for Band 1, 2 and 3 and urgent treatments between 2007–2023 were identified. A definition of the treatments

Table 1 A definition of treatment bands introduced in England and Wales in the 2006 NHS GDS contract

Course of treatment	Treatment included
Band 1	This charge will include an examination, diagnosis and preventive care. If necessary, this will include: scale and polish, radiographs and preventive treatments
Band 2	Treatments in Band 1 plus restorations, root canal treatment, periodontal treatment fillings and extractions
Band 3	Treatments in Bands 1 and 2 plus crowns, bridges and dentures
Urgent treatment	Urgent care which may include: relief of pain and/or arrest of haemorrhage

Band 2 treatments were expanded into subdivisions in England in July 2023 but the definitions above were those that pertained in the time period analysed in this manuscript.

Table 2 Patient charges (£) for dental treatment by Band in England and Wales 2007–2023 (nominal values and after adjustment for inflation)*

Year	England								Wales							
	Band 1		Band 2		Band 3		Urgent Tx		Band 1		Band 2		Band 3		Urgent Tx	
	(£)	Adjusted for inflation (£)	(£)	Adjusted for inflation (£)	(£)	Adjusted for inflation (£)	(£)	adjusted for inflation (£)	(£)	Adjusted for inflation (£)	(£)	Adjusted for inflation (£)	(£)	Adjusted for inflation (£)	(£)	adjusted for inflation (£)
2023**	25.80	25.98	70.70	71.20	306.80	308.95	25.80	25.98	14.70	14.80	47.00	47.33	203.00	204.43	14.70	14.80
2022	23.80	25.69	65.20	70.37	282.80	305.21	23.80	25.69	14.70	15.86	47.00	50.73	203.00	219.09	14.70	15.86
2021	23.80	28.02	65.20	76.77	282.80	332.98	23.80	28.02	14.70	17.31	47.00	55.34	203.00	239.02	14.70	17.31
2020	23.80	28.75	65.20	78.76	282.80	341.60	23.80	28.75	14.70	17.76	47.00	56.77	203.00	245.21	14.70	17.76
2019	22.70	27.65	62.10	75.65	269.30	328.06	22.70	27.65	14.30	17.42	46.00	56.04	199.10	242.54	14.30	17.42
2018	21.60	26.78	59.10	73.29	256.50	318.08	21.60	26.78	14.00	17.36	45.00	55.80	195.00	241.81	14.00	17.36
2017	20.60	26.17	56.30	71.54	244.30	310.44	20.60	26.17	14.00	17.79	44.00	55.91	190.00	241.44	14.00	17.79
2016	19.70	25.71	53.90	70.33	233.70	304.94	19.70	25.71	13.50	17.61	43.00	56.11	185.00	241.40	13.50	17.61
2015	18.80	24.69	51.30	67.38	222.50	298.24	18.80	24.69	13.50	17.73	43.00	56.48	185.00	242.99	13.50	17.73
2014	18.50	24.30	50.50	66.35	219.00	287.76	18.50	24.30	13.00	17.08	42.00	55.19	180.90	237.70	13.00	17.08
2013	18.00	24.00	49.00	65.33	214.00	285.30	18.00	24.00	12.70	16.93	41.10	54.79	177.00	235.97	12.70	16.93
2012	17.50	23.92	48.00	65.63	209.00	285.78	17.50	23.92	12.40	16.95	40.20	54.96	177.00	242.03	12.40	16.95
2011	17.00	23.90	47.00	66.08	204.00	286.83	17.00	23.90	12.00	16.87	39.00	54.84	177.00	248.87	12.00	16.87
2010	17.00	24.97	47.00	69.03	204.00	299.64	17.00	24.97	12.00	17.63	39.00	57.28	177.00	259.98	12.00	17.63
2009	16.50	25.03	45.60	69.18	198.00	300.42	16.50	25.03	12.00	18.21	39.00	59.17	177.00	268.55	12.00	18.21
2008	16.20	25.11	44.60	69.13	198.00	306.92	16.20	25.11	12.00	18.60	39.00	60.45	177.00	274.37	12.00	18.60
2007	15.90	25.53	43.60	70.02	194.00	311.55	15.90	25.53	12.00	19.27	39.00	62.63	177.00	284.25	12.00	19.27

Key:
 * = Adjusted to August 2023
 ** = Note only part year adjustment
 Tx = treatment

provided under these categories is provided in Table 1.

Since the PDC banding system does not apply in Scotland, four items of treatment were selected from Statements of Dental Remuneration from 2012–2023 (data before 2012 were not available). Items chosen were: extensive clinical examination; scale and polish; three or more surface restoration; and provision of complete upper and lower dentures in synthetic resin.

Adjustment for inflation

In addition to the nominal charges (defined as PDC applicable at a given time), prices adjusted for inflation were calculated using the Bank of England inflation calculator (Table 2, Table 3). This uses the Consumer Price Index (CPI) and inflation data from the Office for National Statistics (ONS).¹⁰ The CPI is the preferred measure of inflation and is the measure used by the UK Government to set the Bank of England target for inflation. The CPI represents

the change in the price of goods, ‘the shopping basket’ and is chosen to be representative of the spending habits of a hypothetical typical household. The CPI is calculated as (the value of the shopping basket in the given year/value of the shopping basket in the base year) multiplied by 100.

In this analysis, inflation between 2007–2022 was determined using calendar year averages. Data for inflation in 2023 were determined using monthly averages to August, so the inflation data for the year 2023 represent the increase between April 2023 and August 2023 only, as opposed to whole year data. In the analyses involving inflation-adjusted figures, 2022 was taken as the final follow-up year since it was the last with complete 12-month-adjusted data.

Income data

To compare PDCs with income changes during the study period, two sources of patient income were studied. The first was the national living wage (NLW).¹¹ The NLW is the minimum wage

that can by law be paid to those aged 23 years and older. This was previously termed the national minimum wage (NMW). The NMW still exist for those aged less than 23 years.

The second income parameter was the median hourly earnings (MHE). The MHE is obtained from the Annual Survey for Hours and Earnings.¹² This survey conducted by the ONS in April each year is reported by ONS to be the most comprehensive source of information on the structure and distribution of earnings and paid hours of work across all sectors of employment in the UK. Unlike the NLW, which applies across England, Scotland and Wales, MHE is calculated specifically for each country and is therefore more sensitive to national economies within Great Britain.

Affordability

To determine the relationship between these measures of income and PDCs and specifically how PDCs related to affordability, the ratio of treatment band cost (or item of

Table 3 Dentist fee, patient charge by selected items of treatment in Scotland 2012–2023 (nominal values and after adjustment for inflation)*

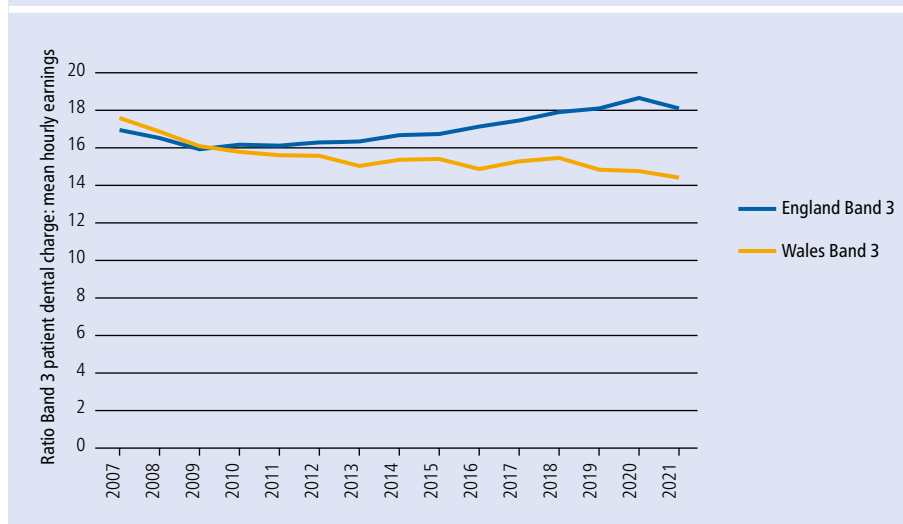
Year	Scotland											
	Item 1(f)(i) Extensive clinical examination, advice, charting (including assessment and recording of any malocclusion and charting of periodontal status), and report			Item 10(a) Scale and polish			Item 14(A)(4) Three or more surfaces where the mesio-occlusal and disto-occlusal surfaces are involved			Item 27(b)(1) Provision of dentures in synthetic resin (upper and lower)		
	Dentists fee (£)	Patient charge (£)	Patient charge Adjusted for inflation (£)	Dentists fee (£)	Patient charge (£)	Patient charge Adjusted for inflation (£)	Dentists fee (£)	Patient charge (£)	Patient charge Adjusted for inflation (£)	Dentists fee (£)	Patient charge (£)	Patient charge Adjusted for inflation (£)
2023**	15.50	0.00	0.00	16.15	12.92	13.01	28.20	22.56	22.71	223.40	178.72	179.98
2022	18.85	0.00	0.00	15.45	12.36	13.34	27.00	21.60	23.31	213.80	171.04	184.59
2021	9.65	0.00	0.00	15.00	12.00	14.31	26.20	20.96	24.67	207.55	166.04	195.51
2020	9.40	0.00	0.00	14.60	11.68	14.10	25.50	20.40	24.64	201.90	161.52	195.10
2019	9.15	0.00	0.00	14.25	11.40	13.88	24.90	19.92	24.27	197.00	157.60	191.99
2018	9.15	0.00	0.00	14.25	11.40	14.13	24.90	19.92	24.70	197.00	157.60	195.42
2017	8.90	0.00	0.00	13.90	11.12	14.13	24.30	19.44	24.70	192.10	153.68	195.29
2016	8.70	0.00	0.00	13.60	10.88	14.19	23.75	19.00	24.79	187.85	150.28	196.09
2015	8.60	0.00	0.00	13.45	10.76	14.13	23.50	18.80	24.69	185.75	148.60	195.18
2014	8.45	0.00	0.00	13.25	10.60	13.92	23.15	18.52	24.33	182.80	146.24	192.16
2013	8.30	0.00	0.00	13.05	10.44	13.91	22.75	18.20	24.26	179.75	143.80	191.71
2012	8.10	0.00	0.00	12.75	10.20	13.94	22.20	17.65	24.13	175.35	140.28	191.82

Key:
 * = Adjusted to August 2023
 ** = Note only part year adjustment
 Tx = treatment

Table 4 The relationship between the NLW and patient dental charges (Bands 1–3) in England and Wales 2007–2023

Year	NLW] (£/per hour)	England						Wales					
		Band 1 (£)	Band 1 NLW	Band 2 (£)	Band 2 NLW	Band 3 (£)	Band 3 NLW	Band 1 (£)	Band /NLW	Band 2 (£)	Band 2 NLW	Band 3 (£)	Band 3 NLW
2023	10.42	25.80	2.48	70.70	6.79	306.80	29.44	14.70	1.41	47.00	4.51	203.00	19.48
2022	9.50	23.80	2.51	65.20	6.86	282.80	29.77	14.70	1.55	47.00	4.95	203.00	21.37
2021	8.91	23.80	2.67	65.20	7.32	282.80	31.74	14.70	1.65	47.00	5.27	203.00	22.78
2020	8.72	23.80	2.73	65.20	7.48	282.80	32.43	14.70	1.69	47.00	5.39	203.00	23.28
2019	8.21	22.70	2.76	62.10	7.56	269.30	32.80	14.30	1.74	46.00	5.60	199.10	24.25
2018	7.83	21.60	2.76	59.10	7.55	256.50	32.76	14.00	1.79	45.00	5.75	195.00	24.90
2017	7.50	20.60	2.75	56.30	7.51	244.30	32.57	14.00	1.87	44.00	5.87	190.00	25.33
2016	7.20	19.70	2.74	53.90	7.49	233.70	32.46	13.50	1.88	43.00	5.97	185.00	25.69
2015	6.70	18.80	2.81	51.30	7.66	222.50	33.21	13.50	2.01	43.00	6.42	185.00	27.61
2014	6.50	18.50	2.85	50.50	7.77	219.00	33.69	13.00	2.00	42.00	6.46	180.90	27.83
2013	6.31	18.00	2.85	49.00	7.77	214.00	33.91	12.70	2.01	41.00	6.51	177.00	28.05
2012	6.19	17.50	2.83	48.00	7.75	209.00	33.76	12.40	2.00	40.20	6.49	177.00	28.59
2011	6.08	17.00	2.80	47.00	7.73	204.00	33.55	12.00	1.97	39.00	6.41	177.00	29.11
2010	5.93	17.00	2.87	47.00	7.93	204.00	34.40	12.00	2.02	39.00	6.58	177.00	29.85
2009	5.80	16.50	2.84	45.60	7.86	198.00	34.14	12.00	2.07	39.00	6.72	177.00	30.52
2008	5.73	16.20	2.83	44.60	7.78	198.00	34.55	12.00	2.09	39.00	6.81	177.00	30.89
2007	5.52	15.90	2.88	43.60	7.90	194.00	35.14	12.00	2.17	39.00	7.07	177.00	32.07
% change in PDC:NLW 2007–2022			13.02		13.11		15.30		28.82		29.98		33.36
Average % change 2007–2022		13.81						30.72					
								Negative values mean PDCs are comparatively more affordable.					

Fig. 1 Band 3: mean hourly earnings in England and Wales 2007–2021



treatment):income measure was calculated for England and Wales only (Table 4, Fig. 1). Subsequently, the percentage change in the ratio during the study period was used as a measure of how the relationship between PDC and income varied (Table 4).

Consequences of different patient-charging policies in England and Wales

To determine the financial consequences of lower PDCs on public revenue in Wales, the annual number of courses of treatments by band provided to PDC-paying adults in Wales

was re-costed at English prices. The value of this revenue above what was generated using Welsh PDCs was determined (Table 5).

Statistical analysis

The majority of the data are presented as simple count, percentage and ratio data. The Wilcoxon signed-rank test was used to examine differences in patient charges between England and Wales. Statistical significance was at the p <0.05 level.

Results

PDCs and the impact of inflation

The change in nominal prices by treatment band is shown in Table 2. In England, Band 1 PDCs increased from £15.90 in 2007 to £23.80 in 2022, and for Band 3, from £194.00 to £282.80. Increases in PDC were broadly in line with inflation (Band 1 costing £25.53 and £25.69 [2007 adjusted figure:2022 nominal figure] and Band 3 costing £311.55 and £305.21, respectively). In Wales, nominal PDCs were

Table 5 Patient charge income (£s millions) generated in Wales 2010–2023, treatment Bands 1–3 and urgent treatment, the charge adjusted from patient charges applying in Wales to those applicable in England, and the difference resulting

Year	Wales £sM	Adjusted from patient charge in Wales to that applicable in England £sM	Difference £sM	Wales £sM	Adjusted from patient charge in Wales to that applicable in England £sM	Difference £sM
Income from Band 1 treatment			Income from Band 2 treatment			
2023	4.01	7.04	3.03	10.43	15.68	5.26
2022	2.40	3.88	1.48	8.36	11.60	3.24
2021	0.76	1.23	4.69	3.62	5.02	1.40
2020	7.54	12.20	4.66	14.39	19.96	5.57
2019	7.71	12.23	4.53	14.88	19.55	4.68
2018	7.34	11.33	3.99	14.48	19.02	4.54
2017	7.02	10.33	3.31	14.25	18.23	3.98
2016	6.64	9.67	3.05	13.64	17.09	3.46
2015	6.30	8.76	2.47	13.18	15.72	2.54
2014	5.96	8.47	2.52	12.86	15.46	2.60
2013	5.54	7.85	2.31	12.15	14.48	2.33
2012	5.38	7.60	2.21	12.04	14.38	2.37
2011	5.24	7.43	2.11	11.68	14.07	2.40
2010	5.21	7.38	2.17	11.57	13.95	2.37
Income from Band 3 treatment			Income from urgent treatment			
2023	6.54	9.88	3.34	1.74	3.06	1.32
2022	6.11	8.51	2.40	2.15	3.48	1.33
2021	2.76	3.84	1.08	2.14	3.46	1.32
2020	10.94	15.23	4.30	2.01	3.25	1.24
2019	11.86	16.04	4.18	1.90	3.01	1.11
2018	11.81	15.54	3.73	1.79	2.75	0.97
2017	11.73	15.08	3.35	1.68	2.46	0.79
2016	11.31	14.29	2.98	1.64	2.40	0.75
2015	10.62	12.77	2.15	1.50	2.10	0.59
2014	10.01	12.12	2.11	1.43	2.03	0.60
2013	9.56	11.55	2.00	1.34	1.90	0.56
2012	9.40	11.11	1.70	1.27	1.79	0.52
2011	9.16	10.56	1.40	1.21	1.76	0.55
2010	8.92	10.28	1.36	1.20	1.70	0.50

significantly lower ($p < 0.001$) than in England. Band 1 PDCs in Wales cost £12.00 and £14.70 in 2007 and 2022, respectively. Band 3 PDCs in Wales rose from £177 in 2007 to £203 in 2022. When adjusted for inflation, there was a marked fall in real terms from £19.27 in 2007 to £15.86 in the case of Band 1 treatments. The

inflation adjusted costs for Band 3 in Wales fell from £284.25 in 2007 to £204.43.

In Scotland PDCs, the four treatment items fell marginally when adjusted for inflation, from £13.94 in 2012 to £13.34 in 2022 for scale and polish and from £191.82 to £184.59 for complete dentures over the same period (Table 3).

Income and PDCs

The relationship between the NLW and PDCs for Band 1–3 treatments in England and Wales is shown in Table 4. The ratio of PDC:NLW fell in both England and Wales during the period studied, by an average of 13.8% in England and 30.7% in Wales.

Using an alternative measure of income – the mean hourly earnings – and looking at the affordability of Band 3 treatments, the data suggest that affordability in Wales increased between 2007 and 2021, while in England it decreased between 2007 and 2021 (Fig. 1).

The cost of disparity in PDCs in England and Wales

When PDCs in Wales were repriced at England values, the resultant difference in revenue generated between 2010 and 2023 was -£121,000,000. In 2019 alone, the difference was -£14,499,617 (Table 5).

Discussion

While there has been much debate about units of dental activity-values (UDA) on the viability of dental practices, there has been insufficient attention to the impact of PDCs on patients, especially at a time when household finances are under strain.¹³

The most obvious finding from this retrospective analysis is the different approaches taken to PDCs by health ministers in England, Scotland and Wales. While the Department of Health and Social Care in England have regularly increased PDCs and done so largely in line with inflation, the approaches taken in Scotland and Wales have differed. In Wales, the approach taken by successive ministers for health and social services have seen only seven increases in Band 1 PDCs over 16 years. As a result, not only were PDCs lower in Wales when the NHS GDS contract was introduced in 2006, the gap with England both in nominal and inflation-adjusted terms has widened considerably. This means that in 2023, a patient earning the NLW in England would have to work for 29.44 hours to afford a Band 3 course of treatment (before at-source deductions). A Welsh equivalent would only have to earn for 19.48 hours to pay for the same course of treatment.

In this work, affordability has been related to relative ratios of PDCs to inflation and measures of income. It should, however, be borne in mind that affordability is related more to the relationship between discretionary income as a factor of disposable income and PDCs. Discretionary income is defined as post-tax money after accounting for necessary spending, defined to include: housing expenses (rent, mortgage); food; essential clothing; energy and utility costs

(including heating, cooking, hot water, utilities and rates); transport; and insurances. Dental charges would come from this element of personal finances, and because of an identified cost-of-living crisis, the proportion allocated to dental charges might be considerably higher than if related to overall income.

Comparing PDCs in Scotland with those in England and Wales is difficult given the PDC regulations and fee-per-item system (as was the case south of the border pre-2006). From Table 3, it is apparent that PDC increases in Scotland have more closely matched inflation than is the case in Wales. The greatest difference is that for a routine examination in Scotland, there is no PDC for anyone, irrespective of financial or other status. In the run up to the 2021 Scottish Parliament elections, the Scottish National Party declared an ambition to abolish NHS dental charges for all.¹⁴ While the Scottish Government has subsequently removed dental charges for all aged under 26 years, their ambition to revert to a pre-1952 scenario when there were no PDCs is yet to be realised.

Perhaps one of the reasons that PDCs have not received much attention in contract reform discussions is that while they may be a barrier to some patients accessing care, they have no direct relationship to what a contract holder earns for delivering a course of treatment. The value of UDA – the currency used to contract with practitioners – are independent of PDCs. Whether it would have been better for Welsh Government to match inflation or charges more akin to those in England and thereby recoup the millions of pounds lost that could have been reinvested in NHS dentistry needs to be weighed against the increased affordability of NHS care for those who are not exempt from PDCs, thus potentially increasing accessibility of dental care among those who have low income but are not exempt from PDCs.

It is outwith the scope of the work undertaken here but it would be worthwhile to understand how historically PDCs have varied in relation to UDAs. Concerns have been raised about the increasing disparity between the relative value of PDCs and UDAs, with dentists concerned that UDA values have not kept relative pace with increases in PDCs.

As noted, there has previously been little research on PDCs⁷ with which to make comparisons on the findings of this analysis. Dentistry (along with optometry) is unique in the imposition of NHS charges to access

care; although, there has, over the years, been a recurrent debate over the introduction of a charge to see a general medical practitioner as a means of managing demand.¹⁵ At the present time, we do not know the true extent to which PDCs really are a barrier to NHS dental care and in the immediate post-pandemic era, just finding an NHS dentist has been the challenge for many patients, irrespective of cost (PDCs or other indirect costs). More work on how the direct and indirect costs of care affect patients' access to, and utilisation of, dental services, both NHS and independent, is required. This analysis has taken a simple monetary approach to PDCs alone. A fuller analysis of cost considerations in accessing NHS dental care would necessitate consideration of the opportunity, travel and utility costs associated with going to see a dental professional.

Conclusions

Access to NHS dentistry is seen as the key priority, with PDCs being a little-discussed issue. The analysis presented in this paper demonstrates how PDCs have varied since 2007 and how, for those on the borderline between qualifying and not qualifying for free dental care, affordability may depend on where you live in relation to Hadrian's Wall or Offa's Dyke.

Ethics declaration

The authors have no conflicts of interest to declare.

This work was undertaken using publicly available data and specific research ethics was not required for this data analysis.

Data availability

The data used in this work are available from the corresponding subject to reasonable request.

Author contributions

Ivor G. Chestnutt conceived the idea, undertook data sourcing and analysis and co-wrote the manuscript.

Anwen L. Cope participated in data analysis and co-wrote the manuscript. Both authors have reviewed the manuscript and accept responsibility for its contents.

References

1. Hardman I. Fighting for Life: The Twelve Battles that Made our NHS and the Struggle for its Future. p 46. London: Viking, 2023.
2. Tidman S. UK dentistry: a timeline of events 1920–2020 – Part 2: 1946–1993. *Br Dent J* 2023; **235**: 335–343.
3. NHS England. NHS Low Income Scheme. 2023. Available at <https://www.nhs.uk/nhs-services/help-with-health-costs/nhs-low-income-scheme-lis/> (accessed November 2023).

4. NHS National Services Scotland. Dental Reform - An overview. 2022. Available at <https://www.nss.nhs.scot/dental-services/dental-reform/dental-reform-an-overview/> (accessed July 2024).
5. NHS Digital. NHS Dental Statistics for England 2018–19: Annual Report. 2019. Available at <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-dental-statistics/2018-19-annual-report-pas> (accessed December 2023).
6. StatsWales. Dental Activity data by charge band, patient type, treatment type and year. 2023. Available at <https://statswales.gov.wales/Catalogue/Health-and-Social-Care/General-Dental-Services/Current-Contract/pre-2019-20-clinical-activity/dentalactivitydata-by-chargeband-patienttype-treatmenttype-year> (accessed December 2023).
7. Dale V, Gutaker N, Bloor K. NHS dental charges and the effect of increases on access: an exploration. 2021. Available at <https://www.york.ac.uk/media/healthsciences/images/research/prepare/NHS%20dental%20charges%20and%20the%20effect%20of%20increases%20on%20access%20-%20an%20exploration.pdf> (accessed November 2023).
8. Cope A L, Chestnutt I G. The implications of a cost-of-living crisis for oral health and dental care. *Br Dent J* 2023; **234**: 501–504.
9. NHS Scotland. Statement of Dental Remuneration. 2023. Available at <https://www.scottishdental.org/professionals/statement-of-dental-remuneration/> (accessed November 2023).
10. Office for National Statistics. Inflation and price indices. Available at <https://www.ons.gov.uk/economy/inflationandpriceindices> (accessed November 2023).
11. UK Government. National Minimum Wage and National Living Wage rates. Available at <https://www.gov.uk/national-minimum-wage-rates> (accessed November 2023).
12. Office for National Statistics. Annual Survey of Hours and Earnings (ASHE). 2023. Available at <https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/annualsurveyofhoursandearningsashe> (accessed November 2023).
13. Office for National Statistics. Average household income, UK, financial year ending 2022. 2023. Available at <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householddisposableincomeandinequality/financialyearending2022> (accessed December 2023).
14. Scottish National Party. Scotland's Future SNP Manifesto. 2024. Available at <https://www.snp.org/manifesto/> (accessed July 2024).
15. Greenfield G, Majeed B, Hayhoe B, Rawaf S, Majeed A. Rethinking primary care user fees: is charging a fee for appointments a solution to NHS underfunding? *Br J Gen Pract* 2019; **69**: 280–281.



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