A consensus exercise to inform the future of National Health Service General Dental Services using a modified-Delphi technique.

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July 2024

Executive summary

This study sought to gain consensus on thirty-three statements that relate to the future provision of National Health Service, General Dental Services in Wales.

Consensus was gained using a modified-Delphi technique. This method asks respondents the degree to which they agree or disagree with the statements on a nine-point Likert scale. Consensus is achieved when more than 70% of respondents either agreed or conversely disagreed with the statement.

The statements were circulated via an on-line questionnaire to 70 general dental practitioners recruited via Local Dental Committees and Health Education and Improvement Wales. After the first distribution of the questionnaire consensus was achieved on 13 of the 33 statements. Of 20 remaining statements, one was removed from the study as changes in patient charges rendered it obsolete. The remaining 19 statements were circulated for a second time.

In line with Delphi methodology, in the second distribution, the 70 participants were shown the percentage of respondents agreeing or disagreeing with the statement during the first round. They then had the opportunity to score the statements again and to retain or change their previous scores, knowing the views of their colleagues. In the second round, 67 of those who participated in round one responded again.

The statements were then categorised into those with which there was consensus on agreement (19, Table (i)), consensus on disagreement (5, Table (ii)) and those on which consensus was not achieved (8, Table (iii)). A third round was deemed unlikely to make a difference to those statements on which there was a wide variation in views and lack of consensus.

There were no significant differences between dentists' views relating either to age or NHS contractor status (performer/provider) when it came to agreement/disagreement on the issues scrutinised.

This work provides pointers as to the current views of dentists in Wales and will hopefully inform future development of NHS General Dental Services.

Table (i). Statements on which consensus was achieved, majority agreeing.

Consensus, majority agreeing.
Tooth whitening should not be available on the NHS.
Patients are responsible for their own oral health.
Dental Care Professionals should be allowed to offer oral health advice to patients.
NHS patients should be charged for non-attendance (Did Not Attend - DNA).
Leaving aside the value of the fee, a fee per item system of remuneration is preferable to the current Banding system.
Patients presenting for an urgent appointment should pay a higher charge than when attending for a routine scheduled check-up.
Patients should pay in advance of their planned appointments for NHS dental care.
The application of fluoride varnish to all adult patients irrespective of dental caries-risk is an inefficient use of NHS resources.
Patients with moderate or severe dental pain that is not relieved by over-the-counter analgesics should be seen by a dental professional within 24 hours.
A “core” NHS dental service should offer only intra-coronal restorations, extractions and plastic dentures.
There should be a greater emphasis on directing children from the Designed to Smile programme to general dental practices for ongoing care.
Adult patients who are at low risk of dental disease (indicated by three green scores on the ACORN risk assessment tool) should not be entitled to a dental recall examination more frequently than once every 12 months.
NHS Wales should seek to enhance the availability of Level 2 providers i.e. dentists with enhanced skills at sub-specialist level.
NHS Wales should accept the concept of a “shortened dental arch” i.e. retention of anterior and premolar teeth as a priority.
Molar endodontics should not be provided by the NHS.
The focus on NHS dental care should be on prevention of disease.
Health Boards should keep a centralised waiting list for patients wanting to access NHS general dental services.
Practices should be able to claim a Did Not Attend (DNA) fee from the NHS when patients fail to attend appointments without due notice.
A greater degree of mixing NHS and private care should be possible than the regulations currently allow, e.g. patients should be allowed to make a “top-up” payment to enhance the aesthetic qualities of a crown provided via the NHS.

Table (ii). Statements on which consensus was achieved, majority disagreeing.

Consensus, majority disagreeing.
There should be greater use of remote consultations in NHS dental care.
No mixing of NHS and private dental care should be allowed. Patients should be treated either totally privately or totally via the NHS.
Dental therapists should be able to hold an NHS dental contract independent of a dental practitioner, i.e. they should be able to contract directly with Health Boards.
Patients should be allowed the flexibility to select their own recall intervals.
Patients with moderate or severe dental pain that is not relieved by over-the-counter analgesics should expect to wait up to 3 days for "face-to-face" care.

Table (iii). Statements on which consensus was not achieved and the percentage of respondents agreeing, neutral, and disagreeing on the topic.

No consensus, majority agreeing.
As a condition of training in a UK dental school, newly qualified dentists should be required to undertake a period of working in the NHS General Dental Service (beyond Foundation Training).
The concept of dental registration for NHS patients should be reintroduced.
Some argue that the concept of universal provision of NHS dental care in Wales is unaffordable. Therefore, NHS care should be provided only to children and a defined subset of the population, with for example, those earning over a predefined threshold, ineligible for NHS dental care.
Urgent NHS dental care should be arranged through dedicated Urgent Dental Care centres.
No consensus, majority disagreeing.
Associates (performers) should be able to hold their portion of the NHS contract independently and be accountable for underperformance against that contract.
Patients who are non-compliant with oral hygiene instructions should be discharged from the practice.
No consensus, majority neither agreeing or disagreeing.
Weighted capitation (i.e. a regular payment per-patient with the amount paid based on their likely dental need) is the best method of remunerating dental practitioners.
"Ring-fenced" appointments, proportionate to the size of a practice's NHS contract, should be kept available for patients seeking urgent NHS dental care.

Background and rationale

The majority of National Health Service (NHS) dental services are provided via the General Dental Service (GDS). Independent general dental practitioners, contract with the NHS via local health boards for the delivery of these services. At the present time, NHS dentistry is unable to meet the demand for care. There are multiple reasons for this as summarised in Table 1.

Table 1. A summary of issues currently affecting the delivery of NHS General Dental Services in Wales

- Current demand for NHS GDS is outstripping supply.
- The current contracting mechanism is not conducive to managing high-needs patients and has been generally regarded as not fit for purpose.
- Dentists are seeing fewer patients than was the case pre-pandemic.
- There are issues over recruitment of dentists, particularly in rural and remote areas.
- The cost-of-living crisis is affecting patient ability to afford dental care.
- A period of high Inflation after a long period of low inflation is impacting on dental practices and their costs.
- An increasing proportion of dentists are either opting out of providing NHS dentistry or are reducing their dental contract.
- Dentistry has not embraced the use of skill-mix in the way that has occurred in healthcare more generally.

At present Welsh Government is engaged in a process of NHS GDS contract reform. This is an on-going process but there are many questions that relate to the provision of NHS GDS in the future to which the answers are uncertain. These range from issues such as whether universal coverage of NHS GDS services should be maintained, to how long it is acceptable to keep patients in pain waiting for an emergency appointment to whether patients who fail to attend their appointment should be charged a fee. Knowing the consensus view of a panel of dentists on these matters will be of value to the NHS and to Welsh Government in the future provision of dental care in the Principality.

To that end, this study had the following aims.

Study Aims

The study had three aims:

- To gain consensus on questions deemed of importance to the future delivery of dental care in NHS GDS.
- To determine if there are differences in consensus between two groups of practitioners: (i) those who hold NHS GDS contracts, and (ii) those dentists who do not directly hold NHS contracts.
- To examine if views vary dependant on time since qualification.

The Delphi and modified Delphi processes

This study was conducted using a modified Delphi technique. This research process has been in existence since the 1950s and was developed by the RAND Corporation for technological

forecasting (Hasson, Keeney et al. 2000). The technique is designed to achieve agreement on issues by a group of "experts" in possession of either explicit or implicit knowledge.

The "experts" (study participants) are asked to rate their agreement with a given statement via an anonymised questionnaire survey. The results of the survey are analysed and statements on which there is agreement are removed from the questionnaire. In a second round the statements on which consensus was not achieved are circulated again, but on this occasion the participants are given feedback on the level of agreement in the previous round and offered the opportunity to change their score.

In a Delphi exercise the initial stages involve the generation of the statements on which consensus is required. In this study a modified version of the technique was employed. The statements requiring agreement were developed by the All-Wales Dental Public Health study group.

Study design

The study design is illustrated in Figure 1. Using the pre-generated statements, deemed of importance in the future delivery of dental care in Wales, the study followed standard modified-Delphi methodology (Hasson, Keeney et al. 2000, Niederberger, Köberich et al. 2021, Schmalz, Spinler et al. 2021). Non-respondents were sent a reminder to complete the questionnaire seven days after the initial mailing.

Study participants and their recruitment

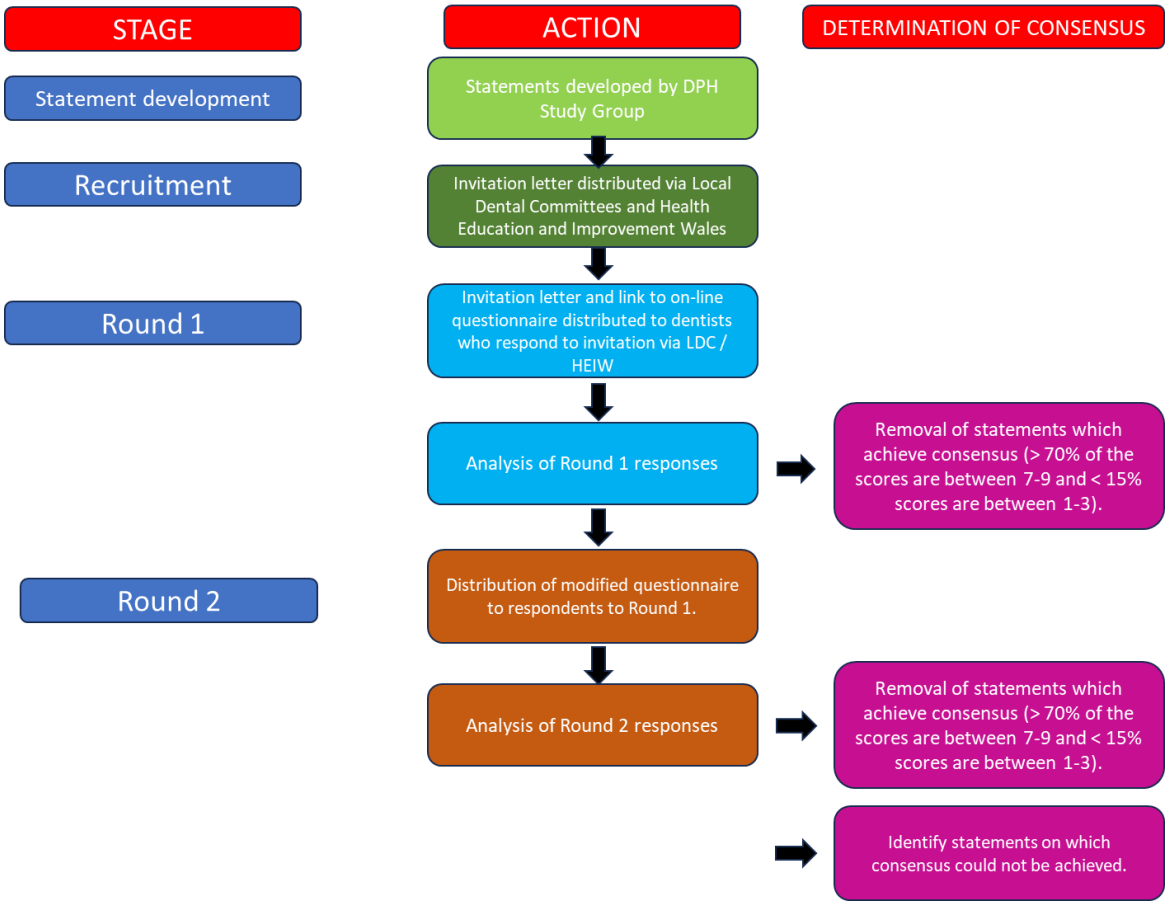
Eligible for inclusion

The study participants whose consensus was sought were general dental practitioners and dental trainees selected from two pools (i) members of Local Dental Committees (LDC) who were invited to participate via the LDC secretary, supplemented by a snowballing technique via LDC members, (ii) dentists who were participating in sub-specialty training via Health Education and Improvement Wales (HEIW).

Not included

Members of the dental team who are not dentists. Members of the public or patients.

Figure 1 Study procedures



Questionnaire

In line with the modified Delphi technique, the items on which consensus was sought were generated a priori. The items generated by the All-Wales Dental Public Health study group were peer reviewed and agreed as of relevance to the future development of the NHS GDS and provision of dental care in Wales.

The questionnaire comprised 33 statements on which consensus was determined. An open question provided respondents the opportunity to add additional comments. Finally, five questions sought demographic data which asked about the background and experience of those responding.

Questionnaire software

The study employed the Jisc (Jisc 2024) online survey tool under a Cardiff University License. This is compliant with General Data Protection Requirements and is overseen by the University's Information Technology Department.

Dissemination of the questionnaire

Potential participants were e-mailed via the LDCs and HEIW in the first instance and invited to participate in the study. Those interested in participating were invited to contact the study team. From there, they were sent a personalised link to the questionnaire.

Delphi Rounds

Whilst provision was made for three rounds of questionnaire distribution, the degree of consensus gained after two rounds was deemed unlikely to be changed significantly in a third round. The study was therefore limited to two rounds.

Number of participants

There is no agreed formula for determining the ideal number of participants in a Delphi study. Previous work has had as few as 8 participants and others into the thousands. For this exercise 70 participants were recruited for round one.

Data collection, analysis and definition of consensus.

Participants were asked to rate their strength of agreement with the given statements on a nine-point Likert scale. Consensus on agreement was defined as $\geq$ 70% of the scores for a given item are between 7-9 and $\leq$ 15% scores are between 1-3, on the 1-9 Likert scale. Consensus on disagreement was defined as $\geq$ 70% of the scores for a given item are between 1-3 and $\leq$ 15% scores are between 7-9, on the 1-9 Likert scale.

Quantitative analysis

For each item, the proportion of participants scoring each of the 9 items per statement was calculated. The response items where then trichotomized (completely disagree, strongly disagree, disagree / mildly disagree, neither agree or disagree, mildly agree / agree, strongly agree, completely agree). Consensus on agreement and disagreement as defined above was then determined.

Statements on which consensus was achieved during the first round of the exercise were removed and the remaining statements were circulated for a second time together with the average scores recorded at the first time of asking.

Differences between contract and non-contract holders were examined using Chi-square test (proportion of respondents) agreeing with a given statement between rounds. The differences in response scores by those qualified for 20 years or less were compared with those qualified for 21 years or more.

Qualitative analysis

Responses to the open question were grouped by theme and sub-themes.

Patient and public perspective.

While the results of this study are relevant to the delivery of dental care and hence to members of the public and dental patients, in this exercise we were solely seeking the views of dentists. We therefore expressly did not involve a PPI representative in this work. The questions on which consensus was being sought are technical and consensus desired from dentists' perspective in this instance.

Research Ethics

Research ethics review and approval for this work was provided by Cardiff University Dental School Research Ethics Committee (Ref. DSREC 24/05).

Results

Study participants

In total 70 dentists volunteered to participate in the study. All responded to the first round of the study and 67 (96%) responded to the second round.

The demographic characteristics of the respondents are described in Table 2. Respondents were equally distributed between those who owned (51%) and those who did not own (49%) a dental practice. Similarly, just under half (48%) of all respondents held an NHS general dental service contract, with 38% acting as a performer/associate and not holding an NHS contract.

Forty-three per cent of performers spent 26 hours or more per week providing direct NHS clinical care, with 11% not themselves providing NHS GDS care. The modal time since qualification was between 16 and 20 years. Fifty-four percent of respondents had been qualified for 20 years or less.

Consensus agreements

Consensus after the first round.

Of the 33 statements on which participants were asked to give an opinion, consensus was achieved on 13 (10 in agreement and 3 in disagreement) after the first round. That left 20 statements on which no consensus was achieved. Of these 19 were distributed in the second round. A question on increasing NHS patient charges in Wales to bring them more in line with those in England was removed. Changes made to charges in Wales in April 2024 made that statement redundant.

Consensus after 2nd round.

After the second round, consensus was achieved on a further 11 statements (nine agree, two disagree), leaving eight statements on which no consensus was achieved.

Those statements on which consensus was achieved are shown in Table 3. Those which failed to reach the threshold for consensus after two rounds are shown in Table 4.

Table 2 Demographic characteristics of the dentists who participated in the study.

Characteristic	Round 1 (% respondents)	Round 2 (% respondents)
Ownership of a Dental Practice.		
Yes	51	54
No	49	46
Capacity in which NHS Care is provided.		
I am a provider/principal and hold an NHS dental contract	48	48
I am a performer/associate and do not hold an NHS dental contract	38	37
I currently work in a trainee position within NHS dentistry	6	4
Other	9	10
Hours per week providing direct NHS clinical care (excludes time spent on administration.		
I do not provide NHS GDS clinical care	11	12
More than 0 but less than 5 hours	10	10
6-10 hours	7	6
11-15 hours	9	10
16-20 hours	10	6
21-25 hours	10	18
26-30 hours	13	15
31-35 hours	19	13
36-40 hours	10	9
More than 41 hours	1	0
Number of years qualified as a dentist.		
0-5 years	6	4
6-10 years	14	13
11-15 years	11	12
16-20 years	23	19
21-25 years	20	22
26-30 years	10	12
31-35 years	4	7
36-40 years	7	4
More than 41 years	4	4

Table 3. Statements on which consensus was achieved and the percentage of respondents agreeing, neutral, and disagreeing on the topic.

Statement	Agree	Neutral	Disagree
	% respondents[*]		
Consensus, majority agreeing.			
Tooth whitening should not be available on the NHS.	93[‡]	5	1
Patients are responsible for their own oral health.	93[‡]	7	0
Dental Care Professionals should be allowed to offer oral health advice to patients.	92[‡]	7	0
NHS patients should be charged for non-attendance (Did Not Attend - DNA).	89[‡]	10	1
Leaving aside the value of the fee for this question, a fee per item system of remuneration is preferable to the current Banding system.	86[‡]	14	0
Patients presenting for an urgent appointment should pay a higher charge than when attending for a routine scheduled check-up.	85	12	3
Patients should pay in advance of their planned appointments for NHS dental care.	84[‡]	17	0
The application of fluoride varnish to all adult patients irrespective of dental caries-risk is an inefficient use of NHS resources.	84[‡]	9	7
Patients with moderate or severe dental pain that is not relieved by over-the-counter analgesics should be seen by a dental professional within 24 hours.	82	11	6
A “core” NHS dental service should offer only intra-coronal restorations, extractions and plastic dentures.	78	15	4
There should be a greater emphasis on directing children from the Designed to Smile programme to general dental practices for ongoing care.	77	20	1
Adult patients who are at low risk of dental disease (indicated by three green scores on the ACORN risk assessment tool) should not be entitled to a dental recall examination more frequently than once every 12 months.	75	16	9
NHS Wales should seek to enhance the availability of Level 2 providers i.e. dentists with enhanced skills at sub-specialist level.	74[‡]	23	3
NHS Wales should accept the concept of a “shortened dental arch” i.e. retention of anterior and premolar teeth as a priority.	74	10	14
Molar endodontics should not be provided by the NHS.	74	7	18
The focus on NHS dental care should be on prevention of disease.	73[‡]	25	2

Health Boards should keep a centralised waiting list for patients wanting to access NHS general dental services.	73‡	17	8
Practices should be able to claim a Did Not Attend (DNA) fee from the NHS when patients fail to attend appointments without due notice.	73	16	11
A greater degree of mixing NHS and private care should be possible than the regulations currently allow, e.g. patients should be allowed to make a "top-up" payment to enhance the aesthetic qualities of a crown provided via the NHS.	71	13	15
Consensus, majority disagreeing.			
There should be greater use of remote consultations in NHS dental care.	1	8	90
No mixing of NHS and private dental care should be allowed. Patients should be treated either totally privately or totally via the NHS.	3	10	88‡
Dental therapists should be able to hold an NHS dental contract independent of a dental practitioner, i.e. they should be able to contract directly with Health Boards.	7	3	88
Patients should be allowed the flexibility to select their own recall intervals.	1	21	77‡
Patients with moderate or severe dental pain that is not relieved by over-the-counter analgesics should expect to wait up to 3 days for "face-to-face" care.	9	19	73‡

Notes:
‡Indicates that consensus was achieved after the first round.
*Data may not sum to 100 due to rounding.
Question on NHS patient charges being brought into line with those in England was removed following increase in dental charges in Wales in April 2024.

Table 4. Statements on which consensus was not achieved and the percentage of respondents agreeing, neutral, and disagreeing on the topic.

Statement	Agree	Neutral	Disagree
	% respondents[*]		
No consensus, majority agreeing.			
As a condition of training in a UK dental school, newly qualified dentists should be required to undertake a period of working in the NHS General Dental Service (beyond Foundation Training).	63	10	25
The concept of dental registration for NHS patients should be reintroduced.	62	26	10
Some argue that the concept of universal provision of NHS dental care in Wales is unaffordable. Therefore, NHS care should be provided only to children and a defined subset of the population, with for example, those earning over a predefined threshold, ineligible for NHS dental care.	57	18	23
Urgent NHS dental care should be arranged through dedicated Urgent Dental Care centres.	55	19	25
No consensus, majority disagreeing.			
Associates (performers) should be able to hold their portion of the NHS contract independently and be accountable for underperformance against that contract.	9	25	66
Patients who are non-compliant with oral hygiene instructions should be discharged from the practice.	19	31	49
No consensus, majority neither agreeing or disagreeing.			
Weighted capitation (i.e. a regular payment per-patient with the amount paid based on their likely dental need) is the best method of remunerating dental practitioners.	32	46	21
"Ring-fenced" appointments, proportionate to the size of a practice's NHS contract, should be kept available for patients seeking urgent NHS dental care.	31	40	28

[*]Data may not sum to 100 due to rounding.

Consensus views on the envisaged future of the NHS dental service.

Universal coverage

Consensus was not achieved in response to the suggestion that as universal provision of NHS dental care in Wales is unaffordable it should be restricted to children and a defined subset of the population – only 57% agreed with this position.

Prevention

There was consensus that NHS dental care should focus on prevention (73%) and near universal agreement (93%) that patients are responsible for their own oral health. However, consensus was not achieved on the suggestion that patients who were non-compliant with oral hygiene instructions should be discharged from the practice.

There was consensus that universal application of fluoride varnish to adult patients was an inefficient use of resources. Greater emphasis on directing children from the Designed to Smile programme to general dental practices for ongoing care was agreed (78%) as was the role of dental care professionals in offering oral health advice to patients (93%).

Treatment services

There was a consensus that NHS Wales should accept the concept of a shortened dental arch, that is, the retention of anterior and premolar teeth as a priority (74%). Consensus was also achieved that molar endodontics should not be provided by the NHS (74%). Respondents agreed that a "core" NHS dental service should offer only intra-coronal restorations, extractions and plastic dentures (78%). There was very high agreement (93%) that, as at present, tooth whitening should not be available via NHS general dental services.

Managing urgent care

Patients in moderate or severe pain that could not be relieved by "over-the-counter" analgesics, should be seen by a dental professional with 24 hours (82%). The suggestion that such patients could wait for up to three days was rejected (73%). There was not consensus on the idea that urgent care should be arranged through dedicated Urgent Dental Care centres. Similarly, there was no agreement that "ring-fenced" appointments proportionate to the size of a practice's NHS contract be kept available for patients seeking urgent dental care.

Consensus was achieved (71%) that Health Boards should keep a centralised waiting list of patients wanting to access NHS general dental services.

Recalled attendance

Regarding the frequency of recalled attendance there was consensus that adult patients at low risk of dental disease should not be entitled to a recall appointment more frequently than once every 12 months (75%). There was marked disagreement with the suggestion that patients should be allowed to select their own recall intervals (77%).

Funding NHS dental care

There was consensus (86%) that a fee-per-item method of remuneration was preferable to the Unit of Dental Activity (UDA) banding system. Weighted capitation as the best method of remunerating dental practitioners did not achieve consensus. Similarly, those in favour off the reintroduction of patient registration did not reach the 70% threshold required for consensus – 62% being in favour of this way of organising patient relationships with a dental practice.

It was agreed that payment in advance of their planned appointments for NHS dental care (84%) and that patients attending an urgent appointment should pay more than that due for a scheduled attendance (85%).

There was substantial support (89%) for charging patients who failed to attend an appointment, and 73% were in favour of being able to claim a fee from the NHS when patients fail to attend.

There was consensus (71%) that a greater degree of "mixing", i.e. joint funding where patients were able to supplement NHS provided care by making "top-up" payments. The example given related to patients being allowed to make an additional payment to enhance the aesthetics of a standard crown provided by the NHS. In total, 88% rejected the view that patients should be treated either totally via the NHS or privately.

Skill-mix and contacting arrangements.

Views differed on skill-mix, dependant on the scenario asked about. There was support (74%) for Level 2 providers, that is, NHS Wales should seek to enhance the availability of dentists with sub-specialist level skills. However, there was strong consensus that dental therapists should not be able to hold a dental contract directly with a Health Board, independent of a dental practitioner. Whilst not achieving consensus a majority of respondents (66%) disagreed that associates (performers) should be able to hold their portion of the NHS contract independently and be accountable for underperformance against the contract.

Expectations of newly qualified dentists.

There was not consensus that as a condition of training in a UK dental School, newly qualified dentists should be required to undertake a period of work in the NHS general dental services beyond foundation training.

Remote consultations

There was strong consensus against (90%) the greater use of remote consultations in NHS dental care.

Differences of views by characteristics of the respondents.

Chi-square analysis was conducted to determine differences in views of the respondents in relation to two variables, time since qualification and whether they held an NHS dental contract (that is were a provider rather than a performer). Relevant statements thought likely to elicit different responses according to these variables were examined. However, no significant differences were observed. As an example, no significant differences were observed between those holding NHS contracts and those not holding such contracts when asked whether, "Associates (performers) should be able to hold their portion of the NHS contract independently and be accountable for underperformance against that contract" (Table 5).

Table 5. Comparison of views between those holding an NHS dental contract (provider) and those not holding an NHS dental contract (performers) on whether performers should be able to hold their portion of the NHS contract independently and be accountable for underperformance against that contract.

Statement		**Capacity in which care is provided**	
		Provider N (%)	**Performer or other N (%)**
Associates (performers) should be able to hold their portion of the NHS contract independently and be accountable for underperformance against the contract.	Disagree	18 (26.1)	12 (17.4)
	Neither agree or disagree	10 (14.5)	20 (29.0)
	Agree	5 (7.2)	4 (5.8)
	Total[ψ]	**33 (47.8)**	**36 (52.2)**

Differences not statistically significantly different.
[ψ]Data for one respondent missing.

Response to open questions

Further views on statements enquired about

Participants were given the opportunity to comment on the statements they had been asked to score. A number of themes emerged from this question.

Some respondents pointed out that it was difficult to be precise in answering the questions as there were nuances that could not be captured in the issues on which they were being asked to agree or disagree with. However, many commented that issues that the exercise addressed were sensible and of relevance.

Many open comments related to finance and it was generally recognised that the monies available were insufficient to fund care for all who could benefit. To varying degrees, respondents were accepting of the idea of what can and cannot be provided and to whom should be made more explicit. The idea of NHS dental care not being available to all was seen as an anathema to some, one describing the suggestion as "disgusting".

The concept of tying-in recent graduates to the NHS was viewed by several respondents as unacceptable. The other issues which elicited further comments was that of allowing

performers to hold and be responsible for their share of a contract. How this could be made to work was commented on in depth.

That some patients just want to attend on an ad hoc / "when in trouble" basis was also raised, and a system that can cope with such pattern of service use was deemed desirable.

There were also several respondents who went into detail about various aspects of prevention and the ethical duty that the profession had to look after those unwilling or unable to look after themselves.

Overall, the general sense of the open comments was accepting of a need for change. There were few respondents who looked back with rose-tinted glasses or imagined that there was a past from which services had come that could be returned to.

Views on issues not enquired about

Respondents were also asked about issues they thought relevant that had not been enquired after in the survey. This elicited responses on several themes.

Greater definition of what can and cannot be made available and educating the public on that was an issue, as was the need to pilot any further reforms of the NHS GDS contracting mechanism.

Several respondents queried whether the Community Dental Service and their premises were being used to their full potential.

The dental contracts and system for monitoring the contracts were felt to be unnecessarily complex. One respondent noted that whilst dental practices were inspected and regulated more than ever in the past, the one thing that is not sufficiently monitored is the quality of clinical care provided. Views were expressed that no/short notice inspections focusing on clinical quality were required.

Importing oversees qualified dentists was not seen as a solution to the problems currently faced by the NHS GDS.

Working conditions and specifically the (poor) remuneration of dental nurses was raised, as were pension arrangements for members of the dental team other than dentists.

Spend in relation to current population size and not historical spend was also raised as a concern.

The poor prospects in NHS GDS for young dentists with no clear pathway for career progression and only the option to fund postgraduate training via subsidies from their private work was raised.

Finally, the cost of laboratory work was also raised with one respondent suggesting that patients should pay their lab bill outside the NHS system.

Discussion

The methodology

The Delphi technique has been widely used in research and is regarded as an acceptable means of gaining consensus on a given topic by individuals knowledgeable in the field being investigated. The advantage of the methodology is that respondents are given a chance to revise their initial score considering the position taken by colleagues. This is regarded as a more sophisticated means of obtaining views on a subject that a conventional opinion survey.

As to what constitutes consensus, this varies but an accepted standard is $\geq$ 70% of the scores for a given item are between 7-9 (agree, strongly agree, completely agree) and $\leq$ 15% scores are between 1-3 (disagree, strongly disagree, completely disagree) on the 1-9 Likert scale. The converse applies to items on which there is consensus on disagreement. The strength of opinion can be gauged by the percentage agreeing or disagreeing although it should be borne in mind that as items which reach consensus after the first round are withdrawn for the second round, it is not appropriate to rank all items solely on the percentage agreement. Items gaining consensus agreement after round one might achieve an even higher score had they been subject to review in the second round.

There is no consensus on the number of participants required to participate in a Delphi exercise, previous studies having had as few as eight, whilst others have involved over one thousand participants. The demographics of the participants in the present study suggest that these represent a good cross section of dentists in Wales and the views expressed are thought to be representative of the dental profession in Wales as a whole.

Responses

General dental practitioners are independent contractors and some of the views are as might be expected – after all, dentists must secure the financial viability of their businesses for their continued sustainability to deliver care for patients and employment for them and their staff. Answers around financial aspects are therefore unsurprising. However, views on many of the issues asked about were genuinely unknown and this work provides a valuable insight to inform the future organisation and delivery of the service.

Differences relating to respondent demographics

It could be hypothesised that some of the statements that we posed might have elicited different responses from younger compared with older practitioners. However, that proved not to be the case and for all statements it was not possible to discern differences in responses relating to either age or contractor status.

Author's Commentary - What should the NHS provide?

It can be argued that there is currently insufficient resource (both money and clinicians) to provide universal dental care on a population basis. However, there is unlikely to be substantial new injections of cash into the general dental service. Indeed, on a local basis however, a lack of funding may not the major issue. Rather, flaws in the current contract make it insufficiently attractive to both attract and retain practitioners and to deliver care for high needs patients.

In this exercise no consensus was reached as to whether NHS dental care should therefore be provided to only children and a defined subset of the population. This is understandable given that most respondents rely on the NHS for their income. It seems logical however that if dentists are to be paid a greater fee for looking after high needs patients, then fewer patients can be seen within a defined and non-increasing cash ceiling. Only 57% of respondents agreed with this position.

The question therefore remains, should the NHS seek to formally agree who is and who is not entitled to NHS dental care based on need or ability to pay (i.e. explicit rationing of services)? The alternative is the current default approach where entitlement to care is supposedly universal but in reality, is down to where you live, the length of local waiting lists and ability to navigate the system. This is another form of rationing but is inherently implicit in nature.

A long-time ethos of reforming NHS dental care has been the need for greater emphasis on prevention and this was generally accepted by respondents, although there was a consensus that the universal application of certain preventive treatments may be inefficient. This would indicate support within the GDS for targeted prevention. For example, directing children from the school-based national oral health programme, *Designed to Smile*, to general practice was favourably received and this is an element of the programme that could be progressed.

The Steele Report (2009) on the future of general dental services, included a model where only those patients who were compliant with oral hygiene instructions and selfcare should be entitled to more advanced restorative procedures. There was not however, a consensus that patients failing to comply with oral hygiene instruction be removed from a dental practice, which seems reasonable and equitable since this may be influenced by favours outside the patient's control.

Whilst there was not consensus on restricting to whom NHS dental care should be provided, consensus was more readily reached on restriction of the items of care that should be provided under NHS GDS ("clinical rationing"). Respondents reached consensus on the concept of a shortened dental arch and the removal of molar endodontics from state-funded care. These, plus agreement on what a "core" service should include, may provide commissioners with ideas on how limited resources may be used to limit what can be provided. This would formalise what in everyday practice happens by default.

At a time when access to dental care is problematic, this exercise has provided useful insight into how practitioners think urgent (emergency) dental care should be organised. There was agreement on how quickly urgent care should be delivered. However, recent initiatives or suggestions that patients be directed to Urgent Dental Care centres or that practices should be required to reserve appointments for emergency dental care in relation to the magnitude of their NHS contract were not supported. There was consensus that a greater fee should be payable for an urgent than a scheduled appointment. While this approach may be seen to favour regular

attenders, those most likely to attend in pain are those who are least likely able to afford dental care.

Related to regular attendance the frequency of recalled attendance is of relevance. In Wales low risk patients as judged by green scores on the ACORN risk assessment toolkit are not entitled to attend for a “check-up” more frequently than once every 12 months and this was supported. Disagreement with patients selecting their own recall intervals is also an important finding, supportive of demand management.

The future arrangements for securing NHS general dental services relate to how dentists are paid and the fundamentals of different contracting mechanisms. There was strong consensus that fee per item was viewed as preferable to the Unit of Dental Activity method of contracting, but weighted capitation, whereby payment would relate to patient need failed to reach consensus.

When the current contracting arrangements were introduced in 2006, charging for failure to attend a scheduled appointment was prohibited, much to the displeasure of many practitioners. There was strong consensus for the reintroduction of charges for patients who fail to attend their appointment. There is however, evidence that this may exacerbate oral health inequalities. Also reaching a consensus view was that the NHS should be liable to pay a fee to the dentist in these circumstances.

It has been argued that failure to adopt a skill-mix approach has hindered effective delivery of care, and that protectionism on the part of dentists towards the greater use of dental therapists and dental hygienists has limited their potential. In the present work, while there was agreement on the expansion and greater use of Level 2 providers, there was strong consensus that dental therapists should not be able to contract directly with Health Boards or hold their own contract. Similarly, a majority were against associates (performers) holding and being responsible for underperformance on their portion of a contract.

Regarding younger dentists, views have been expressed that there should be a “tie-in” to NHS dentistry. NHS England have consulted on this issue recently, saying it did not apply to medicine but did to dentistry because of the cost of training dentists. However, as far as the Welsh dentists taking part in this exercise are concerned, consensus was not achieved that a period of work in the NHS should be mandated in addition to foundation training.

Finally, there was strong disagreement on the greater use of remote consulting. During the COVID-19 pandemic there was much interest and suggested scope for the greater use of tele-dentistry. This work suggests that that is not an avenue for which there is any degree of enthusiasm amongst most dentists in Wales.

Conclusions

There are strong indicators of the pressure NHS general dental services are under. However, declarations that the “end is nigh” are unfounded; every year in Wales over 1.35 million individuals receive free or state-subsidised care However, the current system is failing to retain its clinical workforce and prioritise care for those with the greatest need.

The new contract will not be a panacea. What is happening in dentistry is a microcosm of our state-funded healthcare system more widely. The increasing burden of disease, cost of care and public expectations of health mean that the model of state-funded healthcare from the 1960s is not relevant to the challenges or expectations of the 2020s. We are seeing a growing mismatch between expectations of dental care vs. what the state can provide. Private dentistry has been willing and well placed to fill this gap, and the result is a growing and profitable sector. The NHS cannot provide private dentistry and nor should it. The best, most equitable use of NHS dental resource would be to provide timely and high-quality care for those without recourse to private alternatives.

This work provides pointers to the current views of dentists in Wales and will hopefully inform what is possible in the future.

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