



WELSH DENTAL SURVEY
OF 18-25 YEAR OLDS
YEARS 1 & 2 MAIN REPORT

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Executive summary

This report presents the findings from a survey of the dental health of 18-25-year olds living in Wales conducted during 2017-2019, individuals in a range of purposively selected community settings, including:

- Expectant and new parents
- Emergency dental service (EDS) users
- Active – fitness and leisure service users / sports club members
- Education and Training – in Education / in Training
- General dental service (GDS) users
- Vulnerable groups – not in education, employment or training (NEETs) / Prince's Trust / Youth Offender in detention

Three fifths (776/1279) of participants were female; two fifths were employed, one third reported that they were still in education and approximately one fifth were unemployed. Those taking part were less likely to have a degree and more likely to have left school with GCSEs, but no further qualifications, than their peers in the 18-24 age group as reported by StatsWales in 2017.

Compared with findings from the other settings there were lower levels of educational attainment and higher levels of unemployment were experienced by those from the expectant and new parents and the vulnerable groups. Both groups reported having poorer general health, reflecting the pattern of greater social deprivation among these oral health survey participants.

27% (341/1280) reported smoking cigarettes; these participants were more likely to report poorer experience of general health status. In contrast those who were physically active were most likely to report good or very good general health.

43% of those surveyed when asked to give a self-report of their oral health status indicated that it was "fair" or worse; considerably higher than self-reports of similar aged ADHS 2009 participants (26%). Emergency dental service users and expectant and new parents were more likely to report "bad" or "very bad" oral health.

62.4% (799/1280) of participants reported that they brushed their teeth both morning and evening, every day. Less frequent brushing was associated with poor oral hygiene.

23.1% (284) showed moderate to severe gum inflammation. Poorer gingival health status was experienced by expectant and new parents, those attending emergency dental services and vulnerable groups. There were also relationships between good oral hygiene and healthy gums, which is in turn related to frequency of brushing the teeth.

Just under a quarter (23.9%) of all participants were free of visually obvious decay. This means they have no visually obvious sign on decayed teeth or of presence of fillings (someone with fillings has visually obvious sign of past decay). Prevalence of visually obvious decay ranged from 40.4% for those in the Active Group to 8.3% for emergency dental service users. Expectant and new parents and GDS users also had low percentages for this characteristic, at 14.8% and 18.1% respectively.

Open pulps (P), traumatic ulceration (U), fistulae (F) and abscesses (A) are all potential advanced complications of dental caries; the prevalence of each was 6.6%, 1%, 2.1% and 4.6% respectively. Approximately a quarter of participants reported experiencing pain in the mouth on the day of participation. Not surprisingly, most of the experience related to PUFA and mouth pain was present in the emergency dental service user group.

In terms of accessing NHS dentistry, for those who did not have a dentist (n=575/1280) but had tried to make an appointment to see one:

- 12% obtained an appointment with the first NHS dental practice they approached
- just over a quarter made 2-4 attempts to secure an appointment
- and 12.5% needed 5 or more attempts to secure an appointment.

Experiences of dental anxiety were similar to those reported for the same age group in the 2009 ADHS. 45% of those surveyed reported experiencing low levels of dental anxiety according to the Modified Dental Anxiety Scale (MDAS), with 42% reporting moderate and 13% reporting high levels. But, emergency dental service users, expectant and new parents and those in education/training were more likely to report experiencing higher levels of dental anxiety.

The findings of this report of selected groups of 18-25-year olds living in Wales are available to be used to inform health needs assessment and future planning of dental and dental health promotion services in Wales.

SURVEY SAMPLE

This report presents analyses for a survey of the dental health of 18-25-year olds living in Wales, across two survey years 2017-2019, covering a range of purposively selected community settings/groups. One of the settings included was emergency dental services; where people attend for urgent dental care, but for whom there is currently little information on their oral health status. The second group, for whom we currently have little information are expectant or new parents¹. In addition to their own dental care needs, this group are key to the dental health of the next generation. Data for these two groups was collected in 2017-18, Survey Year 1 and reported in an interim report in 2019.

In 2018-19, Survey Year 2, community dental service personnel in Health boards examined 18-25-year olds in a range of local settings which fitted with the Health Board priorities and local opportunities for data collection. Data from a broad range of settings (see Demography below) have been aggregated for analysis as follows:

- Active (n=260)
- In education or training (n=216)
- General dental service user (n=116)
- Vulnerable Groups (n=125)

This survey was undertaken using convenience samples who were available in local settings. Health boards were asked to attempt to examine 50 individuals in each local setting. They were dependent on cooperation of the services hosting them and willingness of those service users to participate. Health Boards were asked to sample 2 settings in 2017/18 and 2 or 3 settings in 2018/2019.

Table 1 Survey sample by health board

AREA	No. surveyed Year 1	No. surveyed Year 2	Total
Aneurin Bevan	110	185	295
ABMU	52	156	208
Betsi Cadwaladr	96	124	220
Cwm Taf	81	100	181
Cardiff & Vale	75	0	75
Hywel Dda	78	100	178
Powys	20	103	123
WALES	512	768	1280

¹ referred to as "Potential parents" in the Tables and the Provisional report for Year 1

Table 1 illustrates the breakdown of the sample examined by health board. 20 out of 22 unitary authorities (UAs) were represented in the 1280 individuals. Data on the breakdown by UA are not presented because some areas had fewer than five participants.

Limitations of this survey

Because the sampling method was not randomised from a sampling frame there are likely to be some differences between the findings of this survey and the “true” picture across Wales. We do not know what proportion of the Welsh 18-25 population fall into each of the settings, so we cannot use weighting of data to estimate Welsh average findings. There is also a risk that participants who volunteered are different from the target group in the wider Welsh population (volunteer bias), for example more of the dentally anxious may have chosen not to take part.

Given the limitations of the sampling method and risk of volunteer bias, comparative data from other sources is included in this report to triangulate findings against those of the wider population found in previous surveys. Despite the sampling limitations, the data was collected contemporaneously using the same data collection method. Therefore, it is reasonable to compare findings across the various settings to explore similarities and differences.

DEMOGRAPHY

Settings

Each health board was expected to collect data from emergency dental service users and (potential) parents in Year 1 of data collection. The latter group included adults attending antenatal and postnatal groups. In Year 2 health boards selected locally appropriate settings where access could be obtained. The settings have been aggregated where necessary for meaningful analyses, as follows:

- (potential) Parents (mainly expectant with a few new parents)
- Emergency dental service (EDS) users
- Active – fitness and leisure service users / sports club members
- Education and Training – in Education / in Training
- General dental service (GDS) users
- Vulnerable groups – not in education, employment or training (NEETs) / Prince’s Trust / Youth Offender in detention

Gender

Overall, there were more females participating than males (60% versus 40%, Table 2). This was true for all settings except active and vulnerable groups. There was a much larger proportion of females in the potential parent’s group.

Table 2 Participant gender

GROUP	Gender		TOTAL
	Female	Male	
(potential) Parents	278	20	298
Emergency dental	149	115	264
Active	88	172	260
Education/Training	129	87	216
GDS user	81	35	116
Vulnerable group	41	84	125
WALES	766	513	1279

National identity

The survey questionnaire asked about ethnicity, the question reflected the Office of National Statistics categories as used for the 2011 census; but as fewer than 5 participants responded to most of the categories it is only possible to report on broad national identity groupings.

Breakdown of participants by self-reported national identity is shown in Table 3; most participants identified themselves as British (1189/1280 responded “English, Welsh, Scottish, Northern Irish, or British”).

Out of 1280 individuals there were 91 (7.1%) who identified as having non-white ethnic backgrounds. This data is presented to permit comparison with the proportion reported by the annual population survey for Wales (4.7%)¹.

Table 3 Participants self-reported national identity

Identifies as:	British	Any other self-reported national identity	Total
(potential) Parents	279	19	298
Active	242	18	260
Education/Training	198	18	216
Emergency dental	248	17	265
GDS user	107	9	116
Vulnerable group	115	10	125
TOTAL	1189	91	1280

British (including Welsh, English, Scottish, Northern Irish, British)

Employment Status

Table 4 presents data on the self-reported employment status of participants. The unemployed group in this table refers to those not in employment, education or training and is therefore broader than claiming job seekers allowance.

Table 4 Employment status of survey participants

SETTING	(potential) Parents	Active	Education/ Training	Emergency dental	GDS user	Vulnerable group	Total	%
Employed	152	124	16	141	54	40	527	41.2
In Education	22	110	184	51	30	16	413	32.3
In Training	4	9	16	6	4	4	43	3.4
Unemployed	111	9	0	65	27	65	277	21.6
Other (parenting, running own business)	9	8	0	2	1	0	20	
Total	298	260	216	265	116	125	1280	

Just over 21.6% (277) of all participants said they were unemployed. This is a higher figure than the 13.9% unemployment among similar 16-24-year olds reported by the Annual Population Survey in September 2018². It is similar though to the 23.8% of the Welsh population reported as economically inactive in 2017 by NOMIS³. Unemployment rates were in the mid-20s % range for those in education or training, emergency dental service users, and general dental service users. Those who were physically active were least likely to be unemployed (3.5%). Expectant and new parents (summarised as “Potential parents” in the tables, 37.5%) and vulnerable groups (52%) were much likely to be unemployed than the Welsh population aged 18-25.

Education Status

Table 5 highlights the educational qualifications of participants described in terms of degrees, 'A' levels, GCSEs and leaving school prior to taking GCSEs. In terms of National Vocational Qualifications (NVQs) degrees relate to level 4 and above, 'A' levels are at level 3 and GCSE grades are levels 1 (D-F) and 2 (A-C). The Active and GDS users' groups were more likely to have degree qualifications whereas the Vulnerable group was more likely to have left school before GCSEs (Table 5, $\chi^2= 97.7$, $df=12$, $p=0.001$).

Table 5 Educational status of those not in education and excluding the Education/Training group

Education Status	(potential) Parents	Active	Emergency dental	GDS user	Vulnerable group	Total	%
Degree	27	38	22	22	16	125	15.5
A levels	100	66	65	30	25	286	35.4
GCSEs	129	32	100	27	43	331	41.0
Pre GCSEs	13	2	25	3	23	23	2.8
Total	269	138	212	82	107	808	

Table 6 describes the national overview from StatsWales⁴. Comparing these tables, participants in this survey were less likely to have a degree and more likely to have left school with GCSEs and no further qualifications than their peers in the 18-24 age group (Tables 5 & 6).

Table 6 Educational qualifications for 18-24-year olds in Wales

Qualifications	%
NVQ 4 or above (Degree)	23.1
NVQ 3 (A levels/BTEC level 3)	39.1
NVQ 0-2 (qualifications up to GCSEs)	34.1
No qualifications	3.7

Source: StatsWales 2017⁴

GENERAL HEALTH and RISK FACTORS

General Health

Table 7 provides data on self-reported general health status of participants in the Wales Oral Health Survey of 18-25-year olds alongside the 16-24 year-old data from the National Survey for Wales (2017-18)⁵.

Table 7(i) General Health Status – response by number

Wales Oral Health Survey of 18-25-year olds						
General Health Status						
Number reporting:	Very Good	Good	Fair	Bad	Very Bad	Total
(potential) Parents	78	180	37	3	0	298
Active	127	123	9	1	0	260
Education/Training	49	117	45	4	1	216
Emergency dental	77	135	49	4	0	265
GDS user	34	66	13	2	1	116
Vulnerable group	42	61	19	2	1	125
All participants	407	682	172	16	3	1280

Table 7(ii) General Health Status – response by percentage

Wales Oral Health Survey of 18-25-year olds					
General Health Status					
Percentage reporting:	Very Good	Good	Fair	Bad	Very Bad
(potential) Parents	26.2	60.4	12.4	1.0	0.0
Active	48.8	47.3	3.5	0.4	0.0
Education/Training	22.7	54.2	20.8	1.9	0.5
Emergency dental	29.1	50.9	18.5	1.5	0.0
GDS user	29.3	56.9	11.2	1.7	0.9
Vulnerable group	33.6	48.8	15.2	1.6	0.8
All participants	31.8	53.3	13.4	1.3	0.2
National Survey for Wales 16-24-year olds⁵	51	32	13	0	0

The findings in Table 7 show self-reported general health across the settings. Those who were physically active were most likely to report good or very good general health (Table 7).

Smoking

Smoking tobacco is a risk to oral health as well as general health. Both periodontal (gum) disease and oral cancer are smoking related diseases. The National Survey for Wales (2016-17) reports that 20% of 16-24-year olds are smokers and 6% of 16-24 year olds use e-cigarettes on a daily basis⁵. The National Survey does not identify the proportion who use both cigarettes and e-cigarettes.

Table 8 (i) Smoking Status of survey participants – by number

Number using:	Wales Oral Health Survey of 18-25-year olds					Total
	Smoking status					
	Cigar/ Pipe	Cigarettes	Cigarettes & E- cigarettes	E- Cigarettes	None	
(potential) Parents	0	80	0	7	211	298
Active	0	24	0	4	232	260
Education/Training	1	44	0	11	160	216
Emergency dental	0	121	2	11	131	265
GDS user	0	24	0	4	88	116
Vulnerable group	0	48	0	5	72	125
TOTAL	1	341	2	42	894	1280

Table 8 (ii) Smoking Status of survey participants – by percentage

Percentage using:	Wales Oral Health Survey of 18-25-year olds				
	Smoking status				
	Cigar/ Pipe	Cigarettes	Cigarettes & E-cigarettes	E- Cigarettes	None
(potential) Parents	0	27	0	2	71
Active	0	9	0	2	89
Education/Training	0	20	0	5	74
Emergency dental	0	46	1	4	49
GDS user	0	21	0	3	76
Vulnerable group	0	38	0	4	58

Tables 8i & ii show a larger proportion of survey participants smoking cigarettes (26.6%, 341/1280) than in the wider 16-24 Welsh population. This reflects the behaviours of 18-25-year olds amongst vulnerable groups, expectant and new parents and emergency dental service users in particular. A decade ago, the 2009 Adult Dental Health Survey (ADHS) reported that 32% of 16-24-year olds were smoking cigarettes (at a time when e-cigarettes were not widely available, and when smoking was more common). This survey reported 30.1% smoking cigarettes and/or e-cigarettes (385/1280). Worryingly more than a quarter (27%) of the mainly female expectant/new parents were cigarette smokers.

Table 8 (iii) Smoking Status versus general health status

		Non smoker	Smoker (any type)	Total	% smokers
General Health	Bad or worse	8	11	19	57.9
	Fair	88	84	172	48.8
	Good or better	798	291	1089	26.7
Total		894	386	1280	

($\chi^2= 41.5$, $df=2$, $p<0.001$)

Of note is that those reporting fair or worse general health status were more likely to be smokers (Table 8iii).

Alcohol

Alcohol is another common risk factor for both general and oral health, in the latter case oral cancer is the significant oral disease. The National Survey for Wales reports that 82% of 16-24-year olds drink alcohol⁵.

Table 9 Alcohol drinking

	Wales Oral Health Survey of 18-25-year olds - Alcohol use			
	Yes	%	No	%
(potential) Parents	73	24.5	225	75.5
Active	226	86.9	34	13.1
Education/Training	149	69.0	67	31.0
Emergency dental	157	59.2	108	40.8
GDS user	75	64.7	41	35.3
Vulnerable group	93	74.4	32	25.6

Table 9 shows lower levels of alcohol consumption amongst all groups except the active group. There were much lower levels of self-reported alcohol consumption amongst expectant and new parents. Some of this latter group will be pregnant. The combination of alcohol and smoking cigarettes amplifies the risk of developing oral cancer, especially when a large number of units of alcohol are drunk. This combination is displayed by 17.5% (224/1280) of those surveyed (Table 10).

Table 10 Smoking status and drinking alcohol status

Smoking Status	Drinks Alcohol		Total
	No	Yes	
No	345	549	
Yes	162	224	
Total			1280

Sugary drinks

35.6% (456/1280) of participants indicated that they have sugary drinks as their most frequently consumed beverage (Table 11). 56.5% reported drinking sugar free drinks most frequently. 7.9% (101/1280) of responses to this question, categorised as “other”, were not codable as sugar free or sugar containing based upon the response given.

16% (208/1280) of survey participants report that they most frequently consume carbonated (and not sugar free) drinks (Table 11). This is in line with the findings of a 2013/14 survey of teenagers in Wales⁷.

Table 11 In a typical day what do you drink most frequently?

DRINK TYPE	Number of participants
Carbonated	208
Tea with sugar	147
Coffee with sugar	96
Cordial/Squash	2
Energy drinks	1
Juice	2
SUGARY DRINK TOTAL	456
Water	538
Tea without sugar	69
Sugar free carbonated	41
Coffee without sugar	39
Milk	33
Beer/Wine	3
SUGAR FREE DRINK TOTAL	723
Other	101
Total	1280

ORAL HEALTH STATUS

Self-reported dental health

Table 12 presents self-reported dental health status for each group. Emergency dental service users and expectant and new parents were more likely to report “bad” or “very bad” oral health.

It is worth comparing these findings with the 79% reporting “good” or “very good” oral health in the 2009 ADHS for those aged 16-24⁶. Responses for all settings were below 74% using this benchmark.

ONS data has shown that younger parents are more likely to be single parents bringing up children alone⁸. This group is therefore more likely to be socio-economically disadvantaged compared with two parent households and suggests that expectant and new parents aged 18-25 would have poorer oral health than the wider population.

Table 12(i) Self-reported dental health status – response by number

Wales Oral Health Survey of 18-25 year olds						
Dental Health Status						
Number reporting:	Very Good	Good	Fair	Bad	Very Bad	Total
(potential) Parents	29	139	88	35	7	298
Active	53	139	59	8	0	259
Education/Training	30	105	66	15	0	216
Emergency dental	18	64	113	47	23	265
GDS user	13	56	35	8	4	116
Vulnerable group	28	55	29	12	1	125
All survey participants	171	558	390	125	35	1279

Table 12(ii) Self-reported dental health status - response by percentage

Wales Oral Health Survey of 18-25 year olds						
Dental Health Status						
Percentage reporting:	Very Good	Good	Fair	Bad	Very Bad	Total
(potential) Parents	10	47	30	12	2	100
Active	20	54	23	3	0	100
Education/Training	14	49	31	7	0	100
Emergency dental	7	24	43	18	9	100
GDS user	11	48	30	7	3	100
Vulnerable group	22	44	23	10	1	100
All survey participants	13.4	43.6	30.5	9.8	2.7	

Brushing status and oral hygiene

The ADHS 2009 found that 69% of 16-24-year olds were brushing their teeth twice a day or more frequently⁶. Whereas only 62.4% (799/1280) of participants in the Welsh dental survey of 18-25-year olds were brushing their teeth both morning and evening everyday (Table 13).

Table 13 Brushing frequency in morning and evening (all participants)

		Brush teeth morning				Total
		Every Day	4 or More Times a Week	3 or Fewer Times a Week	Never	
Brush Teeth Evening	Every Day	799	37	13	11	860
	4 or More Times a Week	120	34	7	2	163
	3 or Fewer Times a Week	107	22	33	2	164
	Never	69	8	10	6	93
Total		1095	101	63	21	1280

Oral Hygiene was assessed by the examining dentist and graded from “very good” to “very poor” using the plaque index of Silness and Loe. Overall, emergency dental service users showed the poorest oral hygiene followed by the expectant and new parents group. The Active group respondents had the best oral hygiene scores followed by those in Education/Training.

Table 14 (i) Oral hygiene status by setting – by number

Wales Oral Health Survey of 18-25 year olds			
Oral Hygiene Status			
Number of:	Good or better	Fair	Poor or worse
(potential) Parents	157	96	45
Active	209	45	5
Education/Training	145	44	24
Emergency dental	117	89	59
GDS user	72	27	17
Vulnerable group	73	37	15

Table 14 (ii) Oral hygiene status by setting – by percentage

Wales Oral Health Survey of 18-25 year olds Oral Hygiene Status			
Percentages of:	Good or better	Fair	Poor or worse
(potential) Parents	52.7	32.2	15.1
Active	80.7	17.4	1.9
Education/Training	68.1	20.7	11.3
Emergency dental	44.2	33.6	22.3
GDS user	62.1	23.3	14.7
Vulnerable group	58.4	29.6	12.0

Table 15 Oral hygiene status by morning toothbrushing frequency

			BrushTeethMorning				Total
			Every Day	4 or More Times a Week	3 or Fewer Times a Week	Never	
Oral Hygiene Status	Poor or worse	Count	100	29	26	10	165
		% within Oral Hygiene Status	60.6%	17.6%	15.8%	6.1%	100.0%
	Fair	Count	271	38	23	6	338
		% within Oral Hygiene Status	80.2%	11.2%	6.8%	1.8%	100.0%
	Good or better	Count	720	34	14	5	773
		% within Oral Hygiene Status	93.1%	4.4%	1.8%	0.6%	100.0%
All Participants	Count	1091	101	63	21	1276	
	% within Oral Hygiene Status	85.5%	7.9%	4.9%	1.6%	100.0%	

Chi square = 135.7, df = 6, p=0.0001

The relationship between self-reported frequency of brushing of teeth and the oral hygiene assessment of the examining dentist is explored in Tables 14 and 15. More frequent brushing in the morning was associated with better oral hygiene and less frequent brushing with poorer oral hygiene (Table 14). Even so 34% (371/1091) of those who said they brushed every morning demonstrated fair or worse oral hygiene. Evening brushing (Table 15) demonstrated a similar but less stark pattern (Table 15).

Table 16 Oral hygiene status by evening toothbrushing frequency

			BrushTeethEvening				Total
			Every Day	4 or More Times a Week	3 or Fewer Times a Week	Never	
Oral Hygiene Status	Poor or worse	Count	74	19	46	26	165
		% within Oral Hygiene Status	44.8%	11.5%	27.9%	15.8%	100.0%
	Fair	Count	201	53	55	29	338
		% within Oral Hygiene Status	59.5%	15.7%	16.3%	8.6%	100.0%
	Good or better	Count	581	91	63	38	773
		% within Oral Hygiene Status	75.2%	11.8%	8.2%	4.9%	100.0%
All Participants	Count	856	163	164	93	1276	
	% within Oral Hygiene Status	67.1%	12.8%	12.9%	7.3%	100.0%	

Chi square = 94.0, df = 6, p=0.0001

Gingival Health

41.7% (530) of survey participants had healthy gums, and just over a third showed mildly inflamed gums (35.2%, 448). The remaining 23.1% (284) showed more severe gum inflammation. Poorer gingival health status (Gingival Index, Loe & Silness as used by ADHS) was experienced by expectant and new parents, those attending emergency dental services and vulnerable groups ($p=0.0001$, Table 17).

Table 17 Gingival health status by setting

Gingival Health		SETTING						Total
		(potential) Parents	ACTIVE	Education/ Training	Emergency Dental	GDS user	Vulnerable group	
Normal healthy	Number	89	157	105	79	58	42	530
	% within setting	30.0%	60.4%	49.8%	29.8%	50.0%	34.1%	41.7%
Mild inflammation	Number	125	76	76	94	30	47	448
	% within setting	42.1%	29.2%	36.0%	35.5%	25.9%	38.2%	35.2%
Moderate inflammation	Number	59	25	21	63	24	29	221
	% within setting	19.9%	9.6%	10.0%	23.8%	20.7%	23.6%	17.4%
Severe inflammation	Number	24	2	9	29	4	5	73
	% within setting	8.1%	0.8%	4.3%	10.9%	3.4%	4.1%	5.7%
All within setting	Number	297	260	211	265	116	123	1272
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi square = 112.8, df = 15, $p=0.0001$

There were also relationships between good oral hygiene and healthy gums (Table 18, $\chi^2 = 878.7$, $df=6$, $p=0.000$, statistically significant), which is in turn related to frequency of brushing the teeth (Tables 14 and 15). These findings are in line with the evidence base for gingival health and highlight the opportunities for improved oral hygiene and gingival health amongst 18-25-year olds in Wales.

Table 18 Relationship of gingival health and oral hygiene on day of participation

		Normal healthy	Mild	Moderate	Severe	All	
Oral Hygiene Status	Poor or worse	Count	1	22	79	60	162
	% within GingivalHealth		0.2%	4.9%	35.7%	82.2%	12.7%
	Fair	Count	30	172	123	12	337
	% within GingivalHealth		5.7%	38.4%	55.7%	16.4%	26.5%
	Good or better	Count	498	254	19	1	772
	% within GingivalHealth		94.1%	56.7%	8.6%	1.4%	60.7%
All	Count	529	448	221	73	1271	
	% within GingivalHealth		100.0%	100.0%	100.0%	100.0%	100.0%

Chi square = 878.7, df = 6, $p=0.0001$

DENTAL CARIES

Table 19 presents data on decayed and restored teeth for all those who took part in the survey; data presented by setting is presented in Table 20.

Overall, 43.7% of participants had experience of Decayed Teeth (DT) with an average of 1.6 DT per person (Table 19). This ranged from 21.2%, with an average of 1.8 DT per person, for those in the Active group to 76.6%, with an average of 3.5 DT per person, for emergency dental service users (Table 20). The emergency dental service users are much more likely to have active decay and more decayed teeth.

64.7% of participants had experience of filled teeth (FT) with an average of 2.3 FT per person. This ranged from 53.2% for those in Education and Training (closely followed by those in the Active group, 54.2%) to 81% for users of the GDS (Table 20). Whilst the latter group had more fillings, they also experience lower levels of decay – reflecting their contact with dental services.

The proportion of all participants who were free of visually obvious decay was 23.9%. This means they have no visually obvious sign on decayed teeth or of presence of fillings (someone with fillings has visually obvious sign of past decay). Prevalence of visually obvious decay ranged from 40.4% for those in the Active Group to 8.3% for emergency dental service users. It is important to note that expectant and new parents and GDS users had low percentage of this characteristic at 14.8% and 18.1% respectively (Table 20).

Tables 19 and 20 also refers to those who had decayed teeth, filled teeth and advanced restorations (DAFT). Advanced restorations include crowns, bridge abutments and veneers. These made up only a small proportion of the burden of restoration of teeth (DAFT score – DFT score).

Table 19 Dental caries and advanced restoration experience all participants

All participants (n=1280)

Indicator	% with	Mean	mean for those with
Active caries (DT)	43.67	1.60	3.67
Filled Teeth (FT)	64.69	2.30	3.56
Free of visually obvious decay	23.91		
DFT	76.09	3.91	5.13
DAFT*	76.64	3.97	5.18
ADVANCED	3.83	0.06	1.59

***DAFT = Decayed, Advanced restored and simple Filled Teeth**

Table 20 Dental caries experience by setting

SETTING	Indicator	% with	Mean	mean of those with
(potential) Parents (n=298)	active_caries	45.64	1.31	2.87
	SIMPLE_FILLED	74.83	2.63	3.52
	Free of visually obvious decay	14.77		
	DFT	85.23	3.94	4.62
	DAFT	85.91	4.03	4.69
	ADVANCED	6.38	0.09	1.37
ACTIVE (n=260)	active_caries	21.15	0.39	1.84
	SIMPLE_FILLED	54.23	1.82	3.35
	Free of visually obvious decay	40.38		
	DFT	59.62	2.21	3.70
	DAFT	60.38	2.32	3.83
	ADVANCED	3.46	0.11	3.11
Education/ Training (n=216)	active_caries	33.33	0.75	2.26
	SIMPLE_FILLED	53.24	1.75	3.29
	Free of visually obvious decay	35.19		
	DFT	64.81	2.50	3.86
	DAFT	65.74	2.53	3.85
	ADVANCED	2.31	0.02	1.00

Table 20 Dental caries experience by setting (continued)

SETTING	Indicator	% with	Mean	mean of those with
Emergency Dental (n=265)	active_caries	76.60	3.45	4.50
	SIMPLE_FILLED	67.92	2.49	3.66
	Free of visually obvious decay	8.30		
	DFT	91.70	5.93	6.47
	DAFT	91.70	5.96	6.50
	ADVANCED	2.26	0.03	1.33
GDS user (n=116)	active_caries	37.07	1.39	3.74
	SIMPLE_FILLED	81.03	3.38	4.17
	Free of visually obvious decay	18.10		
	DFT	81.90	4.77	5.82
	DAFT	81.90	4.78	5.84
	ADVANCED	1.72	0.02	1.00
Vulnerable Group (n=125)	active_caries	40.00	2.58	6.44
	SIMPLE_FILLED	60.00	2.10	3.51
	Free of visually obvious decay	30.40		
	DFT	69.60	4.68	6.72
	DAFT	70.40	4.75	6.75
	ADVANCED	6.40	0.07	1.13

PUFA

Open pulps (P), traumatic ulceration (U), fistulae (F) and abscesses (A) are all potential advanced complications of dental caries. The prevalence of each characteristic was as follows:

Open pulps (P)	6.6% (85/1280)
Traumatic ulceration (U)	1% (12/1280)
Fistulae (F)	2.1% (27/1280)
Abscesses (A)	4.6% (57/1280)

Given the much higher prevalence of caries amongst emergency dental service users seen in Table 20, the higher incidence of PUFA conditions amongst this group compared with all survey participants (Tables 21 & 22) is not surprising. The only combination 3 or more characteristics of PUFA in the same individuals was for open pulp, fistula and abscess. As Comparing Tables 21 and 22 highlights that the great majority of PUFA experience was among emergency dental service users.

Table 21 Numbers of advanced complications of dental caries, all survey participants

	ALL SURVEY PARTICIPANTS n=1208			
	Open Pulp	Traumatic Ulceration	Fistula	Abscess
Open Pulp	55	0	11	14
Traumatic Ulceration		10	0	2
Fistula			5	5
Abscess				30
Open pulp, fistula and abscess = 5				

Table 22 Numbers of advanced complications of dental caries in EDS users

	EMERGENCY DENTAL SERVICE USERS n=265			
	Open Pulp	Traumatic Ulceration	Fistula	Abscess
Open Pulp	37	0	2	14
Traumatic Ulceration		6	0	2
Fistula			1	3
Abscess				19
Open pulp, fistula and abscess = 3				

PAIN

The commonest reason for people attending for emergency dental care is relief of pain. Table 23 demonstrates this clearly.

Table 23 Pain or other problems on day of participation

Setting		Pain	Problem with Eating	Broken Filling	Other Problem	None	All within setting
(potential) Parents	Number	31	27	12	26	202	298
	%	10.4%	9.1%	4.0%	8.7%	67.8%	100.0%
ACTIVE	Number	12	7	4	19	218	260
	%	4.6%	2.7%	1.5%	7.3%	83.8%	100.0%
Education/Training	Number	15	15	8	11	167	216
	%	6.9%	6.9%	3.7%	5.1%	77.3%	100.0%
Emergency dental	Number	229	7	8	15	6	265
	%	86.4%	2.6%	3.0%	5.7%	2.3%	100.0%
GDS User	Number	18	5	2	4	87	116
	%	15.5%	4.3%	1.7%	3.4%	75.0%	100.0%
Vulnerable Group	Number	10	4	1	3	107	125
	%	8.0%	3.2%	0.8%	2.4%	85.6%	100.0%
All within Pain or Other Problem category	Number	315	65	35	78	787	1280
	%	24.6%	5.1%	2.7%	6.1%	61.5%	100.0%

Chi square = 754.1, df = 20, p=0.0001

DENTAL ACCESS

Table 24 provides a full picture of how survey participants have secured a routine dental appointment over the previous year. Unsurprisingly GDS users were more likely to already have a dentist whilst those in the Vulnerable group were most likely not to have tried to secure a dental appointment.

Table 24 Effort required to secure a dental appointment in the previous year

Setting		Already Had NHS Dentist	First Tried	Made 2 to 4 Visits/Calls	Made 5 or More Visits /Calls	Not Tried	All within setting
(potential) Parents	Number	145	16	40	12	85	298
	%	48.7%	5.4%	13.4%	4.0%	28.5%	100.0%
ACTIVE	Number	206	1	4	3	46	260
	%	79.2%	0.4%	1.5%	1.2%	17.7%	100.0%
Education/Training	Number	139	4	24	3	46	216
	%	64.4%	1.9%	11.1%	1.4%	21.3%	100.0%
Emergency dental	Number	44	44	79	42	56	265
	%	16.6%	16.6%	29.8%	15.8%	21.1%	100.0%
GDS User	Number	102	4	2	7	1	116
	%	87.9%	3.4%	1.7%	6.0%	0.9%	100.0%
Vulnerable Group	Number	69	1	8	5	42	125
	%	55.2%	0.8%	6.4%	4.0%	33.6%	100.0%
All within attempts to make a dental appointment last year	Number	705	70	157	72	276	1280
	%	55.1%	5.5%	12.3%	5.6%	21.6%	100.0%

Chi square = 423.301, df = 20, p=0.0001

Table 25 compares the efforts taken to obtain a dental appointment amongst those who did not already have an NHS dentist but have tried to make an appointment. Across the six groups 12% obtained an appointment with the first NHS dental practice they approached. Just over a quarter of participants made 2-4 attempts to secure an appointment and 12.5% needed 5 or more attempts to secure an appointment.

Table 25 Effort required to secure a dental appointment in the previous year

Setting		First Tried	Made 2 to 4 Visits/Calls	Made 5 or More Visits/Calls	Not Tried	All within setting
(potential) Parents	Number	16	40	12	85	153
	%	10.5%	26.1%	7.8%	55.6%	100.0%
ACTIVE	Number	1	4	3	46	54
	%	1.9%	7.4%	5.6%	85.2%	100.0%
Education/Training	Number	4	24	3	46	77
	%	5.2%	31.2%	3.9%	59.7%	100.0%
Emergency dental	Number	44	79	42	56	221
	%	19.9%	35.7%	19.0%	25.3%	100.0%
GDS User	Number	4	2	7	1	14
	%	28.6%	14.3%	50.0%	7.1%	100.0%
Vulnerable Group	Number	1	8	5	42	56
	%	1.8%	14.3%	8.9%	75.0%	100.0%
All within attempts to make a dental appointment last year	Number	70	157	72	276	575
	%	12.2%	27.3%	12.5%	48.0%	100.0%

Chi square = 135.1, df = 15, p=0.0001

DENTAL ANXIETY - MDAS

In this survey data on dental anxiety was captured using the modified dental anxiety scale (MDAS). Of those surveyed, 45% reported experiencing low levels of dental anxiety according to MDAS, with 42% reporting moderate and 13% reporting high levels (Table 26). Emergency dental service users, expectant and new parents and those in education/training tended to be more anxious (Table 26).

Table 26 Dental anxiety by setting

		MDAS Score			
		0-9 - low anxiety	10-18 - moderate anxiety	19 and over - high anxiety	All within setting
(potential) Parents	Number	125	132	41	298
	%	41.9%	44.3%	13.8%	100.0%
ACTIVE	Number	148	92	20	260
	%	56.9%	35.4%	7.7%	100.0%
Education/Training	Number	76	110	30	216
	%	35.2%	50.9%	13.9%	100.0%
Emergency dental	Number	107	105	52	264
	%	40.5%	39.8%	19.7%	100.0%
GDS User	Number	54	48	14	116
	%	46.6%	41.4%	12.1%	100.0%
Vulnerable Group	Number	66	49	10	125
	%	52.8%	39.2%	8.0%	100.0%
All within MDAS category	Number	576	536	167	1279
	%	45.0%	41.9%	13.1%	100.0%

Chi square = 41.5, df = 10, p=0.0001

In 2009 amongst 16-24-year olds the UK ADHS reported 55% with low anxiety, 31% with moderate anxiety and 13% with high anxiety⁹.

NEXT STEPS

This report concludes the initial analysis of findings from the first two years of data collection from 18-25-year olds in Wales. Further analysis of this data alongside data will follow in due course. When this is completed details will be posted via the [WOHIU](#) website, under the Projects tab.

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