



Foundation Report: Adult Dental Health Survey 2009 (Technical information)



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Ian O' Sullivan

Introduction

The 2009 Adult Dental Health Survey (ADHS) is the fifth in a series of national dental surveys that have been carried out every ten years since 1968. The main purpose of these surveys, which include a questionnaire based interview and clinical examination, has been to get a picture of the dental health of the adult population and to monitor changes in dental health over time. The 2009 survey covers the adult population in England, Wales and Northern Ireland and has been commissioned by the NHS Information Centre for health and social care (NHS IC): Scotland decided not to participate in the 2009 survey. This survey was conducted by the Office for National Statistics (ONS) in consortium with the National Centre for Social Research (NatCen), the Northern Ireland Statistics Research Agency (NISRA), and a team of dental experts from the Universities of Birmingham, Cardiff, Dundee, Newcastle and University College London.

The first ADHS was conducted in 1968 in England and Wales by the then Government Social Survey Unit and the London Medical College Dental School¹. This survey was the first of its kind in the UK and it provided baseline information on the state of adults' dental health within 20 years of the National Health Service (NHS) being set up. The 1968 survey had a sample size of 2,932 adult interviews and 2,658 dental examinations, and established that 37 per cent of adults in England and Wales were edentulous². A similar survey was conducted in Scotland in 1972 by the Office for Population, Censuses and Surveys (OPCS) with the Scottish Dental Schools³, and the first survey of adult dental health in Northern Ireland was conducted in 1979⁴.

A second ADHS was conducted in England and Wales in 1978⁵, and in 1988 the survey was extended to include adults in Scotland and Northern Ireland providing estimates for the whole of the United Kingdom⁶. In the 1988 survey the OPCS worked in consortium with the Community Dental Health Unit at the University of Birmingham and the Department of Child Dental Health at the University of Newcastle-upon-Tyne.

By the time of the fourth survey in the series in 1998⁷, the OPCS had merged with the Central Statistical Office (CSO) to form the Office for National Statistics (ONS). This survey was managed by ONS in collaboration with Dental Schools at the Universities of Birmingham, Dundee, Newcastle and Wales, and the Central Survey Unit at NISRA. For the first time in the survey series the interview and examination data were recorded using computer-assisted interviewing (CAI); prior to that paper questionnaires and coding charts were used. Most of the questions included in the 1998 survey were the same as those in 1988 survey in order to measure changes in dental experiences, attitudes and behaviours. However, there were some changes to the clinical criteria in order to take account of changes in the relative importance of different aspects of dental health. The most significant changes to the examination were the assessment of decay and tooth wear. The achieved sample size in 1998 was 6,204 adult interviews and 3,817 dental examinations.

1. Survey development

1.1 Aims and objectives

The 2009 survey was commissioned by the NHS IC on behalf of the Department of Health, the Welsh Assembly Health Department, and the Department of Health, Social Services and Public Safety in Northern Ireland. As with previous surveys the purpose of the 2009 ADHS was to provide information on the state of adults' teeth and dental health and to measure changes in dental health over time. The specific aims of the survey were to;

- establish the condition of the natural teeth and supporting tissues;
- investigate dental experiences, knowledge about and attitudes towards dental care and oral hygiene;
- determine the state and use made of dentures worn in conjunction with natural teeth;
- examine changes over time in dental health, attitudes and behaviour;
- monitor the extent to which dental health targets set by the government are being met.

Previous surveys have provided a wealth of high quality data that have been especially valuable for assessing national trends. However, much of the questionnaire and clinical data has been of limited value to the NHS especially in terms of the information needs of Primary Care Trusts. The 2009 ADHS was designed specifically to provide more relevant and appropriate information to NHS dental commissioners, based on feedback from user consultation. In addition to dental commissioners, the results of this survey will be utilised by a wide range of academics including clinical specialists, public health experts, trade associations such as the British Dental Association, and patient groups.

1.2 Overview of the survey design

As with previous surveys the 2009 survey consisted of an interview with all adults at a sampled address and a subsequent clinical examination of the teeth and supporting gum structures; only adults with at least one natural tooth were invited to participate in the dental examination. All of the interviews and examinations were conducted in the homes of those respondents who consented and were eligible. A total of 75 dental examiners, the majority of whom were NHS salaried service dentists, worked on the survey, and the clinical data was recorded by the interviewer who had conducted the initial interview. Interviewers entered the clinical codes called by the dentist directly into their laptops for each examined adult.

The survey ran for two ten-week field periods: the first from October to December 2009 and the second from January to April 2010.

1.3 Sample

A two-stage cluster sample was used for the survey comprising of 253 primary sampling units (PSU) across England and Wales, and a further 15 PSUs in Northern Ireland. Each PSU consisted of two postcode sectors with 25 addresses sampled from each giving a total sample of 13,400 addresses. Postcode sectors were paired together to help reduce the effects of clustering and increase the diversity of the population within each PSU. The pairing of neighbouring postcode sectors also helped reduce the design effect. The size and design

of the survey was determined by the need to provide data that are representative at a national level (England, Wales and Northern Ireland) but also at the level of each Strategic Health Authority (SHA) in England. In each of the ten English SHAs and in Wales, 1,150 addresses were sampled (23 PSUs in each SHA), while 750 addresses (15 PSUs) were sampled in Northern Ireland. ONS and NatCen shared the fieldwork in England and Wales; ONS were responsible for 127 PSUs and NatCen the remaining 126 PSUs. Data collection for all 15 PSUs in Northern Ireland was conducted by NISRA.

All of the quotas⁸ were allocated roughly equally across the two ten week field periods and the dentists were allocated packages of examining work based on their location and the location of the sampled quotas. Not all dentists were able to work in both field periods, however when a dentist was available for both field periods their quotas were split between ONS and NatCen to ensure that each dentist in England and Wales worked with both fieldwork organisations, but in separate fieldwork periods.

1.4 Questionnaire and clinical examination review

The Invitation to Tender for the ADHS specified very broad topic areas to be included in the interview and clinical examination, however an opportunity to review the content of both instruments was also provided. All members of the survey consortium contributed to discussions about the optimum content of the interview and clinical examination; however responsibility for reviewing the questionnaire content was shared by ONS and the Universities of Birmingham and University College London. The review process included a reflection on the data required by NHS dental commissioners, consideration of the behavioural risk factors relevant to dental risk markers and disease, speculation on the factors that might hinder attendance for regular dental check-ups and how best to establish availability of and access to NHS dental services.

The review of the clinical examination criteria was led by the Universities of Dundee and Cardiff. Of particular importance to this review were those new conditions that had been identified in the years since the last ADHS and the clinical practices necessary to identify and record them.

1.5 Stakeholder engagement

In addition to the intellectual contribution of the consortium members, key stakeholders were engaged in a comprehensive consultation process as part of the review of the questionnaire and clinical examination. The main aim of this process was to ensure that the data collected were relevant and of value to the NHS. The consultation process was led by members of the survey consortium from University College London and included a series of six focus groups and a consultation survey which was sent to various stakeholders from across England, Wales and Northern Ireland.

The focus groups were conducted between February and March 2009 at venues in London, Cardiff, Newcastle, Manchester, Birmingham and Belfast. Approximately 100 stakeholders from a diverse range of professional backgrounds participated, including consultants and trainees in dental public health, commissioning leads, dental practice advisors, Local Care Direct representatives, clinical directors from the NHS salaried service, the Chief and Deputy Chief Dental officers for England, Wales and Northern Ireland, British Dental Association

representatives and several dental researchers. The sessions utilised a topic guide to structure discussions which were audio recorded and subsequently analysed to identify relevant themes. The results of the consultation were considered by the steering group that oversaw the design and implementation of the survey. This process ensured that the data requirements of key stakeholders have been put at the heart of the current ADHS.

The consultation survey was sent to 105 consultants in dental public health across the UK; responses were received from 45. In addition, 16 professional organisations were also sent the questionnaire and responses were received from three. The questionnaire required stakeholders to rate how useful they thought different areas of the 1998 interview and examination were and also to indicate if they felt particular sections of the interview or examination were too detailed. In addition stakeholders were asked to indicate if they felt new topic areas should be added to the current questionnaire and examination.

1.6 Questionnaire content

The final content of the 2009 ADHS questionnaire was rather different to the 1998 survey interview, although many key questions were maintained to ensure comparability with previous years. One of the biggest changes to the interview was the exclusion of most of those questions about total tooth loss. With fewer and fewer people reporting total loss of natural teeth it was felt that including questions specifically for the edentate was of limited value. Instead edentate adults were asked questions that in previous surveys were only asked to dentate adults. This included the questions on Oral Health Impact Scale (OHIP)⁹ and questions on the impact of oral health problems. In addition new questions were included in the 2009 survey on;

- experience of and access to NHS and private dental services;
- incidence of dental anxiety (assessed by the Modified Dental Anxiety Scale – MDAS¹⁰);
- rating the dental practice at the last visit;
- communication with the dentists at last visit;
- barriers to attending for dental examinations;
- health status and dietary consumption.

Socio-demographic questions on educational attainment, income and employment status were also included however the specific questions used to capture these data were different from those used in 1998. Finally, questions on the respondent's ethnicity were also included on the survey. All of the socio-demographic questions included on the survey were part of the Harmonized Primary Standards for social surveys. These are questions that are used on nearly all major government social surveys. Appendix 1 contains details of the full interview questionnaire, including the routing instructions.

1.7 Examination criteria

The 2009 examination criteria were designed to be consistent with previous surveys and included the following modules;

- condition of teeth and coronal surfaces;
- condition of root surfaces;

- functional contacts¹¹;
- spaces, aesthetics and dentures;
- periodontal examination¹².

In addition, based on developments in clinical practice and changes in information needs since 1998 the following were also included;

- the PUFA index¹³ which records symptoms of sepsis in permanent dentition using a simple 3-point scoring system;
- the Basic Erosive Wear Examination (BEWE), an internationally agreed classification of tooth wear (this was collected on the survey in the West Midlands SHA only);
- the Basic Periodontal Exam (BPE), which assesses advanced gum disease, (collected on the survey for the South Central SHA only).

Two other significant changes were also made to the 2009 examination procedures. Firstly, previous surveys included medical screening questions designed to elicit whether survey participants had a history of rheumatic fever, endocarditis and valvular heart disease, and also whether they had any artificial joints (e.g. knee, hip replacements). If any of these conditions applied, the periodontal examination was not carried out. For the present survey, following guidance from NICE that a dental examination, including periodontal probing, does not pose a risk to patients with a history of rheumatic fever or other cardiac disorders, this screening was omitted. Secondly, this time dental examiners were asked to give feedback to all participants at the end of each examination. This is contrary to previous surveys when feedback was only given where serious pathology was suspected. This simple feedback was given verbally and in writing, following one of four standard formats, based on the examiner's assessment of the participant's oral health and treatment needs. The criteria and protocols for the 2009 examination are documented in full in Appendix 2.

1.8 Dental examiners

The majority of the dentists who worked on the survey were recruited from the NHS dental salaried services¹⁴. Recruitment of the dentists was conducted by the University of Newcastle and a total of 77 were recruited, the majority of whom were full-time employees.

Dental examining was planned so that all the dentists would work with either an interviewer team from ONS or NatCen during a single field period, and then with a team from the other data collection organisation during the subsequent field period. Most of the dentists recruited for the survey worked in several PSUs and therefore completed a considerable amount of examining for the survey.

1.9 Ethical review

The ADHS Invitation to Tender specified that it was a requirement for the survey to uphold ethical principles and to be ethically approved from a relevant research ethics committee. To meet this obligation the ADHS consortium reflected carefully on all potential ethical issues and ensured that the research was conducted in keeping with the Code of Practice for Official Statistics comprising principles including relevance, integrity, quality and data access and confidentiality. In addition, the consortium also worked within the Government Social

During the development of the survey, the interview and clinical examination were both subject to rigorous testing in order to establish that neither was inappropriately intrusive, and that respondents did not experience unnecessary burden or anxiety. This testing included a comprehensive review of the questionnaire content and data collection protocol, and a dress rehearsal with interviewer and dental examiner feedback on the interviewee experience. Additionally, to ensure that the proposals for the survey achieved the highest ethical standards the consortium sought ethical advice and approval from an NHS Research Ethics Committee.

ONS led on gaining approval on all aspects of the survey and a single application was submitted via the NHS Research Ethics System (NRES) covering the survey in England, Wales and Northern Ireland. The application was submitted to the Oxford B Research Ethics Committee in April 2009 and formal approval of all aspects of the survey, including data collection protocol, questionnaire content, consent procedures, clinical examination content, and respondent feedback procedures, was received in June 2009. Approval for the protocol by which the NHS dental examiners were to be recruited and trained on the bespoke dental examination was also obtained.

1.10 Dental examiner training

As part of their training all of the dental examiners attended one of three training events. Each of the training events was held over four days in ONS Newport and included the following elements;

- a detailed review of the clinical criteria for the dental examination using a CD-ROM designed specifically for the survey;
- practice examinations, using volunteer subjects recruited at the ONS and the Intellectual Property Office, Newport.
- joint briefings with interviewers on working procedures, computer-assisted data capture and examining in a domestic context;
- a calibration exercise (see Appendix 3 for full details of the ADHS calibration exercise).

Full cross-infection precautions were taken at all times during the training examinations and feedback was given to all volunteer subjects.

The first training event for examiners was held in June 2009 and only those examiners working on the dress rehearsal, conducted in July 2009, attended. The subsequent two training events were held in September 2009 (allowing for any alterations to be made to the clinical examination criteria following the dress rehearsal).

1.11 Interviewer Training

All three fieldwork organisations conducted briefings for their interviewers prior to the start of fieldwork. Interviewers working on the dress rehearsal were briefed in June 2009, and following the dress rehearsal, all other interviewers were briefed in September 2009; this

ensured that feedback from interviewers working on the dress rehearsal was taken into account before the main survey. All briefings included an overview of the content of the ADH questionnaire, how to complete the consent forms for the dental examination and for data linkage, and how to explain the purpose and content of the survey to respondents.

Feedback from interviewers prior to the briefings showed that the dental examination was the area they were most uncertain about because of it appearing to be different to their regular interview work. In order to address these concerns, sessions were run to allow interviewers to practice coding a dental examination. This process involved a pre-filled paper version of the dental examination being read out to the interviewers to simulate a dentist reading out the relevant codes as they were conducting an actual ADH dental examination. Each interviewer entered the codes into their laptop in the same way they would if they were recording an examination during mainstage fieldwork. This allowed the interviewers to experience the work required of them during the dental examination prior to recording an actual ADH dental examination.

1.12 Dress rehearsal

As part of the development and planning of the survey a dress rehearsal of the new questionnaire and clinical examination was conducted in July 2009. The dress rehearsal ran for four weeks in a total of eight areas in England, Wales and Northern Ireland. Within each of the areas 50 addresses were sampled giving a total sample size for the dress rehearsal of 400 addresses. ONS and NatCen conducted the fieldwork in England and Wales, and NIRSA conducted the fieldwork in Northern Ireland. The main aims of the dress rehearsal were to;

- test the fieldwork protocol and provide an indication of the optimum method for coordinating the dental examinations between the interviewers and dental examiners;
- provide a quantitative indication of how the survey (interview and examination) performed in a live setting, including an audit trail of the interview and examination lengths; indicative respondent burden; response and conversion to dental examination rates; and uptake of a request for data linkage.

For the dress rehearsal the PSU was a single postcode sector in each of the eight areas; single postcode sectors were used to reduce travelling time between addresses over the shorter field period. The specific sectors were chosen to ensure that the survey was tested in two urban areas (Southport and Newcastle), two rural areas (South Staffordshire and Beaconsfield), two areas in London (Ealing and Croydon), one in Wales (Newport) and one in Northern Ireland (Crookstown, Belfast). A total of 16 interviewers from the three data collection agencies worked on the dress rehearsal and all these interviewers were trained on the survey procedures in advance of the dress rehearsal. In order to meet the clinical objectives for the dress rehearsal, eight dentists were recruited to act as examiners on the dress rehearsal. All of these dentists were trained at ONS Newport on the clinical examination procedures and they were all calibrated in order to minimize variations clinical coding. Eight of the interviewers also attended the training event and they were trained in how to enter the clinical data directly into the examination programme on a laptop.

Of the 400 addresses sampled for the dress rehearsal 85 per cent were eligible for inclusion in the survey; 62 addresses were ineligible because they were hotels, shops or vacant

properties. The dress rehearsal was not designed to give statistically robust indicators of response rate, however from the 338 eligible households approached 197 participated; a household response rate of 58 per cent. Within the cooperating households, 414 adults were eligible for the survey and 73 per cent (n = 303) participated. As expected the vast majority of respondents to the interview were eligible for the examination with only nine per cent (n = 26) having none of their own natural teeth. The total number of dentate adults eligible for the examination was 277 from which 192 (69 per cent) consented. Not all of these individuals were examined however, 149 examinations were completed (54 per cent), and for the remaining 43 (16 per cent) it was not possible to get an examiner to convert the appointment.

Table 1

Table 1 Adult Dental Health Survey 2009 Dress Rehearsal - response rates by country

<i>England, Wales, Northern Ireland 2009</i>		
Response categories	All areas	
	N	%
Sample of addresses		
Number of selected addresses	400	100
Addresses containing eligible households	338	85
Ineligible addresses	62	15
Household response		
All eligible households	338	100
Responding households	197	58
Refusals	83	25
Non-contact	30	9
Other non-response	28	8
Individual response within households		
Adults in contacted households	414	100
Interviewed adults	303	73
No interview obtained	111	27
Interview response		
Interviewed adults	303	100
Interviewed dentate adults	277	91
Interviewed edentate adults	26	9
Dental examination response		
Adults eligible for examination (dentate)	277	100
No consent given	85	31
Examination consent given	192	69
Examination performed	149	54
No dental examination after giving consent	43	16

The dress rehearsal metrics also indicated that both the survey interview and clinical examination could be completed within reasonable time limits; the mean interview length was 29 minutes and the average for the clinical examination was 20 minutes. Finally, feedback from both the interviewers and dentists who worked on the dress rehearsal indicated that there were no major problems in conducting the interview or clinical examination. Interviewers reported that the questionnaire flowed well and that respondents did not seem to struggle with any of the questions, while the dentists reported that the examination was relatively easy to practice in the field.

2. Survey operations

2.1 Field work procedures

The household sample for the ADHS was drawn from the Postal Address Finder (PAF) and an advance letter was sent from each data collection organisation approximately two weeks before fieldwork commenced. The advance letter introduced the survey and clarified that an interviewer would be calling to discuss it within a short period. This letter was followed up by another from the interviewer in advance of making contact at the sampled address. In order to minimize non-contacts (householders not contactable) all the interviewers were instructed to call at addresses on different days and at different times of the day.

As part of the briefing for the survey all interviewers were instructed on how to encourage participation in the survey to potential respondents, but were also instructed that participation was voluntary. Upon making contact with potential respondents the interviewers were instructed to provide a full explanation of the purpose and nature of the survey, and to answer any questions they may have had, to ensure that their decision to participate or not was a fully informed one.

Each interviewer and dentist team met for two hours prior to fieldwork starting to discuss availability and how appointments would be communicated throughout the fieldwork period.

Both the interview and the examination data were collected using CAPI. The interview and the examination were both incorporated into the same CAPI instrument, which was transmitted electronically to each interviewer prior to the commencement of each fieldwork period. Automated checks were put into the CAPI instrument to ensure that examination data could only be entered once a questionnaire had been completed, and the respondent had given their consent for the examination to proceed.

2.2 Response rates

The fieldwork for the main survey was completed in two field periods between October and December 2009, and January to April 2010. Each field work period was ten weeks although there was a slight extension to fieldwork in the second field period due to the severe weather in January and February 2010. In advance of both field periods all interviewers were briefed on the survey and the dentists attended a training event on the clinical examination.

A total of 13,400 addresses were sampled for the survey the vast majority of which were eligible for inclusion (n = 12,054); 10 per cent (1,346 addresses) were ineligible either because the address was a business, vacant, or a second home. Overall household response rate was 60 per cent (n = 7,233); 4,821 households (40 per cent) either refused to participate or were non-contactable. Household response rates varied across the SHAs, the highest was achieved in Yorkshire and The Humber and East Midlands SHAs (64 per cent each) and the lowest in the London (50 per cent). In Northern Ireland the achieved household response rate was 69 per cent and in Wales it was 63 per cent.

Tables 2 and 3

The total number of individuals invited to participate in the survey interview was 13,509, of which 11,380 (84 per cent) participated. Of these individuals, 813 (seven per cent) were not eligible for the examination because they were edentate. From the remaining 10,567 eligible respondents, a total of 6,469 (61 per cent) individual dental examinations were completed. A further 1,504 (14 per cent) individuals consented to take part in the examination but it was not possible to get a dental examiner to see them within the field work period.

Table 2

With the exception of London SHA and Northern Ireland, interviews were conducted with least 876 adults in each SHA; the highest individual response rate (86 per cent) was observed in the East Midlands and East of England SHAs, and in Wales. The highest rate of total tooth loss was observed in Wales, where 11 per cent of interviewed adults reported having no natural teeth and the lowest was recorded in South Central (three per cent). The greatest number of examinations were conducted in the East Midlands SHA (n= 707) but the highest examination conversion rate was achieved in the South West SHA (70 per cent). The lowest number of examinations were conducted in London (n=400) but the lowest examination conversion rate was observed in Wales, with only 47 per cent of eligible adults completing the dental examination.

Tables 2 and 3

Table 2 Adult Dental Health Survey 2009 response rates by country

England, Wales, Northern Ireland 2009

Response categories	Country							
	England		Wales		Northern Ireland		All	
	N	%	N	%	N	%	N	%
Sample of addresses								
Number of selected addresses	11,500	100	1,150	100	750	100	13,400	100
Addresses containing eligible households	10,416	91	1,003	87	635	85	12,054	90
Ineligible addresses	1,084	9	147	13	115	15	1,346	10
Household response								
All eligible households	10,416	100	1,003	100	635	100	12,054	100
Responding households	6,157	59	635	63	441	69	7,233	60
Refusals	3,456	33	307	31	132	21	3,895	32
Non-contact	386	4	27	3	42	7	455	4
Other non-response	417	4	34	3	20	3	471	4
Individual response within households								
Adults in contacted households	11,477	100	1,164	100	868	100	13,509	100
Adults interviewed	9,663	84	998	86	719	83	11,380	84
No interview obtained	1,814	16	166	14	149	17	2,129	16
Interview response								
Interviewed adults	9,663	100	998	100	719	100	11,380	100
Interviewed dentate adults	9,017	93	888	89	662	92	10,567	93
Interviewed edentate adults	646	7	110	11	57	8	813	7
Dental examination response								
Adults eligible for examination (dentate)	9,017	100	888	100	662	100	10,567	100
No consent given	2,059	23	354	40	181	27	2,594	25
Examination consent given	6,958	77	534	60	481	73	7,973	75
Examination performed	5,622	62	415	47	432	65	6,469	61
No dental examination after giving consent	1,336	15	119	13	49	7	1,504	14

Table 3 Adult Dental Health Survey 2009 response rates by English Strategic Health Authority

England: 2009

Response categories	English Strategic Health Authority																					
	North East		North West		Yorkshire & the Humber		East Midlands		West Midlands		East of England		London		South East Coast		South Central		South West		All	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Sample of addresses																						
Number of selected addresses	1,150	100	1,150	100	1,150	100	1,150	100	1,150	100	1,150	100	1,150	100	1,150	100	1,150	100	1,150	100	11,500	100
Addresses containing eligible households	1,048	91	1,037	90	1,018	89	1,072	93	1,014	88	1,053	92	1,031	90	1,065	93	1,052	91	1,026	89	10,416	91
Ineligible addresses	102	9	113	10	132	11	78	7	136	12	97	8	119	10	85	7	98	9	124	11	1,084	9
Household response																						
All eligible households	1,048	100	1,037	100	1,018	100	1,072	100	1,014	100	1,053	100	1,031	100	1,065	100	1,052	100	1,026	100	10,416	100
Responding households	644	61	625	60	648	64	684	64	558	55	647	61	516	50	591	55	593	56	651	63	6,157	59
Refusals	336	32	351	34	295	29	287	27	367	36	336	32	392	38	378	35	373	35	341	33	3,456	33
Non-contact	43	4	36	3	24	2	24	2	46	5	27	3	76	7	47	4	51	5	12	1	386	4
Other non-response	25	2	25	2	51	5	56	5	39	4	52	5	47	5	49	5	41	4	32	3	417	4
Individual response within households																						
Adults in contacted households	1,190	100	1,136	100	1,201	100	1,313	100	1,054	100	1,202	100	955	100	1,094	100	1,142	100	1,190	100	11,477	100
Adults interviewed	992	83	970	85	1,021	85	1,130	86	876	83	1,033	86	762	80	899	82	968	85	1,012	85	9,663	84
No interview obtained	198	17	166	15	180	15	183	14	178	17	169	14	193	20	195	18	174	15	178	15	1,814	16
Interview response																						
Interviewed adults	992	100	970	100	1,021	100	1,130	100	876	100	1,033	100	762	100	899	100	968	100	1,012	100	9,663	100
Interviewed dentate adults	896	90	899	93	933	91	1,046	93	791	90	988	96	726	95	849	94	941	97	948	94	9,017	93
Interviewed edentate adults	96	10	71	7	88	9	84	7	85	10	45	4	36	5	50	6	27	3	64	6	646	7
Dental examination response																						
Adults eligible for examination (dentate)	896	100	899	100	933	100	1,046	100	791	100	988	100	726	100	849	100	941	100	948	100	9,017	100
No consent given	187	21	194	22	240	26	214	20	217	27	209	21	184	25	227	27	200	21	187	20	2,059	23
Examination consent given	709	79	705	78	693	74	832	80	574	73	779	79	542	75	622	73	741	79	761	80	6,958	77
Examination performed	568	63	595	66	497	53	707	68	487	62	649	66	400	55	447	53	609	65	663	70	5,622	62
No dental examination after giving consent	141	16	110	12	196	21	125	12	87	11	130	13	142	20	175	21	132	14	98	10	1,336	15

2.3 Data processing

Following data collection, the questionnaire and clinical data collected by ONS and NISRA were transferred to NatCen for further processing. This involved back coding several questionnaire questions and other validation checks. For the interview, the majority of answers given by respondents were coded into pre-specified coding frames. Most of the questions had fully closed coding frames however there were a number of questions where all possible responses could not be envisaged prior to the interview. In these cases respondents were given the opportunity to offer 'other' answers. As part of the data processing process all of these answers were either back-coded into the existing coding frame or coded into new codes agreed by the ADHS consortium.

Once the back coding processes had taken place an SPSS file containing interview and examination data was produced. The interview data was then subjected to a series of additional checks. These included cross-tabulations to check that filters were correctly followed, and frequencies to check that data was within an allowed range, and that answers given as 'other' answers were correctly back-coded.

Similar checks were made on the examination data, and inconsistencies between answers were resolved by reference to the original file from the interviewer, or to the memos entered by the interviewers. Further checks were made to ensure that teeth were consistently recorded in the BPE and in the BEWE.

2.4 Derived variables

For many of the concepts in the *ADHS 2009 Summary Report and Thematic Series* it has been necessary to create new variables that were not recorded directly during the interview or the examination. These variables were constructed post data collection based on the answers to one or more questions and ranged from simple recodes of one variable (e.g. deriving different age categories from a question asking for exact age) to complex constructions depending on a large number of variables (e.g. calculating number of surfaces). A full list of the interview and examination derived variables will be published alongside the microdata at the UK Data Archive.

2.5 Weighting

Unlike previous surveys the sample for the 2009 survey was drawn specifically to enable SHA level estimates to be produced. A two-stage approach was utilized which ensured that 1,150 addresses were sampled in each English SHA and in Wales, and a further 750 in Northern Ireland. However a consequence of the drive to achieve similar size samples at the SHA level is that differential sampling rates were utilized in the SHAs, Wales and Northern Ireland. A survey weight had to be employed to compensate for these differential rates.

In addition to the weighting required by the sample design, weighting was also used to reduce the risk of possible bias caused by non-response at the interview and examination stages. Very little household or personal information is available about non-responding households but geographic information relating to non-responding households is available from the Output Area Classification variable. This is derived from information gathered from the 2001 Census, which categorises each PSU based upon key characteristics such as typical household type, typical socio-economic status, typical ethnicity etc. It is therefore possible to adjust for household non-response based on the area a household is in. This was done using logistic regression, modeling the probability of response using mid-level output area classification (21 categories). Finally, the last stage of the interview weighting ensures that the weights of different age-by-sex groups match the population totals for each SHA, Wales and Northern Ireland for the various age-by-sex groups; this was achieved by integrative calibration¹⁶.

All dentate adults who responded to the questionnaire were asked if they would have a dental examination in their own home. In total 75 per cent of respondents consented to the examination and to reduce the risk of bias the examination data was weighted to reflect the characteristics of the full sample of interviewed dentate adults.

During the interview a large amount of data were gathered from dentate adults including socio-demographic, economic, health status and dental behaviour, attitudes and opinions. A logistic regression was conducted to predict agreement to the dental examination given individual and dental characteristics. The key relationships in the final model were:

- Age (increasing age decreases the likelihood of agreeing to the examination);
- NS-SEC (those in lower NS-SEC categories were less likely to agree to the examination);
- Region (SHA had a significant impact on agreement to examination with individuals in Wales less likely to agree);
- Self-reported dental health as measured by three questions 1) whether the respondent had fillings, 2) whether the respondent felt they would need dental treatment if they went to the dentist tomorrow, and 3) self-reported dental health (measured on a scale of 1 to 5). In all cases those with better self-reported dental health were less likely to agree to examination;
- and Anxiety (those respondents who suggested they would be very or extremely anxious if they were to have their teeth scales and polished were less likely to agree to examination).

3. Survey outputs

3.1 Thematic outputs

The reporting of the findings of the Adult Dental Health Surveys from 1968-1998 reflected the role of the survey in tracking the impact of disease through the generations against the needs of the NHS at the time. Valuable and unique though this was, the world has changed and, as this series of surveys itself has vividly illustrated, so has the dental health of the nation. With the introduction of locally commissioned services in England, there is a need for the NHS to obtain information regarding topics of value to regional health planners. This includes information regarding accounts of epidemiology of health, disease and service use. As such a series of reports will be published from the 2009 survey which will focus specifically on the following themes;

- function and health – considers the major indicators of oral health and function;
- disease and related disorders – details the prevalence of dental disease and related disorders;
- urgent conditions – outlines the prevalence of pain, oral sepsis and other conditions that indicate poor oral health;
- complexity and maintenance - identifies the markers of complex lifetime dental treatment and discusses the implications of maintaining these complex restorations;
- risk and preventive behaviour – describes oral health risk factors and behaviours and identifies who engages in them;
- service considerations – outlines and discusses access to NHS versus private dental health services, the types of treatment received and the experience of attending;
- outcome and impact – considers respondents' perceptions of their oral health and daily quality of life in terms of physical, psychological and social function;
- access and barriers to care – describes and discusses barriers to accessing dental services and care.

In addition an Executive Summary has been produced, alongside overview reports for England, Wales, and Northern Ireland, and this Foundation Report. Following publication of the reports the ADHS 2009 data will be archived in the UK Data Archive.

A summary table comparing several dental health indicators for England, Wales and Northern Ireland, with similar estimates for Scotland has also been constructed; see *ADHS 2009 key dental indicators; a comparison with estimates for Scotland*. The estimates for Scotland were produced from data collected on the Scottish Health Survey 2009¹⁷.

3.2 Statistical analysis

Various statistical techniques including cross-tabulations, and logistic regression were utilised when analysing the data. Almost all of the tables in the ADHS 2009 reports are based on cross-tabulations. Although they show the proportion of people with a given dental characteristic for example, the proportion of adults who are edentate by age-group, the tables do not show how much other factors may interrelate with the independent variable. Similarly, although cross-tabulations give an idea of which independent variables might be significantly associated with the various clinical and questionnaire based outcomes (chi-square analysis can be used to test for the significance of these effects), this particular method of significance testing is not very robust. Consequently, univariate logistic regression was used to test for significant differences between categories of the independent variables and multivariate logistic regression was utilised to investigate how different independent variables interrelate.

The extent of the interrelationship between different independent variables is achieved by looking at the odds of the respondent having the given aspect of dental health, being edentate for example, for different combinations of the independent variables. Odds refer to the ratio of the probability that the event will occur to the probability that the event will not occur. Additionally, when logistic regression is used to test the interrelationship between the independent variables, one of the categories of the independent variable was defined as a reference category. For each of the independent variables included in the regression a coefficient is produced which represents the factor by which the odds of a person having the aspect of dental health increases if the person has that characteristic. These odds are relative odds, that is, they are relative to the reference category.

The type of logistic regression used in the different ADHS 2009 reports was forward stepwise selection which is where the model starts off only containing the constant and then at each step the independent which is most highly significant is included. Variables are then examined and the coefficients which make the observed results 'most likely' are selected while the others are removed using either the Wald statistic or the Likelihood Ratio test.

A strong relationship exists between age and many measures of dental health. It is therefore important to take age into account when investigating the relationship between dental health and other social characteristics such as social class or total tooth loss, which also vary by age. One commonly-used method is the presentation of three-way tables which tabulate, for example, the proportion of adults with good/very good general health by total tooth loss and by a number of age groups. The resulting tables may, however, be difficult to interpret and can suffer from small cell sizes. When used, the method of standardisation used in this report is that of indirect standardisation; this is considered more appropriate for survey data than the direct method of standardisation which is used in medical statistics. Indirect age standardisation involves applying age-specific rates for the whole population to the age distribution in the sub-group (for example the dental status) of interest. The method does not make use of the rates

observed for age groups within the subgroups which are likely to be based on small sample totals and to be affected by substantial sampling error. The age standardised ratios shown were calculated by dividing the observed proportions of the particular measure by the expected proportion based on age alone and then multiplied by 100. An age-standardised ratio of more than 100 indicates a greater likelihood of having the aspect of dental health of interest than would be expected in that group on the basis of age distribution alone. Conversely, a ratio of less than 100 indicates that the members of the group were less likely to have the aspect of dental health of interest than would be expected given the age composition of the group. Since standardised ratios are calculated from survey data, they are subject to sampling error and a more precise assessment of their deviation from 100 involves the use of the standard error of the ratio in a conventional test of statistical significance. To take Table A7.1.1 from *Outcome and impact: a report from the Adult dental health Survey 2009* as an example, the standard error of the ratio for dentate adults is 0.8; multiplying this by 1.96 (the 95% level of significance) gives 1.57. The difference between 105 (the standardised ratio for this group) and 100 is greater than the resulting figure this difference is taken to be significant.

In order to estimate how close the results from the survey are to the true population values, standard errors for the estimates and confidence intervals at the 95 per cent level for these estimates were calculated for the key findings. Both SPSS and STATA were utilised for analysing the questionnaire and clinical data, and for producing the standard errors and confidence intervals. The standard errors and 95 per cent confidence intervals for selected survey estimates are available in the individual reports.

It is important to note that because of the number of examiners involved in the survey there could be issues of variation in the way they interpret the clinical criteria. The training provided aimed to minimise this variation but the examiners were also calibrated on several elements of the examination (see discussion of the calibration exercise below). Finally there are some elements of the clinical examination, which it was not possible to calibrate the examiners on and which, conducted as they were in non-clinical settings, are potentially more problematic than the other measures included in the survey examination (see *Adult Dental Health Survey: oral health in the United Kingdom 1998, Chapter 3.3*). For example, the periodontal assessment was not included in the calibration of examiners, because of the ethical implications of repeating an uncomfortable procedure on the same subjects. Consequently, it is likely that there was a greater degree of inter-examiner variability for the periodontal measures than for other parts of the dental examination. The impact of this on estimates is likely to be minor, except in comparisons between geographical areas.

Notes and references

- ¹ Gray PG, Todd JE, Slack GL and Bulman JS. (1970) *Adult dental health in England and Wales in 1968* HMSO London
- ² Edentulous, that is having no natural teeth
- ³ Todd JE and Whitworth A. (1974) *Adult dental health in Scotland 1972* HMSO London
- ⁴ Rhodes JR and Haire TH. (1981) *Adult dental health survey Northern Ireland 1979* HMSO Belfast
- ⁵ Todd JE and Walker AM. (1980) *Adult dental health Volume 1 England and Wales 1968-78* HMSO London Todd JE, Walker AM and Dodd P. (1982) *Adult dental health Volume 2 United Kingdom 1978* HMSO London
- ⁶ Todd JE and Lader D. (1991) *Adult dental health 1988 United Kingdom* HMSO London
- ⁷ Kelly M, Steele J, Nuttall N, Bradnock G, Morris J, Nunn J, Pine C, Pitts N, Treasure E and White D. (2000) *Adult Dental Health Survey Oral Health in the United Kingdom 1998* TSO London
- ⁸ Operational term for Primary Sampling Unit
- ⁹ Slade, GD, Spencer, AJ. *Development and evaluation of the Oral Health Impact profile*. *Community Dental Health* 1994; 11; 3-11
- ¹⁰ Humphris GM, Morrison T, Lindsay SJE. *The modified dental anxiety scale; UK norms and evidence for validity*. *Community Dental Health* 1985; 12; 143-150
- ¹¹ This module was reduced from the schedule of 1998. Anterior contacts were not coded. For posterior contacts, a single code was recorded for each of four quadrants, rather than the eight possible zones of contact per quadrant that were coded in 1998
- ¹² In 1998 each tooth was coded for pocket depth, loss of attachment, bleeding and calculus; in 2009 the worst scores for each sextant only were recorded. A summary BPE score was coded in a subsample of cases (see above)
- ¹³ The PUFA index records the presence of severely decayed teeth with visible pulpal involvement, ulceration caused by dislocated tooth fragments, fistula and abscess
- ¹⁴ NHS dental salaried services employ dentists who only undertake NHS work
- ¹⁵ The *GSR professional guidance on Ethical Assurance for Social Research in Government* specifies that government social research should be conducted in a manner that 1) ensures valid informed consent is obtained from individuals before participating in research; 2) takes reasonable steps to identify and remove barriers to participation; 3) avoids personal and

social harm; and 4) protects the confidentiality of information about research participants and their identities.

¹⁶ Integrative weighting is where everyone in a single household receives the same weight

¹⁷ *Scottish Health Survey 2009*

<http://www.scotland.gov.uk/Publications/2010/09/23154223/24>

Appendix 1 Glossary of terms

Arrested decay	Decay which has occurred but is not active.
Artificial (full coverage) crown	A tooth restoration which is cemented to the tooth and covers all the natural coronal surfaces. It is usually made of metal, porcelain or a combination of both materials.
Caries	See <i>dental caries</i> .
Cavitated caries/decay	Decay present which has caused the lesion to cavitate.
Complete denture	A prosthesis which replaces all of the natural teeth in one jaw. In some cases there may be a few natural roots remaining, but the denture will cover these, so that all of the visible teeth are on the denture.
Complexity	Complexity of treatment may be determined by a number of different factors. It may be that one disease, or its historical burden, is particularly severe. Some have complex needs based upon one condition whilst some have several types of less severe current disease and previous disease experience which in combination may lead to a degree of complexity in management over the longer term.
Coronal surfaces	The surfaces of the crown of the tooth.
Crown	The crown is the part of the tooth which, on a natural sound tooth, is covered in dental enamel. See <i>coronal surfaces</i> and <i>artificial crown</i> .
Decayed teeth	1998 criteria

Teeth with visual caries or cavitated caries or teeth that were so broken down, possibly with pulpal involvement, that they were unrestorable. It includes teeth that had restorations with recurrent caries but does *not* include teeth that had restorations which were lost, broken or damaged but where there was no recurrent caries.

1988 criteria

Teeth with cavitated caries or teeth that were so broken down, possibly with pulpal involvement, that they were unrestorable. It includes teeth that had restorations with recurrent cavitated caries but does *not* include teeth that had restorations which were lost, broken or damaged but where there was no recurrent caries.

Decayed and unsound teeth

1998 criteria

Teeth with visual caries, cavitated caries and teeth that were so broken down, possible with pulpal involvement, that they were unrestorable. It includes teeth that had restorations with recurrent caries and restorations which were lost, broken or damaged.

1988 criteria

Teeth with cavitated caries and teeth that were so broken down, possibly with pulpal involvement, that they were unrestorable. It includes teeth that had restorations with recurrent cavitated caries and restorations which were lost, broken or damaged.

Dental bridge

A viable and often preferable alternative to partial dentures, where the space to be filled is small enough and the surrounding teeth are in reasonable condition, as bridges are fixed in the mouth.

Dental caries/dental decay	A disease process that results in the demineralisation of the hard tissues of the tooth by microbial activity. The term caries, dental caries, decay and dental decay are used interchangeably in this report.
Dental implants	Dental implants are surgically fixed substitutes for roots of missing teeth. Embedded in the jawbone, they act as anchors for a replacement tooth, also known as a crown, or a full set of replacement teeth.
Dentate	Having one or more natural teeth. (Compare with <i>edentate</i>).
Dentine	The hard, calcified tissue which forms the major part of the tooth. It encloses the dental pulp, but is covered by enamel on the coronal surfaces.
Edentate	Having no natural teeth. (Compare with <i>dentate</i>).
Enamel	The hard mineralised outer layer covering the <i>coronal surfaces</i> of the natural tooth.
Exposed root surface	See <i>root</i> .
Extensive dentinal decay	Untreated teeth with extensive dentinal decay have obvious loss of tooth structure, with a cavity both deep and wide so that dentine is clearly visible on the walls and at the base. Such a cavity would involve at least half of a tooth surface, and teeth coded in this way are so broken down that it is inconceivable that there is not pulp involvement and so restoration of the tooth would be very involved or impossible.
Filled and decayed teeth	Teeth with a filling and some active decay.

Filled, but unsound teeth	Teeth with a filling which is damaged but not decayed.
Filled (otherwise sound) teeth	Teeth in which a filling has been placed but which are now sound with no active decay and no damage to the filling. (Compare with <i>restored (otherwise sound) teeth</i>).
Functional dentition	Oral health was defined in terms of function in the 1994 Department of Health publication <i>An oral health strategy for England</i> . The definition of oral health referred to the ability to “eat, speak and socialise without active disease, discomfort or embarrassment”. Such attributes as eating comfortably and socialising without embarrassment can be related directly to the number and distribution of natural teeth, described as a functional dentition. From the point of view of analysis in this report a functional dentition was defined as having 21 or more standing teeth, although at an individual level the above attributes could be achieved with fewer.
Gingivitis	Gingivitis is a response by the gum tissue to plaque building up around the necks of the teeth. This irritates the gums and causes them to become inflamed (gingivitis). Gingivitis is a reversible condition and effective cleaning will lead to health in a couple of weeks.
Incisors	The four front teeth in each jaw.
Loss of attachment	See <i>periodontal attachment</i> .
Missing teeth	Teeth which were not present or visible in the mouth at the time of examination. Missing teeth includes those which had been extracted and those which were unerupted.
Modified Dental Anxiety Scale	A series of questions about how anxious respondents get, if at all, about a dental visit. A

score of 19 or more on the MDAS indicates extreme levels of dental anxiety (see Humphris GM, Morrison T, Lindsay S (1995) The Modified Dental Anxiety Scale: validation and United Kingdom norms. *J Community Dent Health*. Sep;12(3):143-50).

Molar

Large, grinding tooth situated at the back of the mouth. There are up to six molars in each jaw.

OHIP/OHIP14

Oral Health Impact Profile. A standardised measure of the overall impact of oral problems on an individual based on a conceptual model of oral health proposed by Locker. The form used in this survey was the short form consisting of 14 questions (see Slade GD. *Deprivation and validation of a short-form oral health impact profile*. Community Dentistry Oral Epidemiology 1997; 25: 284-290).

Oral health

The criteria for excellent oral health prospects were: 21 or more natural teeth, 18 or more sound and untreated teeth, no decay detected at any site, no periodontal pocketing of 4mm or more, no loss of attachment of 4mm or more and no calculus or bleeding.

**Partial dentures
(removable partial dentures)**

A prosthesis which replaces some of the natural teeth in one jaw, and which can be removed by the patient. (Compare with *complete denture*.)

Periodontal attachment

The fibrous connection between the tooth root and the supporting bone and gum. Where gum (periodontal) disease has occurred some of this attachment between the tooth and supporting bone is lost. This loss of attachment begins around the neck of the tooth where the tooth projects into the mouth. Loss of attachment below the level of the gum margin results in a *periodontal pocket*. The loss of attachment which has taken place and the depth of the periodontal pocket can be gauged

by using a graduated blunt probe held against the root of the tooth and gently placed under the gum as far as the base of the pocket.

Periodontal disease(s)

The group of diseases of the tissues which invest and support the teeth (gum disease).

Periodontal pocket

See *periodontal attachment*.

Periodontitis

Associated with irreversible loss of the underlying bone that holds the teeth in. Gum pockets usually open up between the tooth and gum and act as reservoirs for bacteria unless treated.

Plaque

The soft, sticky white bacterial material which collects around the teeth and which is implicated in causing dental caries and the periodontal diseases.

Premolar

A permanent tooth situated between the permanent canine and molar teeth.

Primary (coronal/root) caries

A tooth is described as having primary decay if it has any caries on a surface which has not been treated previously (for the purpose of this definition, sealants alone are not included as treatment). Other surfaces of the tooth may or may not have restorative treatment or recurrent decay. The terms *primary caries* and *primary decay* are used interchangeably in this report. (Compare with *recurrent caries*.)

PUFA

A recently developed index of clinical consequences of untreated dental caries. It provides a measure of badly diseased and broken down teeth which have been attacked by dental decay and are causing significant problems in need of early attention (see Monse B, Heinrich-Weltzien R, Benzian H, Holmgren C, van Palenstein Helderma W. PUFA - An index of clinical consequences of untreated

dental caries. Community Dent Oral Epidemiol. 2010;38:77-82).

The index is expressed by the uppercase letters PUFA when used for the permanent dentition:

Pulp involvement is recorded when the opening of the pulp chamber is visible or when the coronal tooth structures have been destroyed by the carious process and only roots / root fragments are left.

Ulceration due to trauma is recorded when sharp edges of a dislocated tooth with pulp involvement or root fragments have caused traumatic ulceration of the surrounding soft tissues, e.g., tongue or buccal mucosa.

Fistula is scored when a pus-releasing sinus tract related to a tooth with pulp involvement is present

Abscess is scored when a pus-containing swelling related to a tooth with pulp involvement is present.

Pulp (dental)

The vascular soft tissue which fills the pulp chamber and the root canals of a tooth. It is the innermost part of the tooth and includes connective tissue, blood vessels and nerves.

Recurrent caries/decay

A tooth is described as having recurrent decay if it has any caries on a surface which has been treated previously (for the purpose of this definition, sealants alone are not included as treatment). Other surfaces of the tooth may or may not have decay or restorations.

Restoration

The material end result of operative procedures that restore the form, function and appearance of a tooth. In this survey it was defined as a filling, veneer or artificial crown.

Restored

1998 criteria

(otherwise sound) teeth Teeth which include a restoration but are now sound with no visual or cavitated decay and no damage to the restoration.

1988 criteria

Teeth which include a restoration but are now sound with no cavitated decay and no damage to the restoration. Previous surveys in this series have described this category as 'filled (otherwise sound)'.

Root The part of the tooth not covered by enamel and which is usually below the level of the gum. It may become exposed due to the recession of the gums associated with the loss of periodontal attachment, particularly with increasing age.

Root caries/root decay Decay occurring on the roots of the teeth where there has been loss of periodontal attachment. (See also *dental caries*.)

Secondary coronal caries Dental decay which has occurred immediately adjacent to previously placed restorations or fissure sealants. This type of decay makes up a smaller proportion of the total burden of coronal decay than primary caries.

Sextant One of the six equal parts into which the dental arch may be divided: maxillary right, left and anterior and mandibular right, left and anterior.

Socio-economic classification Since 2001 the National Statistics Socio-economic Classification (NS-SEC) has been used for all official statistics and surveys and replaced Social Class based on Occupation (SC, formerly Registrar General's Social Class) and Socio-economic Groups (SEG). The classification used in the tables is as follows:

Managerial and professional occupations

Intermediate occupations

Routine and manual occupations

A socio-economic classification was not determined for households where the household reference person was not interviewed and where the household reference person was a full time student; in the Armed Forces; had an inadequately described occupation, had never worked or were long-term unemployed.

Sound and untreated teeth

1998 criteria

Teeth with no visible decay or restoration of any kind, including those such as veneers and crowns, which are not always placed to manage disease. It includes teeth with sealants which were sound or fractured but with no evidence of caries.

1988 criteria

Teeth with no evidence of cavitated caries, nor any restorative treatment. It includes teeth with visual caries. It includes teeth with sealants which were sound, fractured or with visual caries.

Unrestorable teeth

Teeth which are beyond restoration.

Unsound restoration

A restoration which has been lost, broken or damaged but is not decayed. Fillings and artificial crowns are both included here as forms of restoration.

Visual caries/decay

Visible decay is present but it is not obviously cavitated.

Wear/tooth wear

Loss of tooth substance due to a non-bacterial cause. This may take the form of attrition (where the teeth in opposing arches have worn away each other), abrasion (where the teeth have been worn away mechanically by a foreign body, such as a toothbrush) or erosion (where there has been damage to the teeth from acids, usually dietary or gastric, not produced by bacteria).

Appendix 2 Adult Dental Health Survey 2009 Questionnaire

Household Composition

All household members

SEX

- (1) Male
- (2) Female

BIRTH

What is your date of birth?

FOR DAY NOT GIVEN....ENTER 15 FOR DAY

FOR MONTH NOT GIVEN....ENTER 6 FOR MONTH

ASK IF: (Birth = DONTKNOW) OR (Birth = REFUSAL)

AGEIF

What was your age last birthday?

98 or more = CODE 97

0..97

Computed

DVAGE

Age for whole sample, from **Birth** and **Agelf**

0..120

HALLRES

Is this person living in halls of residence or at a boarding school? Student nurses living in NHS accommodation elsewhere in Great Britain should not be included in this household.

- (1) Yes
- (2) No

ASK IF: DVAge >= 16

xMARSTA

ASK OR RECORD

CODE FIRST THAT APPLIES

Are you currently...

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- (1) single, that is never married,
- (2) married and living with your husband/wife,
- (3) a civil partner in a legally-recognised Civil Partnership,
- (3) married and separated from your husband/wife,
- (4) divorced,
- (5) or widowed?
- (6) Spontaneous only - In a legally-recognised Civil Partnership and separated from his/her civil partner
- (7) Spontaneous only - Formerly a civil partner, the Civil Partnership now legally dissolved
- (8) Spontaneous only - A surviving civil partner: his/her partner having since died

ASK IF: Age >= 16

AND: DVHSIZE > 1

AND: MarStat = 2 or **MarStat** = 3

MARCHK

ASK OR RECORD

Is your spouse/partner a member of the household?

- (1) Yes
- (2) No

ASK IF: Age >= 16

AND: DVHSIZE > 1

AND: MarStat <> 2

LIVWTH

ASK OR RECORD

May I just check, are you living with someone in the household as a couple?

- (1) Yes
- (2) No
- (3) SPONTANEOUS ONLY - Same-sex couple (but not in a formal registered Civil Partnership)

ASK IF: Age >= 16

AND: DVHSIZE = 1

HRPID

Record if NAME is the person in whose name this accommodation is owned or rented

- (1) Yes
- (2) No

ASK IF: Age >= 16

AND: NOT (DVHSIZE = 1)

HHLDR

In whose name is the accommodation owned or rented?

ASK OR RECORD

- (1) This person alone
- (3) This person jointly
- (5) NOT owner/renter

Definition of Household Reference Person (and Partner)

ASK IF: There are two or more joint householders (**HHLDR = 3**)

HiHNUM

You have told me that...jointly own or rent the accommodation. Which of them/who has the highest income from earnings, benefits, pensions, and any other sources?

Enter person number - if two or more joint householders have the same income, enter 17.

: 1..17

ASK IF: Two or more joint householders have same income (**HiHNum=17**)

JNTELDA

Ask or record

Enter person number of the eldest joint householder from those with the same highest income.

: 1..16

ASK IF: Don't know or refused at **HiHNum**

JNTELDB

Ask or record

Enter person number of the eldest joint householder.

: 1..16

Relationship Grid

All household members

ASK IF: More than one person in the household

I would now like to ask how the people in your household are related to each other

R01 Relationship of this person to person 1

R02 Relationship of this person to person 2

R03 Relationship of this person to person 3

R04 Relationship of this person to person 4

R05 Relationship of this person to person 5

R06 Relationship of this person to person 6

R07 Relationship of this person to person 7

R08 Relationship of this person to person 8

R09 Relationship of this person to person 9

R10 Relationship of this person to person 10

R11 Relationship of this person to person 11

R12 Relationship of this person to person 12

R13 Relationship of this person to person 13

R14 Relationship of this person to person 14

R15 Relationship of this person to person 15

R16 Relationship of this person to person 16

Question about Natural Teeth (for non-response information)

All adults

ASK IF: DVAGE > 15

ANYTTH

(Can I just ask) have you still got some of your natural teeth, or have you lost them all?

- (1) Got some
- (2) Lost them all

Interview Start

All adults

ISWITCH

This is where you start recording answers for individuals.

Do you want to record answers for NAME now or later?

- (1) Yes, now
- (2) Later

- (3) Done
- (4) or is there no interview with this person

ASK IF: ISwitch = YesNow

PERSPROX

Is the interview about ^DMNAMES[i] being given:

- (1) In person
- (2) or by someone else?

IF PersProx = 2 THEN CHECK:

Proxy interviews are not allowed on ADH. Please revise code at **ISwitch**.

AskIf: ISwitch = YesNow

ICHKCON

Does NAME agree/consent to proceed with the interview?

- (1) Yes
- (2) No

IF IchkCon = No THEN CHECK:

“If the respondent has not consented to continue with the interview, then you must code **ISwitch** as 'No interview with this person'”

General / Oral Health

All adults (**DVAge** > 15)

INTHLT

I am going to start by asking you some questions about your health and lifestyle.

Press <1> to continue

QHEALTH1

How is your health in general; would you say it was...

Running prompt

- very good,
- good,
- fair,
- bad,
- or very bad?

DENHEAL

(And) would you say your dental health (mouth, teeth and/or dentures) is...

Running prompt

very good,
good,
fair,
bad,
or very bad?

LSILL

(And) do you have any long standing illness, disability or infirmity – by long-standing I mean anything that has troubled you over a period of time or that is likely to affect you over a period of time?

Yes
No

ASK IF: LSILL = Yes

LIMABI

Does this illness or disability (Do any of these illnesses or disabilities) limit your ability to attend the dentist for routine dental checkups or treatment in any way?

Yes
No

Smoking

All adults

ASK IF: DVAge = 16 OR 17

SMKCARD**SHOWCARD 1**

Please hand Showcard 1 to NAME

Which of the statements on this card best matches your experience of smoking?

Please just read out the number next to the appropriate statement

- (15) I have smoked a cigarette, a cigar, or a pipe at least once, and I also smoke nowadays
- (28) I have smoked a cigarette, a cigar, or a pipe at least once, but I do not smoke nowadays.

(6) I have never smoked a cigarette, a cigar, or a pipe.

ASK IF: DVAge > 17 OR Selfcom = 3

SMOKEVER

Have you ever smoked a cigarette, a cigar, or a pipe?

Yes

No

ASK IF: SMOKEVER = Yes

CigNow

And do you smoke cigarettes at all nowadays?

Yes

No

Diet

All adults

NCAKES

How often, on average, do you eat a serving of cakes, biscuits, puddings or pastries?

SHOWCARD 2

6 or more times a week

3-5 times a week

1-2 times a week

Less than once a week

Rarely or never

SWEETS

How often, on average, do you eat sweets or chocolate?

SHOWCARD 2

6 or more times a week

3-5 times a week

1-2 times a week

Less than once a week

Rarely or never

SOFDRNK

How often, on average do you have fizzy drinks, fruit juice, or soft drinks like squash, excluding diet or sugar-free drinks?

SHOWCARD 2

6 or more times a week

3-5 times a week

1-2 times a week

Less than once a week

Rarely or never

HotSug

Do you usually have sugar in hot drinks like tea and coffee?

INTERVIEWER: If the respondent uses artificial sweetener, code No

Yes

No

Does not drink hot drinks

Natural Teeth

INTNAT

I am now going to ask you some questions about your natural teeth, and your experiences of attending the dentist.

Press <1> to continue.

NATURAL

How many natural teeth have you got? Is it...

Running prompt

INTERVIEWER - Include wisdom teeth - adults usually have up to 32 teeth, including the 4 wisdom teeth.

INTERVIEWER - Exclude implants to replace missing teeth

none at all,

at least 1 but less than 10,

between 10 and 19,

or do you have 20 or more natural teeth?

Have some natural teeth but don't know how many (SPONTANEOUS ONLY)

DENTURE

Do you have (require) a denture, even if you don't wear it?

- (1) Yes
- (2) No

ASK IF: NATURAL = 2, 3, 4, or 5 (has at least 1 natural tooth)

FILLING

Do you have any fillings?

INTERVIEWER - Question refers to fillings that the respondent *currently* has in their natural teeth.

- (1) Yes
- (2) No

Oral Health Impact Profile (OHIP)

All adults

INTOHIP

I would now like to ask you some questions about how often you experience problems with your teeth, mouth or dentures

Press <1> to continue

WORDS

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you had trouble PRONOUNCING ANY WORDS because of problems with your teeth, mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

TASTE

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you felt that your SENSE OF TASTE has worsened because of problems with your teeth, mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally

- (4) fairly often
- (5) very often

ACHING

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you had PAINFUL ACHING in your mouth?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

FOODS

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you found it UNCOMFORTABLE TO EAT ANY FOODS because of
problems with your teeth, mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

SELF

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you been SELF-CONSCIOUS because of your teeth, mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

TENSE

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you FELT TENSE because of problems with your teeth, mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally

- (4) fairly often
- (5) very often

DIET

SHOWCARD 3

In the last 12 months, that is, since *{DATE}* ...
has your DIET BEEN UNSATISFACTORY because of problems with your teeth,
mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

MEALS

SHOWCARD 3

In the last 12 months, that is, since *{DATE}* ...
have you had to INTERRUPT MEALS because of problems with your teeth,
mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

RELAX

SHOWCARD 3

In the last 12 months, that is, since *{DATE}* ...
have you found it DIFFICULT TO RELAX because of problems with your teeth,
mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

EMBARRASS

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you been a bit EMBARRASSED because of problems with your teeth,
mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

IRRITABL

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you been a bit IRRITABLE WITH OTHER PEOPLE because of problems
with your teeth, mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

JOBS

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you had DIFFICULTY DOING YOUR USUAL JOBS because of problems
with your teeth, mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

LESS

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you felt that life in general was LESS SATISFYING because of problems
with your teeth, mouth or dentures?

- (1) never
- (2) hardly ever

- (3) occasionally
- (4) fairly often
- (5) very often

FUNCTION

SHOWCARD 3

In the last 12 months, that is, since {DATE} ...
have you been TOTALLY UNABLE TO FUNCTION because of problems with
your teeth, mouth or dentures?

- (1) never
- (2) hardly ever
- (3) occasionally
- (4) fairly often
- (5) very often

Current Oral Health Behaviour

All adults

TREAT

If you went to the dentist tomorrow, do you think you would need any treatment?

- (1) Yes
- (2) No

INTCUR

I would now like to ask you some questions about cleaning your teeth/dentures,
and also about going to the dentist.

Press <1> to continue.

ASK IF: Natural = 2, 3, 4 or 5 (has natural teeth)

CLNTTH

SHOWCARD 4

How often do you clean your teeth nowadays?

INTERVIEWER - Question refers to brushing only

- More than twice a day
- Twice a day
- Once a day
- Less than once a day
- Never

ASK IF: ClnTth = 5 (less regularly)

CLNTTHO

RECORD HOW OFTEN RESPONDENT CLEANS THEIR TEETH

STRING[200]

ASK IF: Denture = Yes

CLNDEN

SHOWCARD 4

(And) how often do you clean your dentures nowadays?

INTERVIEWER - Question refers to all types of cleaning

More than twice a day

Twice a day

Once a day

Less than once a day

Never

ASK IF: ClnDen = 5 (less regularly)

CLNDENO

RECORD HOW OFTEN RESPONDENT CLEANS THEIR DENTURES

STRING[200]

ASK IF: (ClnTth = 1, 2, 3, 4 or 5) OR (ClnDen = 1, 2, 3, 4, or 5)

TPASTE

Do you use anything other than an ordinary (manual) toothbrush and toothpaste for dental hygiene purposes?

INTERVIEWER - If electronic toothbrush, code yes.

(1) Yes

(2) No

(3) I don't use a toothbrush and/or toothpaste - SPONTANEOUS ONLY

ASK IF: TPaste = Yes

SPPASTE

What do you use?

INTERVIEWER - CODE ALL THAT APPLY

SET [8] OF

(1) Dental floss

- (2) Interdens/toothpicks/woodsticks
- (3) Mouthwash
- (4) Interspace brush
- (5) Electric toothbrush
- (6) Denture cleaning solution
- (7) Sugar-free chewing gum
- (8) Something else

ASK IF: SpPaste = 8

SPASTE0

PLEASE SPECIFY OTHER THINGS USED FOR DENTAL HYGIENE PURPOSES.

: STRING[200]

ASK IF: ClnTth <> 6 (never)

BRDPST

Which brand of toothpaste do you currently use (most often)?

INTERVIEWER - Enter description of toothpaste brand.

STRING[150]

ASK IF: ClnTth <> 6 (never)

BRDCODE

Press <space bar> to enter the coding frame.

Press enter to select the code and enter again to continue.

INTERVIEWER - If code does not exist for the brand of toothpaste stated by the respondent, use the code 'None of these brands'

STRING[100]

Pattern of Dental Attendance

All adults

REGULAR

In general do you go to the dentist for...

RUNNING PROMPT

If not been to the dentist for a long time, probe if code 2 or 3 applies

- (1) a regular check up,
- (2) an occasional check up,
- (3) or only when you're having trouble with your teeth/dentures?

(4) Never been to the dentist - SPONTANEOUS ONLY

IF Regular = 4 THEN CHECK

FREQDEN

How often do you go to the dentist? Is it...

RUNNING PROMPT

at least once every six months,

at least once every year,

at least once every two years,

or less frequently than every two years?

or only when having trouble with your teeth and/or dentures? -

SPONTANEOUS

ONLY

HowLONG

About how long ago was your last visit to the dentist?

This is the last visit at which the respondent visited a dentist – it does not include a visit to the dental hygienist

SHOWCARD 5

Within the last 6 months

Within the last 7-12 months

More than 1, but less than 2 years ago

More than 2, but less than 3 years ago

More than 3, but less than 5 years ago

More than 5, but less than 10 years ago

More than 10 years ago

ASK IF: HowLong > 3 OR Regular = Never

REANotF

SHOWCARD 6

Which of these, if any, are the reasons why you have not been to the dentist in the last two years?

CODE ALL THAT APPLY

SET [6] OF

No need to go to the dentist / nothing wrong with my teeth

I can't find an NHS dentist / dentist changed to private

I can't afford the NHS charges

I haven't got the time to go
I am afraid of going to the dentists
Keep forgetting / Haven't got round to it
None of these reasons

ASK IF: HowLong > 3 OR Regular = Never

REANotS

SHOWCARD 7

...and which of these, if any, are also reasons why you have not been to the dentist in the last two years?

CODE ALL THAT APPLY

SET [5] OF

- (1) It's difficult to get to / from the dentist
- (2) I've had a bad experience with a dentist
- (3) I'm too embarrassed to go to the dentist
- (4) I don't see the point in going to the dentist
- (5) None of these reasons
- (6) Other reason (please specify)

ASK IF: ReaNotS = 6

REANoto

What was the other reason?

STRING[200]

ATTEND

Would you say that nowadays you go to the dentist more often, about the same, or less often than you did 5 years ago?

FIVE YEARS AGO = [RefDte – 5 Years]

- (1) more often
- (2) about the same
- (3) less often

ASK IF: Regular = 1, 2 or 3

NUMCHECK

How many times have you been to the dentist in the last five years purely for a check up?

FIVE YEARS AGO = [RefDte – 5 Years]

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0..97

ASK IF: Regular = 1, 2 or 3

NUMTROUB

How many times have you been to the dentist in the last five years because you have had trouble with your teeth and/or dentures?

FIVE YEARS AGO = **RefDte** – 5 Years

: 0..97

Service Received During Last Completed Course of Treatment

All adults, excluding those who have never attended the dentist

(If **Regular** <> 4)

TREATMID

Can I just check, are you currently in the middle of a course of dental treatment or not?

In the middle of treatment

Not

DVISITS

When people go to the dentist they sometimes have to make more than one visit for a course of treatment. When you last went to the dentist, how many visits did you make?

(extra text if in the middle of a course of treatment) Please refer to the last completed course of treatment or care before your current course of treatment. A check-up with no follow-up treatment is considered to be a completed course of treatment.

One visit

Two visits

Three visits

Four visits

Five visits or more

TREATUK

And can I just check, was this treatment carried out in the UK, or abroad?

(1) In the UK

(2) Abroad

INTLST

I am going to ask you a series of questions about your last visit to the dentist.

Extra text:

**(If TreatMid = Yes AND ((DVisits = One) OR (DVisits = DK) OR (DVisits = RF))
THEN**

Please refer to the last visit or complete course of treatment/care before your current course of treatment/care

**(If TreatMid = No AND ((DVisits = One) OR (DVisits = DK) OR (DVisits = RF))
THEN**

Please refer to the last visit or complete course of treatment/care you experienced at the dentist

ELSE

Please answer them in relation to the two/three/four/five* visits you made during that course of treatment/care

* Dependent upon answer to **DVisits**

Press <1> to continue.

CHECKUP

The last time you visited the dentist, what was the purpose of your visit? Was it...

Running prompt

for a routine check-up,

for emergency or urgent treatment,

or for other treatment (non-emergency, non-urgent)?

Some other reason (please specify) - SPONTANEOUS ONLY

Don't know / can't remember - SPONTANEOUS ONLY

ASK IF: CheckUp = 5

CHECKUPO

What was the other reason?

STRING[200]

SERTYP

SHOWCARD 8

In the United Kingdom, dental care is provided by the NHS or privately.

Thinking about the last time you visited a dentist, which of these options best describes the type of care you think you received?

INTERVIEWER - Code a clinic at a dental hospital as 'some other type of care'

Private dental care,
NHS dental care that you paid for,
NHS dental care that was free,
NHS dental care followed by additional private dental care,
Some other type of care
or are you not sure what type of care you received?

ASK IF: Other IN SerTyp

SERTYPO

What was the other service you received?

STRING[200]

ASK IF: SerTyp = 1 OR SerTyp = 3 (received NHS care)

NHSCho

What, if anything, would you say made you use NHS dental care?

CODE ALL THAT APPLY

SHOWCARD 9

SET [9] OF

Lack of availability of private dentists

Better quality of care (treatment/standards/expertise)

Location (more accessible / easier to get to)

Lower waiting times

Better reputation of surgery / recommendation from friends or family

More types of treatment available

Affordability

My dentist only sees NHS patients

Some other reason (please specify)

No reason

ASK IF: NHSCho = 9 (other)

NHSChoO

RECORD OTHER REASONS

STRING[200]

ASK IF: SerTyp = 2 or SerTyp = 3 (received private treatment)

PRICHO

What, if anything, would you say made you use private dental care?

CODE ALL THAT APPLY

SHOWCARD 10

SET [10] OF

I was unable to find a NHS dentist

Better quality of care (treatment/standards/expertise)

Location (more accessible / easier to get to)

Lower waiting times

Better reputation of the surgery / recommendation from friends or family

More types of treatment available

Affordability

Insurance provided by employer / job

My NHS dentist has gone private

Some other reason (please specify)

No reason

PRICHO0

RECORD OTHER REASONS

STRING[200]

ASK IF: SerTyp = 2 (received private treatment only)

NHSEnc

What would encourage you to use NHS dental care?

INDIVIDUAL PROMPT – CODE ALL THAT APPLY

SET [7] OF

If you could afford NHS dental care and/or treatment?

If the location of the dentist was more convenient?

If the quality of care was better?

If the treatment range was widened (or increased)?

If there was an NHS dentist in my area?

Recommendation from friends or family?

Some other reason? (please specify)

Nothing

ASK IF: NHSEnc = 7 (other)

NHSEncO

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RECORD OTHER REASON(S)
STRING[200]

Treatment at Last Visit

All adults, excluding those who have never attended the dentist
(If Regular <> 4)

INTLAST

I would now like to ask you about the dental treatment or care you received during your last completed course of dental treatment.

Press <1> to continue

CHEKUP

During your last completed course of dental treatment, what did you have done?
Did you have....

....a check –up (examination)?

Yes

No

XRAYS

(During your last completed course of dental treatment did you have...)

...x-rays taken?

Yes

No

TEETHFIL

(During your last completed course of dental treatment did you have...)

...teeth filled?

Yes

No

TEETHOUT

(During your last completed course of dental treatment did you have...)

...teeth taken out (extracted)?

Yes

No

ROOTCAN

(And) during your last completed course of dental treatment did you have...
...root canal treatment?

Yes

No

CROWNFIT

(During your last completed course of dental treatment did you have...)
... crowns (re)fitted?

Yes

No

ABSCESS

(During your last completed course of dental treatment did you have...)
... treatment for an abscess?

Yes

No

IMPRESS

(And) during your last completed course of dental treatment did you have...
... impressions taken?

Yes

No

DENFITT

(During your last completed course of dental treatment did you have...)
... new dentures fitted?

Yes

No

DENREPR

(During your last completed course of dental treatment did you have...)
... dentures repaired?

Yes

No

IMPLANT

(During your last completed course of dental treatment did you have...)

... an implant to replace a missing tooth/teeth?

F9: An implant completely replaces a tooth and its root, and is screwed into the bone

Yes

No

ASK IF: Implant = Yes

IMPLoc

Did you have an implant in your upper jaw, your lower jaw, or in both jaws?

(1) Upper jaw,

(2) Lower jaw,

(3) Both

BLEACH

(And) during your last completed course of dental treatment did you have...

... teeth whitened / bleached?

Yes

No

FLUoVAR

(During your last completed course of dental treatment did you have...)

... fluoride varnish?

Yes

No

TEETHSCA

(During your last completed course of dental treatment did you have...)

... teeth scaled or polished?

Yes

No

DENHYG

(During your last completed course of dental treatment did you have...)

... treatment from a dental hygienist or dental therapist?

Yes

No

SEDATE

(And) during your last completed course of dental treatment did you have...

... sedation, that is something that relaxes you but does not put you to sleep?

F9: Sedation can be in the form of gas, air or tablets. Local or general anaesthetic (for example, an injection into the gum or the arm) is to be coded as 'No'

Yes

No

DENDONEO

(During your last completed course of dental treatment did you have...)

... some other treatment?

Yes

No

DENADV

...and during your last completed course of dental treatment did you have advice provided to you by the dentist or a member of the dental team about how to look after your teeth (diet, brushing or other)?

(1) Yes

(2) No

ASK IF: DVAGE > 17

SMKADV

(What about) advice on giving up smoking provided by the dentist or a member of the dental team?

Yes

No

ASK IF: DVAGE = 16 OR 17

SMKADVSC

Please hand Showcard 11 to NAME

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Please use this showcard to answer the following question:

During your last completed course of dental treatment, did you receive advice on giving up smoking provided by the dentist or a member of the dental team?

Please just read out the number next to the appropriate answer.

- (61) Yes
- (29) No
- (86) I have never smoked

COST

Thinking about the last complete course of dental treatment (whether NHS or private), how much

did the treatment cost, to the nearest £?

F9: If respondent cannot remember the exact amount, please ask them to provide an estimate of the cost.

If the treatment was free, code '0'

If the respondent has their treatment paid by a Dental Plan (e.g. DenPlan), ask them how much their Dental Plan costs per month. An estimate is acceptable.

0..9999

DENPLAN

Was all, or at least part of, the cost of your dental treatment covered by a dental plan (e.g. Denplan) or dental insurance?

F9: Other private health insurance' refers to health insurance provided by an employer e.g. BUPA health insurance

- Yes – dental plan
- Yes – dental insurance
- Yes – other private health insurance
- No
- Don't know

ASK IF: Cost > 1 (not free) or 0 but cost covered by insurance ((**Cost** = 1) and (**DenPlan** = 1, 2 or 3))

VALMON

Thinking about your last completed course of dental treatment, how did you rate your dental care and/or treatment for value for money?

Include routine check ups

RUNNING PROMPT

- (1) Very Good
- (2) Good
- (3) Fair
- (4) Poor
- (5) Very Poor
- (6) Don't know/can't remember

Rating the Dental Practice at the Last Visit

All adults, excluding those who have never attended the dentist

(If **Regular** <> 4)

INTRATE

If **TreatMid** = Yes THEN

That is the end of the section about your last completed course of dental treatment.

For the following questions, please refer to the last visit you made to the dentist during your current course of dental treatment.

If **TreatMid** = No THEN

For the following questions, please refer to the very last visit you made to the dentist' during your last course of dental treatment.

ASK IF: TreatMid = Yes OR SerTyp = NHSPriv

SERMID

In the United Kingdom, dental care is provided by the NHS or privately.

Thinking about the last visit you made to the dentist during your current course of dental treatment/last course of dental treatment*what type of service do you think you received? Was it...

Running prompt

- (1) Code a clinic at a dental hospital as 'some other type of care'
- (2) Private dental care
- (3) NHS dental care
- (4) Some other type of care
- (5) or are you not sure what type of care you received?

*former if **TreatMid** = Yes, latter if **SerTyp** = **NHSPriv**

ASK IF: SerMid = Some other type of care

SERMIDO

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What was the other service you received?

String[200]

PARTINT

This is the stage at which a partial interview is achieved for NAME

Press <1> to continue

FIRST

Thinking about the dental practice you went to last time, had you been there before or was that your first time at that practice?

Been before

First time

ASK IF: First = 1 (been there before)

NUMATEND

For about how many years have you been going to that dental practice?

(1) Less than a year

(2) One year less than two

(3) Two years less than five

(4) 5 years or more

(5) Don't know

(6) not my usual dentist - last visit was an emergency -

SPONTANEOUS ONLY

RTERAPT

SHOWCARD 11

Using this scale, how would you rate that dental practice in terms of each of the following...

...length of wait for a routine appointment?

Very Good

Good

Fair

Poor

Very poor

Not applicable / never had urgent appointment (SPONTANEOUS ONLY)

RTEUAPT

SHOWCARD 11

(Using this scale, how would you rate your dental practice in terms of each of the following...)

...length of wait for an urgent appointment?

Very Good

Good

Fair

Poor

Very poor

Not applicable / never had urgent appointment (SPONTANEOUS ONLY)

RTEWAPT

SHOWCARD 11

(Using this scale, how would you rate your dental practice in terms of each of the following...)

... availability of evening or weekend appointments?

Very Good

Good

Fair

Poor

Very poor

Not applicable / never had evening or weekend appointment
(SPONTANEOUS ONLY)

RTEACCS

SHOWCARD 11

(Using this scale, how would you rate your dental practice in terms of each of the following...)

... transport facilities and access?

Very Good

Good

Fair

Poor

Very poor

RTECONV

SHOWCARD 11

(Using this scale, how would you rate your dental practice in terms of each of the following...)

... Convenience of dental practice location??

Very Good

Good

Fair

Poor

Very poor

RTECRE

SHOWCARD 11

(Using this scale, how would you rate your dental practice in terms of each of the following...)

... standard and quality of care?

Very Good

Good

Fair

Poor

Very poor

ASK IF: SerTyp = NHS OR Mixed

RTECHRG

SHOWCARD 11

(Using this scale, how would you rate your dental practice in terms of each of the following...)

... explanation of NHS charges?

Very Good

Good

Fair

Poor

Very poor

RTE DEN

SHOWCARD 11

(Using this scale, how would you rate your dental practice in terms of each of the following...)

... reputation of dentists?

Very Good

Good

Fair

Poor

Very poor

NEXT

Will you go to the practice again next time?

(1) Yes

(2) No

Communication with the Dentist at the Last Visit

All adults, excluding those who have never attended the dentist

(If **Regular** <> 4)

INTREL

I am now going to ask you some questions about how well you felt the dentist communicated with you at your last visit

Press <1> to continue

LISTEN

Thinking again about your last visit to the dentist, did the dentist listen carefully to what you had to say about your oral health?

If 'to some extent', code yes.

Yes

No

TIMDis

Were you given enough time to discuss your oral health with the dentist?

If 'to some extent', code yes.

Yes

No

No problems discussed

INVDEC

Were you involved as much as you wanted to be in decisions about any dental care or treatment you may have needed?

If 'to some extent', code yes.

Yes

No

No decisions needed to be made

ANSUND

If you had questions to ask the dentist, did you get answers that you could understand?

If 'to some extent', code yes.

Yes

No

No questions were asked

RESTRE

Did the dentist explain the reasons for any dental care and/or treatment in a way that you could understand?

If 'to some extent', code yes.

Yes

No

RESPEC

Did the dentist treat you with respect and dignity?

If 'to some extent', code yes.

Yes

No

CONTRUS

Did you have confidence and trust in the dentist?

If 'to some extent', code yes.

Yes

No

Access to & Availability of NHS Dentists

All adults

INTNHS

That is the end of the questions about your last visit to the dentist. I would now like to ask you about your access to NHS dentists (and dental treatment).

Press <1> to continue

TrdNHS

Now thinking specifically about NHS dentists, have you tried to make an NHS dental appointment for yourself in the last three years?

- (1) Yes
- (2) No
- (3) Never tried to make an NHS appointment – SPONTANEOUS ONLY

ASK IF: TrdNHS <> Never

ScsNHS

Thinking about the last time you tried to make an NHS appointment for yourself, were

you successful?

Prompt on 'yes' to code 1 or 2

- (1) Yes, and I went to the appointment
- Yes, but I didn't go to the appointment
- No
- Never tried to make an NHS appointment – SPONTANEOUS ONLY

ASK IF: ScsNHS <> Never

PURPNHS

Thinking about the last time you tried to make an NHS dental appointment for yourself,

what were you making the appointment for? Was it...

Running prompt

- for a routine check-up,
- for emergency or urgent treatment,
- for some other treatment (non-emergency, non-urgent),
- or for some other reason?
- Don't know / can't remember (spontaneous only)

ASK IF: ScsNHS = YesWent or ScsNHS = YesNoGo

OTCMNHS

Thinking about the last time you tried to make an NHS dental appointment for yourself,

please choose the answer which best fits you?

Running prompt

- (1) I already had an NHS dentist, with whom I made the appointment,
- (2) The first new NHS dentist I tried gave me an appointment,
- (3) I had to make between two and four visits or phone calls to make an appointment,
- (4) I had to make five or more visits or phone calls to make an appointment?

LifetimeTreatment History

All adults, excluding those who have never attended the dentist

(If **Regular** <> 4)

INTLIFE

I would now like to ask you about types of dental care/treatment that you have received from dentists over the course of your whole life. This includes any care or treatment you may have had as a child

Press <1> to continue

ASK IF: (Filling <> Yes) and (TeethFil <> Yes)

If (If **Filling** = Yes) or (**TeethFil** = Yes) compute **EvrFlng** = 1.

EVRFLNG

Have you ever had any fillings?

- (1) Yes
- (2) No

EVRWSDM

Have you ever had any wisdom teeth extracted (taken out)?

- (1) Yes
- (2) No

EVR EXTR

Have you ever had any other teeth extracted (taken out)?

- (1) Yes
- (2) No

ASK IF: CrownFit <> Yes

If **CrownFit** = Yes, compute **TCrown** = 1

EVRCRWN

Have you ever had a tooth crowned?

- (1) Yes
- (2) No

EVRBRDG

Have you ever had a dental bridge?

Yes

No

ASK IF: Implant <> Yes OR (**Implant** = Yes AND **ImpLoc** <> Upper)

If **ImpLoc** = Upper OR Both THEN **EvrImpU** := Yes

EVRIMPU

Have you ever had an implant in your upper jaw to replace a missing tooth?

F9: An implant completely replaces a tooth and its root, and is screwed into the bone

- (1) Yes
- (2) No

ASK IF: Implant <> Yes OR (**Implant** = Yes AND **ImpLoc** <> Lower)

If **ImpLoc** = Lower OR Both THEN **EvrImpL** := Yes

EVRIMPL

Have you ever had an implant in your lower jaw to replace a missing tooth?

F9: An implant completely replaces a tooth and its root, and is screwed into the bone

- (1) Yes
- (2) No

EVRSDTN

Have you ever had sedation that is something that relaxes you but does not put you to sleep, for dental treatment?

F9: Sedation can be in the form of gas, air or tablets. Local or general anaesthetic (for example, an injection into the gum or the arm) is to be coded as 'No'

- (1) Yes
- (2) No

ASK IF: Bleach <> Yes

If **Bleach** = Yes compute **EvrBlch** = 1

EVRBLCH

Have you ever had your teeth bleached (whitened) by a dentist?

- (1) Yes
- (2) No

EVRPLSH

Have you ever had a scale and polish?

- (1) Yes
- (2) No

ASK IF:DenHyg <> Yes

If **DenHyg** = Yes compute **EvrHygn** = 1

EVRHYGN

Have you ever had treatment from a dental hygienist?

- (1) Yes
- (2) No

ASK IF: FluoVar <> Yes

If **FluoVar** = Yes compute **EvrFlrd** = 1

EVRFLRD

Has a dentist or member of the dental team ever applied fluoride varnish to your teeth?

- (1) Yes
- (2) No

EVRSMKE

Has a dentist or member of the dental team ever asked you whether you smoke?

- Yes
- No

ASK IF: DVAGE > 17

EVRADSM

Have you ever been given advice or help from a dentist or a member of the dental team on giving up smoking?

- (1) Yes
- (2) No

ASK IF: DVAGE = 16 OR 17

EVRAdSC

Please hand Showcard 13 to NAME

Please use this showcard to answer the following question:

Have you ever been given advice or help from a dentist or a member of the dental team on giving up smoking?

Please just read out the number next to the appropriate answer.

- (53) Yes
- (81) No
- (7) I have never smoked

EVRBRSH

Have you ever been given advice from a dentist or any of the dental team on cleaning your teeth and/or gums?

- (1) Yes
- (2) No

EVRDIET

Has a dentist or member of the dental team ever asked you about the types of food and drink you consume?

- Yes
- No

ASK IF: EvrDiet = Yes

EVRDNAD

Have you ever been given advice or help from a dentist or a member of the dental team about the food and drinks you should be consuming?

- (1) Yes
- (2) No

EVRFRQY

Have you ever been given advice from a dentist or a member of the dental team about how frequently you should visit a dentist?

- (1) Yes
- (2) No

Attitudes & Barriers

All adults

ASK IF: Natural <> None

BACHE

If you went to the dentist with an aching back tooth would you prefer the dentist to take it out (extract it) or fill it (supposing it could be filled)?

- (1) Take it out (extract it)
- (2) Fill it

ASK IF: Natural <> None

BCROWN

If the dentist said a back tooth would have to be taken out (extracted) or crowned, what would you prefer?

- (1) Taken out (extracted)
- (2) Crowned

COSTTYP

Has the cost of dental care affected the type of dental care/treatment you have received in the past?

F9 - This is not the choice between NHS and private care but whether to, for example, have a tooth filled rather than taken out (extracted) or opting to go for a cheaper type of filling

- Yes
- No

COSTDLY

In the past, have you had to delay dental care or treatment because of the cost?

- Yes
- No

MDAS Anxiety Scale

All adults, excluding those who have never attended the dentist
(If **Regular** <> 4)

INTMDAS

Many people get anxious about visiting the dentist. I would like to ask you some questions about how anxious you get, if at all, with your dental visit.

Please tell us how anxious you get using the scale on this card. The more anxious you feel, the higher the number you select.

Press <1> and enter

MDTREAT

SHOWCARD 12

If you went to your dentist for treatment tomorrow, how would you feel?

Not Anxious

Slightly Anxious

Fairly Anxious

Very Anxious

Extremely Anxious

MDWTRM

SHOWCARD 12

If you were sitting in the waiting room (waiting for treatment), how would you feel?

Not Anxious

Slightly Anxious

Fairly Anxious

Very Anxious

Extremely Anxious

MDTHDRL

SHOWCARD 12

If you were about to have a tooth drilled, how would you feel?

Not Anxious

Slightly Anxious

Fairly Anxious
Very Anxious
Extremely Anxious

MDSCLE

SHOWCARD 12

If you were about to have your teeth scaled and polished, how would you feel?

Not Anxious
Slightly Anxious
Fairly Anxious
Very Anxious
Extremely Anxious

MDINJT

SHOWCARD 12

If you were about to have a local anaesthetic injection in you gum, above an upper back tooth, how would you feel?

Not Anxious
Slightly Anxious
Fairly Anxious
Very Anxious
Extremely Anxious

Impact of Oral Health Problems

All adults

INTIMP

We would like to know about the severity of any difficulties or problems caused by your mouth, teeth or dentures.

Using the scale from 0 to 5 on this card, where 0 is no effect and 5 is a very severe effect, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?

Press <1> to continue

IPEAT

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Difficulty eating?

: 0..5

IPSPK

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Difficulty speaking?

: 0..5

IPCLN

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Difficulty cleaning your teeth or dentures?

: 0..5

IPOUT

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Difficulty going out, for example to the shops or visiting someone?

: 0..5

IPLX

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Difficulty relaxing (including sleeping)?

: 0..5

IPSHW

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Problems smiling, laughing and showing teeth without embarrassment?

: 0..5

IPWRK

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Difficulty carrying out your major work or role?

: 0..5

IPEMT

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Problems with emotional instability, for example becoming more easily upset than usual?

: 0..5

IPCON

SHOWCARD 13

(Using the scale 0 to 5 on the card, can you tell us what effect the following difficulties and problems have had on your daily life in the past 12 months?)

Problems enjoying the contact of other people, such as relatives, friends or neighbours?

: 0..5

ASK IF: IpEat > 0 (had some difficulty eating)

IPEATR

SHOWCARD 14

And which of the following groups of oral conditions have caused difficulty eating?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)

Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)

Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face

Broken or fractured tooth

Missing tooth/teeth
Colour, shape or size of teeth
loose or ill-fitting denture
Or any other reasons? (please specify)
None of these

ASK IF: IpEatR = 8 (OTHER)

IPeATRO

CODE OTHER CONDITION(S).

STRING[200]

ASK IF: IpSpk > 0 (had some difficulty speaking)

IPSpkR

SHOWCARD 14

And which of the following groups of oral conditions have caused you difficulty speaking?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)
Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)
Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face
Broken or fractured tooth
Missing tooth/teeth
Colour, shape or size of teeth
loose or ill-fitting denture
Or any other reasons? (please specify)
None of these

ASK IF: IpSpkR = 8 (OTHER)

IPSpkRO

CODE OTHER CONDITION(S).

STRING[200]

ASK IF: IpCln > 0 (had some difficulty cleaning teeth or dentures)

IPCLNR

SHOWCARD 14

And which of the following groups of oral conditions have caused you difficulty cleaning teeth or dentures?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)

Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)

Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face

Broken or fractured tooth

Missing tooth/teeth

Colour, shape or size of teeth

loose or ill-fitting denture

Or any other reasons? (please specify)

None of these

ASK IF: IpClnR = 8 (OTHER)

IPCLNRO

CODE OTHER CONDITION(S).

STRING[200]

ASK IF: IpOut > 0 (had some difficulty going out)

IPOUTR

SHOWCARD 14

And which of the following groups of oral conditions have caused you difficulty going out, for example to the shops or visiting someone?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)

Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)

Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face

Broken or fractured tooth

Missing tooth/teeth

Colour, shape or size of teeth

loose or ill-fitting denture

Or any other reasons? (please specify)

None of these

ASK IF: IpOutR = 8 (OTHER)

IpOutRO

CODE OTHER CONDITION(S).

STRING[200]

ASK IF: IpRIx > 0 (had some difficulty relaxing)

IpRLxR

SHOWCARD 14

And which of the following groups of oral conditions have caused you with relaxing (including sleeping)?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)

Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)

Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face

Broken or fractured tooth

Missing tooth/teeth

Colour, shape or size of teeth

loose or ill-fitting denture

Or any other reasons? (please specify)

None of these

ASK IF: IpRIxR = 8 (OTHER)

IpRLxRO

CODE OTHER CONDITION(S).

STRING[200]

ASK IF: IpShw > 0 (had some difficulty showing teeth etc)

IpShwR

SHOWCARD 14

And which of the following groups of oral conditions have caused you difficulty with smiling, laughing and showing teeth without embarrassment?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)
Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)
Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face
Broken or fractured tooth
Missing tooth/teeth
Colour, shape or size of teeth
loose or ill-fitting denture
Or any other reasons? (please specify)
None of these

ASK IF: IpShwR = 8 (OTHER)

IPSHWRO

CODE OTHER CONDITION(S).

STRING[200]

ASK IF: IpWrk > 0 (had some difficulty carrying out work or role)

IPWRKR

SHOWCARD 14

And which of the following groups of oral conditions have caused you difficulty with carrying out your major work (or role)?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)
Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)
Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face
Broken or fractured tooth
Missing tooth/teeth
Colour, shape or size of teeth
loose or ill-fitting denture
Or any other reasons? (please specify)
None of these

ASK IF: IpWrkR = 8 (OTHER)

IPWRKRO

CODE OTHER CONDITION(S).
STRING[200]

ASK IF: IpEmt > 0 (had some difficulty with emotional instability)

IPEmtR

SHOWCARD 14

And which of the following groups of oral conditions have caused you problems with emotional instability?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)

Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)

Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face

Broken or fractured tooth

Missing tooth/teeth

Colour, shape or size of teeth

loose or ill-fitting denture

Or any other reasons? (please specify)

None of these

ASK IF: IpEmtR = 8 (OTHER)

IPEmtRO

CODE OTHER CONDITION(S).
STRING[200]

ASK IF: IpCon > 0 (had some difficulty enjoying contact with other people)

IPConR

SHOWCARD 14

And which of the following groups of oral conditions have caused you problems enjoying the contact of other people?

CODE ALL THAT APPLY

Toothache, sensitive tooth, tooth decay (hole in tooth)

Loose tooth, bleeding gums, receding gums, tartar, bad breath, swollen gums (gum abscess)

Bad position of teeth (e.g. crooked or projecting, gap), space between teeth, deformity of the mouth or face

Broken or fractured tooth
Missing tooth/teeth
Colour, shape or size of teeth
loose or ill-fitting denture
Or any other reasons? (please specify)
None of these

ASK IF: IpConR = 8 (OTHER)

IPConRO

CODE OTHER CONDITION(S).

STRING[200]

Ethnicity

All adults

INTETH

I'd now like to ask you some more general questions about yourself

Press <1> to continue

ETH01 / ETH01NI

SHOWCARD 15-EW/15-NI

To which of these ethnic groups do you consider you belong?

- (1) White
- (2) Mixed
- (3) Asian or Asian British / Asian (**Eth01NI**)
- (4) Black or Black British / Black (**Eth01NI**)
- (5) Chinese
- (6) Other ethnic group

ASK IF: ETH01 = 1 (WHITE)

ETHWH / ETHWHNI

And to which of these ethnic groups do you consider you belong?

- (1) British (Irish Traveller for **EthWhNI**),
- (2) Another White Background?

ASK IF: ETH01 = 2 (MIXED)

ETHMx

And to which of these ethnic groups do you consider you belong?

- (1) White and Black Caribbean,
- (2) White and Black African,
- (3) White and Asian or,
- (4) Another Mixed background?

ASK IF: ETH01 = 3 (ASIAN OR ASIAN BRITISH)

ETHAS

And to which of these ethnic groups do you consider you belong?

- (1) Indian,
- (2) Pakistani,
- (3) Bangladeshi or,
- (4) Another Asian background?

ASK IF: ETH01 = 4 (BLACK OR BLACK BRITISH)

ETHBL

And to which of these ethnic groups do you consider you belong?

- (1) Caribbean,
- (2) African or,
- (3) Another Black background?

ASK IF: (ETH01 = 6) OR (ETHWH = 2) OR (ETHMX = 4) OR (ETHAS = 4) OR (ETHBL = 3)
(OTHER ETHNIC IDENTITIES)

ETHOTH

Please can you describe your ethnic group?

Enter description of ethnic group

: STRING [150]

ASK IF: (ETH01 = 6) OR (ETHWH = 2) OR (ETHMX = 4) OR (ETHAS = 4) OR (ETHBL = 3)
(CODING OTHER ETHNIC IDENTITIES)

ETH02

Press <space bar> to enter the coding frame.

Press enter to select code and enter again to continue.

: STRING [45]

Work Schemes

All adults

INTWRK

I'd now like to ask you some questions about your employment status

Press <1> to continue

ASK IF: DVAge < 63 OR (DVAge < 65 AND Sex = Male)

SCHM08

Last week, that is in the seven days ending Sunday the DAY of MONTH, were you on any of the following schemes...

RUNNING PROMPT

- (1) Work-Based Learning for Young People, (IF **DVAge** < 26)
- (2) New Deal, (IF **DVAge** > 17)
- (3) Work-Based Learning for Adults/Training for Work, (IF **DVAge** > 17)
- (10) Job Skills, (IF **QDatabag.GB** = No)
- (15) Worktrack, (IF **QDatabag.GB** = No)
- (21) Entry to employment,
- (50) Any other training scheme,
- (66) or none of these?
- (97) Just 16 and non-response this time

ASK IF: = NEW DEAL

NDTYPE4

May I just ask...

(and) were you on the...

INDIVIDUAL PROMPT – CODE FIRST THAT APPLIES

- (1) New Deal for Disabled People?
- (3) (the) New Deal for Lone Parents? (IF **SingPar** = Yes)
- (4) New Deal for Young People? (IF **DVAge** < 25)
- (5) New Deal for 25+ (IF **DVAge** > 24)
- (6) New Deal for 50+? (IF **DVAge** > 49)
- (7) New Deal for Partners?
- (8) None of these?
- (9) Don't Know?

ASK IF: SCHM08 = NEW DEAL AND DVAGE > 17

NEWDEA4

Can I ask, which of the following New Deal options you were on (in that week)...

RUNNING PROMPT

- (1) still on the Gateway or having advisory interviews,
- (3) working for an employer in the Public or Private Sector,
- (4) working for the voluntary sector, (IF **DVAge** > 17 AND **DVAge** < 25)
- (5) working for an environmental task force, (IF **DVAge** > 17 AND **DVAge** < 25)
- (6) In full-time study on an approved course,
- (7) receiving help setting up as self-employed, (IF **DVAge** > 17)
- (8) Basic Employment Training (BET) (IF **DVAge** > 24)
- (9) Education and Training Opportunities (ETO) (IF **DVAge** > 24)
- (19) or on the Follow Through scheme? (IF **DVAge** > 17)
- (97) Don't know

ASK IF: SCHM08 = OTHER SCHEME AND QDATABAG.GB = YES

TECLEC4

May I just check, was that...

INDIVIDUAL PROMPT – CODE FIRST THAT APPLIES

- (1) a programme funded by the Learning and Skills Councils (England) or the National Council for Education and Learning in Wales?
- (2) a scheme in Scotland run by a Local Enterprise Company (LEC)
- (3) or was it some other scheme?

ASK IF: (SCHM08 = 1 OR 3 OR 10 OR 50) OR (SCHM08 = 15 AND QDATABAG.GB = No) OR (TECLEC4 = 1 OR 2) OR (NEWDEA4 = 97)

YTEtMP

In the week ending Sunday the DAY of MONTH, on that government scheme were you...

INDIVIDUAL PROMPT – CODE FIRST THAT APPLIES

- (1) with an employer providing work experience or practical training?
- (2) on a project providing work experience or practical training?
- (3) at a college or training centre?
- (4) temporarily away from an employer or project?
- (5) temporarily away from a college or training centre?

ASK IF: (YtEtMP = 3 OR 5) OR (NEWDEA4 = 1 OR 6 OR 8 OR 9 OR 19)

YtEtJB

In the week ending Sunday the DAY of MONTH, did you do any paid work or have any other paid job or business in addition to the government scheme you have just told me about?

- (1) Yes
- (2) No

ASK IF: (DVAGE > 64 AND DVAGE <= 99) OR ((DVAGE > 62 AND DVAGE < 65) AND (SEX = FEMALE)) OR SCHM08 = NONE OR TecLEC4 = OTHER

WRKING

Did you do any paid work in the 7 days ending Sunday the DAY of MONTH, either as an employee or as self-employed?

- (1) Yes
- (2) No

ASK IF: WRKING = No

JBAWAY

Even though you were not doing paid work, did you have a job or business that you were away from in the week ending Sunday the DAY of MONTH (and that you expect to return to)?

- (1) Yes
- (2) No
- (3) Waiting to take up a new job/business already obtained

ASK IF: JBAWAY = YES OR WAITING

OWNBUS

Did you do any unpaid work in that week (ending Sunday the DAY of MONTH) for any business that you own?

- (1) Yes
- (2) No

ASK IF: OWNBUS = No

RELBUS

...or (any unpaid work for a business) that a relative owns?

- (1) Yes
- (2) No

ASK IF: RELBUS = No OR YtEtJB = No

EVERWk

(And) ^have you] ever (in your life) had paid work, apart from casual or holiday work (or the job you are waiting to begin)?

Please include self-employment or a government scheme.

- (1) Yes
- (2) No

ASK IF: EVERWk = YES

LEFTYR

Which year did you leave your last paid job?

Exclude casual/holiday work

If left last job before 1900, enter 1900

1900..2100

ASK IF YRLESS (REFYEAR – LEFTYR) <= 8

LEFTM

Which month in that year did you leave?

- (1) January
- (2) February
- (3) March
- (4) April
- (5) May
- (6) June
- (7) July
- (8) August
- (9) September
- (10) October
- (11) November
- (12) December

Job Details

Adults currently working or have worked in the past

(DVILO3a = InEmp) OR (EverWk = Yes)

ISTATE

If **LEFTYR<=8** then the following questions about employment details apply to the respondents last paid job, excluding casual or holiday work.

If **LEFTYR** NOT <=8 then:

I am going to be asking some questions in which the terms 'work', 'job', 'employed' are used. In your case could you please regard these questions as referring to your time spent...

Code <1> to continue

ASK IF: (WRKING =1) OR (JBAWAY=1) OR (OWNBUS=1) OR (RELBUS=1). IF (NEWDEA4=3 OR 4 OR 5 OR 7) OR (YTETJB=1 AND NEWDEA4=1, 6, 8, 9 OR 19) OR (YTETMP = 1 OR 2 OR 4) OR (LEFTYR<= 8)

INDD

CURRENT OR LAST JOB

What did the firm/organisation you worked for mainly make or do (at the place where you worked)?

DESCRIBE FULLY - PROBE MANUFACTURING or PROCESSING or DISTRIBUTING ETC. AND MAIN GOODS PRODUCED, MATERIALS USED, WHOLESALE or RETAIL ETC.

STRING[80]

ASK IF: (WRKING =1) OR (JBAWAY=1) OR (OWNBUS=1) OR (RELBUS=1). IF (NEWDEA4=3 OR 4 OR 5 OR 7) OR (YTETJB=1 AND NEWDEA4=1, 6, 8, 9 OR 19) OR (YTETMP = 1 OR 2 OR 4) OR (LEFTYR<= 8)

INDT

Enter a title for the industry

STRING[30]

ASK IF: (WRKING =1) OR (JBAWAY=1). IF (NEWDEA4=3 OR 4 OR 5 OR 7) OR (YTETMP = 1 OR 2 OR 4) OR (YTETJB=1 AND NEWDEA4=1,6,8,9 OR 19)

SECTOR

And was that...

RUNNING PROMPT

Public limited company (PCL) = Code 1

other limited company = Code 1

Self-employed = Code 1

- (1) a private firm or business, a limited company,
- (2) or some other kind of organisation?

ASK IF: Sector = 2

SECTro03

Ask or record

What kind of private organisation was it...

INDIVIDUAL PROMPT – CODE FIRST THAT APPLIES

- (1) A public limited company (plc)? (Check it is not code <2>)
- (2) A nationalised industry/state corporation? (Check it is not code <1>)
- (3) Central government or civil service?
- (4) Local government or council (including police, fire services and local authority controlled schools/colleges)?
- (5) A university, or other grant funded education establishment (include opted-out schools)?
- (6) A health authority or NHS Trust?
- (7) A charity, voluntary organisation or trust?
- (8) The armed forces?
- (9) Some other kind of organisation?

ASK IF: (WRKING =1) OR (JBAWAY=1) OR (OWNBUS=1) OR (RELBUS=1). IF (NEWDEA4=3 OR 4 OR 5 OR 7) OR (YTETJB=1 AND NEWDEA4=1, 6, 8, 9 OR 19) OR (YTETMP = 1 OR 2 OR 4) OR (LEFTYR<= 8)

OccT

What was your (main) job (in the week ending Sunday the DAY of MONTH?)

ENTER JOB TITLE

STRING[30]

ASK IF: (WRKING =1) OR (JBAWAY=1) OR (OWNBUS=1) OR (RELBUS=1). IF (NEWDEA4=3 OR 4 OR 5 OR 7) OR (YTETJB=1 AND NEWDEA4=1, 6, 8, 9 OR 19) OR (YTETMP = 1 OR 2 OR 4) OR (LEFTYR<= 8)

OccD

What did you mainly do in your job?

CHECK SPECIAL QUALIFICATIONS/TRAINING NEEDED TO DO THE JOB

STRING[80]

ASK IF: (WRKING =1) OR (JBAWAY=1) OR (OWNBUS=1) OR (RELBUS=1). IF (NEWDEA4=3 OR 4 OR 5 OR 7) OR (YTETJB=1 AND NEWDEA4=1, 6, 8, 9 OR 19) OR (YTETMP = 1 OR 2 OR 4) OR (LEFTYR<= 8)

STAT

Ask (or record if on government scheme or doing unpaid work)

Were you working as an employee or were you self-employed?

- (1) Employee
- (2) Self-employed
- (3) Government Scheme
- (4) Unpaid family worker

PdWAGE

May I just check...

Were you paid either a salary or a wage by an employer?

- (1) Yes
- (2) No

ASK IF: (PdWAGE = 2) OR (STAT =2)

SELF

May I just check...

Were you...

Individual prompt - code all that apply (up to 4)

- (1) Paid a salary or wage by an agency?
- (2) A sole director of your own limited business?
- (3) Running a business or professional practice?
- (4) A partner in a business or professional practice?
- (5) Working for yourself?
- (6) A sub-contractor?
- (7) Or doing free-lance work?
- (8) None of the above

ASK IF: STAT = 1

SUPVIS

In your job did you have formal responsibility for supervising the work of other employees?

Do not include people who only supervise:

- children, e.g. teachers, nannies, childminders
- animals
- security or buildings, e.g. caretakers, security guards

- (1) Yes
- (2) No

ASK IF: Stat = 1

MANAGE

ASK OR RECORD

(And) did you have any managerial duties?

- (1) Manager
- (2) Foreman/supervisor
- (3) Not manager/supervisor

ASK IF: Stat = 1

MPNE02

How many people worked for your employer at the place where you worked?

- (1) 1-10
- (2) 11-19
- (3) 20-24
- (4) Don't know but under 25
- (5) 25-49
- (6) 50-249
- (7) 250-499
- (8) Don't know but between 50 and 499
- (9) 500 or more

ASK IF: Stat = 2

SOLO

Ask or record

Were you working on your own or did you have employees?

- (1) on own/with partner(s) but no employees
- (2) with employees

ASK IF: Stat = 2

MPNS02

How many people did you employ at the place where you worked?

- (1) 1-10
- (2) 11-19
- (3) 20-24
- (4) Don't know but under 25
- (5) 25-49
- (6) 50-249
- (7) 250-499
- (8) Don't know but between 50 and 499
- (9) 500 or more

ASK IF: ((STAT = 1 OR 2 OR 4) AND (EVERWk =-9)) OR ((STAT = 1 OR 2) AND (YrLESS <= 8)) OR YTETMP = 1 OR 2 OR 4) OR (NEWDEA4=3 OR 4 OR 5 OR 7) OR (YTETJB=1 AND NEWDEA4=1,6,8,9 OR 19)

FtPtWk

In your (main) job were you working:

- (1) full time
- (2) or part time?

ASK IF: FtPtWk = 2

YPTJOB

I would like to ask you why you took a part-time rather than a full-time job. Was it because...

Individual prompt - code first that applies

- (1) You were a student/You were at school?
- (2) You were ill or disabled?
- (3) You could not find a full-time job?
- (4) You did not want a full-time job?

Looking for Work

Adults currently not working

ASK IF: (EVERWK =RESPONSE) OR (RELBUS=1) OR (OWNBUS=1)

Look4

Thinking of the 4 weeks ending Sunday the DAY...

Were you looking for any kind of paid work at any time in those 4 weeks?

- (1) Yes

- (2) No

ASK IF: (Look4 = 2) AND (DVAGE > 15 AND DVAGE < 60)

LkYt4

... or were you looking in those 4 weeks for a place on a government scheme?

- (1) Yes
(2) No

ASK IF: (LkYt4 = 2) OR ((Look4 = 2) AND (DVAGE > 59 AND DVAGE < 70))

WAIT

... and were you waiting to take up a job that you had already obtained?

- (1) Yes
(2) No

ASK IF: Wait = 2

LIKEWk

Even though you were not looking for work in the 4 weeks ending Sunday the DAY, would you like to have a regular paid job at the moment, either a full- or part-time job?

- (1) Yes
(2) No

ASK IF: Wait = 2

NoLoWa

... what were the reasons you did not look for work in the last 4 weeks?

CODE ALL THAT APPLY

- (1) Waiting for the results of an application for a job/being assessed by a training agent
(2) Student
(3) Looking after the family/home
(4) Temporarily sick or injured
(5) Long-term sick or disabled
(6) Believes no jobs available
(7) Not yet started looking
(8) Doesn't need employment
(9) Retired from paid work

(10) Any other reason

ASK IF: Wait = 2

NoLWM

... what was the main reason you did not look for work in the last 4 weeks?

- (1) Waiting for the results of an application for a job/being assessed by a training agent
- (2) Student
- (3) Looking after the family/home
- (4) Temporarily sick or injured
- (5) Long-term sick or disabled
- (6) Believes no jobs available
- (7) Not yet started looking
- (8) Doesn't need employment
- (9) Retired from paid work
- (10) Any other reason

ASK IF: (Look4 = 1) OR (LkYt4 = 1)) OR (LIKEWk = 1)) OR (JbAWAY = 3) OR (WAIT = 1) OR (DIFJOB = 1)

START

If a job or a place on a government scheme had been available in the week ending Sunday the DAY, would you have been able to start within 2 weeks?

- (1) Yes
- (2) No

ASK IF: Start = 2

YSTART

Why would you not have been able to start within 2 weeks?

CODE MAIN REASON ONLY

- (1) Must complete education
- (2) Cannot leave present job within 2 weeks
- (3) Looking after the family/home
- (4) Temporarily sick or injured
- (5) Long-term sick or disabled
- (6) Other reason

ASK IF: (DIFJOB = 1) OR (((Look4 = 1) OR (LkYt4 = 1)) AND (JbAWAY <> 3))

LkTIMA

How long have you been looking for paid work/a place on a government scheme/an additional or replacement job?

- (1) Not yet started
- (2) Less than 1 month
- (3) 1 month but less than 3 months
- (4) 3 months but less than 6 months
- (5) 6 months but less than 12 months
- (6) 12 months but less than 18 months
- (7) 18 months but less than 2 years
- (8) 2 years but less than 3 years
- (9) 3 years but less than 4 years
- (10) 4 years but less than 5 years
- (11) 5 years or more

ASK IF: (WAIT = 1) OR (JBAWAY = 3)

LkTIMB

How long were you looking for paid work/an additional or replacement job?

- (1) Not yet started
- (2) Less than 1 month
- (3) 1 month but less than 3 months
- (4) 3 months but less than 6 months
- (5) 6 months but less than 12 months
- (6) 12 months but less than 18 months
- (7) 18 months but less than 2 years
- (8) 2 years but less than 3 years
- (9) 3 years but less than 4 years
- (10) 4 years but less than 5 years
- (11) 5 years or more

Educational Attainment

All adults

INTED

I'd now like to ask you about your qualifications

Press <1> to continue

EdATTN1

Do you have any educational qualifications for which you received a certificate?

.....

- (1) Yes
- (2) No

EdATTN2

Do you have any professional, vocational or other work-related qualifications for which you received a certificate?

- (1) Yes
- (2) No

ASK IF: (EdAttn1 = Yes) OR (EdAttn2 = Yes)

EdATTN3

Was your highest qualification:

RUNNING PROMPT

- (1) at degree-level or above
- (2) or another kind of qualification?

EdAGE

How old were you when you finished your continuous full-time education?

Code 96 for not yet completed

97 for none

1..97

Other Classificatory Questions

HRP/partner only

CAR

A lot of people own cars these days.

(Can I just Check) is there a car or van normally available for use by you or any members of your household?

INTERVIEWER – If NAME is not present, then ask this question to another adult household member.

- (1) Yes
- (2) No

LONGLIVE

How long have you lived in this part of the country, that is within 50 miles of here....

RUNNING PROMPT

- (1) ...all your life...
- (2) 10 years or more...
- (3) or less than 10 years?

Income

All adults

SRCINC08

SHOWCARD 13

This card shows various possible sources of income. Can you please tell me which kinds of income you personally receive?

Code all that apply

SET [14] OF

- Earnings from employment
- Earnings from self-employment
- Pension from former employer
- Personal Pension
- State Pension
- Child benefit
- Income Support
- Tax Credits
- Other state benefits
- Interest from savings
- Interest from investments
- Other kinds of regular allowance from outside the household
- Income from rent
- Other sources
- No source of income

ASK IF: one or more responses to srcinc08

GROSSTEL

Thinking of the sources you have mentioned, what is your total personal income before deductions for income tax, National Insurance etc, (that can be weekly, monthly or an annual amount)?

Prompt only if necessary. An estimate is acceptable.

0..99999997

ASK IF: (GrossTel = response and GrossTel <= 99999997)

GRSSTIME

Ask or record

Is that a weekly, monthly or annual amount?

- (1) Weekly
- (2) Monthly
- (3) Annually

ASK IF: (GROSSTEL = REFUSAL OR GROSSTEL = DON'T KNOW)

TELBAND

We put answers into income bands. Would you tell me which band represents your total personal income before all deductions. Is it...

Running Prompt

- (1) Less than £100 a week,
- (2) £100 but less than £200 a week,
- (3) £200 but less than £300 a week,
- (4) £300 but less than £400 a week,
- (5) £400 but less than £500 a week,
- (6) £500 but less than £600 a week,
- (7) £600 but less than £700 a week,
- (8) £700 but less than £800 a week,
- (9) £800 but less than £900 a week,
- (10) £900 but less than £1000 a week,
- (11) Over £1000 a week?

ASK IF: GrossTel <> response (no income amount given)

HHLDAMT

INTERVIEWER – If NAME is not present, then ask this question to another adult household member.

Thinking of the income of the household as a whole, what is the total income of the whole household before deductions for income tax, National Insurance etc?

Prompt only if necessary. An estimate is acceptable.

: 00..99999997

ASK IF: IF **hhldamt** = RESPONSE AND **hhldamt**<= 99999997

HHLDPER

Ask or record

Is that a weekly, monthly or annual amount?

Weekly

Monthly

Annually

ASK IF: **HhldAmt** = Don't Know or **HhldAmt** = Refusal

HHLDBAND

We put answers into income bands. Would you tell me which band represents the total income of the household before all deductions. Is it...

Running Prompt

Less than £100 a week,

£100 but less than £200 a week,

£200 but less than £300 a week,

£300 but less than £400 a week,

£400 but less than £500 a week,

£500 but less than £600 a week,

£600 but less than £700 a week,

£700 but less than £800 a week,

£800 but less than £900 a week,

£900 but less than £1000 a week,

Over £1000 a week?

Comments

All adults

COMMENT

We have asked you a lot about dental health and dentistry. Is there anything you would like to say that we haven't asked you about?

(1) Yes

(2) No

ASK IF: **Comment** = Yes

COMMNTO

RECORD OTHER COMMENTS

: OPEN

ASK IF: Comment = Yes

COMMNTOO

CODE COMMENTS INTO CODE FRAME

CODE ALL THAT APPLY

SET [10] OF

- (1) No NHS dentist available
- (2) Dislike drift from NHS
- (3) Treatment should be free
- (4) Costs too much (no mention of NHS/free)
- (5) Can't get appointment
- (6) Dentist over-loaded
- (7) Satisfied
- (8) Better than in past
- (9) Frightened of dentist
- (10) Other

Appendix 3a The conduct of the examination and clinical criteria

Introduction

These criteria are written for the use of the dental examiner prior to and during training and for consultation purposes during the fieldwork.

The aim in setting these criteria has been to maintain comparability with the 1978/1988/1998 surveys of adult dental health in the UK, whilst also incorporating new conventions based on research findings and current epidemiological practice. In addition, criteria to assess clinical conditions that have emerged as significant in the last decade have also been introduced.

As in the last national Adult Dental Health Surveys, data will be entered directly on to a computer by the interviewer. For the purpose of early training, paper recording on printouts of the screen display will be used, but in the final stages of training and in the field all data will be recorded on a portable computer. You should always call the codes exactly as presented in these protocols, i.e. using the letters and numbers given. For technical reasons, they do not appear in the computer programme in exactly the order presented here.

The criteria which follow should be studied in conjunction with the reproduction of the examination forms supplied and the training package on the CD-ROM. Each page of the forms shows several of the grids which the interviewer will complete on screen. The general and personal details will be entered by the interviewer before going into the household.

Procedure before the examination



Medical screening

Recent guidance from the National Institute for Clinical Excellence (NICE) now clearly states from a review of best evidence that a dental examination, including periodontal probing, does not pose a risk to patients with a previous history of Rheumatic Fever or other cardiac disorders. Specific questions are no longer required to identify these patients. If subjects raise the issue of not probing because of pre-existing medical conditions the following statement may be helpful "In the past our policy was not to examine the gums of some patients as this was the part of the examination where there was a possible risk. The National Institute for Clinical Excellence has recently reviewed the evidence in this area and concluded that there is no significant risk from the examination of

teeth and gums, our policy is in line with this, BUT if you prefer us not to do the gum examination please let us know”

All subjects will receive the full clinical examination. In addition some pre-selected subjects in specific areas will also receive one of two additional internationally developed harmonised examinations which were not undertaken in 1998. Examiners will know in advance if they are undertaking one of the additional examinations and the computer screens will be set up to reflect this. The two areas of the survey where this may occur are: tooth wear (BEWE) and periodontal examination (BPE). Additional instructions and codings for these examinations are included in this document and detailed in the accompanying training package.

To assist examiners standard black text is used to indicate the main examination.

 The sections relating to the additional international examinations will appear in a boxed section with a globe symbol at the start (). Examiners involved in these examinations should follow the text in boxes for the relevant section of the examination.

A code will be added to record whether or not the examination was completed in full and to note if the additional examinations were carried out. This will be at the end of the examination.

Equipment set-up and seating the participant

The participant should be seated in a comfortable chair which has good head support, and to which the examiner can get access. Individual examiner’s preferences vary. Kitchens are sometimes difficult as the seats often have no head support. A comfortable chair in the sitting room is usually fine, but access and lighting can be a problem. Consideration needs to be given to the positioning of the “Daray” lamp, the availability of power points, and the convenience to the participants. The lamp can be clamped to an ironing board if necessary.

The instruments should be laid out on a clean tissue out of sight of the participant if possible, but allowing easy access. The light should be set up and adjusted. The Daray lamp should be set at the high power setting (II) and dark protective glasses placed on the subject. To ensure good lighting please use a new bulb at the start of the survey.

Cross infection control

Each examiner will carry sufficient sets of sterile instruments to ensure that there are sterile instruments for every examination. Following the examination these

will be placed in a sealed container for transport back to the examiners home clinic where the instruments will be autoclaved. Examiners will wear a clean pair of **latex free gloves** for the examination of each participant. These will be disposed of into a standard yellow bag with any tissues and wipes after the exam. This will be disposed of on return to the clinic along with normal clinical waste.

Diagnostic Criteria

Before the participant removes their dentures, the examiner may wish to look briefly in the mouth to assess the overall distribution of natural teeth and dentures. This may serve to put the participant at their ease before removing their prosthesis, but it is essential that the dentures are then removed for the rest of the examination. There is an initial box in the form which records the dental status (dentate in both arches, dentate in one arch, or edentate). This must be done with the dentures removed. This is completed at this stage.

The convention throughout is:

If in doubt - score low (i.e. “least disease”).

Existence and state of coronal surfaces, and debris score

The first stage of the examination is to record the condition of the crowns of the teeth. As data are entered, the computer will automatically block out all missing teeth for the remaining **relevant** parts of the examination (namely the grids for roots, wear and periodontal condition), consequently there is no need to record which teeth are present or absent before starting. All the examiner has to decide is which tooth is being examined, data on spaces and replacement teeth will be recorded at a later stage.

Procedure

Using mirror and CPI probe the permanent teeth will be examined in the following order:

Upper right, upper left, lower left, lower right (i.e. clockwise as you look at the subject from in front).

The interviewer will probably prompt you with the tooth number as you move around the mouth. Before examining the teeth in detail and calling out the five surface codes, we would like you to call out a code to indicate whether or not there is any plaque (or supragingival calculus) on any surface the tooth. The code to call is either “P” where there is plaque or calculus, or “C” (clean) where there is not.

Having called out the debris code for the tooth, and cleaned the surfaces of gross debris (if necessary), the surfaces should then be examined one at a time, distal first, then occlusal, mesial, buccal, lingual, and the codes called out clearly and unequivocally for each site. Each tooth, even the anterior teeth, has five surfaces because on the anterior teeth, the incisal is considered a tooth surface equivalent to the occlusal surface on molars and premolars.

Most codes will be single codes, but multicoding (or subcoding), where a second code is entered to qualify the first, is possible for some conditions. A tooth may be “F” sub-code “5” or “F5”. Clarity of calling is of the first importance if the examination is to be completed efficiently and accurately.

For this part of the examination the CPI type C probe is used. Being a ball-ended instrument, this means that it should not damage any incipient lesions. It should not be used for probing into fissures or early lesions, but it may be used for the following:

- removing debris from around key areas if necessary.
- detecting and examining sealants
- placing into open crown margins or defects at the margin of restorations to estimate their dimension, but this should not be done with force.

Codes and criteria

Debris

P = Any VISIBLE plaque or supragingival calculus (to naked eye, without running probe around)

C = Clean, no plaque or calculus visible to the naked eye

This is called out first, and then you should call the five surface codes for coronal condition below. Debris is only recorded on natural teeth and not on bridge pontics, dentures or implants.

Coronal condition

M = Missing (and not a bridge pontic)

A = Adhesive bridge pontic

B = Conventional bridge pontic or implant pontic

T = Implant

Once these codes are entered for a single surface these teeth will be blocked through as missing for the remainder of the examination (except for contacts and spacing).

All examiners should complete this section for coronal surface conditions

The following codes indicate the presence of a restoration or sealant. **All** of the codes below must **always** be qualified by a second code which indicates the condition of the restoration or sealant.

F = Amalgam filling

R = Intracoronal restoration, but not amalgam

This will usually be composite or glass ionomer, but also includes inlays or onlays and the restored surfaces of $\frac{3}{4}$ crowns.

V = Veneers, shims, retentive wing of adhesive bridges, repair of fractures or wear

These are adhesive restorations. They are used simply to change the shape of a tooth or as adhesive retainers for resin bonded bridges. A shim is a thin metal restoration cemented onto a functional surface (such as the palatal surface of an upper anterior or a molar occlusal surface) to change its shape. These are rare. A veneer is usually placed buccally to improve colour or shape, these are fairly common. The difference between them is not important, but neither is placed to treat caries. The key difference between code V and code R is that the restorations for code R are placed following restoration, usually for caries treatment, whilst those for V are stuck on to the surface to fulfil an aesthetic or occlusal need. Restorations placed on incisal edges of anterior teeth to repair fractures should also be coded V, assuming that there is no question of them being placed to treat caries.

K= Full crown

This may be either permanent or temporary, and including full coverage bridge abutments for conventional bridges. It does not include $\frac{3}{4}$ crowns, these are coded 'R' on the relevant surface. Temporary crowns are coded K, but must be multicoded "Y" see below. All surfaces of crowns should be multicoded.

X = Sealants

All sealants should be recorded whether they are full or partial and each should be qualified by a second code just like all of the other restoration codes, e.g. a partial sealant would be coded XY. It is often impossible to be sure whether or not a sealant is a sealant alone or whether there is a restoration underneath. Where there is **clear** evidence of a sealant restoration (but **only** where there is clear evidence) this should be coded as R instead.

For F, R, V, K and X the computer will always need a second code to indicate the caries status of the enamel/dentine adjacent to the restoration, use the same codes as for dental caries and failed restorations 0, H, 4, 5, 6 or Y shown below..

The interviewer will not be able to move on unless you call a second code for the health of the surface. The restoration may have visual dentine caries but no cavitation associated with the restoration (similar to code 4 below), or there may be distinct cavitation associated with caries at the margin (see code 5 below), it may have broken or been damaged but not carious (code Y see below), or it may be a perfectly sound restoration, Caries code 0. There is a code to represent each of these and you must always use ONE of them with F, R, V, K and X.

Classification for Dental Caries (and failed restorations) (Coronal)

0 = Sound

Code 0 (Zero) is used for all surfaces that are present and have no clinically discernible caries experience under the conditions of the examination. A surface is recorded as “sound” if it shows no evidence of treated or untreated dental caries. In the case of partly-erupted teeth, where some surfaces may not be visible, these will be considered as sound and recorded under this category. Where all surfaces are sound you may call “Q” and all 5 surfaces will be marked with zero. Partially erupted teeth with no signs of caries or restoration should be coded as sound on all surfaces. Surfaces with hypoplasia, fluorosis and other developmental defects are recorded as sound unless they are also affected by caries.

Y = Failed restoration of any kind, but not carious

This may be a restoration which is chipped cracked or which has a margin into which a ball-ended probe tip will fit. Temporary crowns are included here.

H = Hard, arrested decay

The surface should show exposed dentine which is glossy and hard, despite being discoloured. There has been decay but it is now arrested. Be careful to distinguish this from extrinsic staining and also note that there must be dentine exposure.

4 = Visual dentine caries (underlying dentine shadow - non cavitated dentine caries)

The surface has decay present into dentine which is visible to the observer, but which is NOT obviously cavitated - such lesions may exhibit signs of localised enamel breakdown but no cavitation into dentine. These lesions will usually manifest as shadowing under an occlusal surface or marginal ridge.

5 = Distinct cavity with visible dentine

The surface has decay present into dentine which has caused the lesion to cavitate exposing dentine. Record ‘5’ only if there is a cavity (but not “6”, see below In line with previous surveys, this also includes temporary dressings placed for the treatment of caries.

6 = Extensive cavity with visible dentine

Code 6 is used for obvious loss of tooth structure, the cavity is both deep and wide and dentin is clearly visible on the walls and at the base. An extensive cavity involves at least half of a tooth surface or possibly reaching the pulp. This code is used for teeth which are so broken down that it is inconceivable that there is not pulp involvement and where restoration of the tooth would be very involved or impossible. This code includes carious stumps or teeth so broken down that whole surfaces have been eliminated through caries. It should not be used for little bits of retained root left after extraction (which should be ignored at this stage), or for overdenture abutments (code 9). There must be presumed active soft carious dentine.

9 =Not possible to code

Code 9 is used throughout the examination for occasions where you cannot make a reasonable judgement. It should be used **VERY** sparingly. In the case of coronal surfaces it represents circumstances where an entire surface is actually missing because it has fractured off or worn away, such that there is nothing that you can code. This is rare; if there is anything there you should score it. The most likely use for code 9 is for overdenture abutments. If a surface is missing because it has broken down through caries then 5 or 6 should be used. Code 9 is used only for surfaces where more than half of the surface is covered, where less than half of a surface is obscured it should be coded according to what is seen.

Priority

Data are collected on a surface by surface basis so, apart from the case of recurrent caries, the possibilities of having more than one code on a surface are limited. On rare occasions though there may be a restoration and completely unrelated caries. In these situations the dentine caries code will ALWAYS take precedence, so if for example codes 4 and R are encountered, then code 4 should be entered. This is to ensure that new dentine caries is never left unrecorded. Similarly if there is a filling which is fractured and carious, the dentine caries code (4, 5, 6) is the one recorded as the multicode, not code Y, so that recurrent dentine caries is always recorded unless there is new caries on the same surface. Where there are two materials present on a surface, amalgam will take precedence. If a restoration has been lost entirely the code used to record this must fall into a restoration code – i.e. within the “F” component of DMFT. Use F as though it had been an amalgam filling in posterior teeth and R for other restorative material anteriorly. The second code is Y unless there is also caries.

Summary - coronal surfaces

- move clockwise around the mouth
- the presence or absence of any plaque is called out first – prior to cleaning
- then five surface codes are called out (for D,O,M,B,L surfaces in that order)

- for each surface there will be a single code where there is no restoration or sealant
- where there is a restoration or sealant there are two codes, one to describe the restoration (e.g. amalgam, other material, crown, sealant etc) and a second code to indicate the condition
- on rare occasions where there is both new decay and a **separate** restoration on the same surface, caries will always take priority. These situations will arise only rarely

Condition of root surfaces (all examiners)

Procedure

Having completed the coronal surfaces the examiner should return to examine any exposed root surfaces in the same order as was used for those surfaces. There is no need for the recorder to mark out missing teeth, this will have been done automatically, but it is important that you keep the recorder orientated. You should call out which teeth you are on as you progress or at the very minimum you should indicate when the midline is reached. **On no account should you try to do the roots at the same time as the crowns.**

Diagnosis of root caries is different from that for coronal caries, and requires the use of a sharpened probe, because textural changes are at the heart of diagnosis. The examiner will now need to pick up the root probe. Note that this instrument is used for no other surface. The probe should be used on the surface of the roots to determine texture or detect cavitated defects. **Do not try to push the tip hard into dentine.** You will get some indication of the texture by dragging it across the surface, and gently feeling for any softness. Do this if there is any question of decay.

Anything exposed apical to the cemento-enamel junction (or when the CEJ has been replaced by a restoration, the apical margin of the restoration) is regarded as root surface. Each root may have four surfaces, but in reality often only one or two will be exposed and in younger participants the number of exposed teeth will be rather low. However all four surfaces must be examined, to ensure complete coverage of the root surface.

Codes and criteria

Each root surface of every tooth should be examined and a single code for each tooth called for primary caries and 2 codes for restored root surfaces using the codes below.

Remember, if in doubt, score low (i.e. least disease)

The codes below are restoration codes and must always be used with a second code using exactly the same convention as for coronal surfaces. One of the codes **0, 4, 6, H** or **Y** must be used to describe the condition of the root restorations.

F = Amalgam restoration (see note below)

R = Filling or restoration, not amalgam (see note below)

N = No exposed root surface

0 = Exposed root surface present but no evidence of current or past disease

Exposed root surface is any exposure of the root coronal to the gingival margin

W = Worn to a depth of 2mm or more, but with no caries or restoration

H = Hard, arrested decay

The surface should be glossy and hard, despite being discoloured. There has been decay, but it is now arrested. .

4 = Caries on the root surface equivalent to coronal caries codes 4 or 5

This is any caries which is believed to be active on the basis of texture. An active root lesion can be almost any colour from yellow or tan through to almost black. In some circumstances it can even be very difficult to tell caries from extrinsic staining. The texture is very important and the probe must be used to try to determine this. Anything which shows evidence of softening or frank cavitation should be coded as carious. **Shiny** dark areas are much less likely to be actively carious and more likely to be arrested, such areas should be coded as "H. Usually stained calculus and extrinsic staining will be fairly obvious, but if there is any doubt the texture is critical.

6 = Extensive cavity

These lesions are deep and wide and probably involve the pulp. Code 6 is also used when there has been gross destruction of the tooth and there are only roots remaining.

9 = Unscorable

Code 9 should be used sparingly, and **only** if it is not clear whether or not there is any root exposure. This is most likely where there are very large deposits of calculus around lower incisors. If there is any visible root it should be coded with the appropriate letter. If there is no root surface exposed then a code 0 should be used. Only if the examiner suspects an exposed root surface, but cannot examine it should a code 9 be entered.

Note:

Most restorations are either clearly crown or root restorations, but some restorations and lesions straddle the CEJ and these are difficult to call. Here the 3mm rule will apply. This goes as follows:

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- If the restoration is clearly a coronal restoration which encroaches on to the root, it should ONLY be coded as a root restoration as well as a coronal restoration if it extends 3mm or more beyond the CEJ (or the estimated CEJ) and onto the root surface. The distal section of the CPI probe (above the ball end) can be used to measure this if necessary.
- If there is frank caries at the margin of the filling extending from the coronal onto the root surface then this will count as caries on the root, even where the restoration does not extend 3mm. In this case the condition of the coronal portion of the filling will be coded independently according to the condition of this part of the tooth.
- If a root restoration extends onto the crown, the same 3mm rule applies in reverse (i.e. there must be 3mm beyond the CEJ on to the crown to count as a coronal restoration), but any caries occurring on the coronal portion of a root restoration is recorded as coronal caries, whilst the root restoration is scored according to its condition.
- Some lesions and some fillings are smaller, they straddle the CEJ and it is difficult to be sure whether they are primarily on the root or the crown and do not extend 3mm onto either. In this case they should be recorded as root as this is the more vulnerable surface if it is exposed.
- Artificial crowns cause a particular problem because it is often impossible to identify the CEJ. Where there is a crown and the CEJ is covered, the margin of the crown should be considered the same as the CEJ, unless the contour of the crown indicates where the CEJ lies in which case the extension of the crown beyond this can be measured. On the rare occasion where this extends 3mm or more on to the root surface, the surface should be recorded as filled.

Summary - root surfaces

- root surfaces are examined in a separate single sweep of the mouth, examining the teeth in the same order as for crowns
- only a single code is entered for the whole root surface
- the codes are similar to those for crowns
- you must use the sharp probe to assess texture
- in younger patients the examination will usually be very easy and quick

Tooth wear (all examiners)

Procedure

The assessment of tooth wear is a part-mouth examination. The teeth should be inspected in good light, from the upper right canine to the upper left canine, and then left canine to right canine in the lower arch, just as for the previous parts of the examination. Each tooth should be assessed looking at each coronal surface (root surfaces have been recorded during the examination for roots). In order to provide comparable data with younger age groups from previous children's surveys, scores are recorded on three surfaces per tooth for the six upper teeth, the buccal, incisal and palatal. For the lower teeth, the worst surface score is the

one recorded and this will almost always be the incisal score, but if buccal or lingual surfaces are worse, then this is recorded. In many cases there will be very heavily restored teeth or crowns, these cannot be scored, but are not missing and should be coded as unscorable. The computer programme will automatically mark off all missing teeth.

Remember the convention: If in doubt - score low.

Codes and criteria

Score	Surface	Criteria
0	All	Sound, Any wear is restricted to the enamel and does not extend into dentine
1	All	Loss of enamel just exposing dentine
2	B,L	Loss of enamel exposing dentine for more than an estimated one third of the individual surface area (B,L).
	Incisal	Loss of enamel and extensive loss of dentine, but not exposing secondary dentine or pulp. On incisal surfaces this will mean exposed dentine facets with a bucco-lingual dimension 2mm or greater at the widest point (see diagram)
3	B,L	Complete loss of enamel on a surface, pulp exposure, or exposure of secondary dentine where the pulp used to be. Frank pulp exposure is most unlikely.
	Incisal	Pulp exposure or exposure of secondary dentine
8	All	Fractured tooth - clear evidence of traumatic loss of tooth substance rather than wear.
9	All	Unscorable. >75% of surface obscured (e.g. large occlusal cavity or restoration) or no remaining incisal edge/tip which can be coded. If any incisal edge/tip is present and a score may be given, this should be done. All crowns and bridge abutments are given this code.

Notes:

1. Bridge pontics are coded as missing and will already be blocked out.
2. Code 2 is the most difficult one to judge. Use the CPI probe (shaded band) to measure the diameter of any exposed dentine facet if necessary.
3. Where wear is severe, it can often be contiguous from palatal onto incisal, such that it is difficult to distinguish the surfaces. In these instances, code both the same.
4. Frank pulpal exposure is very rare, but exposure of secondary dentine (where the pulp used to be), usually appearing as a small translucent area in the centre of a wide area of dentine exposure, is not uncommon in older people.

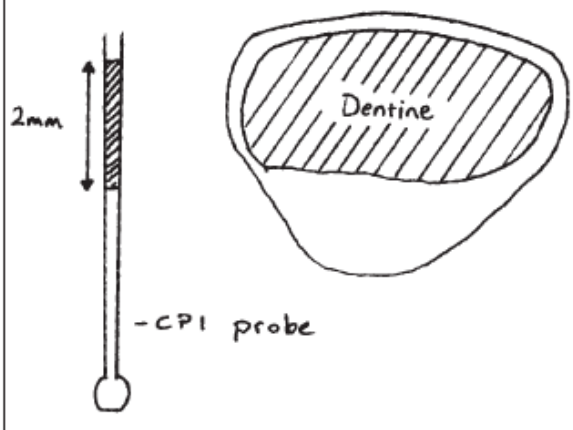
Summary - Tooth wear

- *only upper and lower anterior teeth are examined*

- *three upper surfaces and the worst lower surface of each of the teeth is recorded*
- *many teeth may be unscorable because of restorations*

Figure 1

The illustration below shows the measurement of a worn facet on a lower incisor. The CPI probe can be used to measure the buccolingual width of the **dentine** facet by using the shaded area on the instrument as a ruler. This part of the probe measures 2mm. In this case the exposed dentine is just less than 2mm so would be coded as 1.





Examiners involved in the additional tooth wear examination will now undertake the following examination as well

Basic Erosive Wear Examination (BEWE)

The BEWE is a partial scoring system recording the most severely affected surface in a sextant. The grades range from 0 to 3. The differentiation between lesions restricted to enamel and dentine can be difficult particularly in the cervical area. Buccal/facial, occlusal, and lingual/palatal surfaces are examined with the highest score recorded. Heavily restored teeth or crowns, cannot be scored, but are not missing and should be coded as unscorable.

Sextants:

The mouth is divided into sextants defined by tooth type (numbers): upper right molars and premolars (18-14), upper right canine - upper left canine (13-23), upper left premolars and molars (24-28), lower left molars and premolars (38-34) lower left canine to lower right canine (33-43) lower right premolars and molars (44-48). A sextant should be examined only if there are two or more teeth present, a single tooth will be considered to belong to the adjacent sextant.

Codes and criteria

Score	Surface	Criteria
0	BOL	Sound, no surface loss
1	BOL	loss of enamel surface texture
2*	BOL	distinct defect, hard tissue loss less than 50% of the surface area
3*	BOL	hard tissue loss more than 50% of the surface area
9	BOL	Unscorable. >25% of the tooth surface obscured. All crowns and bridge abutments are given this code.

Note: * in codes 2 and 3 dentine is often involved

The examination is repeated for all teeth in a sextant but only the surface with the highest score is recorded for each sextant. Once all the sextants have been assessed, the sum of the scores is calculated as indicated on the grid that follows:

Highest score	Highest score	Highest score	
1. Sextant (18–14)	2. Sextant (13–23)	3. Sextant (24–28)	
Highest score	Highest score	Highest score	Score sum
4. Sextant (38–34)	5. Sextant (33–43)	6. Sextant (44–48)	

Occlusion - functional occlusal contacts (all examiners)

The assessment of occlusal contacts refers to occlusal contacts between **natural teeth and the pontics of fixed bridges only**. This short examination examines only the posterior (premolar and molar) regions. The examination is conducted without dentures.

Procedure

A contact is the same as an occlusal stop. For the purposes of this examination you should get the subject to close together normally on the back teeth (sometimes the phrase “clench your back teeth together” is the most effective) and then using a mirror to hold back the cheek, look at the lower arch from the side and record the distribution of contacts. In the posterior region we are looking for tooth to tooth contact involving one or more lower pre-molars and then a contact involving one or more lower molars. The presence of a contact is determined by the lower tooth.

Just look at each side in turn and work out whether or not there is a NATURAL contact between a lower molar and another natural tooth, then between lower premolar and another natural tooth (note for the purposes of this a bridge pontic or implant counts as a natural tooth – it is supported by one – but a denture does not).

The scoring is quite easy obviously if there is NO lower tooth or bridge pontic in the area you are looking at there cannot possibly be a contact. Record contact between premolars (1 or 0), then between molars on the right and repeat on the left.

Codes and criteria

Posterior functional contacts

0 = No posterior functional contact

1 = Posterior functional contact present

Notes:

- A posterior functional contact is classified as present where the contact forms a vertical occlusal stop. This is recorded according to the lower tooth (i.e. does the natural lower or bridge pontic contact with any natural upper or pontic), and is coded as a “1” even if the area of contact is small. In rare cases where there is contact but no occlusal stop (e.g. a scissors bite) a zero is recorded. Clearly there can be no contact if there is no lower tooth in the zone you are looking at
- In some cases it may be difficult to tell whether the teeth actually touch or not, you should assume that they do if you are in doubt.

Spaces, aesthetics and dentures (all examiners)

The subject will have removed any dentures, but you may now need to look at them to help you decide on the correct codes. This examination is much easier to carry out from in front of the participant.

In this part of the examination you are looking for space in the anterior region, as far back as the second premolar zone to give some indication of aesthetics and the need for dentures and bridges. You are not recording which teeth are missing, that has been done already. For this reason it is again much easier if you start at the midline and work backwards but examine the quadrants in the same order as the rest of the exam (upper right, upper left, lower left and lower right). This way it is much more straightforward to assess the position of spaces as you can use the midline as a reference. As you look around you should look for spaces of half the width of the expected tooth at each zone. If there is a space present then call it out, the code depends on whether or not it is filled by an artificial tooth. If there is a natural tooth call it as "no space". Note that because teeth drift you may have a space at (for example) the upper second molar position even when that tooth is present (it may have drifted to a different position). What is important is that there is a space at that position, the teeth present are irrelevant. Your job is to map the spaces, you can completely ignore the tooth type. (see diagram)

Codes and criteria: spaces

Record for each tooth position the following codes:

N = No space (tooth present or space closed)

T = Implant retained restoration replaces tooth, so no space.

S = Space equal to, or more than, $\frac{1}{2}$ the size of the tooth you would normally expect to be in that space

D = Space restored by a removable prosthesis

B = Space restored by a fixed bridge

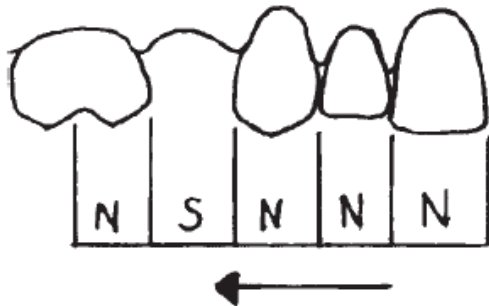
Summary - spaces

- *once again, start in the midline and work out*
- *record the position of any spaces as far back as the second premolar space*
- *there are different codes for filled and unfilled spaces.*

Figure 2

Figure 3

A single example where there is one space in the first premolar position, but the first molar has come forward to the second premolar position eliminating the space.



Codes and criteria: dentures

You will now have to hand any dentures the participant may have. The dentures, including full dentures opposed by natural teeth or partial dentures should be examined separately, upper and lower, for the following features.

Denture type

(recorded separately for upper and lower arches)

- 1 = Partial
- 2 = Full
- 3 = Complete overdenture
- 4 = Implant retained

Denture base material

- 1 = Metal, those dentures where the major connector is metal but not including those whose only metal component is clasps.
- 2 = Plastic, dentures whose major component is plastic.

Note:

Some people wear a lower free-end saddle denture with a small wrought metal bar linking the two saddles. If it does not have meshwork to retain the saddles and is not highly polished it is probably not cast. This kind of bar is about 2mm by 3mm and oval. This should not be recorded as a metal base. The denture in this case is really a plastic one with a small metal component. They are probably rare, but code as plastic.

Denture status

- 0 = The denture is intact, not damaged
- 1 = The denture is in need of repair, for example, fractured, tooth missing or self-mended.

Summary - dentures

- *all dentures are examined*
- *the examination is self explanatory*

PUFA Index (Pulp, Ulceration, Fistula, Abscess)

Examiners will ask the patient the following question:

Do you have any problem or pain in your mouth at the moment?

If they respond "No" record 0 (zero) and move to the next step.

If they respond "Yes" enquire:

Do you think that there is pain related to your teeth?

If they respond "No" record 0 (zero) and move to the next step.

If they respond "Yes" then code as 1.

Problem or Pain codes

0 = No problem or pain

1 = Yes problem and/or pain

Examiners will then record the number of lesions present in the patient's mouth for each of 4 forms of sepsis. The mouth should be examined in the same order as before (upper right, upper left, lower left, lower right), ensuring that the lips or cheeks are gently retracted to allow the soft tissues to be examined. A single code (0, 1 or 2) will be called for each of the four conditions examined. The descriptors for each condition are identical.

Description of conditions to be recorded in PUFA

P = open pulp in permanent dentition

U = obvious ulceration

F = fistula in permanent dentition

A = abscess in permanent dentition

Codes and criteria:PUFA

0 = No lesions evident

1 = A single lesion present

2 = 2 or more lesions present

Periodontal condition

(Main examination and All patients aged 16-34 years)

These assessment are not undertaken on implants. Please make sure that the probe you have is the “type C” probe which has marks at 8.5mm and 11.5mm as well as at 3.5mm and 5.5mm.

There are three parts to this examination for patients **under** 55 years, recording of pocket depths, calculus and bleeding. For patients **over** 55 years of age loss of attachment (LoA) will also be measured. The relevant fields will be blocked by the computer depending on the patient’s age. The worst score for each criteria will be recorded by sextants. If there is a single tooth in a sextant the sextant will not be recorded and the tooth will be considered to belong to the adjacent sextant.

Pocket depths and loss of attachment (LoA) (older age groups only) will be probed at two sites (mesial and distal) on each tooth, these two sites will be buccally on upper teeth and lingually on lower teeth. The worst score in each sextant will be recorded. Gently insert the CPI probe into the sulcus distally on the tooth and observe the pocket depth and, if appropriate, loss of attachment at which resistance is felt. This manoeuvre should not cause pain or blanching of the tissue, if it does, you are using too much pressure (as an indication of the force required when probing, place the probe below your fingernail, this should not be painful if the appropriate pressure is used). Reinsert the probe mesially on the tooth to obtain the readings for that surface, measure the other teeth in the sextant in the same way. At each surface you need to mentally note the pocket depth. In the older groups (55 and above) you must also note the loss of attachment scores. Having completed the measurements for the sextant call out the worst score for pocketing, followed by the worst loss of attachment score (older groups only then call out the single calculus score, and bleeding score for the sextant. It may take 20-30 seconds after probing for bleeding to be evident.

Start in the upper right and then work each sextant in sequence (distal then mesial). At each tooth in each sextant mentally note the pocket score and call the worst score in each sextant. In the older groups also record the worst LoA score for the sextant. Next record the calculus score for each sextant. The presence of calculus is called if it is visible or if it can be detected with the probe. Finally, record bleeding. You will thus be calling 18 codes in subjects under 55 years (3 per sextant) and 24 codes in subjects over 55 years (4 per sextant).

Codes and criteria: pocket depth and loss of attachment

The codes are the same for the two measures.

- 0** = Up to 3.5mm (first probe band)
- 1** = 4-5.5 mm (dark band)
- 2** = 6-8.5 mm (first area above the dark band)
- 3** = 9+ mm (second area above the dark band)
- 9** = Unscorable

Notes:

1. Pocketing is recorded from the gingival crest to the base of the pocket.
2. Loss of attachment is recorded from the base of the pocket to the cemento-enamel junction (CEJ). If this is damaged by a filling or restoration and there is no indication of where it should be then you should use the margin of the restoration. In most cases you can get an indication of where the CEJ should be, even where there are calculus deposits.
3. Code 9 should only be used if you cannot probe a pocket, either because of discomfort or because there is a physical barrier (e.g. a large shelf of calculus). In a few cases it may be necessary to use a code 9 where it is impossible to judge the position of the CEJ because of calculus.

Codes and criteria: calculus

Each surface, buccal on upper teeth, lingual on lowers should be examined for the presence of supra- or sub-gingival calculus, and a single code recorded for the sextant following codes:

0 = No visible or detectable supra- or sub-gingival calculus

1 = Any supra- or sub-gingival calculus detectable with the probe or visible with the naked eye.

9 = Unscorable.

Codes and criteria: bleeding

Each surface, buccal on upper teeth, lingual on lowers should be examined to determine if there is bleeding from any of the pockets in the sextant, a single code is recorded for each sextant:

0 = No visible bleeding

1 = Evidence of bleeding

Summary - periodontal examination

- *the order of the examination is the same as for crowns (i.e. clockwise)*
- *there are 3 or 4 codes for each sextant, pocket (then attachment loss for the over 55 age groups) then a score recording the presence of any calculus and bleeding*
- *the sites are mesial and distal, examining the buccal surfaces of upper teeth and the lingual surfaces of lowers*
- *gingival tissues around implants are not probed*



Examiners involved in the additional periodontal examination will undertake the protocol below on patients aged 35 years and over. Patients under aged 16-34 will be examined as for the main examination only

Periodontal condition and Basic Periodontal Examination (BPE)

These assessment are not undertaken on implants. Please make sure that the probe you have is the “type C” probe which has marks at 8.5mm and 11.5mm as well as at 3.5mm and 5.5mm.

The Basic Periodontal Examination is a simple extension of the main periodontal examination. It will only be undertaken on subjects over 35 years of age. The BPE simply requires an additional four sites around each tooth to be probed (the two mid-tooth sites and mesial and distal on either buccal or lingual depending on arch). It should be carried out by examining the additional sites after calling out the normal periodontal codes for the sextant. That way, all you are doing is looking to see if any of the codes are higher than those in the normal periodontal examination.

Thus in the upper sextants you will call in order:

Worst **buccal** pocket score

Worst **buccal** LOA score (over 55 years only)

Presence or absence of calculus **bucally**

Presence or absence of bleeding **buccally**

BPE score based on all six measuring sites per tooth in the sextant

In the lower arch the same sequence is followed but the worst score on the **lingual** side of the sextant is recorded, followed by the BPE score.

Codes and criteria:BPE

0 = No bleeding or pocketing detected

1 = Bleeding on probing - no pocketing > 3.5mm

2 = Plaque retentive factors present - no pocketing > 3.5mm

3 = Pockets > 3.5mm but <5.5mm in depth

4 = Pockets > 5.5 mm in depth

Aerisks/comments

Examiners will be asked for any comments that they wish to make. If there are, they will be recorded on the computer, by the examiner. This has to be done in the household. The recorder will ask the dentist if they want to “finish off the record”, and at this point you can type in the appropriate box any other findings. **The examiner should not dictate this.** If you wish to enter

something into the record, you should remove your gloves and type it in yourself.

Note that these data are most unlikely to be analysed and reported, and you do not have to record anything. Only if there is pathology which you suspect is of a serious nature (e.g. suspected malignancy) are you obliged to enter any data. In such cases (which you are **very** unlikely to encounter) you must also complete a separate pro-forma which the recorder will carry. This should be done according to the detailed protocol described in the next section. Although you will probably never use it, please make sure that you are familiar with this protocol.

Handling professional questions and reporting pathology

In previous surveys the dental examiners did not make any comment about what they saw during the examination. This time in line with current ethical practice feedback will be given with each patient falling into one of three general categories. The feedback given should use the wording provided for categories 1 2 and 3. A written copy of the feedback will be left with patients. If the participant asks about their dental treatment need, or if questions related to the standard of previous dental care arise, the response will be that the survey is not designed to collect the sort of information on which a treatment can be planned, and that visiting a general dental practitioner is the best way of ensuring a thorough dental check-up. This is not only a way of deflecting potentially difficult questions, it is also absolutely true.

The interviewer is permitted to say, when recruiting participants, that as a dentist, you may be able to offer them some advice on the best way of looking after their mouth or teeth. If after the examination the subject wishes to know about their mouth you can give an indication of whether there is room for improvement in terms of the general oral hygiene/ cleanliness and use the statements below to generally categorise the patient's dental needs:

Category 1 No obvious oral problems

Note: this code to be used for anyone with no obvious disease requiring further assessment

Thank you for taking part in this survey. I am able to give you some feedback about the examination if you would like.

It is important to understand that the survey is not designed to collect information on which dental treatment can be planned. The examination is not the same as visiting a high street dentist, which is the best way of ensuring a

thorough dental check-up. We cannot check the teeth as thoroughly as a dentist in a surgery and we cannot take X-rays.

Having looked at your mouth today it does appear overall to be healthy, and there are no teeth that obviously require urgent attention. However, current evidence-based guidance suggests that you should see a dentist for a complete check-up at least once every two years. If you have not seen a dentist within the last two years you should do so in the coming months.

Category 2 Minor issues requiring a dental check up

Note: this code to be used for anyone with obvious disease requiring further assessment

Thank you for taking part in this survey. I am able to give you some feedback about the examination if you would like.

It is important to understand that the survey is not designed to collect information on which dental treatment can be planned. The examination is not the same as visiting a high street dentist which is the best way of ensuring a thorough dental check-up. We cannot check the teeth as thoroughly as a dentist in a surgery and we cannot take X-rays.

Having looked at your mouth today there are no teeth that require urgent attention, but I think you would benefit from a thorough check-up. I would recommend that you organise an appointment with a dentist within the next couple of months.

Category 3 Obvious or progressive oral disease requiring a check up within 1 month

Note: This category is appropriate for anyone who scored 1 on the PUFA index

Thank you for taking part in this survey. I am able to give you some feedback about the examination if you would like.

It is important to understand that the survey is not designed to collect information on which dental treatment can be planned. We are not in a dental surgery, so we do not have access to air (to dry the teeth) or radiographs (to help us see beyond a clinical examination in some areas). The examination is not the same as visiting a general dental practitioner which is the best way of ensuring a thorough dental check-up.

Either:

On the basis that you said you were having pain from your mouth you should arrange to see a dentist in the next couple of weeks.

OR

Having looked at your mouth there are some teeth that would benefit from a closer inspection and I would recommend that you make an appointment to see a dentist in the next couple of weeks.

If the participant does not have a dentist, you should either have available a local contact telephone number or recommend a call to NHS Direct: (0845 46 47) for them to find a dentist.

If you are asked to comment on specific aspects of oral hygiene, we would suggest that you respond, if appropriate, by identifying areas for improvement but say that they will need more specific advice from a dentist or dental hygienist since there are many ways of achieving this. It is very important that you are not too prescriptive and that you adhere to general principles as there should be no scope for oral hygiene advice being given which conflicts with previous hygiene advice. You could preface this by saying:

'What I generally tell people is.....'

If you are asked to comment on specific aspects of past treatment, you need to say:

'This survey is limited and you need to see your (or a) dentist for specific advice and/or treatment'.

Protocol: reporting serious pathology

If the examining dentist notices a lesion which he /she considers may be serious and potentially life threatening (such as a suspected malignancy). Examiners are very unlikely to encounter such potentially serious pathology, the incidence of these lesions is very low, the examination is not a screening exercise and does not involve examination of the oral soft tissues (except the periodontium). However, it is possible that such a lesion may be noticed and, as the implications are serious, a protocol to deal with this eventuality is in place.

In the extremely unlikely event that such a lesion is noted, the examiner is obliged to follow a set protocol, which is designed to make sure that the participant's general medical practitioner is informed, whilst not causing the participant unnecessary worry. The following wording is suggested.

Category 4 Serious Pathology

Thank you for taking part in this survey.

It is important to understand that the survey examination is not as thorough as a check-up with your dentist, and it is difficult to examine all areas of the mouth in the same way.

In this survey it is our policy to inform your doctor of any ulcers or inflamed areas we see. As there is an area like this in your mouth I would like to inform your doctor, who should contact you to arrange a check-up. If you do not hear from them in the near future, please arrange your own appointment.

It is most unlikely that any such lesions will be found, and it is also unlikely that, even those which are reported, will turn out to be serious. **It is the responsibility of the examiner not to alarm the participant unduly.**

If the participant asks what the dentist thinks the lesion is, the dentist should answer honestly that they do not know, before re-iterating standard survey policy as above.

Once this is completed the dentist will leave the house before filling out a pro-forma recording the site and nature of the suspect lesion. This is sent immediately, along with the signed consent form, to one of the named survey contact consultants. The consultant will contact the doctor by letter with a copy of both the consent form and the dentist's record form as well as details of the nearest specialist unit where appropriate investigations can be undertaken.

Appendix 3b The examination chart

Participant: _____ Interviewer: _____ Dentist:

ADULT DENTAL HEALTH SURVEY 2009 PAPER DENTAL EXAMINATION

Prior to starting the examination:

- Interviewer to ensure that the consent form is signed.
- Dentist to check whether respondent is happy to start, or whether they want to clean their teeth, before starting the examination.

Beginning of Examination:

Interviewer to ask dentist:

Does the respondent have natural teeth in both arches? Yes/No

IF NO:

Does respondent have natural teeth in upper arch only? Yes/No

Or natural teeth in lower arch only? Yes/No

Participant: _____ Interviewer: _____ Dentist:

TOOTH CONDITION:

Tooth Condition	PL	D	DM	O	OM	M	MM	B	BM	L	LM
UPPER RIGHT 8											
UPPER RIGHT 7											
UPPER RIGHT 6											
UPPER RIGHT 5											
UPPER RIGHT 4											
UPPER RIGHT 3											
UPPER RIGHT 2											
UPPER RIGHT 1											

Tooth Condition	PL	D	DM	O	OM	M	MM	B	BM	L	LM
UPPER LEFT 1											
UPPER LEFT 2											
UPPER LEFT 3											
UPPER LEFT 4											
UPPER LEFT 5											
UPPER LEFT 6											
UPPER LEFT 7											
UPPER LEFT 8											

Tooth Condition	PL	D	DM	O	OM	M	MM	B	BM	L	LM
LOWER LEFT 8											
LOWER LEFT 7											
LOWER LEFT 6											
LOWER LEFT 5											
LOWER LEFT 4											
LOWER LEFT 3											
LOWER LEFT 2											
LOWER LEFT 1											

Participant: _____ Interviewer: _____ Dentist: _____

Tooth Condition	PL	D	DM	O	OM	M	MM	B	BM	L	LM
LOWER RIGHT 1											
LOWER RIGHT 2											
LOWER RIGHT 3											
LOWER RIGHT 4											
LOWER RIGHT 5											
LOWER RIGHT 6											
LOWER RIGHT 7											
LOWER RIGHT 8											

ROOT CONDITION:

Root Condition	Root	RootM
UPPER RIGHT 8		
UPPER RIGHT 7		
UPPER RIGHT 6		
UPPER RIGHT 5		
UPPER RIGHT 4		
UPPER RIGHT 3		
UPPER RIGHT 2		
UPPER RIGHT 1		

Root Condition	Root	RootM
UPPER LEFT 1		
UPPER LEFT 2		
UPPER LEFT 3		
UPPER LEFT 4		
UPPER LEFT 5		
UPPER LEFT 6		
UPPER LEFT 7		
UPPER LEFT 8		

Root Condition	Root	RootM
LOWER LEFT 8		
LOWER LEFT 7		
LOWER LEFT 6		
LOWER LEFT 5		
LOWER LEFT 4		
LOWER LEFT 3		
LOWER LEFT 2		
LOWER LEFT 1		

Root Condition	Root	RootM
LOWER RIGHT 1		
LOWER RIGHT 2		
LOWER RIGHT 3		
LOWER RIGHT 4		
LOWER RIGHT 5		
LOWER RIGHT 6		
LOWER RIGHT 7		
LOWER RIGHT 8		

Participant: _____ Interviewer: _____ Dentist: _____

TOOTH WEAR:

Tooth Wear	TWearB	TWearI	TWearL
UPPER RIGHT 3			
UPPER RIGHT 2			
UPPER RIGHT 1			
UPPER LEFT 1			
UPPER LEFT 2			
UPPER LEFT 3			

Tooth Wear	TWear*
LOWER LEFT 3	
LOWER LEFT 2	
LOWER LEFT 1	
LOWER RIGHT 1	
LOWER RIGHT 2	
LOWER RIGHT 3	

***Only worst surface to be recorded on lower jaw**

BEWE*:

BEWE	TwoTee	BOL score**
SEXTANT 1: upper R molars and premolars		
SEXTANT 2: upper R to upper L canine		
SEXTANT 3: upper L premolars and molars		
SEXTANT 4: lower L molars and premolars		
SEXTANT 5: lower L to lower R canine		
SEXTANT 6: lower R premolars and molars		
Sum of BOL scores		

*** W Midlands only**

**** Highest score for each sextant**

Participant: _____ Interviewer: _____ Dentist:

OCCLUSION:

Posterior Functional Contact	Contact
RIGHT PRE-MOLARS RIGHT MOLARS LEFT PRE-MOLARS LEFT MOLARS	

SPACES:

Spaces	Space	Spaces	Space
UPPER RIGHT 1		UPPER LEFT 1	
UPPER RIGHT 2		UPPER LEFT 2	
UPPER RIGHT 3		UPPER LEFT 3	
UPPER RIGHT 4		UPPER LEFT 4	
UPPER RIGHT 5		UPPER LEFT 5	

Spaces	Space	Spaces	Space
LOWER LEFT 1		LOWER RIGHT 1	
LOWER LEFT 2		LOWER RIGHT 2	
LOWER LEFT 3		LOWER RIGHT 3	
LOWER LEFT 4		LOWER RIGHT 4	
LOWER LEFT 5		LOWER RIGHT 5	

Participant: _____ Interviewer: _____ Dentist: _____

Interviewer to ask dentist:

Is there a denture present in the mouth? Yes/No
 Is the denture upper, lower or both? Upper/lower/both
 What is the upper/lower denture type? Partial/Full/Complete/Implant
 What is the upper/lower denture base material? Metal/Plastic
 What is the status of the upper/lower denture? Denture intact/In need of repair

PUFA INDEX:

Any pain present in the mouth at the moment? Yes/No

PUFA	Lesion present
Pulp	
Ulc	
Fist	
Absc	

PERIODONTAL CONDITION AND BPE*:

Periodontal Condition	TwoTee	Pocket	LoA*	Calc	Bleed	BPE**
SEXTANT 1: upper R molars and premolars						
SEXTANT 2: upper R to upper L canine						
SEXTANT 3: upper L premolars and molars						
SEXTANT 4: lower L molars and premolars						
SEXTANT 5: lower L to lower R canine						
SEXTANT 6: lower R premolars and molars						

*LOA for adults aged 55 or over

**BPE for adults aged 35 or over, who live in the South Central area

End of Examination

Appendix 4 The calibration exercise

Examiners took part in calibration exercises on the final day of each training course. Groups of between eight and eleven examiners examined a total of 79 subjects (nine groups of ten subjects, one of nine).¹ As with the training, subjects were recruited from the Office for National Statistics and the Intellectual Property Office, Newport. Ideally, within each group all examiners would have seen all subjects; unfortunately constraints of time and space made this impossible, but each examiner examined at least eight subjects. A total of 670 records were collected.²

The calibration exercise was designed to minimise the burden and discomfort for the subjects, and consisted of the following:

- Condition of teeth and coronal surfaces: full examination of half the subject's mouth;
- Functional contacts: a single code for each of four posterior quadrants (premolars and molars, both sides of the mouth);
- Anterior spaces (incisors, canines, premolars) on both sides of mouth.

Data were recorded by interviewers on the paper forms that were used in the training. This made it possible to record non-standard and ambiguous codes, and there were also instances of missing data. The data were keyed manually at the National Centre; each record was keyed twice and quality was ensured by each record being keyed twice, with any discrepancies resolved by reference to the paper record. Coding discrepancies were resolved during the analysis.

Levels of agreement between examiners were evaluated by calculating Kappa scores for each possible pairing of examiners³. The Kappa statistic (K) is derived by comparing the observed levels of agreement between two coders with the expected levels of agreement: a Kappa value of 1 indicates perfect agreement, and a value of 0 indicates no more agreement than could be expected by chance. It is generally accepted that Kappa scores above 0.81

¹ One examiner, included in a group of eight, dropped out before the start of fieldwork; that person's data have not been included in the analysis.

² An additional 3 examiners were trained in December 2009. A calibration exercise was carried out on 10 subjects. Given the small number of cases, these data have not been analysed here.

³ Cohen J. *A coefficient for agreement of nominal scales* Educ Psychol Measurement 20, 37-46 1960

indicate excellent levels of agreement, and scores between 0.61 and 0.80 indicate substantial agreement⁴.

To assess tooth condition, each tooth was coded into one of four states:

- missing
- active decay
- restored, otherwise sound
- sound.

Where two examiners had recorded a missing tooth in different positions, these were considered to be consistent if the recorded positions were in the same sector (for example both molars in the upper right jaw). The results for each group are shown in Table 4.

Table 4 Kappa scores for condition of teeth (coronal surfaces)

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Number of examiners	8	11	8	10	10	8	10	7*
Number of subjects per examiner	9-10	8-10	10	10	8	8-9	8-9	9-10
Mean Kappa score	0.92	0.93	0.88	0.96	0.93	0.87	0.93	0.86
Standard deviation	0.027	0.025	0.045	0.017	0.044	0.041	0.039	0.036
Coefficient of variation	0.03	0.03	0.05	0.02	0.05	0.05	0.04	0.04
Minimum	0.87	0.89	0.8	0.92	0.84	0.79	0.84	0.79
Maximum	0.96	0.97	0.96	0.99	1.00	0.94	1.00	0.92

*One examiner in Group 8 withdrew from the survey before fieldwork; her examination data have not been included in this analysis.

The mean Kappa scores for each group ranged from 0.86 to 0.93, and the lowest score recorded for a pair of examiners was 0.79. These scores represent very high levels of agreement.

Analysing the data for contacts and spaces proved more problematic. Most of the subjects were young and had good dentition. Consequently relatively few lacked functional contact between their posterior teeth or had missing anterior teeth. Of the 79 subjects examined, just nine were coded by any examiner as having no functional contact in one or more quadrants; these were spread over six of the eight calibration groups. This provided insufficient data for analysis.

⁴ Landis JR, Koch GG. *The measurement of observer agreement for categorical data* Biometrics 33, 159-174 1977.

The coding of spaces was more complex. As with the condition of teeth, there four possible statuses for each of 20 tooth positions:

- tooth present
- space equivalent to at least half a tooth-width, tooth missing
- tooth missing, replaced by bridge pontic
- tooth missing, replaced by removable denture.

Although all groups saw some instances of disagreement between coders, in most cases this was related to a single code across all cases. As a result the Kappa scores produced within five of the eight groups were largely a mix of 1s, indicating perfect agreement, and 0s, indicating a level of agreement no better than could be expected by chance. This did not permit a meaningful analysis of agreement between examiners.

Appendix 5 Dental teams

Training teams

University of Birmingham

Dr Kirsty Hill
Dr John Morris
Professor Deborah White

University of Cardiff

Professor Barbara Chadwick
Mrs Maria Morgan
Professor Elizabeth Treasure
Mrs Catherine Layne

University of Dundee

Professor Gail Douglas
Professor Nigel Pitts

University of Newcastle

Mrs Jill Smith
Professor Jimmy Steele

University College London

Dr George Tsakos
Professor Richard Watt

National Centre for Social Research

Ms Elizabeth Fuller
Ms Natasha Reilly
Ms Katharine Sadler

Office for National Statistics

Mr Tom Anderson
Mr Colin Beavan-Seymour
Mrs Joanne Monger
Dr Ian O' Sullivan
Alex Lloyd

Dental examiners

Ms Zoe Allen
Ms Jude Anderson
Mrs Jenny Barratt
Ms Lynda Blair
Ms Hilary Bloxsom
Ms Sarah Bly

Ms Samantha Bolton
Dr David Bowry
Mrs Judi Breckon
Mr David Clegg
Ms Cheryl Colhoun
Ms Deidre Conlon
Ms Kathryn Cornforth
Mr James Coxon
Ms Clare Crawford
Ms Verna Easterby-Smith
Ms Sian Edge
Ms Mala Elliott
Mrs Julie Fitzgerald
Ms Clare Fitzpatrick
Ms Elaine Forbes
Ms Margaret Galuszka
Mrs Diana Gould
Ms Aileen Hallas
Dr Joanna Harlock
Ms Pam Heavyside
Ms Lisa Hirst
Mr Richard Holmes
Mrs Siobhan Hudson Davies
Mr Georgios Leronymakis
Ms Anna Jardine
Mrs Beverley Jenkins
Ms Doreen Jenkinson
Mrs Julie Jobbins
Mr John Keating
Mr Robert Kenning
Mr Kevin Lee
Ms Angela Love
Ms Keerti Madvhani
Mr Simon Mavi
Mrs Claire McDonald

Ms Catherine McGrade
Ms Ann McHugh
Ms Supritha Naik
Ms Mary O' Brien
Ms Michelle Oliver
Mr Eunan O'Neill
Ms Jennifer Pape
Mr Allan Pau
Mr Philip Pennington
Mr Rupak Prashar
Ms Jane Preston
Ms Karen Prior
Ms Katherine Roberts
Dr Michael Roberts
Ms Diana Rodgers
Ms Salima Salman

Ms Jill Scutt
Mr John Sheldon
Mr Peter Sheldrick
Mr Mark Sheppard
Mr Michael Stanfield
Mr Brian Steenson
Mr Dick Stek
Ms Emma Stokes
Ms Maggie Stubbings
Ms Felicity Sutton
Mrs Dianne Tabari
Ms Sarah Turner
Ms Angela Willasey
Mrs Anne Williams
Ms Naomi Wilson
Ms Huda Yusuf

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