**EGOHID II**

**Health Surveillance in Europe**

# European Global Oral Health Indicators Development Project

## Clinical Indicators

Oral Health Clinical Surveys: Guidelines

A comprehensive instrument for the collection of oral health clinical data
throughout all countries of the European Union

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EGOHID II

# Guidance and Training manual to accompany

# Full Standard Clinical Survey Form

European Global Oral Health Indicators
Development Programme II – Work Package 7

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# Contents

# 1. Background to project

Basic oral health surveys provide a sound basis for the estimation of the present oral health status of populations and the future needs for oral health care management. They also provide a reliable measure against baseline data (once a series of surveys is underway) to inform oral health programmes and assist with planning for appropriate provision of oral health care resources.

Numerous projects have been proposed in Europe within the framework of the Community Action Programme in the area of health surveillance (Bonita and Strong 2003). The purpose of the European Global Oral Health Indicators Development (EGOHID) Project, developed under the auspices of the *European Commission Health and Consumer Protection Directorate-General Community Action Programme on Health Monitoring*, was to establish priorities for oral health indicators in a specifically European context and to provide information to health information systems by establishing reference indicators (European Commission 2004).

The major objectives of the programme were to contribute to the establishment of a community system for health surveillance by:

1. Developing community health indicators by a system of critical review of existing data and indicators.
2. Enabling the realisation of a reliable communication system for data and health indicators transfer and sharing.
3. Defining the necessary methods and instruments for analysis of activities and the production of reports on health status, trends, and policies' impact on health.

Within the programme, a list of over 600 potential candidates for indicators was amassed following consultations with a range of European clinical and academic oral health organisations. Expert opinion was used to whittle this list down to a reduced list of 40 indicators and these were detailed and discussed within a catalogue as a recommended selection of essential oral health indicators (European Commission 2005). The forty indicators, as detailed in the catalogue, were divided into 4 categories as can be seen in table 1, which lists the forty indicators. These indicators had, as a basic requirement, to be judged to posses certain fundamental qualities to be considered acceptable within the programme brief as well as a pragmatic requirement that they should be collectable in practice. The WHO statistics programme (WHO 1996) recommends that properties of such indicators should include:

- Validity: giving a true expression of the chosen phenomenon.
- Objectivity: possessing the ability to provide the same value if measured by different assessors under similar circumstances.

- Sensitivity: being capable of reflecting changes in the phenomenon of interest.
- Specificity: being seen to reflect changes in the phenomenon of interest and not be affected by other factors.

**Table 1.1** Essential oral health indicators recommended by the European Global Oral Health Indicators Development Project.

| | |
|---|---|
| **Indicators for monitoring the oral health of children and adolescents** | |
| ◊ | Daily brushing with fluoride toothpaste |
| | Preventive care-seeking for pregnant women |
| | Mothers' knowledge of fluoride toothpaste for child caries prevention |
| ◊ | Fluoride exposure rates |
| | Preventive oral health programmes in kindergartens |
| | Schools with based programmes centred on daily brushing with fluoride toothpaste |
| | Screening oral health programme coverage |
| ◊ | Protective sealants prevalence |
| ◊ | Orthodontic treatment coverage |
| ◊ | Early childhood caries |
| ◊ | Decay experience in 1st permanent molars in children |
| ◊ | Dental fluorosis |
| **Indicators for monitoring the oral health of the general population** | |
| ◊ | Daily intake of food and drink |
| ◊ | Tobacco usage prevalence |
| ◊ | Geographical access to oral health care |
| | Access to primary oral health services |
| ◊ | Dental contact within the previous twelve months |
| | Reason for the last visit to the dentist |
| | Reason for not visiting the dentist in the last two years |
| | Tobacco use cessation |
| ◊ | Untreated caries prevalence |
| ◊ | Periodontal health assessment |
| ◊ | Removable denture prevalence |
| ◊ | No obvious decay experience |
| ◊ | Dental caries severity |
| ◊ | Periodontal diseases severity |
| ◊ | Cancer of the oral cavity |
| ◊ | Functional occlusion prevalence |
| ◊ | Number of natural teeth present |
| ◊ | Edentulous prevalence |
| **Indicators for monitoring the oral health systems** | |
| | Cost of oral health services |
| | Gross national product spent on oral health care services |
| | Dentists and other oral care clinical providers |
| | Satisfaction with the quality of care given |
| | Satisfaction with remuneration provided |
| **Indicators for monitoring the oral health quality of life** | |
| | Oral disadvantage due to functional limitations |
| | Physical pain due to oral health status |
| | Psychological discomfort due to oral health status |
| | Psychological disability due to appearance of teeth of dentures |
| | Social disability due to oral health status |

◊ - WP7 clinical indicators     ◊ - Other indicators included in WP7

## 1.1 Clinical indicators

Of the forty indicators listed in table 1.1, fifteen require the subject to undergo a clinical oral examination. These fifteen, indicated in the table by a diamond symbol in the left column, are the subject of this booklet and have been combined together into a single clinical examination, with values recorded in a document known as the 'full standard clinical survey form'.

Phase I of the EGOHID project defined each of the 15 clinical indicators, gave an indication as to which existing clinical indices might be appropriate for their collection and specified which age groups were of particular interest for comparison across Europe. The list which follows groups the 15 indicators by themes: 'Dental Disease Assessment' (9 of the 15 indicators), 'Orthodontics', 'Dental Fluorosis', 'Periodontal Disease' (2 indicators), 'Dentures' and 'Lesions of the Oral Cavity'. Further detail on each indicator can be found in the 2005 EGOHID Catalogue (Bourgeois et al 2005) and for ease of use the reference number for each indicator is given here along with its title.

DENTAL DISEASE ASSESSMENT

### ► B.12. No Obvious Decay Experience

*Proportion of those examined with a value of 0 for decayed, missing, and filled teeth. This indicator is assessed for all ages from 5 to 74.*

To assess overall levels of oral health and monitor trends over time and to measure the effectiveness of measures to limit decay to early stages. The indicator is calculated only with reference to decay into dentine whatever diagnostic threshold is used for the survey.

### ► B.13. Dental Caries Severity

*Mean number of decayed, missing, or filled primary or permanent teeth per person in age group 5 to 74.*

An indicator which can be used to measure the effectiveness of self-care and oral health services in controlling the decay process.
May be recorded as early and late decay or just later stages of decay as desired and reported for ages 5 to 7, 12, 18, 35 to 44, and 65 to 74.

### ► A.10. Early Childhood Caries

*Proportion of children with early childhood caries for aged 1 to 5.*

To monitor trends in oral health in pre-school children and identify caries risk. The $d_1$ threshold is used.

### ►A.11. Decay Experience in 1<sup>st</sup> Permanent Molars in Children

*The mean number of decayed, missing, and filled first permanent molars in children at ages 6 and 12.*

To monitor trends in dental caries and inform the nature and extent of required preventive, curative, and restorative services.

### ►B.9. Untreated Caries Prevalence

*Proportion of children, adolescents, and adults with untreated decay into dentine – assessed at ages 2-4, 6-8, 12, 15, and 35 to 44.*

To assess mean levels of untreated dental caries and help to estimate treatment requirements in children and adults. Can be used to assess the proportion of individuals with teeth clearly decayed far enough to warrant restorative and preventive interventions.

### ► A.8. Protective Sealants Prevalence

*Proportion of children aged 6 to 8 or 12 to 14 with clinical evidence of dental sealant on at least one permanent molar.*

Provides the opportunity to evaluate the impact of preventive services. All sealants are recorded due to the difficulty in differentiating between preventive sealants and resin restorations.

### ► B.16. Functional Occlusion Prevalence

*This is the proportion, aged 18 or over with 21 or more natural teeth in functional occlusion*
*It is assessed in all adults but is of particular interest in people aged 35-44 and 65-74.*

This a tool for planning current and future prosthetic needs for adults.

### ► B.17. Number of Natural Teeth Present

*This is the number of natural teeth retained at all ages 18 or above but particularly 35 to 44 and 65 to 74.*

To monitor trends in tooth retention amongst populations of adults and to manage oral care services.

### ► B.18. Edentulous Prevalence

*The proportion of participants over 35 with no natural teeth. May be presented as 35-44, 45-54, 55-64, and 65-74.*

To provide information on the oral health status and needs of adults particularly in residential homes and institutions.

## ORTHODONTIC TREATMENT COVERAGE

### ► A.9. Orthodontic Treatment Coverage

Proportion aged 5 to 17 who claim to wear an orthodontic appliance.

*Allows the comparability of orthodontic services throughout Europe and assessment of the adequacy within vulnerable communities.*

## DENTAL FLUOROSIS

### ►A.12. Dental Fluorosis

*Proportion of 12-year-old children with either normal enamel or with enamel conforming to one of five severity measures according to Dean's Index and judged for the whole mouth.*

To monitor the impact and trends in the ingestion of fluoride in 12-year-olds.
Additional stratification according to exposure to fluoride since birth.

## PERIODONTAL HEALTH ASSESSEMENT AND PERIODONTAL DISEASE SEVERITY

### ► B.10. Periodontal Health Assessment

*Periodontal health per sextant assessed at ages 12, 15, 18, 35 to 44, and 65 to 74 recorded according to the Community Periodontal Index, but with bleeding and calculus only recorded at ages 12 and 15.*

Assessment of type and scale of preventive and / or treatment services required.

### ► B.14. Periodontal Diseases Severity

*Proportion of adults aged 35 to 74 with periodontal disease of any severity.*

Assessment of the scale of periodontal problems, identification of risk groups, and providing an indication of how far needs are being met.

REMOVABLE DENTURE PREVALENCE

**►B.11. Removable Denture Prevalence**

Proportion aged 20 to 65 who claim to wear a removable denture.

*A tool for assessing current and future prosthetic needs of adults.*

LESIONS OF THE ORAL CAVITY

**► B.15. Lesions of the Oral Cavity**

*The number of new cases of cancer of the oral cavity per 100,000 adults in age range 35 to 64 – see appendix 2.*

To provide education about and early diagnosis of oral cancer.

## 1.2 Sentinel dentists

The intention of the EGOHID project is to facilitate a process whereby clinical epidemiological data collection could be reactive, collected routinely in a primary care setting, and be responsive to current needs. In order to do this a network of 'sentinel' dentists would be required to carry out the clinical examinations, general dental practitioners rather than salaried epidemiologists. This term has other uses so it should be understood what the term means in the context of this particular clinical assessment. The sentinel dentist would be a 'wet-fingered' dentist carrying out the full standard clinical assessment alongside their routine general practice. They would not be expected to personally monitor and assess trends in disease incidence. Dentists could be sentinel dentists for a limited period only or for longer periods, depending on specific national circumstances and differences in employment structure from country to country. Sentinel dentists could be commissioned to collect data on the full range of clinical indicators or could be trained for specific areas, e.g. soft tissue indicators only. The full standard clinical assessment would, generally, take rather longer than a routine dental check-up and extra time would need to be allowed for the inclusion of the assessment. A network of general dental practitioners with experience of carrying out this type of data collection could gradually be established throughout the European Union.

## 1.3 Evaluating the concept of data collection by sentinel dentists

In order to test out the feasibility of the concept of the sentinel dentist the full standard clinical survey form was evaluated in 10 different EU countries to assess the time taken to complete it, to report on its validity and to inform what changes were desirable.

Training of the sentinel dentists was carried out in a number of different ways which are described in more detail in section 4 of this report. Guidance on the completion of the clinical survey form was available both in printed format (included in section 2 of this report) and as interactive computerised training software. Different language versions of the full standard clinical survey form were available and example of those which were used in the pilot study can be found in the appendices at the end of this document. Please note that these are the original forms and do not include the revisions which have been made in the light of the evaluation process. Following the evaluation process the full standard clinical survey form and the supporting guidance was revised in the light of the findings. Detail is given in section 4 of this report but in summary the evaluation process established the following:

- There was no major difficulty in the use and acceptance of the survey form despite high non-compliance rates in some instances.
- It was seen that the clinical forms had good acceptability and utility regardless of language in all the languages piloted.
- The time taken to complete the examinations was relatively homogeneous across countries (table 1.2) – at equivalent information quality level – and so should be able to provide an accurate estimate of the involvement required by dentists taking part in such a survey and the expected costs incurred if translated into a Europe-wide sentinel dentist system.

| Completion of Section | Mean time (min) | Minimum | Maximum |
|---|---|---|---|
| General Patient Information | 3.99 | 1 | 35 |
| Dental Disease Assessment | 10.68 | 0 | 40 |
| Dental Fluorosis | 1.77 | 1 | 5 |
| Orthodontic Treatment Coverage | 1.25 | 0 | 10 |
| Community Periodontal Index | 6.2 | 1 | 30 |
| Loss of Attachment + CPI | 12.47 | 1 | 40 |
| Removable Denture Prevalence | 1.42 | 0 | 10 |
| Lesions of the Oral Cavity | 2.18 | 0 | 15 |

**Table 1.2:** Mean times for completion of sections of the clinical survey form

Specific changes were indicated in a number of areas of the full standard clinical survey form and the training in its completion to improve areas which were less well completed by some of the dentists in the pilot study and also to improve efficiency. The revised clinical survey form is shown in the following pages as well as the supporting guidance in its paper format.

The main alterations can be summarised as follows:
- Full Standard Clinical Survey Form

- o Removal of the necessity to complete every box in the dental assessment chart
- o Revision of the order of the clinical assessment to improve efficiency between hard and soft tissue assessments
- o Simplification of the section relating to Lesions of the Oral Cavity
- Supporting Guidance
  - o Improvement of image quality within the guidance document
  - o Improvements in the description of assessing periodontal health and severity

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European Global Oral Health Indicators
Development Programme II – Work Package 7

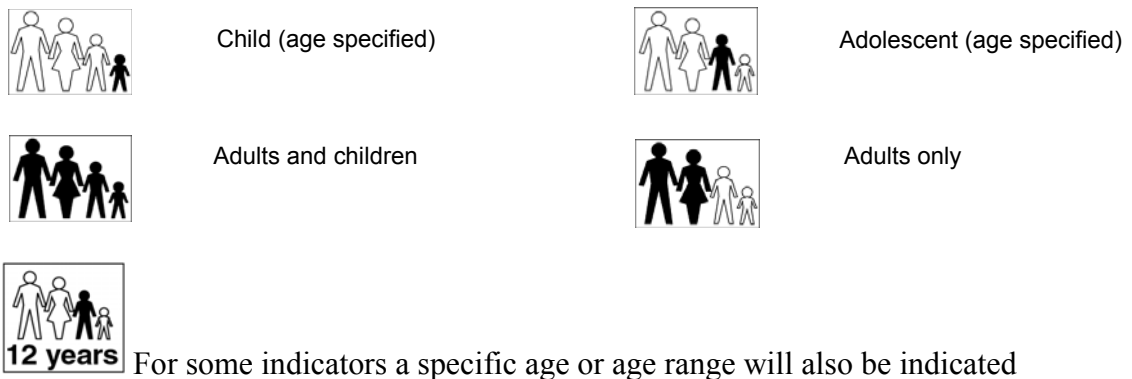September 2008

# Dental Practitioner Guidance

## Introduction

The EGOHID Full Standard Clinical Survey Assessment has been designed for use in the dental surgery environment. There are seven main sections to the form:

1. Identification and General Information;
2. Dental Disease Assessment;
3. Orthodontic Treatment Coverage Assessment;
4. Dental Fluorosis Assessment;
5. Removable Denture Prevalence.
6. Periodontal Health and Disease Severity Assessments;
7. Lesions of the Oral Mucosa Prevalence.

Within each section there may be more than one related question. It is recommended that the examination follows the order of questions on the form.

It should be noted that <u>not</u> all questions are applicable to all participants. A symbol next to each question will provide a reminder when a section of the clinical assessment applies to restricted age groups.

*Figure 1: Symbols indicating applicable participant age groups*

Child (age specified)

Adolescent (age specified)

Adults and children

Adults only

**12 years** For some indicators a specific age or age range will also be indicated

It is important that all appropriate parts of the clinical assessment are completed accurately. The dental practitioner and the chosen scribe should co-operate to ensure this is done.

# Section 1: Identification and General Information

Before you begin the clinical assessment make sure the Identification and general information section (page one) of the EGOHID Full Standard Clinical Survey Assessment has been properly completed. Make sure you leave no data entry area blank.

First, enter the date when the examination is carried out (box 1) and the examiners' 2-digit identity number (box 2). For the purpose of this pilot study, the participating countries have been allocated codes which should be entered into box 3.

Boxes 4 and 5 are used for the participant's age (age last birthday) and sex respectively. If the age is not known, or cannot be determined, then please estimate to the nearest year.

If possible, choose an option which best describes the interval since the patient's last dental examination and enter the appropriate code into box 6. Use box 7 to give the participant's postcode, if this is not known enter 'X' in the box. Indicate in box 8 whether the patient is able to access routine dental services within a journey time of within 30 minutes (1=yes, 2=no).

In box 9 indicate whether the patient says they use a fluoride containing toothpaste (a question concerning other sources of fluoride exposure in children occurs later in the form).

For box 10 ask the participant to estimate how many times a day they partake of food or drink, including snacking. The number should include food and drink at home and away from home.

For adult patients, box 11 should be used to indicate their highest grade of education according to the key: for children up to the age of 18 the education level of the child's mother (or whoever is primarily responsible for the child's day-to-day care) is considered the best indicator.

For adults, please indicate, if possible, the current or recent employment status (box 12) and whether the patient smokes (box 13) or drinks (box14) using the keys as guides. Examiners should use their judgement when asking potentially embarrassing questions.

## Pre-Clinical Assessment Protocol

For the EGOHID Full Standard Clinical Survey Assessment you will need a dental light and the following equipment:

- Dental mirror
- Dental probe – PDT Sensor CPI probe Type U.S. (Williams) 2.3.4.5.7.9
- Three in-one air syringe, cotton wool rolls

## Quick View Summary

- Complete Question 1 for all participant age groups (if the participant is edentulous, tick box 15 and move on to question 7)
- Clean and dry teeth
- Use ICDAS codes

## Introduction

The Dental Disease Assessment can be found on page 2 of the EGOHID Full Standard Clinical Survey Assessment form and is made up of two charts: an upper arch dental disease surface chart and a lower arch dental disease surface chart.

Both charts allow you to record the presence or absence of dental decay and any coronal restorations present on each surface of each tooth in the dentition. The charts can be used for both primary (FDI 51 to 85) and permanent (FDI 11 to 48) dentitions. In cases of mixed dentition or retained primary teeth, you should circle the relevant FDI tooth number at the top of the chart, and then assess the tooth surfaces as described in this section. Where both a retained deciduous tooth and its corresponding permanent tooth are present you should circle both the deciduous FDI and permanent FDI tooth numbers but only assess and chart the status of the permanent tooth.

For each surface you will be asked to allocate an ICDAS (International Caries Detection and Assessment System) 2-digit code. The first code will relate to the presence or absence of a restoration or sealant. If more than one restoration/sealant is present on a surface you should record the highest code (i.e. if a composite (code 3) and an amalgam filling (code 4) exist on a tooth surface, the restoration code for this surface would be 4). The second digit of the 2-digit code relates to the presence of coronal caries: the higher the code, the more extensive the lesion. Again if more than one lesion is visible on a particular surface, you should record the highest code (i.e. if a surface exhibits both first visual signs in enamel (code 1) and a distinct cavity with visible dentine (code 5), you should give the surface a caries code of 5).

## Pre-Dental Disease Assessment Protocol

- **Remove any removable brace or denture**
  Ask the participant to remove any removable oral prosthesis prior to completing the dental assessment.

- **Clean and dry the teeth**
  Prior to the dental assessment make sure the participant's natural teeth are clean. You should aim, at the very least, to clean the participant's teeth with a dry toothbrush to remove plaque and flossing may be required in some cases. It may still be necessary during the examination to further remove plaque deposits in order to visualise all tooth surfaces clearly. In the dental disease assessment you will be required to visualise the early signs of caries (in enamel), to do this successfully surfaces should be dried with the three in-one air syringe or cotton wool.

## Question One: Using the ICDAS Codes

To use the ICDAS codes correctly, the participant's teeth must be clean and dry prior to assessment. Each tooth surface should be visually assessed and allocated an appropriate 2 digit ICDAS code. This is constructed from the individual numerical codes see Table 1.

*Table 1: ICDAS Codes*

| Restoration and Sealant Codes | Caries Codes |
|---|---|
| 0 = Not sealed or restored | 0 = Sound tooth surface |
| 1 = Sealant, partial | 1 = First visual change in enamel |
| 2 = Sealant, full | 2 = Distinct visual change in enamel |
| 3 = Tooth coloured restoration | 3 = Enamel breakdown, no dentine visible |
| 4 = Amalgam restoration | 4 = Dentinal shadow (not cavitated into dentine) |
| 5 = Stainless steel crown | 5 = Distinct cavity with visible dentine |
| 6 = Porcelain, gold, PFM crown or veneer | 6 = Extensive distinct cavity with visible dentine |
| 7 = Lost or broken restoration | |
| 8 = Temporary restoration | **Missing Teeth** |
| | 97 = Extracted due to caries |
| | 98 = Missing for other reason |
| | 99 = Unerupted |
| | P = Missing tooth replaced by implant or bridge pontic |

The first numerical code digit is taken from column 1 of the table and records the presence or absence of coronal restorations and sealants. The second digit of the ICDAS code is taken from column 2 of the table and highlights the presence or absence of coronal caries. An example of ICDAS code allocation is given in Figure 2.

*Figure 2: Example of ICDAS code allocation*



In cases where a tooth or teeth are missing you should use the 'Missing Teeth' two digit ICDAS codes instead. There are three missing teeth codes: 97 (for a tooth extracted due to caries), 98 (for a tooth missing for another reason other than caries) and 99 for a tooth still to erupt, and code P where a tooth is missing but has been replaced by a fixed prosthesis such as a bridge pontic or implant.

Once you allocate a 2-digit code to a surface you should record it on the appropriate dental disease assessment chart on page 2 of the EGOHID Full Standard Clinical Survey Assessment form. There are two charts in the dental disease assessment section of this form. The first chart is for upper teeth while the second chart is for lower teeth. Each chart is made up of individual tooth surfaces (Mesial, Occlusal, Distal, Buccal, and Lingual/Palatal) corresponding to each tooth in the arch.

Where teeth are missing, or where the surfaces all have the same code, enter this code in the bottom row of the chart as shown in figure 3. For example, a sound tooth would be coded 00 in the bottom box. A two-digit code should be used to indicate each tooth surface's condition. Sound surfaces may be left blank but care must be taken to ensure that codes are recorded in the correct space of the chart. In the mixed dentition please circle the tooth numbers of the teeth present.

*Figure 3: Example of Completed Upper Arch Chart*

| Surface | Upper Right | Primary dentition **In child with mixed dentition, circle the teeth present** | | | | | | | | | | Upper Left | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 55 | 54 | 53 | 52 | 51 | 61 | 62 | 63 | 64 | 65 | | | |
| | Permanent dentition | | | | | | | | | | | | | |
| | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| M | | | | | | 30 | | | | | | | | | | |
| O | | 40 | | | | ☐ | ☐ | | | | | | 40 | | 40 | |
| D | | 40 | | | | | 02 | | | | | | | | | |
| B | | | | | | 30 | | | | | | | | | | |
| L | | | | | | 30 | | | | | | | | | | |
| ⚙ | 99 | | 97 | 50 | 00 | | | 00 | P | 00 | 00 | 00 | | 97 | | 99 |

## STAGE ONE: Coding Restorations

There are nine restoration codes (0-8) that you can select from when coding the presence or absence of a restoration/sealant on individual tooth surfaces. For each surface you should select one of the nine codes as appropriate and record it as the first digit of the two digit ICDAS code.

*Figure 4: Coding Restorations*

| Select from nine restoration codes and record as first digit of ICDAS code | **Restoration and Sealant Codes**<br>0 = Not sealed or restored<br>1 = Sealant, partial<br>2 = Sealant, full<br>3 = Tooth coloured restoration<br>4 = Amalgam restoration<br>5 = Stainless steel crown<br>6 = Porcelain, gold, PFM crown or veneer<br>7 = Lost or broken restoration<br>8 = Temporary restoration | **Caries Codes**<br>0 = Sound tooth surface<br>1 = First visual change in enamel<br>2 = Distinct visual change in enamel<br>3 = Enamel breakdown, no dentine visible<br>4 = Dentinal shadow (not cavitated into dentine)<br>5 = Distinct cavity with visible dentine<br>6 = Extensive distinct cavity with visible dentine<br><br>**Missing Teeth**<br>97 = Extracted due to caries<br>98 = Missing for other reason<br>99 = Unerupted<br>P = Missing tooth replaced by implant or bridge pontic |
|---|---|---|

Each Restoration code will now be considered in more detail:

## Restoration CODE 0:  Not sealed or restored



If you cannot see any restoration or sealant on a particular tooth surface you should use code 0 as the first digit.

## Restoration CODE 1:  Sealant, partial



If a sealant is present but it does not cover the fissure/pit fully you should use code 1 as the first digit.

## Restoration CODE 2:  Sealant, full



If the sealant covers the fissure/pit totally then code the first digit as a 2.

## Restoration CODE 3:  Tooth coloured restoration



If tooth coloured restoration e.g. composite or glass ionomer etc, is present on a surface then code it as a 3.

## Restoration CODE 4:  Amalgam restoration

The presence of an amalgam on a surface is coded as a 4.

## Restoration CODE 5: Stainless steel crown



The presence of a stainless steel crown covering a tooth surface is coded as a 5.

## Restoration CODE 6: Porcelain, gold PFM crown or veneer



The presence of any advance restoration in gold or porcelain is coded as a 6.

## Restoration CODE 7: Lost or broken restoration



If you observe any missing or broken restorations of any type you should use the code 7 as the first digit for that surface.

## Restoration CODE 8: Temporary restoration

The presence of a known temporary restoration on any tooth surface should be coded as an 8.

## STAGE TWO: Coding Caries

There are seven caries codes (0-6) that you can select from when coding the presence or absence of coronal caries on individual tooth surfaces. For each surface you should select one of the seven codes as appropriate and record it as the second digit of the two digit ICDAS code.

*Figure 5: Coding Caries*

| Restoration and Sealant Codes | Caries Codes |
|---|---|
| 0 = Not sealed or restored | 0 = Sound tooth surface |
| 1 = Sealant, partial | 1 = First visual change in enamel |
| 2 = Sealant, full | 2 = Distinct visual change in enamel |
| 3 = Tooth coloured restoration | 3 = Enamel breakdown, no dentine visible |
| 4 = Amalgam restoration | 4 = Dentinal shadow (not cavitated into dentine) |
| 5 = Stainless steel crown | 5 = Distinct cavity with visible dentine |
| 6 = Porcelain, gold, PFM crown or veneer | 6 = Extensive distinct cavity with visible dentine |
| 7 = Lost or broken restoration | |
| 8 = Temporary restoration | **Missing Teeth** |
| | 97 = Extracted due to caries |
| | 98 = Missing for other reason |
| | 99 = Unerupted |
| | P = Missing tooth replaced by implant or bridge pontic |

Select from seven codes and record as second digit of ICDAS code

Each caries code will now be considered in more detail:

### Caries CODE 0: Sound tooth surface



Code 0 should be recorded as the second digit of the ICDAS code when there is no sign of caries on the tooth surface even after air drying for 5 seconds. Staining around a restoration margin that is not associated with caries should be coded zero as well as non-carious marginal defects of less than 0.5mm.

Remember: A number of conditions may present in a similar way to caries e.g. developmental defects (enamel hypoplasias) fluorosis, tooth wear and extrinsic and intrinsic stains. Such conditions without signs of caries are coded 0.

### Caries CODE 1: First visual change in enamel
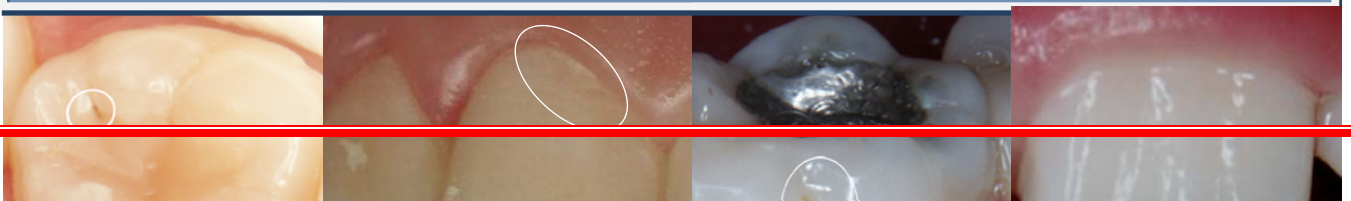
Code 1 should be recorded as the second digit of the ICDAS code when the first visual change in enamel is seen only after air drying a tooth surface for 5 seconds.  In the pits and fissures, however, darkly discoloured lesions may also be seen on a wet surface.

**Remember**: These darkly discoloured lesions can look similar to tea or coffee stained pits and fissures (code 0).  Such staining however tends to be seen in almost all pits and fissures symmetrically.

## Caries CODE 2:  Distinct visual change in enamel



Code 2 should be recorded as the second digit of the ICDAS code when a carious lesion looks to be more advanced than a code 1 lesion and as such, drying is not necessary to be able to detect them (they can be seen on wet or dry surfaces).  A code 2 lesion can be white or brown in colour.

**Remember**: You should still use air drying on this lesion as this will help you to distinguish it from a Code 3 lesion which exhibits enamel surface breakdown (seen more easily after air drying).

## Caries CODE 3:  Enamel breakdown, no dentine visible



Code 3 should be recorded as the second digit of the ICDAS code when localised enamel breakdown is visible due to caries.  When viewed wet the lesion may appear white or discoloured but when viewed after drying carious loss of tooth structure can be seen. In a restored tooth, a gap between a restoration and the tooth of less than 0.5mm but associated with an opacity or discolouration consistent with demineralisation should be coded 3.

**Remember**: despite the loss of enamel NO dentine is visible.  A blunt or ball ended probe can be used gently across the surface to confirm discontinuity of the enamel.

## Caries CODE 4: Underlying dentinal shadow (not cavitated into dentine)



Code 4 should be recorded as the second digit of the ICDAS code when the lesion appears as a shadow of discoloured dentine visible through apparently intact enamel which may or may not be broken down. The shadow is often more noticeable when the surface is wet and may appear as grey, blue or brown. In a tooth restored with amalgam be careful to distinguish the shine-through of the restoration from a carious shadow. To be considered a code 4 there should be signs of demineralisation on the surface to support a caries code 4 being used.

**Remember**: Code 4 is only to be used on surfaces where the caries originated i.e. if the caries started on an adjacent surface, the surface being scored as 0. This can happen with large approximal cavities. In these instances the dentinal involvement of the cavity is seen as shadowing through the occlusal surface even though the caries did not originate in the fissures of that surface. This is shown in the picture on the far right. The occlusal surface would not be coded as 4 because the lesion quite obviously originated from the approximal surface.

## Caries CODE 5: Distinct cavity with visible dentine



Code 5 should be recorded as the second digit of the ICDAS code when a cavitation is present due to caries in opaque or discoloured enamel exposing the dentine beneath.
In a restored tooth, the gap between restoration and tooth should be larger than 0.5mm to be coded as a 5, and there will be dentine exposed in the gap.

**Remember**: Code 5 cavities involve less than half of the surface but are not so deep as to suggest pulpal involvement.

## Caries CODE 6: Extensive distinct cavity with visible dentine



Code 6 should be recorded as the second digit of the ICDAS code when an extensive distinct cavity is present with visible dentine involving at least half of the tooth surface or the pulp.

**Remember:** Code 6 lesions may be deep and/ or wide

*Figure 6: Flow Chart for Coding Caries.* To help you to allocate the correct caries code to the correct lesion you can follow the decision tree below.
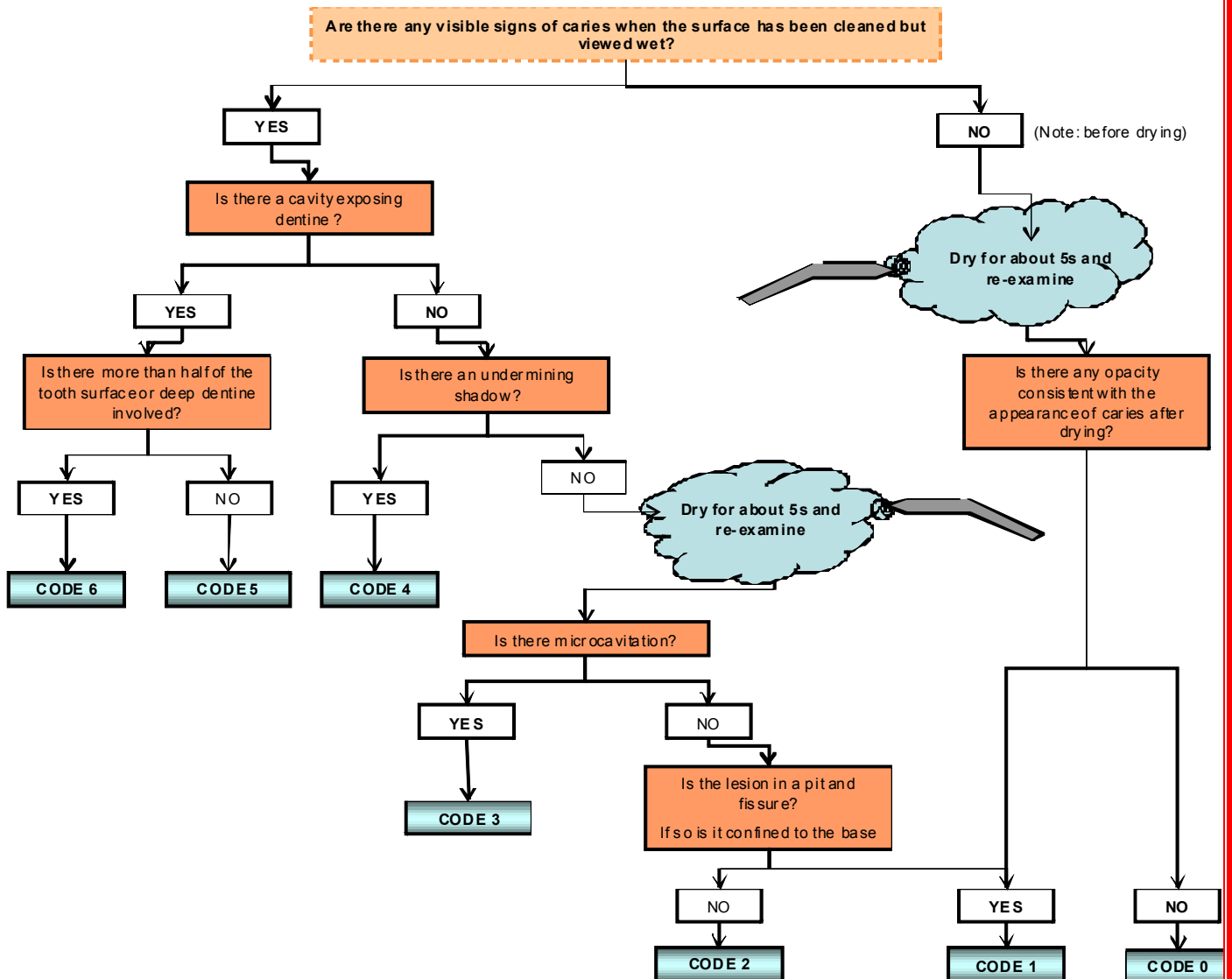


## STAGE THREE: Coding Missing Teeth

There are 4 codes that you can select from for coding the absence of teeth and one which allows you to code if a fixed prosthesis has been placed. This is a two digit code and is summarized at the bottom of the second column of the table of ICDAS codes. (It should be noted that bridge pontics and implants, if present, are coded as missing teeth, using code P).

*Figure 7: Coding Missing Teeth*

| Restoration and Sealant Codes | Caries Codes |
|---|---|
| 0 = Not sealed or restored | 0 = Sound tooth surface |
| 1 = Sealant, partial | 1 = First visual change in enamel |
| 2 = Sealant, full | 2 = Distinct visual change in enamel |
| 3 = Tooth coloured restoration | 3 = Enamel breakdown, no dentine visible |
| 4 = Amalgam restoration | 4 = Dentinal shadow (not cavitated into dentine) |
| 5 = Stainless steel crown | 5 = Distinct cavity with visible dentine |
| 6 = Porcelain, gold, PFM crown or veneer | 6 = Extensive distinct cavity with visible dentine |
| 7 = Lost or broken restoration | |
| 8 = Temporary restoration | **Missing Teeth** |
| | 97 = Extracted due to caries |
| | 98 = Missing for other reason |
| | 99 = Unerupted |
| | P = Missing tooth replaced by implant or bridge pontic |

## Missing Teeth CODE 97: Tooth extracted due to caries

**If a missing tooth was extracted due to caries code as 97 on all surfaces (in the bottom box of the chart).**

For missing Primary teeth, this score should be used only if the subject is at an age when normal exfoliation would not be a sufficient explanation of absence. In some age groups, it may be difficult to distinguish between unerupted teeth (code 99) and missing teeth (code 97 and 98). Basic knowledge of tooth eruption patterns, the appearance of the alveolar ridge in the area of the tooth space in question, and caries status of the other teeth may be helpful clues in making a differential diagnosis between unerupted and extracted teeth.

Code 97 should not be used for teeth judged to be missing for any reason other than caries.

## Missing Teeth CODE 98: Tooth missing for other reasons

**If a tooth is missing for any other reason e.g. due to trauma or congenitally missing then code as 98 on all surfaces (in the bottom box of the chart).**

## Missing Teeth CODE 99: Unerupted

**If a tooth is unerupted then use code as 99 on all surfaces (in the bottom box of the chart).**
Partially erupted teeth should be coded as present and sound (code 00) on all surfaces unless there are signs of caries

## Missing Teeth CODE P: Implant

**If the patient has a missing tooth which has been replaced by a fixed prosthesis such as a bridge pontic or an implant, you should place a code P in the bottom box of the chart for that tooth.**
This is the only instance where you will not use the two-digit code.

## Section 3: Orthodontic Treatment Coverage Assessment

**5 to 17**

### Quick View Summary

- Complete Question 2 for participants aged 5 to 17 years only.
- Assess presence of fixed or removable braces.

### Introduction

The Orthodontic treatment Coverage Assessment can be found on page 2 of the form. This section is made up of 1 question: Question 2, which asks you to assess the presence or absence of an orthodontic appliance. It should be noted that this question is not applicable to all participants. Question 2 should only be completed for participants aged 5 to 17 years.

### Question 2: Presence of any Orthodontic Appliance

This question should be answered for child participants aged 5 to 17 years only

If the participant claims to wear an orthodontic appliance of any kind (e.g. fixed or removable, active or retaining) then you should record it as a 'yes' by entering 1 in box 16. If not, record as 'no' by entering 2.

**12 years**

### Quick View Summary

- Complete Question 3 and 4 for participants aged 12 years only.
- Clean and dry teeth
- Use Deans Index

### Introduction

The Dental Fluorosis Assessment can be found on page 2 of the form and is made up of 2 questions: gauging dental fluorosis (Q3); the use of other fluoridated products (Q4 first part); and listing the products used (Q4 second part). Only complete the second part of question 4 if you have answered yes to the first part. This section should be completed for participants aged 12 years. For all other age groups you should omit this section and go on to section 5 (Removable Denture Prevalence).

### Pre-Dental Fluorosis Assessment Protocol

- **Clean and dry the teeth**
  Prior to the fluorosis assessment make sure the participant's natural teeth are still clean and dry.

### <u>Question 3</u>: Using Deans Index for Fluorosis

The teeth should be clean and dry for this assessment. Fluorotic lesions are usually bilaterally symmetrical and tend to show a horizontal striated pattern across the tooth. The premolars and second molars are most frequently affected, followed by the upper incisors. The mandibular incisors are least affected.

You should note the distribution pattern of any defects and decide if they are typical of fluorosis. The defects in the 'questionable' to 'mild' categories (the most likely to occur) may consist of fine white lines or patches, usually near the incisal edges or cusp tips. They are paper-white or frosted in appearance like a snow-capped mountain and tend to fade into the surrounding enamel.

Dean's index criteria are to be used (compare with the photographs on the following two pages). The recording is made on the basis of the two teeth that are most affected. If the two teeth are not equally affected, the score for the less affected of the two should be recorded. When teeth are scored, the examiner should start at the higher end of the index, i.e. 'severe', and eliminate each score until he or she arrives at the condition present. If there is any doubt, the lower score should be given.

The codes and criteria are as follows:

## Fluorosis CODE 1: None (Normal enamel)



The enamel surface is smooth, glossy and usually a pale creamy-white colour.

## Fluorosis CODE 2: Questionable



The enamel shows slight aberrations from the translucency of normal enamel, which may range from a few white flecks to occasional spots.

## Fluorosis CODE 3: Very mild



Small, opaque, paper-white areas scattered irregularly over the tooth but involving less than 25% of the labial tooth surface.

## Fluorosis CODE 4:  Mild



The white opacity of the enamel of the teeth is more extensive than for code 2, but covers less than 50% of the tooth surface.

## Fluorosis CODE 5:  Moderate



The enamel surfaces of the teeth show marked wear and brown stain is frequently a disfiguring feature.

## Fluorosis CODE 6:  Severe



The enamel surfaces are badly affected and hypoplasia is so marked that the general form of the tooth may be affected. There are pitted or worn areas and brown stains are widespread; the teeth often have a corroded appearance.

## Question 4 (first part): use of other Fluoridated Products

This question should be completed for participants aged 12 years only.
If the participant uses a fluoridated product other than toothpaste e.g. mouthwash or fluoride tablets, you should answer 'yes' by placing a 1 in data entry area (18). If however the participant claims not to use an additional fluoridated product you should place a 2 in the box instead.

If you answered 'yes' to this question you should now answer the subsidiary question (all other participants should go to section 5).


## Question (second part): list Fluoridated Products

In this question you will be asked to list the fluoridated products claimed to be used by the participant. This can be done using the following key:

1 = fluoride tablets or drops
2 = fluoridated public water
3 = fluoridated bottled water
4 = mouth rinse
5 = fluoridated salt
6 = other products
x = not known / unwilling to say

List the relevant items by entering their corresponding numbers in data entry area (19). If the participant uses another product other than those listed record this as a 6.

## Section 5: Removable Denture Prevalence
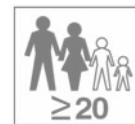
### Quick View Summary

- Complete Question 5 for adult participants only (20 years and over).

### Introduction

The Removable Denture Prevalence Assessment can be found on page 3 of the form. This section is made up of 1 question: Question 8, which asks you to record the presence of a denture (either full or partial) in either the upper or lower jaws. It should be noted that this question is not applicable to all participants. Question 5 should only be completed for adult participants.

### <u>Question 5</u>: Presence of any Removable Denture

This question should be answered for adult participants only (≥ 20).

If the participant claims to wear a denture of any kind e.g. partial or full (including over-dentures), then you should record it as a 'yes' by entering 1 in data area (20). If not, record as 'no' by entering 2 in the same area.

## Section 6: Periodontal health assessment & Periodontal disease severity
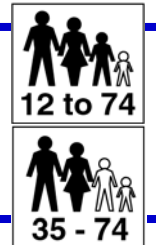
### Quick View Summary

- Complete Question 5 for 12 to 74 years age group.
- Complete Question 6 for 35 to 74 years only.
- Use Community Periodontal (Q6) and Loss of Attachment (Q7) Indices.
- Exclude from examination sextants with less than two teeth present, this should not include third molar teeth (Q6).
- Full mouth charting, excluding 3$^{rd}$ molars (Q7).

### Introduction

The Periodontal Health Assessment (CPI) and Periodontal Disease Severity Assessment (LA) can be found on page 3 of the form. This section is made up of 2 questions: Question 5, where you will be asked to record the Community Periodontal Index; and Question 6, which deals with measuring the loss of attachment around the mouth. It should be noted that these questions are not applicable to all participants.

Before you begin to assess the CPI and loss of attachment you can record which of the sextants are excluded from the examination because they have too few teeth. Indicate on the form where a tooth is missing by scoring out the appropriate tooth number as shown. Place an X in the CPI box for any sextant which has less than 2 teeth remembering that third molar teeth are not counted. Such sextants are excluded from both CPI and loss of attachment examinations.

The most reliable way of measuring loss of attachment is immediately after recording the CPI score for that sextant. Therefore you should record both measures in a sextant before moving on to the next.

### Pre-Periodontal Assessments Protocol

- **Check Health Status**
  Before you begin, assess the participant's health status. Note special precautions should be taken for those participants with:
  - Bleeding disorders (e.g. those taking anticoagulant medications and haemophiliacs)
  - Antibiotic cover requirements e.g. those who have had infective endocarditis, with valve replacements and those with indwelling conduits.

  **Equipment**
  Periodontal probes are used for this examination which have circumferential markings to help assess pocket depth and loss of attachment.

## Question 6: Using the Community Periodontal Index

The following indicators of periodontal status are used for this assessment: (0) Health gingival; (1) Presence or absence of gingival bleeding; (2) supra- or subgingival calculus –*recording of this index component is not recommended*; (3) shallow pocket (4-5mm); (4) deep pocket (6mm or more); and (9) cannot be determined

A specially designed lightweight probe with 0.5mm ball tip is used, The PDT Sensor CPI probe Type U.S. (Williams) 2.3.4.5.7.9 is recommended.

*Figure 8: Showing an example of a* PDT Sensor CPI probe Type U.S. (Williams) 2.3.4.5.7.9. *This probe should be used for measurement of the extent of attachment loss. Lower diagram shows the position of the banding with measurements in mm.*
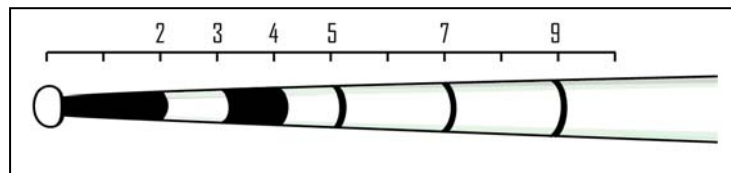


**Sextants:** The mouth is divided into sextants defined by teeth numbers 18-14, 13-23, 24-28, 38-34, 33-43, and 44-48. A sextant will be examined only if there are two or more teeth present and not indicated for extraction.

**Index teeth:** *For adults* (35-44 years) and 65-74 years, the teeth to be examined are:

| 17 | 16 | 11 | 26 | 27 |
|----|----|----|----|----|
| 47 | 46 | 31 | 36 | 37 |

The two molars in each posterior sextant are paired for recording and, if one is missing, there is no replacement. If no index teeth or tooth is present in a sextant qualifying for examination, all the remaining teeth in that sextant should be examined and the highest score recorded as the score for the sextant. Disregard pocket measurements of distal surfaces of third molars.

*For children 12-13 years,* only six teeth – 16, 11, 16, 36, 31, and 46 – are examined and recording for pockets should not be attempted: only bleeding and calculus should be considered.

| 16 | 11 | 26 |
|----|----|----|
| 46 | 31 | 36 |

To record the tendency of the gingival to bleed in children, the tip of the probe should be moved through the sulcus just below the gingival margin. Single, fully-erupted incisors or premolars may be used as substitutes in children when no index tooth is present in a sextant qualifying for examination.

## Sensing gingival pockets and calculus

An index tooth should be probed, using the specially designed probe as a 'sensing' instrument, to determine pocket depth and to detect sub-gingival as well supra-gingival calculus and bleeding response. The sensing force used should be no more than 20 grams. A practical test for establishing this force is to place the probe point under the thumb nail, parallel to the long axis of the thumb, and press until blanching occurs. For sensing sub gingival calculus, the lightest possible force that will allow movement of the probe ballpoint along the tooth surface should be used. It would therefore be inappropriate to include a category for calculus in the definition of the indicator.

When inserting the probe, the ballpoint should follow the anatomical configuration of the surface of the tooth root. If the patient feels pain during probing, this is indicative of the use of too much force.

The probe tip should be inserted gently into the gingival pocket and the depth of insertion read against the measurement indicators on the probe. The total extent of the pocket should be explored: The probe is placed in the pocket at the contact point of the third molar, keeping the probe parallel to the long axis of the tooth. The probe is then moved gently with short upward and downward movements through the buccal pocket of the first molar towards the contact area with the premolar. A similar procedure is carried out for the lingual surfaces, starting distolingually to the second molar.

## Examination and recording

The index teeth should be sensed at the highest score recorded in the appropriate box.

0   =   Healthy
1   =   Bleeding observed (directly or by using mouth mirror) after sensing
2   =   Calculus detected during exploration (it is recommended that this should not be recorded)
3   =   Pocket 4 or 5mm (gingival margin within the relevant band on the probe)
4   =   Pocket 6mm or more ( 2 wide and 1 narrow bands on the probe not visible)
9   =   Cannot be determined
X   =   Excluded sextant

It has been judged inappropriate to include a category for calculus in the definition of the indicator and therefore CPI code 2 will not be used.

The highest score found in the sextant is recorded in the appropriate box. If there are not at least two teeth remaining and not indicated for extraction in a sextant, the appropriate box should be cancelled by a cross (X).Code 9 is placed in the appropriate box when it is not possible to make a reliable recording (e.g. large accumulations of calculus prohibiting proper probing of pockets).

*Figure 9: Examples of Coding according to Community Periodontal Index criteria*

**CPI CODE 0**: Healthy, no bleeding observed, no calculus detected during probing but all of the lower dark band of the probe is visible, no pocket 4 or 5mm, no pocket 6mm or more



CPI CODE 1: Bleeding observed, no calculus during probing, but all of the lower (2mm to 3mm) white band of the probe is visible, no pocket 4 or 5 mm, no pocket 6mm or more



**CPI CODE 2**: Calculus detected during probing (it is recommended that this should not  be recorded)

(In photo pocket extends to midway between 5 and 7 mm marker bands

## Question 7: Measuring Attachment Loss

Loss of attachment will be recorded on the appropriate index tooth in addition to the CPI score, in order to obtain an estimate of the life-time accumulated destruction of the periodontal attachment. Probing pockets depths give some indication of attachment loss. However, this measurement becomes inadequate when recession of the gingiva becomes apparent (the CEJ becomes visible). When shallow pocketing of 4-5mm (CPI score 3) is recorded at the highest score for a sextant and no recession is visible, the estimated maximum attachment loss for that sextant is, apart from exceptional cases, no more than 3mm and no separate record of attachment loss is made. When deep pockets (6mm or more, equal to CPI score 4) are recorded or when recession of the gingiva is

apparent (the CEJ is visible); the examiner will access and record the maximum attachment loss at the index teeth in the same sextant with the same probe.

## Definition of important terms

*Clinical attachment level* is the point (point C on the diagram) at which the gingival attaches to a root surface.
*Loss of attachment* (point B – point C on the diagram) is measured by clinical probing.
*Lifetime cumulative attachment loss* is the measurement (in mm) from the cemento-enamel junction (point B) to the clinical attachment level at a given point in time.

*Figure 10. Showing clinical attachment levels*
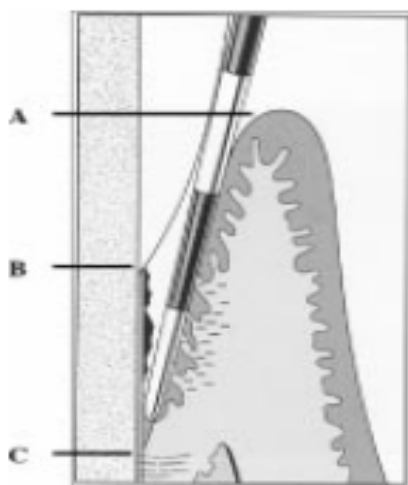


*Cemento-Enamel Junction* (point B) is the anatomical point where the root and crown of a tooth meet. For convenience (and reproducibility), it is used as a fixed point from which to measure attachment loss. However, even at healthy sites the attaching fibres are rarely found at this point. Hence the threshold for attachment loss is usually set at 1 or 2 mm as measurements of less than these figures do not represent true clinical attachment loss.

## Measurement of periodontal health

Periodontal examination employes a sterile, disposable US Williams PDT Sensor probe, at a pressure of 20 g.

Clinical attachment level is defined as the distance from the cement-enamel junction to the tip of the probe. Attachment loss is measured (to the nearest mm) by simple probing by identifying the cemento–enamel junction and measuring the distance to the base of the pocket. Probing depth is defined as the distance from the soft tissues margin to the tip of the probe. All teeth are examined. Third molars are excluded from analysis.

Variables are assessed for six sites per tooth: disto-vestibular (disto-buccal); median-vestibular (mid-buccal); mesio-vestibular (meso-buccal); lingual/palatine. Periodontal

sites are measured interproximally at lines angles. Periodontal indices are recorded in the following order: probing depth; and probing attachment loss. The recording sequence is as follows: first, distal 18 for the LA indices; second, median, third; third, mesial vestibular; and fourth, mesial, fifth median and sixth disto-palatine. The recording sequence for the four quadrants is quadrant 1, quadrant 2, quadrant 3, and then quadrant 4.

## Periodontal disease classification

The periodontal status of each subject is assessed on the basis of the amount of clinical attachment loss. Attachment loss is defined as the apical migration of the periodontal attachment from a reference point, which was supposed to be the normality. Severity is characterised on the basis of the degree of attachment loss recorded in terms of the following codes:

- Health: Periodontal attachment loss 0 mm;
- Slight: Periodontal attachment loss 1 or 2 mm;
- Moderate: Periodontal attachment loss 3 or 4 mm;
- Severe: Periodontal attachment loss +5 mm or more.

Extent is characterized as 'Localised' = 30 % of sites involved, and 'Generalized' = ≥ 30% of sites involved.

*Figure 11: Examples of Coding according to loss of attachment*

**LA CODE 0:** Health: Periodontal attachment loss 0 mm



**LA CODE 1:** Slight: Periodontal attachment loss 1 or 2 mm

**LA CODE 2:** Moderate: Periodontal attachment loss 3 or 4 mm



**LA CODE 3:** Severe:  Periodontal attachment 5mm or more

*Figure 11: Example of Completed Chart*

| CPI | | [ 1 ] | | | | | [ 1 ] | | | [ 3 ] |
|---|---|---|---|---|---|---|---|---|---|---|
| LOA | Buccal | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 3 0 | | 0 0 0 |
| | Palatal | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | | 0 0 0 |
| Tooth | | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Tooth | | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| LOA | Lingual | 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 2 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 |
| | Buccal | 0 0 0 0 2 0 0 2 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 0 1 0 0 1 0 | 0 0 0 0 0 0 |
| CPI | | [ 4 ] | | [ 3 ] | | [ 0 ] |

## Section 7: Lesions of the Oral Mucosa
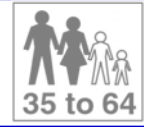
**35 to 64**

### Quick View Summary

- Complete Question 7 for adult participants only (aged 35 to 64 years).
- Using the dental mirror locate and indicate the nature of any oral lesion.

### Introduction

The Lesions of the Oral Mucosa Assessment can be found on page 4 of the form. This section is made up of one question, Question 7. In this question you will be asked to indicate any suspicious growths or conditions of the oral mucosa. You should complete this section for adult patients only.

### Lesions of the Oral Cavity Assessment Protocol

- **Retract the tissues**
  Either two mouth mirrors or one mirror and the handle of a probe can be used to retract the tissues.

- **Examine systematically**
  An examination of the oral mucosa and soft tissues in and around the mouth should be made on every adult subject in the age range. The examination should be thorough and systematic and be performed in the following sequence:

  (a) Labial mucosa and labial sulci (upper and lower).
  (b) Labial part of the commissures and buccal mucosa.
  (c) Tongue (dorsal surface, margins and ventral surface).
  (d) Floor of the mouth.
  (e) Hard and soft palate.
  (f) Alveolar ridges/gingiva (upper and lower).

### <u>Question 7</u>: Using the Index for Lesion Location and Condition

**35 to 64**
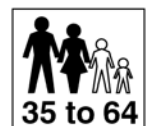
Indicate the nature of any lesions of the oral mucosa.
Data area (20) should be ticked if any abnormality is found or suspected.

Boxes 31 to 24 should be used to record the presence, or *suspected* presence, of the conditions coded 1 to 6 for which examiners can make a tentative diagnosis and to which they should be alert to during clinical examinations. Code 6 should be used to record a condition not mentioned in the pre-coded list; for example, hairy leukoplakia or Kaposi sarcoma. Whenever possible, the tentative diagnosis should be specified alongside the coding.
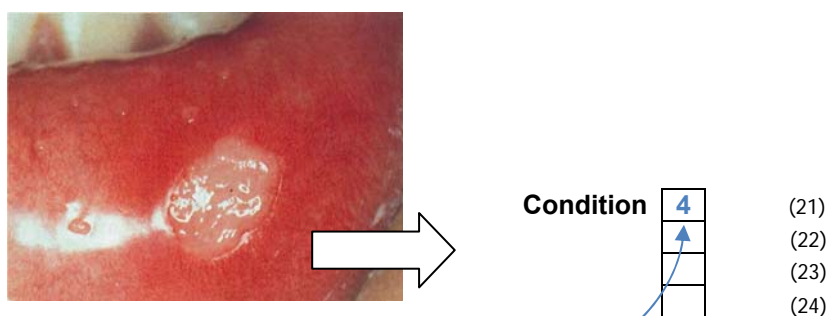
The codes and criteria are:

1 = Malignant tumour (oral cancer).
2 = Leukoplakia.
3 = Lichen planus.
4 = Ulceration (aphthous, herpetic, traumatic).
5 = Erythroplakia.
6 = Other or not sure – please specify alongside the coding.


Please record all abnormalities found using boxes 21 to 24 as necessary.

Figure 12 highlights how question 7 should be completed if a lesion is identified.  Some of the more important pathological conditions affecting the oral mucosa are illustrated in Plate 3a and 3b.

Figure 12



Condition 4 (21)
(22)
(23)
(24)

*Choose from the following conditions:*

| 1 | Malignant tumour (oral cancer) |
|---|---|
| 2 | Leukoplakia |
| 3 | Lichen planus |
| 4 | Ulceration (aphthous, Herpatic, traumatic) |
| 5 | Erythroplakia |
| 6 | Other or not sure – please specify alongside coding |
| | |

***Once you have completed this section the EGOHID Full Standard Clinical Survey Assessment is complete. Please make sure that no data entry areas have been left blank.***

***Thank you.***

# Supplementary Colour Plates

Lesions of the Oral Mucosa – examples of conditions

A



B



C



D



E



F



G



H

I

J
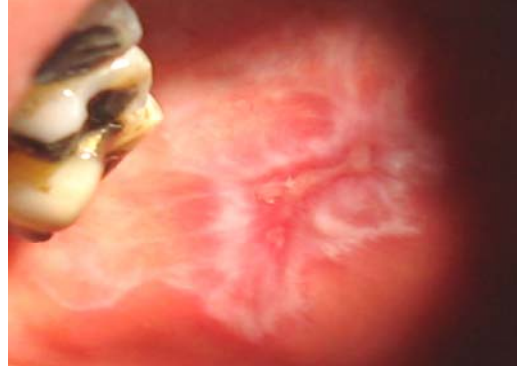
K

L

M

N

O
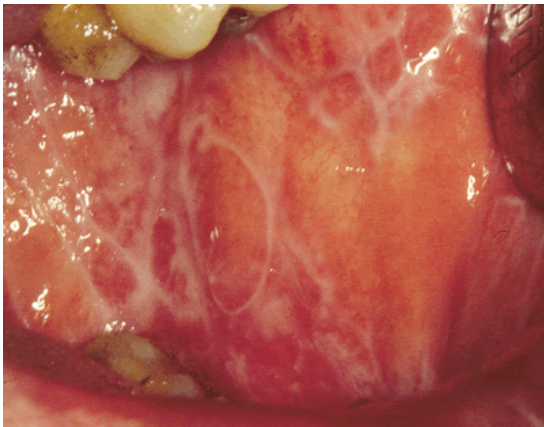
P

Q R

S T



**Figure 13. Examples of lesions of the oral mucosa:** A-E, Leucoplakia; F-J, Lichen Planus**;** K-L, Herpatic Ulceration; M, Erythroplakia; N, Keratosis – an example for the 'other' category; O, Lichen Planus; P, Erosive Lichen Planus; Q, Early Cancer of the Lower Lip; R, Cancer of the floor of the mouth; S, Cancer of the palate; and T, Karposi's Sarcoma. Photographs: Miguel Saruca, A,K; Nada Markovska, B-J, Isaäc van der Waal; L,M; Denis Bourgeois, N-R; and Anita Nolan, S,T.

# European Global Oral Health Indicators Development II
## Full Standard Clinical Survey Form – 2008 v22

**Date of Examination** ☐☐ ☐☐ ☐☐ (01)   date as day / month / year

**Dentist ID** ☐☐ (02)

**Country Code** ☐☐ (03)

## Patient Information

**Age** (last birthday) ☐☐ (04)

**Sex** (1 = M   2 = F) ☐ (05)

**Time since last dental examination**
Choose the nearest from the options given
to indicate the interval since last examination.

☐ (06)

1 = less than 1 year
2 = more than 1 year but less than 2 years
3 = more than 2 years but less than 5 years
4 = more than 5 years
5 = never previously been examined
x = unknown or refuse to say

**Place of residence**
What is the postcode at the patient's home address?

☐☐☐☐☐   Place 'X' in this box if not known   (07)

**Is the patient able to reach a dentist**, when needed, within 30 minutes travel from home or employment?

☐ (08)   1 = yes   2 = no   x = don't know / not sure

**Does the patient brush with fluoride toothpaste?** ☐ (09)   1 = yes   2 = no   x = don't know / not sure

**How many eating/drinking occasions do you have per day even in small quantities** ☐☐ (10)

**Patient's or (for child) Mother's highest education level** ☐ (11)

1 = Never attended school or kindergarten only
2 = Grades 1 to 8 (elementary / primary)

3 = Grades 9 to 11 (attended high school)
4 = Grades 12 or GED (graduated at high school)
5 = College for 1 to 3 years (attended college)
6 = College 4 or more years (college graduate)
x= Not known / not sure / unwilling to say

**What has been the patient's or parent's employment status during the past twelve months?** ☐ (12)

1 = Waged
2 = Unemployed
3 = Student
4 = Unable to work

5 = Self-employed
6 = Home maker
7 = Retired
x = Not recorded

**Patient smokes?** ☐ (13)
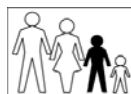**Patient consumes alcoholic beverages?** ☐ (14)

(Enter the code according to the key for smoking and alcohol usage)
1 = every day     3 = never
2 = some days     x = unable / unwilling to say

## Key to ages (*used next to each indicator*)

Child aged 1 to 5

Child aged 6 to 14

Child aged 12 only

Adults and children

Adults only

46

# DENTAL DISEASE ASSESSMENT

1. Examine the patient and fill out the charts:
   or tick the single box if edentulous.

Edentulous ☐ (15)

(tick the box and continue to Q7)

**All ages**

| Restoration and Sealant Codes | Caries Codes |
|---|---|
| 0 = Not sealed or restored | 0 = Sound tooth surface |
| 1 = Sealant, partial | 1 = First visual change in enamel |
| 2 = Sealant, full | 2 = Distinct visual change in enamel |
| 3 = Tooth coloured restoration | 3 = Enamel breakdown, no dentine visible |
| 4 = Amalgam restoration | 4 = Dentinal shadow (not cavitated into dentine) |
| 5 = Stainless steel crown | 5 = Distinct cavity with visible dentine |
| 6 = Porcelain, gold, PFM crown or veneer | 6 = Extensive distinct cavity with visible dentine |
| 7 = Lost or broken restoration | |
| 8 = Temporary restoration | **Missing Teeth** |
| | 97 = Extracted due to caries |
| | 98 = Missing for other reason |
| | 99 = Unerupted |
| | P = Missing tooth replaced by implant or bridge pontic |

A 2-digit code should be used unless a code 'P' is indicated

## Upper Right — Primary dentition — In child with mixed dentition, circle the teeth present — Upper Left

| Surface | Primary | 55 | 54 | 53 | 52 | 51 | 61 | 62 | 63 | 64 | 65 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Permanent dentition

| Surface | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | | | | | | | | | | | | | | | | |
| O | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | | | | |
| D | | | | | | | | | | | | | | | | |
| B | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | |
| ◈ | | | | | | | | | | | | | | | | |

## Lower Right — Primary dentition — In child with mixed dentition, circle the teeth present — Lower Left

| Surface | Primary | 85 | 84 | 83 | 82 | 81 | 71 | 72 | 73 | 74 | 75 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Permanent dentition

| Surface | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | | | | | | | | | | | | | | | | |
| O | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | | | | |
| D | | | | | | | | | | | | | | | | |
| B | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | |
| ◈ | | | | | | | | | | | | | | | | |

# ORTHODONTIC TREATMENT COVERAGE

**5 to 17**

2. Does the person claim to wear a fixed or removable orthodontic appliance? ☐ (16)  1 = yes  2 = no

## DENTAL FLUOROSIS

3. Gauge the level of dental fluorosis (whole mouth): ☐ (17)

| | | | |
|---|---|---|---|
| 1 = None (normal enamel) | 2 = Questionable | 3 = Very mild | |
| 4 = Mild | 5 = Moderate | 6 = Severe | x = Not applicable |

4. Has the patient daily or regularly used a fluoridated product other than toothpaste? ☐ (18)

1 = yes   2 = no   x = don't know

If yes, list those used using the key.  ☐ (19) ☐ (20) ☐ (21) ☐ (22) ☐ (23) ☐ (24)

| | |
|---|---|
| 1 = fluoride tablets or drops | 4 = mouth rinse |
| 2 = fluoridated public water | 5 = fluoridated salt |
| 3 = fluoridated bottled water | 6 = other products   x = not known / unwilling to say |

---

## REMOVABLE DENTURE PREVALENCE

5. Does the person claim to wear dentures? ☐ (25)   1 = yes   2 = no

---

## PERIODONTAL HEALTH ASSESSMENT AND PERIODONTAL DISEASE SEVERITY

### On the chart below please indicate the following:

6. Provide a Community Periodontal Index (CPI) score for each sextant from the following list.

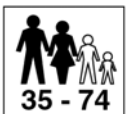| | | | |
|---|---|---|---|
| 0 | Healthy | 4 | Pocket 6mm or more |
| 1 | Bleeding | X | Excluded sextant (less than two teeth present) |
| 2** | Calculus | 9 | Not recorded |
| 3* | Pocket 4-5mm | | |

* Record bleeding only in 12 and 15-year-olds: do not probe for pocket depth

**Note**: In line with the recommendations of an expert panel of EGOHID associates, calculus is not included in the definition of the indicator and it is therefore recommended that this coding is not used at any age.

7. How severe is the loss of attachment (LOA) around the whole mouth? (Six sites per tooth)

| | | | |
|---|---|---|---|
| 0 | Healthy 0 mm. | 3 | Severe 5 mm or more |
| 1 | Slight 1 or 2 mm. | 9 | Not recorded |
| 2 | Moderate 3 or 4 mm. | | |

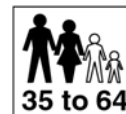| CPI | | [  ] | | | | [  ] | | | | [  ] | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LOA Buccal / Palatal | | | | | | | | | | | |
| Tooth | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Tooth | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| LOA Lingual / Buccal | | | | | | | | | | | |
| CPI | | [  ] | | | | [  ] | | | | [  ] | |

*If a tooth is missing, please record this by scoring out the appropriate tooth number like this* [47]

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## LESIONS OF THE ORAL MUCOSA

8.  Please indicate if any suspicious growths or conditions are noted. ☐ (26)

35 to 64

Where the clinician has ticked the box, please provide some additional information in the boxes below. Enter codes from the list provided in the guidance (reproduced below for reference)

**Condition** ☐ (27)
☐ (28)
☐ (29)
☐ (30)

If "other", please specify _____

**Condition**

*Choose from the following conditions:*

| | |
|---|---|
| 1 | Malignant tumour (oral cancer) |
| 2 | Leukoplakia |
| 3 | Lichen planus |
| 4 | Ulceration (aphthous, herpetic, traumatic) |
| 5 | Erythroplakia |
| 6 | Other or not sure<br>– please specify alongside coding |

Thank you for completing this form.
Please Return to:

European Commission
Health and Consumer Protection Directorate-General
Community Action Programme on Health Monitoring

EGOHID II

# 4. Proposed presentation of epidemiological information

The purpose of the exercise was to collect data to enable the evaluation of items from the list of essential oral health indicators. In order to satisfy the requirements of the relevant indicators, some of the data collected during the examination requires a level of processing / summarisation, before being ready for transcription to data tables.  The sentinel dentists were asked not to perform this processing. In this way the examination was made slightly easier for the sentinel dentist as he/she can concern himself/herself with recording the oral health of the examinee and not need to, for example, count whether the number of teeth with loss of attachment is greater or less than 30 percent of those present.

The partners of WP6, WP7, and WP8 have agreed a model for descriptive tables based on the pilot studies. These tables can be produced from data collected during surveys of European populations; the full standard clinical survey in the case of WP7. On the pages following, the layout of these tables is presented. Individual tables correspond to the individual oral health indicators as listed in table 1.1. The numbers of the indicators refer to their catalogue classification (European Commission 2005).

Tables allow for stratification of the result set according to various factors including age, sex, education, occupation, location, etc. Education and occupation were recorded in six and eight categories respectively. For the purposes of the tables education categories are re-grouped into three broader categories.

**Education** – Patient's or child's mother's highest grade of education
The categories to choose from on the full standard clinical assessment form relating to the patient's, or in the case of a child, the mother's education were as follows:

| Code | Description |
|------|-------------|
| 1 | Never attended school or kindergarten only |
| 2 | Grades 1 to 8 (elementary / primary) |
| 3 | Grades 9 to 11 (attended high school) |
| 4 | Grades 12 or GED (graduated at high school) |
| 5 | College for 1 to 3 years (attended college) |
| 6 | College 4 or more years (college graduate) |
| x | Not known / not sure / unwilling to say |

| Education | |
|-----------|---|
| Grades 1 – 8 | Codes 1 and 2 |
| Grades 9 – 12 | Codes 3 and 4 |
| College and above | Codes 5 and 6 |
| Current Students* | Code 3 from occupation question (see below) |

**Employment or occupation** – Patient or parent.
The categories possible on the full standard clinical assessment form relating to the patient's, or in the case of a child, the parent's employment status were as follows:

| Code | Description |
|------|-------------|
| 1 | Waged |
| 2 | Unemployed |
| 3 | Student |
| 4 | Unable to work |
| 5 | Self-employed |
| 6 | Home-maker |
| 7 | Retired |
| 8 | Not recorded |

Employment categories have been collapsed from the 8 categories above to:

| Employment | |
|------------|---|
| Waged | Code 1 |
| Self-employed | Code 5 |
| Without professional activity | Codes 2, 3, 4, 6 and 7 |

**Type of locality** – assigned from the stated post code.

| Type of Locality |
|------------------|
| Metropolitan |
| Other town or urban |
| Rural |

## 4.1 List of data summary tables

### Dental Disease Assessment

| | | |
|---|---|---|
| Table 4.1 | B12. | No Obvious Decay Experience |
| Table 4.2 | B.13. | Dental Caries Severity |
| Table 4.3 | A.10. | Early Childhood Caries |
| Table 4.4 | A.11. | Decay Experience in 1$^{st}$ Permanent Molars |
| Table 4.5 | B.9. | Untreated Caries Prevalence |
| Table 4.6 | A.8. | Protective Sealant Prevalence |
| Table 4.7 | B.16. | Functional Occlusion Prevalence |
| Table 4.8 | B.17. | Number of Natural Teeth Present |
| Table 4.9 | B.18. | Edentulous Prevalence |

### Orthodontic Treatment Coverage

| | | |
|---|---|---|
| Table 4.10 | A.9. | Orthodontic Treatment Coverage |

### Dental Fluorosis

| | | |
|---|---|---|
| Table 4.11 | A.12. | Dental Fluorosis |

### Periodontal Health Assessment And Periodontal Disease Severity

| | | |
|---|---|---|
| Table 4.12 | B.10. | Periodontal Health Assessment |
| Table 4.13 | B.14. | Periodontal Diseases Severity |

### Removable Denture Prevalence

| | | |
|---|---|---|
| Table 4.14 | B.11, | Removable Denture Prevalence |

### Lesions Of The Oral Cavity

| | | |
|---|---|---|
| Table 4.15 | B.15. | Lesions of the Oral Cavity |

DENTAL DISEASE ASSESSMENT

**Table 4.1**
**► B.12. No Obvious Decay Experience**

*Proportion of those examined with a value of 0 for decayed, missing, and filled teeth. This indicator is assessed for all ages from 5 to 74.*

To assess overall levels of oral health and monitor trends over time and to measure the effectiveness of measures to limit decay to early stages. The indicator is calculated only with reference to decay into dentine whatever diagnostic threshold is used for the survey.

| Ages 5-74 | Total | No. of subjects without decay into dentine, no missing teeth due to caries, and having no fillings. | Proportion of subjects without decay into dentine, no missing teeth due to caries, and having no fillings. |
|---|---|---|---|
| All | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Age** | | | |
| a-b years | | | |
| c-d years | | | |
| e-f years | | | |
| g-h years | | | |
| **Type of Locality** | | | |
| Metropolitan | | | |
| Other town or urban | | | |
| Rural | | | |
| **Mother's Education/ Education** | | | |
| Grades 1-8 | | | |
| Grades 9-11 | | | |
| College or above | | | |
| Current Student | | | |
| **Parent's employment/ Employment** | | | |
| Waged | | | |
| Self-employed | | | |
| Without professional activity | | | |

**Table 4.2**
**► B.13.Dental Caries Severity**

*Mean number of decayed, missing, or filled primary or permanent teeth per person in age group 5 to 74.*

An indicator which can be used to measure the effectiveness of self-care and oral health services in controlling the decay process.
May be recorded as early and late decay or just later stages of decay as desired and reported for ages 5 to 7, 12, 18, 35 to 44, and 65 to 74.

| Ages between 5 and 74 | Total | Mean of each | | | | | |
|---|---|---|---|---|---|---|---|
| | | $d_1/D_1$ | $d_3/D_3$ | m / M | f / F | $d_1mft/D_1MFT$ | $d_3mft/D_3MFT$ |
| All | | | | | | | |
| **Sex** | | | | | | | |
| Male | | | | | | | |
| Female | | | | | | | |
| **Age** | | | | | | | |
| 5-7 years (deciduous) | | | | | | | |
| 12 years | | | | | | | |
| 18 years | | | | | | | |
| 35-44 years | | | | | | | |
| 65-74 years | | | | | | | |
| **Type of Locality** | | | | | | | |
| Metropolitan | | | | | | | |
| Other town or urban | | | | | | | |
| Rural | | | | | | | |
| **Mother's Education/ Education** | | | | | | | |
| Grades 1-8 | | | | | | | |
| Grades 9-11 | | | | | | | |
| College or above | | | | | | | |
| Current Student | | | | | | | |
| **Parent's employment/ Employment** | | | | | | | |
| Waged | | | | | | | |
| Self-employed | | | | | | | |
| Without professional activity | | | | | | | |

**Table 4.3**
**► A.10. Early Childhood Caries**

*Proportion of children with early childhood caries for aged 1 to 5.*

To monitor trends in oral health in pre-school children and identify caries risk. The $d_1$ threshold is used.

| Applies to ages 1-5 only | Total | No. of children with early childhood caries of specified character*. | Proportion with early childhood caries of specified character*. |
|---|---|---|---|
| All | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Age** | | | |
| 0-2 years (under 3) | | | |

| | |
|---|---|
| 3-5 years (over 3) | |
| **Type of Locality** | |
| Metropolitan<br>Other town or urban<br>Rural | |
| **Mother's Education** | |
| Grades 1-8<br>Grades 9-11<br>College or above<br>Current Student | |
| **Parent's employment** | |
| Waged<br>Self-employed<br>Without professional<br>activity | |

\* age specific characteristics

< 3    Decay on smooth surfaces
≥ 3    Smooth surface of upper anterior teeth cavitated, missing, or filled
  3    More than 4 decayed, missing, or filled
  4    More than 5 decayed, missing, or filled
  5    More than 6 decayed, missing, or filled

**Table 4.4**
**►A.11.  Decay Experience in 1ˢᵗ Permanent Molars in Children**

*The mean number of decayed, missing, and filled first permanent molars in children at ages 6 and 12.*

To monitor trends in dental caries and inform the nature and extent of required preventive, curative, and restorative services.

| Applies to ages<br>6 and 12 only | Total | 1ˢᵗ permanent molars<br>$D_1MFT$ | 1ˢᵗ permanent molars<br>$D_3MFT$ |
|---|---|---|---|
| All | | | |
| **Sex** | | | |
| Male<br>Female | | | |
| **Age** | | | |
| 6 years<br>12 years | | | |
| **Type of Locality** | | | |
| Metropolitan<br>Other town or urban<br>Rural | | | |
| **Mother's Education** | | | |
| Grades 1-8<br>Grades 9-11<br>College or above<br>Current Student | | | |
| **Parent's employment** | | | |

Waged
Self-employed
Without professional
activity

**Table 4.5**
**►B.9. Untreated Caries Prevalence**

*Proportion with untreated decay into dentine – assessed at ages 2-4, 6-8, 12, 15, and 35 to 44.*

To assess mean levels of untreated dental caries and help to estimate treatment requirements in children and adults. Can be used to assess the proportion of individuals with teeth clearly decayed far enough to warrant restorative and preventive interventions.

| Ages 2, 4, 6-8, 12, 15, and 35-44 | Total | No. of subjects with one or more untreated dentinal decay. ($d_3$ / $D_3$) | Proportion of subjects with one or more untreated dentinal decay. ($d_3$ / $D_3$) |
|---|---|---|---|
| All | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Age** | | | |
| 2 years | | | |
| 4 years | | | |
| 2-4 years | | | |
| 6-8 years deciduous | | | |
| 6-8 years permanent | | | |
| 12 years | | | |
| 15 years | | | |
| 35-44 years | | | |
| **Type of Locality** | | | |
| Metropolitan | | | |
| Other town or urban | | | |
| Rural | | | |
| **Education/ Mother's Education** | | | |
| Grades 1-8 | | | |
| Grades 9-11 | | | |
| College or above | | | |
| Current Student | | | |
| **Parent's employment** | | | |
| Waged | | | |
| Self-employed | | | |
| Without professional activity | | | |

**Table 4.6**
**► A.8. Protective Sealants Prevalence**

*Proportion of children aged 6 to 8 or 12 to 14 with clinical evidence of dental sealant on at least one permanent molar.*

Provides the opportunity to evaluate the impact of preventive services. All sealants are recorded due to the difficulty in differentiating between preventive sealants and resin restorations.

| Applies to ages 6-8 and 12-14 only | Total | No. of children with at least one sealant on 1st or 2nd permanent molar | Proportion with at least one sealant on 1st or 2nd permanent molar |
|---|---|---|---|
| All | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Age** | | | |
| 6-8 years | | | |
| 8 years | | | |
| 12-14 years | | | |
| 14 years | | | |
| **Type of Locality** | | | |
| Metropolitan | | | |
| Other town or urban | | | |
| Rural | | | |
| **Parent's employment** | | | |
| Waged | | | |
| Self-employed | | | |
| Without professional activity | | | |

**Table 4.7**
**► B.16. Functional Occlusion Prevalence**

*This is the proportion, aged 18 or over with 21 or more natural teeth in functional occlusion*
*It is assessed in all adults but is of particular interest in people aged 35-44 and 65-74.*

This a tool for planning current and future prosthetic needs for adults.

| Ages 18 and older | Total | No. of subjects with 21 or more teeth in functional occlusion. | Proportion of subjects with 21 or more teeth in functional occlusion. |
|---|---|---|---|
| All | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Age** | | | |
| Over 17 years | | | |
| 35-44 years | | | |
| 65-74 years | | | |
| **Education** | | | |
| Grades 1-8 | | | |
| Grades 9-11 | | | |
| College or above | | | |
| Current Student | | | |

| Employment |
| --- |
| Waged |
| Self-employed |
| Without professional activity |

## Table 4.8
## ► B.17. Number of Natural Teeth Present

*This is the number of natural teeth retained at all ages 18 or above but particularly 35 to 44 and 65 to 74.*

To monitor trends in tooth retention amongst populations of adults and to manage oral care services.

| Ages 18 or more | Total | Mean number of teeth. |
| --- | --- | --- |
| All | | |
| **Sex** | | |
| Male | | |
| Female | | |
| **Age** | | |
| Over 17 years | | |
| 35-44 years | | |
| 65-74 years | | |
| **Type of Locality** | | |
| Metropolitan | | |
| Other town or urban | | |
| Rural | | |
| **Education** | | |
| Grades 1-8 | | |
| Grades 9-11 | | |
| College or above | | |
| Current Student | | |
| **Employment** | | |
| Waged | | |
| Self-employed | | |
| Without professional activity | | |

## Table 4.9
## ► B.18. Edentulous Prevalence

*The proportion over 35 with no natural teeth. May be presented as 35-44, 45-54, 55-64, and 65-74.*

To provide information on the oral health status and needs of adults particularly in residential homes and institutions.

| Ages 35 or more | Total | No. of subjects who have no natural teeth | Proportion of subjects who have no natural teeth. |
| --- | --- | --- | --- |
| All | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Age** | | | |

| | |
|---|---|
| 34-44 years | |
| 45-54 years | |
| 55-64 years | |
| 65-74 years | |
| **Type of Locality** | |
| Metropolitan | |
| Other town or urban | |
| Rural | |
| **Employment** | |
| Waged | |
| Self-employed | |
| Without professional activity | |

## ORTHODONTIC TREATMENT COVERAGE

**Table 4.10**
**► A.9. Orthodontic Treatment Coverage**

Proportion aged 5 to 17 who claim to wear an orthodontic appliance.
*Allows the comparability of orthodontic services throughout Europe and assessment of the adequacy within vulnerable communities.*

| **Applies to ages 5-17 only** | Total | No. of children who claim to wear an orthodontic appliance. | Proportion who claim to wear an orthodontic appliance. |
|---|---|---|---|
| All | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Age*** | | | |
| a-b years (?5-10) | | | |
| c-d years (?11-17) | | | |
| e-f years | | | |
| **Type of Locality** | | | |
| Metropolitan | | | |
| Other town or urban | | | |
| Rural | | | |
| **Education/ Mother's Education** | | | |
| Grades 1-8 | | | |
| Grades 9-11 | | | |
| College or above | | | |
| Current Student | | | |
| **Parent's employment** | | | |
| Waged | | | |
| Self-employed | | | |
| Without professional activity | | | |

* The specific age groupings within those aged 5-17 requires further discussion

DENTAL FLUOROSIS

**Table 4.11**
**►A.12. Dental Fluorosis**

*Proportion of 12-year-old children with either normal enamel or with enamel conforming to one of five severity measures according to Dean's Index and judged for the whole mouth.*

To monitor the impact and trends in the ingestion of fluoride in 12-year-olds. Additional stratification according to exposure to fluoride since birth.

| Applies to age 12 only | Total | Dean's Index *for each number (proportion)* * | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| All | | | | | | | | |
| **Sex** | | | | | | | | |
| Male | | | | | | | | |
| Female | | | | | | | | |
| **Fluoridated product usage** | | | | | | | | |
| Yes | | | | | | | | |
| No | | | | | | | | |
| **Type of Locality** | | | | | | | | |
| Metropolitan | | | | | | | | |
| Other town or urban | | | | | | | | |
| Rural | | | | | | | | |
| **Education/ Mother's Education** | | | | | | | | |
| Grades 1-8 | | | | | | | | |
| Grades 9-11 | | | | | | | | |
| College or above | | | | | | | | |
| Current Student | | | | | | | | |
| **Parent's employment** | | | | | | | | |
| Waged | | | | | | | | |
| Self-employed | | | | | | | | |
| Without professional activity | | | | | | | | |

\* Collapsing of the 7 categories of Dean's Index may be advisable however the appropriate combination of codes requires further discussion.

PERIODONTAL HEALTH ASSESSEMENT AND PERIODONTAL DISEASE SEVERITY

## Table 4.12
## ► B.10. Periodontal Health Assessment

*Periodontal health per sextant assessed at ages 12, 15, 18, 35 to 44, and 65 to 74 recorded according to the Community Periodontal Index, but with bleeding and calculus only recorded at ages 12 and 15.*

Assessment of type and scale of preventive and / or treatment services required.

| Ages 12, 15, 18, 35-44, and 65-74 | Total | Community Periodontal Index – Number (percentage) | | | | |
|---|---|---|---|---|---|---|
| | | 0 | 1 | 2 | 3 | 4 |
| All | | | | | | |
| **Sex** | | | | | | |
| Male | | | | | | |
| Female | | | | | | |
| **Age** | | | | | | |
| 12 years | | | | | | |
| 15 years | | | | | | |
| 18 years | | | | | | |
| 35-44 years | | | | | | |
| 65-74 years | | | | | | |

## Table 4.13
## ► B.14. Periodontal Diseases Severity

*Proportion of adults aged 35 to 74 with periodontal disease of any severity.*

Assessment of the scale of periodontal problems, identification of risk groups, and providing an indication of how far needs are being met.

| Ages 35-74 | Total | Any loss of attachment | | Loss of attachment (grade) | | | |
|---|---|---|---|---|---|---|---|
| | | Number | Proportion | 1 | 2 | 3 | 4 |
| All | | | | | | | |
| **Sex** | | | | | | | |
| Male | | | | | | | |
| Female | | | | | | | |
| **Age*** | | | | | | | |
| 35-44 years | | | | | | | |
| 45-64 years | | | | | | | |
| 65-74 years | | | | | | | |

* 3 age groups have been suggested, however all WP7 partners agreed that a further category of those aged 75 years and over would be appropriate

REMOVABLE DENTURE PREVALENCE

**Table 4.14**
**►B.11. Removable Denture Prevalence**

Proportion aged 20 to 65 who claim to wear a removable denture.

*A tool for assessing current and future prosthetic needs of adults.*

| Applies to all over the age of 20 years | Total | No. of denture wearers. | Proportion of denture wearers |
|---|---|---|---|
| All | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Type of Locality** | | | |
| Metropolitan | | | |
| Other town or urban | | | |
| Rural | | | |
| **Education** | | | |
| Grades 1-8 | | | |
| Grades 9-11 | | | |
| College or above | | | |
| Current Student | | | |
| **Employment** | | | |
| Waged | | | |
| Self-employed | | | |
| Without professional activity | | | |

LESIONS OF THE ORAL CAVITY

**Table 4.15**
**► B.15. Lesions of the Oral Cavity**

*The number of new cases of cancer of the oral cavity per 100,000 adults in age range 35 to 64 – see appendix 2.*

To provide education about and early diagnosis of oral cancer.

| Ages 35-64 | Total | No. with oral lesion | Proportion with oral lesion |
|---|---|---|---|
| All | | | |
| **Age** | | | |
| 35-44 years | | | |
| 45-64 years | | | |
| **Sex** | | | |
| Male | | | |
| Female | | | |
| **Type of Locality** | | | |
| Metropolitan | | | |
| Other town or urban | | | |
| Rural | | | |
| **Alcohol** | | | |
| Every day | | | |
| Some days | | | |
| Never | | | |
| **Tobacco** | | | |

Every day
Some days
Never

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