# IMPACT OF DENTAL SERVICES ON QUALITY OF LIFE

Leonard Alfred Crocombe Student Number: 1060709

Australian Research Centre for Population Oral Health School of Dentistry The University of Adelaide

Submitted 29 April 2010

# Appendices

Page

Appendix A: Baseline computer-assisted telephone interview	349
Appendix B: Baseline epidemiological examination	358
Appendix C: NSAOH self-complete questionnaire	370
Appendix D: Back-up self-complete questionnaire	376
Appendix E: Twelve month self-complete questionnaire	378
Appendix F: Service use logbook	382
Appendix G: Dental treatment audit	383

# Appendix A: Baseline computer-assisted telephone interview

Variable label	Question	Response/s
Number of people aged	How many people aged 15 years or older live in this	literal
15+ vrs living in	household?	
household		
Number of children aged	And how many children aged 5 to 14 years live in	literal
5-14 yrs living in	this household?	(99 = dk/refusal = .d)
household		, , , , , , , , , , , , , , , , , , ,
Natural teeth	Do you have any of your own NATURAL teeth?	1=Yes
		2=No
		0-Don't know
Number of years	How many years have you had no teeth?	Jitoral
edentulous	How many years have you had no teem?	(00 - dk - d)
Upper denture	Do you have a dentura or false tooth	(99 - 0K0)
Opper dentare	$\{\text{REMOVABLE}\}$ for your LIPPER jaw?	1-1 es $2-N_0$
	(REMOVABLE) for your off ER jaw:	2-110
		9=Don't know
Lower denture	Do you have a denture or false teeth	1=Yes
	{REMOVABLE} for your LOWER jaw?	2=No
		9=Don't know
Number remaining	There are 16 teeth, including wisdom teeth in the	literal
maxillary teeth	upper jaw.	
inalitating toola	upper juni	
	How many teeth do you have remaining in your	
	UPPER jaw?	
Number remaining	There are also 16 teeth, including wisdom teeth in	
mandibular teeth	the lower jaw.	
	How many teeth do you have remaining in your	
	LOWER jaw?	
Need filling(s)	Leading question for variables Needfill to	1=Yes
_	Needoth:	2=No
	Currently which of the following treatments do	
	you think that you need to have:	9-Don't know
	Any filling(s)?	
Need extraction(s)	Any extraction(s)?	1=Yes
		2=No
		- 110
		9=Don't know
Need scaling	Scaling?	1=Yes
		2=No
		9=Don't know
Need professional clean	Professional clean and polish?	1=Yes
and polish		2=No
		0-Don't know
Nood y roug	V roug?	9-Doll t Kllow
Need x-rays	A-lays?	1 - 1  es
		2-110
		9=Don't know
Need denture(s) made	Denture(s) made?	1=Yes
		2=No
		9=Don't know
Need a dental check-up	A dental check-up?	1=Yes
rised a dental check up	r dental encor up.	2=No
		9=Don't know

Need own treatment	Cum treatment?	1-Vaa
Need guin treatment	Guin treatment?	
		2=No
		9=Don't know
Need dental crown or	Dental crown or bridge?	1=Yes
bridge		2=No
8		
		9=Don't know
Need other treatment	Any other treatment?	1=Yes
riced other treatment	They other doublent.	$2-N_0$
		2-110
		9–Don't know
No. d. douteurs (a) use de	I and in a succession from manifed law Federate 1 4a	
Need denture(s) made	Leading question for variables Edentx11 to	1 = Y es
	Edentxt3:	2=No
	Currently which of the following treatments do	
	you think that you need to have:	0. D. 1/1
		9=Don't know
	Denture(s) made?	
Need gum treatment	Gum treatment?	1=Yes
		2=No
		2-110
		9=Don't know
Need other treatment	Any other treatment?	1-Vec
Need other treatment	Any other treatment?	1 = 1  es
		2=INO
		0. Dan?t lan ann
		9=Doil t know
Time urgency of dental	How soon do you think you need this dental	1=<1 wk
treatment	treatment?	2=1 wk-<1 mth
		3=1  mth-<3  mths
		4=3 mths-<6 mths
		$5-6\pm$ mths
		J=0+ muis
		9–Don't know
Time since last visit	How long ago did you I AST soo a dontal	1 - < 12 mths
Time since last visit	now long ago did you LAST see a dental	1 = 12 multis
	professional about your teeth, dentures or gums?	2=1-<2 yrs
		3=2-<5 yrs
		4=5-<10 yrs
		5=10+ yrs
		6=Never visited
		0-itever visited
		9=Don't know/Refuse
Peason for dental visit <-?	Was that dental visit for a check up or for a dental	1-Check up
Reason for dental visit<-2	was that demai visit for a check-up of for a demai	1-Check-up
years ago	problem?	2=Problem
		0-Don't Imouv/Defue
Saw dentist $\leq 2$ years	Was that dental visit necessary for the relief of pain?	1=Yes
ago for ROP		2=No
		9=Don't know/Refuse
Number of visits in last 12	How many dental visits did you make in the last 12	literal
months	months?	(99 = dk = .d)
Received filling(s) in last	Which of the following treatments did you receive in	1=Yes
12 months	the last 12 months <sup>1</sup>	2-No
	the last 12 monuis.	2-110
	Any fillings?	9-Don't know
Number filling(s) in last	How many filling(s) did you receive in the last 12	Literal
12 months	months?	(99 = dk = .d)

Received extraction(s) in	Which of the following treatments did you receive in	1=Yes
last 12 months	the last 12 months:	2-No
last 12 months	the last 12 monuls.	2-10
		9=Don't know
	Any extractions?	· _ ··· ·
Number extraction(s) in	How many extractions did you receive in the last 12	Literal
Number extraction(s) in	mow many extractions and you receive in the last 12	(00 + 1 + 1)
last 12 months		(99 = 0k = .0)
Received scaling in last	Leading question for variables Rtx3a to Rectx3h:	1=Yes
12 months	And did you receive any of the following	2=No
	treatments in the last 12 months:	
		0-Don't know
	S1in-9	9–Doli t kilow
	Scaling?	1 37
Received professional	Professional clean and polish?	1=Yes
clean and polish in last 12		2=No
months		
		0-Don't know
B 1 1 1 12	V 0	9=Doll t Kllow
Received x-rays in last 12	X-rays?	1=Yes
months		2=No
		9-Don't know
Dessived destruction 1	Dontum(s) mode?	
keceived denture(s) made	Denture(s) made :	1-105
last 12 months		2=1N0
		9–Don't know
Pagging a dental shapt-	A dental sheek up?	
Received a dental check-	A dental check-up?	
up in last 12 months		2=No
		9-Don't know
Descional array two stars and	Com to the two to the test of test	1 V
keceived guin treatment	Guin treatment?	
in last 12 months		2=1N0
		9=Don't know
Received dental crown or	Dental crown or bridge?	1=Yes
bridge in last 12 months		2=No
orluge in fast 12 months		2-10
		9=Don't know
Received other treatment	Any other treatment?	1=Yes
in last 12 months		2=No
		9=Don't know
Received denture(s) made	Leading question for variables Rectx4a to	1=Yes
last 12 months	Rectx4c:	2=No
	Which of the following treatments did you receive	
	in the last 12 months:	
		9=Don't know
	Denture(s) made?	
Received gum treatment	Gum treatment?	1=Yes
in last 12 months		2=No
		9=Don't know
Received other treatment	Any other treatment?	1=Yes
in last 12 months		2=No
	<b>WH 111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</b>	9=Don't know
Site of last dental visit	Where did you make your last dental visit? Was it at	1=Private dental practice (including
	a?	SPECIALIST)
		2=Govt dental clinic (inc dental hosp)
		NOT defence services
		3=School dental service
		4=Dental technician
		5=Clinic operated by health insurance
		fund
		6-Armed Services/Defense Force alinia
		7-Other site
		9=Don't know

Have a government concession card	Do you currently have a pension or allowance from the Government, or have a pensioner concession card, a Health care card or a Department of Veterans Affairs card?	1=Yes 2=No 9=Don't know/Refuse
Pensioner Concession	Leading question for variables Carda to Cardf:	1=Yes
card (PCC)		2=No
	Pensioner Concession Card?	
		9=Don't know/Refuse
Health care card (HCC)	Health care card?	1=Yes
		2=1NO
Commonwealth Seniors	Commonwealth Seniors Health Card?	9=Don't know/Refuse
Health card (CSHC)	Commonwealth Semors Health Cald	2=No
		9=Don't know/Refuse
Department of Veterans	Department of Veterans Affairs treatment GOLD	1=Yes
Affairs treatment GOLD	card?	2=No
card		
		9=Don't know/Refuse
Department of Veterans	Department of Veterans Affairs treatment WHITE	1=Yes
Affairs treatment WHITE	card?	2=No
caru		
Other coul	Other and 9	9=Don't know/Refuse
Other card	Other card?	1 = Yes 2-No
		2-110
		9-Don't know/Pefuse
Who covered the expenses	Did the Government or an insurance fund pay any	1=Paid all own expenses
for last dental visit	part of the expenses for your last dental visit?	2=Insurance paid some-patient paid some
		3=Insurance paid all-patient paid none
		4=Government paid some-patient (or
		5-Government paid all-patient paid none
		6=Other payment arrangement
		9=Don't know
Curently on a waiting list	Are you currently on a waiting list for public dental	1=Yes
for public dental care	care?	2=No
		9=Don't know/Refuse
Time been on waiting list	How many years/months have you been on the	Literal (number of months) (99 - dk - d)
		(99 = 0k = .0)
On a waiting list before	For your last dental visit, were you on a WAITING	1=Yes
given appt for last dental	LIST before you were given an appointment (at the	2=No
visit	government dental clinic)?	
		9=Don't know/Refuse
Length of time had to wait	How long did you have to wait before being given	Literal (number of months)
before being given an	an appointment?	(99 = dk = .d)
appointment		
		1 Charleson
Usual reason for visit	Which is your usual reason for visiting a dental	1=Check-up 2=Problem
	dental problem?	2-11000m
		9-Don't know/Refuse
Usually visit for ROP	Do you usually visit for relief of PAIN?	1=Yes
	······································	2=No
		9=Don't know/Refuse

Frequency of dental visits	How often on average would you seek care from a	1=Two or more times a year
riequency of dental visits	dental professional?	2 - 0nce a vear
	dental professional?	2 –Once a year
		3=Once in two years
		4=Less often than that
		0-Don't Imory
<b>T</b>		9=Doil t know
Freq toothache in last 12	During the last 12 months how often have you had	1=Very often
months	toothache. Was it:	2=Often
		3=Sometimes
		4=Hardly ever
		5-Never
		J-INEVEL
		9–Don't know/Refuse
Ence discourse and with		
Freq discomfort with	How often have you felt uncomfortable about the	1=very often
appearance in last 12	appearance of your teeth, mouth or dentures during	2=Often
months	the last 12 months?	3=Sometimes
		4=Hardly ever
		5=Never
		9=Don't know/Refuse
Freq food avoidance	How often have you had to evoid acting some f1-	1-Very often
rieq 1000 avoidance	how often have you had to avoid eating some foods	
	because of problems with your teeth, mouth or	2=Often
	dentures during the last 12 months?	3=Sometimes
		4=Hardly ever
		5=Never
		9=Don't know/Refuse
Experience	During the last 12 months have you had:	
Experience	During the last 12 months have you had.	1 = 1  es
broken/chipped tooth in		2=No
last 12 months	Proken or chinned a natural tooth during this last	
	Broken of empped a natural toour during uns last	0.0.1
	year?	9=Don't know
Experience sore gums in	Gums that hurt?	1=Yes
last 12 months		2=No
		9=Don't know
Experience bleeding gums	Gums that bleed?	1–Ves
in last 12 months	Guilis that block.	$2-N_{\rm P}$
III last 12 months		2–110
		9–Don't know
E		
Experience sores on	sores on the tongue of the finside of the mouth?	
tongue/inside mouth in		2=No
last 12 months		
		9=Don't know
Experience bad taste in	A bad taste in the mouth?	1=Yes
last 12 months		2=No
		9=Don't know
Experience had breath in	Bad breath?	1-Ves
last 12 months	Dad breath.	1-1 CS
last 12 monuis		2=1N0
		9-Don't know
Freq sensitive teeth in last	During the last 12 months, how often have you had	I=Very often
12 months	sensitive teeth, for example, due to hot or cold foods	2=Often
	or drinks?	3=Sometimes
		4=Hardly ever
		5-Never
		J-INCVCI
		9-Don't know/Pefuse
Pain in jaw/temple/face in	During the last MONTH, have you had pain in the	$1 = \Upsilon es$
last month	face, jaw, temple, in front of the ear, or in the ear?	2=No
		9=Don't know/Refuse
Gum disease	Do you think you have gum disease?	1=Yes
		2=No
		9=Don't know/Refuse
Course discourse discourses d	Has a dental professional even told you that you have	1-Vac

	lost bone around your teeth?	2=No
		9=Don't know
Ever had scaling/root	Have you ever had scaling, root planing, surgery or	1=Yes
planing etc for gum	other treatment for gum disease?	2=No
disease		
		9-Don't know
Any teeth ever become	Have you ever had any teeth that have become loose	1=Yes
loose w/out injury?	by themselves	2=No
5.2		
	without some injury (not haby teeth)?	9-Don't know
Freq of mouthwash use in	How often during the last week did you use	literal
last week	mouthwash or any dental rinse product?	(99 = dk = .d)
Freq of flossing in last	How often during the last 7 days did you use dental	literal
week	floss, tape or an interdental brush to clean between	(99 = dk = .d)
	your teeth, other than just to remove food particles	
	stuck between your teeth?	
Tooth that doesn't look	During the past three months have you noticed that	1=Yes
right	you have a tooth that doesn't look right?	2=No
		9=Don't know/Refuse
Self-rated health of gums	How would you rate the health of your GUMS?	1=Excellent
	Would you say that it is:	2=Very good
		3=Good
		4=Fair
		5=Poor
		9=Don't know
Diagnosed with diabetes	Have you been told by a doctor that you have	1=Yes
	diabetes?	2=No
		9=Don't know/Refuse
Smoking status	Which of the following best describes your smoking	1=I currently smoke
	status (includes cigarettes, cigars and pipes)?	2=I don't smoke now, but I used to
		3=I've never smoked
		9=Don't know/Refusal
Avoided or delayed dental	During the last 12 months, have you avoided or	1=Yes
visit due to cost in last	delayed visiting a dental professional because of the	2=No
12mths	cost?	
		9=Don't know
Cost prevented	Has the cost prevented you from having any dental	1=Yes
recommended dental	treatment that was recommended during the last 2	2=No
treatment in last 2 years	YEARS?	
		9=Don't know
Took up alternative lower	Did you take up an alternative lower-cost option for	1=Yes
cost option for	the treatment that was recommended?	2=No
recommended treatment		
		9=Don't know
Financial burden of dental	In the last 12 months, how much of a financial	1=None
visit in last 12 months	burden have dental visits been for you? Would you	2=Hardly any
	say:	3=A little
		4=A large burden
		9=Don't know
Difficulty paying a \$100	At most times of the year, how much difficulty	1=None
dental bill	would you have paying a \$100 dental bill OUT OF	2=Hardly any
	YOUR OWN POCKET? Would you say:	3=A little
		4-A lot of difficulty
		9=Don't know

	1	
Difficulty paying a \$150	And (At most times of the year) how much difficulty	1=None
dental bill	would you have paying a \$150 dental bill OUT OF	2=Hardly any
dentar om	VOLID OWN DOCKET? Would you say:	$2-\Lambda$ little
	TOUR OWN FOCKET? Would you say.	
		4=A lot of difficulty
		0. Dan't lan and
		9=Don't know
Have private dental	Do you have private insurance cover for dental	1=Yes
insurance	expenses?	2=No
	1	
		9=Don't know
Type of insurance cover	Is the insurance cover single or family cover?	1=Single
51	6 5	2=Family
		2–1 unity
		9=Don't know/Refuse
Have an appointment set	Do you have an appointment set for a check-up?	1-Ves
for a shealt up	Do you have an appointment set for a check up.	$2 - N_{\rm e}$
for a check-up		2=N0
		0-Don't know
Expect to reaction or	Do you appost to manipa or an electronic an	
Expect to receive an	bo you expect to receive an appointment or	1-108
appointment or reminder	reminder notice for a check-up?	2=No
notice for check-up		
-		
		9=Don't know
Usually go to a particular	Is there a dentist you usually go to for dental care?	1=Yes-usual source of care
dentist		2=No-no usual source of care
		9=Don't know
Self-rated general health	How would you rate your own GENERAL health?	1=Excellent
Convert om into m	Would you say that it is:	2-Vary good
Convert chi into in	would you say that it is.	2- very good
		3=Good
		4=Fair
		5=Poor
		9=Don't know
Self-rated dental health	And how would you rate your own DENTAL health.	1=Excellent
	Would you say that it is:	2=Very good
		3-Good
		4–Pali
		5=Poor
		9-Don't know
		7-DOILT KIIOW
Afraid or distressed about	would you feel atraid or distressed when going to	1=INOT at all
visiting the dentist	the dentist?	2=A little afraid or distressed
1		3=Moderately afraid or distressed
		4=Very afraid or distressed
		5-Extremely afraid or distrassed
		J-LAUCHICIY affaitu of uisuesseu
		9=Don't know
Interviewees sov	What say are you?	1-Male
litter viewees sex	what sex are you?	
		2=remale
		9–Refuse
Interviewees	Could you tall me your age -19	Literal response (000, D'
interviewees age	Could you tell me your age please?	Literal response (999=Don't
1		know/Refusal)
T 1'		1 1
Indigenous status	Are you of Aboriginal or Torres Strait Islander	1=No
1	origin?	2=Yes, Aboriginal
		3=Yes, Torres Strait Islander
1		4-Yes Torres Strait Islander & Aboriginal
1		. 100, 101100 Strutt Islander & Abbrighlar
		9=Don't know/Refusal

Country of birth	In which country were you born?	1=Australia 2=UK 3=New Zealand 4=Europe 5=Asia 6=USA/Canada 7=Rest of America 8=Africa
Language other than English spoken at home	Do you speak a language other than English at home?	9=Oceania 99=Don't know 1=Yes 2=No
Zinginsh sponen at nonite		9-Don't know/Refuse
Language mainly spoken at home text	What language do you mainly speak at home?	1=English 2=Northern European 3=Southern European 4=Eastern European 5=Southwest Asian & North African 6=Southern Asian 7=Southeast Asian 8=Eastern Asian 9=Other
Interview conducted in	Was interview conducted in English?	99=Don't know/Refusal
English		2-No
Attend school FT or PT	Do you attend school or any other educational institution either full time or part time?	1=Full time 2=Part time 3=Not at school/TAFE/Uni
		9=Don't know
Type of educational institution	What kind of educational institution do you attend?	1=Secondary school 2=TAFE 3=University or other higher education institution 4=Other
		9=Don't know
Highest year level of schooling completed	What is the highest year level of schooling you have completed?	1=Primary school (Year 7 or less) 2=Year 8 3=Year 9 4=Year 10 5=Year 11 6=Year 12
Completed a qualification	Have you completed a trade cartificate university	9=Don't know/Refusal
since leaving school	degree or any other educational qualification since leaving school?	2=No
Highest level of education	What is the highest qualification/level of education you have completed since leaving school?	<ul> <li>9=Don't know</li> <li>1=University degree or diploma</li> <li>2=University masters degree or PhD</li> <li>3=CAE or Teachers College or Nursing</li> <li>4=Trade</li> <li>Certificate/Apprenticeship/Vocational</li> <li>5=Certificate or diploma course eg TAFE</li> <li>1-2 year course</li> <li>6=Other</li> <li>9=Don't know / Refusal</li> </ul>
Current employment status	How would you describe your current employment status?	1=Full-time (35+ hrs) 2=Part-time 3=Not employed 9=Don't know/refusal

Unemployment status	Are you currently:	1=Retired 2=Home duties 3=Unemployed and looking for work 4=Student 5=Not employed, and not looking for work
Usual/current occupation	What is your usual/current occupation?	1=Manager/Administratior/Farmer 2=Professional 3=Para-professional 4=Tradesperson 5=Clerical 6=Sales & Service 7=Production/Transport Workers/Skilled Labourers 8=Unskilled labourers 9=Other 11=Don't know 99=Refusal
Total household income	Could you please indicate the category of your total household income?	1=LE \$12K 2=\$12-<20K 3=\$20-<30K 4=\$30-<40K 5=\$40-<60K 6=\$60-<80K 7=\$80-<100K 8=\$100+K 11=Don't know 99=Refusal
Current dwelling type	Is your current dwelling:	1=Rented accommodation 2=Being paid off 3=Owned outright 4=Rent-free accommodation 5=Other
Region of state		1=Metropolitan 2= Non-metropolitan
Postcode of residency		· · · · <b>F</b> · · · · ·
Date of interview		

# Appendix B: Baseline epidemiological examination

# Protocol for Oral Epidemiological Examinations

# **Removable Denture Assessment**

# **Clinical procedures**

- Ask SP "Are you wearing any dentures today?"
- If SP is wearing denture(s) ask that he/she remove them
- Identify whether each denture is a full or partial denture, then ask SP to place denture(s) in plastic container.
- Place the container on the bracket table you may need to refer to partial dentures when coding tooth presence.

# Diagnostic codes

Call one code for each arch:

- **F** SP is wearing a full denture
- P SP is wearing a partial denture
- X None of the above (eg. no dentures, or dentures not worn to examination)

# Diagnostic criteria

The denture assessment is limited to removable prostheses.

A full denture is defined as one that replaces all teeth in the arch, whether or not it has 16 teeth.

A denture with full coverage is still coded as a full denture, even if it overlays one or more prepared root abutments, tooth roots, implants, or partially erupted teeth. (Coding rules for roots, implants and partially erupted teeth are described in Section Tooth presence)

A partial denture is defined as one that does not replace all teeth in the arch, and which therefore has gaps to accommodate natural teeth, whether or not those partial teeth are still present. For example, if a partial denture was originally constructed to replace all but the canine teeth, and both canine teeth had since been extracted without any addition to the denture, it would still be coded as P.

Do not attempt to evaluate the quality of the dentures.

# **Oral Mucosal Tissues Assessment**

# **Clinical procedures**

Using the mouth mirror and gauze to help retract tissues, visually examine the lips and intra-oral mucosa:

- Lips should be examined with the mouth both closed and open. Note the colour, texture and any surface abnormalities of the vermilion border.
- Labial mucosa and sulcus. Examine visually the mandibular and maxillary vestibule and frenum with the mouth partially open. Observe the colour and any swelling of vestibular mucosa and gingiva.
- **Commissures, buccal mucosa and sulcus (upper and lower).** Using mouth mirror as retractor and with the mouth wide open, examine the entire buccal mucosa extending from the commissures and back to the anterior tonsillar pillar. Note any change in pigmentation, colour, texture and mobility of the mucosa, make sure that the commissures are examined carefully and are not covered by the mouth mirror during retraction of the checks.

Alveolar ridges. Check from all sides (buccally, palatally, lingually).

**Tongue.** With the tongue at rest and mouth partially open inspect the dorsum of the tongue for any swelling, ulceration, coating or variation in size, colour or texture. Also, note any change in the pattern of the papillae covering the surface of the tongue. The SP should then protrude the tongue and the examiner should note any abnormality of mobility. With the aid of mouth mirror, inspect the margins of the tongue. Then observe the ventral surface.

If adequate precautions can be taken by the examiner, the tongue can be examined more efficiently by grasping the tip with a piece of gauze to assist full protrusion and to aid examination of the margins.

Floor of the mouth. With the tongue still elevated, inspect the floor of the mouth for swelling or other abnormalities.

Hard and soft palate. With the mouth wide open and the SP's head tilted backward, gently depress the base of the tongue with a mouth mirror. First inspect the hard then the soft palate.

# **Diagnostic codes**

Call up to two codes for each subject. If a subject has no oral mucosal conditions, record "X" in both boxes on the computer.

- 1 Suspected malignant tumour (oral cancer)
- 2 Ulcerated lesions (aphthous, herpetic, traumatic)
- 3 Any other oral mucosal lesions
- **X** None of the above (eg. healthy oral mucosa)

### Diagnostic criteria

Code 1: Suspected malignant tumour (carcinoma)

This is only a provisional diagnosis. The carcinoma may develop in a white patch (an area of leukoplakia) or in a red area (an erythroplakia) but many carcinomas arise in an area of mucosa that previously appeared normal.

Except in some early and small lesions, there is usually inducation – the tissue feels firm and thickened – either throughout the lesion, or at the margins if there is ulceration. Where the tumour occurs on a mobile part of the mucosa, there may be fixation and loss of mobility because the tumour has involved the deeper tissues.

The appearance of the surface of the tumour is very variable: it may be relatively smooth and white or red, but commonly the surface is nodular or ulcerated and the ulcer may have a raised rolled margin. In the later stages there may be a soft fungating mass that bleeds readily.

If this provisional diagnosis is made, refer SP for urgent dental care (see Appendix D).

#### Code 2: Ulceration (aphthous, herpetic, traumatic)

Ulceration is defined as a break of the oral mucosa. The clinical appearance of ulcerations shows great variation. The most common form is minor aphthae. There are typically 1–4 ulcers in each attack. These are usually confined to the non-keratinised parts of the mucosa. The ulcers are shallow, but painful. Herpetic ulcers are characterised by a large number of small shallow ulcers occurring in any part of the mucosa. Although each individual ulcer may not exceed 2 mm in diameter, groups of ulcers may coalesce to form compound ulcers with irregular outlines.

# Code 3: Any other oral mucosal conditions

This would include any white-coloured lesions (eg. Candida, lichen planus white or red patches that are not ulcerated, angular cheilitis that is not ulcerated, denture hyperplasia)

# **Tooth presence**

# **Clinical procedures**

Start from the SP's upper right quadrant at the position of tooth 18; pass through maxilla to the position of tooth 28. Then continue onto the lower left quadrant at the position of tooth 38 continuing around the mandible to the position of tooth 48. Make one call for the status of each tooth position.

# Diagnostic codes (call one code for a tooth in the following hierarchy)

	For study participants aged 44 years or less
Mr	Missing due to <u>caries and/or periodontal disease</u> but <b>Replaced</b> by a fixed prosthesis or a removable prosthesis that is
	worn to the examination.
Μ	Missing due to <u>caries and/or periodontal disease</u> AND NOT REPLACED by a fixed or removable prosthesis.
Ar	Absent for reasons other than caries or periodontal disease and Replaced by a fixed prosthesis or a removable
	prosthesis that is worn to the examination.
Α	Absent for reasons other than caries or periodontal disease AND NOT REPLACED by a fixed or removable
	prosthesis.
	Absent teeth include those that are congenitally missing, unerupted or extracted for orthodontics, trauma or impaction.
Or	
	For study participants aged 45 years or older
Mr	Missing due to any reason and <b>Replaced</b> by a fixed prosthesis or a removable prosthesis that is worn to the

Mr	Missing due to <u>any reason</u> and <b>Replaced</b> by a fixed prosthesis or a removable prosthesis that is worn to the examination
М	Missing due to <u>any reason</u> AND NOT REPLACED by a fixed or removable prosthesis.

# For study participants of all ages Rd Root fragment that is decayed. Rs Root fragment that is not decayed (eg. sound or capped with a restorative material). I Implant whether or not it has been restored or is serving as an abutment. P Present: a permanent tooth that is present in the mouth, and has none of the preceding conditions. This includes teeth with full coronal restorations. B Deciduous tooth with no permanent tooth present, regardless of whether the deciduous tooth is sound, decayed or filled.

# Diagnostic criteria

For subjects aged 44 years or less, there are four possible codes for a tooth that is not present and you will need to determine the reason for tooth loss.

- To receive an **Ar** or **A** code, the subject must be aged 44 years or less and you must be convinced that the tooth was not removed because of caries or periodontal disease. Base your decision on the type of tooth (eg. premolars that are often extracted for orthodontics, third molars that are often extracted because of impaction) and, if needed, query the SP.
- For subjects aged 44 years or less where it is likely that caries or periodontal disease was the reason for tooth removal, use the **Mr** or **M** code.

For subjects aged 45 years or older, do not try to determine the reasons for tooth loss. Use only the Mr or M codes for people aged 45 years or older.

When evaluating teeth that have been replaced, you do not need to match each prosthetic tooth to a corresponding tooth position (see **Error! Reference source not found.**).

- Any part of a prosthesis (not necessarily an artificial tooth) that replaces a tooth position can be used to make a call of Ar or Mr.
- If a prosthetic saddle replaces two or more teeth positions, call Ar or Mr for all tooth positions in that saddle, even if there has been drifting of the abutment teeth, and there is insufficient space for the corresponding number of artificial teeth to replace those tooth positions.
- If a tooth has been extracted, and drifting of adjacent teeth has closed the gap, the extracted tooth must be coded as A or M

**Ar**, **A**, **M** and **Mr** codes can be called only for anatomical tooth positions: if a gap has opened up due to a tooth drifting from its neighbour, do not call any codes for the gap that is left, even if the gap has a prosthetic replacement.

A "root" is defined as a fragment where the natural and/or restored coronal tissues comprise less than one quarter of the original coronal structure (see **Error! Reference source not found.**).

Fused or geminated teeth should be recorded as a single tooth position.

Supernumerary teeth should be omitted.

If both a deciduous and its associated permanent tooth are present, ignore the deciduous tooth and record the permanent tooth only.

# Plaque, calculus and gingivitis

# **Clinical procedures**

Up to six index teeth are assessed:

- The most anterior molar in each quadrant (up to four teeth);
- Tooth 11
- Tooth 31

Hence, the first molar is used or, in its absence, the second molar, or in the absence of both, the third molar. However there is no substitution for either of the incisors. When an index tooth is not available (eg. it is missing) mark the appropriate sextant as "X" for each index.

Each tooth is assessed for three indices: calculus is assessed first, then plaque, and then gingivitis. Assess all three indices for one tooth before moving onto the next tooth.

Attention: Check the medical history to make sure the SP is suitable for periodontal probing. If the SP is NOT medically fit for periodontal probing, assess calculus and plaque but do not assess the gingival index. In this case, the gingival index score is called as **X**.

First gently dry the index tooth and visually inspect the dried buccal surface and lingual surface of the crown and the root (if exposed) and call the calculus index.

Next, examine only buccal surfaces of the tooth (and root, if exposed).

- If no plaque is visible, hold the periodontal probe parallel to the buccal surface, and scrape it from mesial to distal of the tooth's buccal surface.
- If there is curvature on the buccal surface, you may need to reorient the probe and make a second scrape across the curved part of the buccal surface, making sure that the probe does not contact the gingival tissues.

# Then call the plaque index.

Finally, hold the periodontal probe at approximately 90 degrees to the long axis of the tooth, with the tip resting on the neck of the tooth and the side of probe applying gentle pressure on the free gingival margin. Swipe the probe from the mesial to the distal of the buccal surface, applying gentle pressure to the gingival margin. Do not probe to the bottom of the socket. Wait for up to 10 seconds to observe any bleeding. (Use the waiting time to dry the next index tooth prior to its assessment) Call the gingival index.

# Diagnostic codes (call one code for each index tooth in the following hierarchy)

# Calculus: buccal and lingual surfaces

- Y Calculus is visible
- N No calculus visible
- X Cannot be assessed (eg. no index tooth)

# Plaque index: buccal surface (Loe, 1967)

Call the highest score for the tooth:

- 3 Abundance of soft matter easily visible within the gingival pocket and/or on the dried tooth and gingival margin.
- 2 Moderate accumulation of soft deposits within the gingival pocket, or on the dried tooth and gingival margin which can be seen with the naked eye.
- 1 A film of plaque adhering to the free gingival margin and adjacent area of the tooth. The plaque may be seen *in situ* only after scraping the periodontal probe on the dried tooth surface.
- 0 None of the above
- X Cannot be assessed (eg. no index tooth)

# Gingival index: buccal surface (modified from Loe and Silness, 1963).

Call the highest score for the tooth:

- Severe inflammation: marked redness and oedema, ulceration or tendency to spontaneous bleeding.
   Moderate inflammation: redness oedema, glazing or bleeding after applying pressure with the probe
- 2 Moderate inflammation: redness, oedema, glazing or bleeding after applying pressure with the probe.
- Mild inflammation: slight change in colour or slight oedema but <u>no</u> bleeding after applying pressure with the probe.
   None of the above.
- X Cannot be assessed (eg. no index tooth) or SP excluded from periodontal probing.

# **Periodontal destruction**

# **Clinical procedures**

Teeth that are charted as Present, other than third molars, are to be assessed for periodontal destruction. Other teeth will automatically be blanked out in the Periodontal screen by the computer and must not be assessed. Take particular care not to probe periodontal tissues around implants. Assess periodontal status beginning in the upper right quadrant (i.e. tooth 17, if present) and progress through the maxillary arch to tooth 27. Proceed onto the lower left quadrant at tooth 37 and continue around the mandibular arch to tooth 47. Three sites are to be measured for each tooth: Mesio-buccal (M): (referred to as Mesial) adjacent to the actual or imaginary contact point of the tooth's mesial surface Mid-buccal (B): (referred to as Buccal) the mid point of buccal surface in single-rooted teeth and mid point of the mesio-buccal root in multi-rooted teeth. Disto-buccal (D): (referred to as Distal) adjacent to the actual or imaginary contact point of the tooth's distal surface Start at the mesio-buccal site, then go to the mid-buccal and finally the disto-buccal site. For each tooth, dry the buccal surface with air and then make measurements with the periodontal probe. For the interproximal sites, (M) and (D), the probe should be placed parallel to the long axis of the tooth and facially adjacent to the dental contact area. Angulating the probe into the interproximal area under the dental contact is not permitted.

For all sites, the periodontal probe is to be held with a light grasp and pointed toward the apex of the tooth.

The periodontal probe has alternating color bands, each 2mm in width. All fractional millimeter measurements are <u>rounded</u> <u>down</u> to the lowest whole millimeter before calling the number.

**<u>Recession</u>** is measured first, and is defined as the distance from the free gingival margin (FGM) to the Cemento-Enamel Junction (CEJ).

First identify or estimate the location of the Cemento-Enamel Junction (CEJ) at the site.

- If the CEJ is coronal-to or equal-to the FGM, identify it visually and/or using tactile sense with the tip of periodontal probe.
- If the CEJ is subgingival, identify it using tactile sense with the tip of periodontal probe. If in doubt, try to estimate position of the CEJ using adjacent or contra-lateral teeth.

Measure and call recession in millimeters.

**<u>Probing depth</u>** is defined as the distance from the FGM to the bottom of the periodontal crevice/pocket. Measure and call probing depth in millimeters.

# **Diagnostic codes**

#### Recession recorded in whole millimetres (see Error! Reference source not found.)

-9 to -1	Distance in millimetres from the free gingival margin (FGM) to the cemento-enamel junction (CEJ) when
	the CEJ is subgingival
0	When the FGM is less than one millimetre vertically from the CEJ.
1 to 12	Distance in millimetres from the free gingival margin (FGM) to the cemento-enamel junction (CEJ) when
	the FGM is apical to the CEJ
X	When recession cannot be determined (e.g. CEJ cannot be identified)

# Probing depth recorded in whole millimetres

**0 – 12** Distance from the FGM to the bottom of the periodontal crevice/pocket.

X When probing depth cannot be determined (e.g. base of pocket/crevice cannot be reached due to calculus)

# Diagnostic criteria

The probing pressure is very light and is not to exceed 20 grams.

The tip of the probe is pointed towards the apex along the axis of the tooth. It must not be angled.

If the adjacent tooth is missing, approach the mesial and distal sites from the buccal aspect, keeping the probe in the direction of the long axis of the tooth and adjacent to the position that would have been the interproximal contact area.

If a tooth has rotated, use the original coronal anatomy to determine landmarks: e.g. if the tooth has rotated so that the crown's mesial surface faces 45° towards the palatal, measurement should still be made adjacent to what would have been the contact point on the mesial coronal surface.

If a full coronal restoration is in place use the gingival margin of the crown as the CEJ.

If a restoration covers the CEJ, estimate the location of the original CEJ.

If a measurement is more than 12 mm, record it down to 12 mm.

- When measuring recession, if the CEJ is visible (the FGM is apical to the CEJ), measure the distance from the CEJ to the FGM using the periodontal probe, rounding any fractional millimetres down to the lower whole millimetre score. Call this number for recession at the site. In these instances, when the call is zero or any positive number, simply call recession without specifying that it is a positive number. (See **Error! Reference source not found.**)
- If the CEJ is not visible because it is subgingival, you will need to estimate the position of the CEJ using tactile sense with the tip of the periodontal and/or other anatomical landmarks (eg. your estimation of coronal dimensions based on the visible portion of the crown). In these instances, estimate the distance from the FGM to the CEJ using the periodontal probe, rounding any fractional millimetres down to the lower whole millimetre. Call recession as zero or any negative number.
- If the measurement rounds down to zero, call "zero".
- Otherwise, when the CEJ is apical to the gingival crest, call recession as a negative number.

When measuring probing depth round down any fractional millimetres to the lower whole millimetre.

Call probing depth, even if the recession measurement was excluded (i.e. called X).

# **Coronal Caries and Restorations**

# **Clinical procedures**

This section describes assessments that are made for five coronal surfaces on all teeth coded as **P**resent, including third molars. • implants, root fragments, and deciduous teeth are excluded from this assessment

Begin with the most posterior tooth in the upper right quadrant (i.e. tooth 18, if present) and progress through the maxillary arch to tooth 28. Move to the lower left quadrant at tooth 38 and continue around the mandibular arch to tooth 48. Always clean and dry teeth before examination. Debris should be removed with gauze.

A periodontal probe may also be used to remove plaque and other debris. If used, it is important that the periodontal probe does not damage any incipient lesions.

• The diagnosis of coronal caries is based entirely on visual criteria.

Make one call for each of five coronal surfaces:

- Surfaces on incisors and canines are called in the following order: Incisal, Mesial, Buccal, Distal and Lingual.
- The incisal surface is defined as the area of 1 mm or less around the incisal edge or canine cusp. If the incisal edge or canine cusp has worn down, the facet is considered as the incisal surface.
- Surfaces on premolars and molars are called in the following order: Occlusal, Mesial, Buccal, Distal and Lingual

Before moving onto the next tooth, assess the status of all four root surfaces (see Section 0 for further details).

# Diagnostic codes for coronal caries experience

Call one code for a tooth surface in the following hierarchy

- **D D**ecay: cavitation of enamel <u>or</u> dentinal involvement <u>or</u> both are present.
- **R** Recurrent caries: visible caries that is contiguous with a restoration.
- **Fu** Filled **u**nsatisfactorily: a filling placed for any reason in a surface that requires replacement but that has none of the above conditions.

Fd	Filling placed to treat decay in a surface that has none of the above conditions.
	Incisors and canines only

		mensors and earnines only	
Fo	Filling placed for reasons other than	caries in a surface that has none of the above conditions	2

- **Fs F**issure sealant and none of the above conditions
- **S** Sound is recorded when none of the above conditions are found.

### Diagnostic criteria for coronal surfaces

# Decay is called if there is cavitation of enamel or dentinal involvement or both

Cavitation is defined as a discontinuity of the enamel surface caused by the loss of tooth substance, due to caries.

- It must be distinguished from fractures, erosion and abrasion.
- Lesions with dentinal involvement are coded D even if the lesion has hardened and appears to have "arrested".
- Dentinal involvement is judged separately for three categories of surfaces:
- For pits and fissures, the surface is coded as decayed when opacity or discolouration indicate caries of dentine that is undermining adjacent enamel.
- For smooth surfaces on buccal and lingual surfaces: the surface is coded as decayed if the surface is etched or there is a white spot **and** if dentine seems to be involved as indicated by discolouration of dentine.
- Proximal surfaces use the same criteria as smooth surfaces. In addition, any of the following conditions can be sufficient to call proximal decay:
  - > If the marginal ridge shows darkening/shadowing as evidence of caries of dentine, the surface is decayed.
  - Transillumination (for anterior teeth): caries in dentine may be visualised as a loss of translucency producing a shadow in a calculus free and stain-free proximal surface.

When diagnosing decay on any coronal surface

- Staining and pigmentation are not, by themselves, sufficient evidence of caries.
- Erosion, abrasion, hypoplasia, attrition, fractures, mottled enamel and enamel opacities on exposed hard surfaces are not classified as carious.
- Suspected or apparent carious LESIONS IN ENAMEL ARE NOT TO BE PROBED TO DETERMINE THE "FEEL" OF THE ENAMEL. Tactile criteria are not used in the coronal caries assessment.

# There are four categories of fillings

Recurrent caries is based on a finding of caries that adjoins a restoration on the surface

- Use the same criteria described for decay to determine presence of caries
- This call is made regardless of the reason for initial placement of the restoration
- If a surface has both a filling and caries that does not adjoin the filling, it should be coded as **D**, not **R**.

Filled unsatisfactory (Fu) is marked when a filled surface contains one or more of the following <u>unacceptable</u> defects which <u>cannot be corrected</u>:

- Surface which is flaking or fractured
- Dentine or base exposed
- Missing or fractured and mobile restoration
- Traumatic occlusion causing pain or damage to tissues
- Mal-contouring of embrasures
- Gross marginal discrepancy with potential for recurrent caries
- Overhang causing tissue damage
- Temporary fillings in Cavit or zinc oxide eugenol
- Fillings adjacent to fractured cusps

Filled due to decay (**Fd**) is recorded when the surface contains one or more permanent restorations placed to treat caries. Filled for other (**Fo**) reasons such as restorations placed to treat wear, hypoplasia and trauma, or for aesthetic reasons.

The Fd and Fo categories include restorations which have the following acceptable deficiencies

- Surface which is irregular, rough or discoloured
- Under-contouring, or faulty occlusal contact
- Mal-contouring of embrasures which can be corrected
- Minor marginal discrepancy
- Overhang which can be corrected
- Joined or repaired restorations.

# Additional notes for caries assessment

A fissure sealant (Fs) is defined as an adhesive material covering all of a fissure, in which a bur has not been used to cut tooth structure.

Sound includes surfaces with hypoplasia, fracture, erosion and surfaces restored for aesthetic reasons. Only one entry can be made for each tooth surface. In the event that a tooth has two or more conditions, call the condition listed

highest on the list.

Nonvital teeth are scored in the same manner as vital teeth.

• If a restoration on a nonvital tooth was placed solely to seal a root canal that restoration is scored as Fo.

On molars and premolars with full coronal restorations, including abutment teeth for fixed or removable prostheses, all surfaces should be coded as Fd.

On incisors and canines with full coronal restorations, the examiner should make the determination of the reason for crown placement.

• If it can be determined that the crown was placed solely for a reason other than caries (such as fracture, malformation or bridge abutment), all surfaces should be coded as Fo.

Coronal surfaces which are not visible should be regarded as sound, e.g. surfaces that are covered by calculus, orthodontic bands or brackets.

Use the dental anatomical landmarks to define surfaces when a tooth is rotated.

For example, if the mesial surface of a rotated tooth faces the palate, it is nevertheless recorded as mesial.

# Scoring multiple coronal surfaces affected by a single carious lesion or restoration:

For <u>incisors and canines</u>, use the "ONE THIRD RULE" or the "ONE MILLIMETRE RULE" when determining if a single restoration involves both the interproximal and either buccal or lingual surfaces.

- The interproximal filling must extend at least one third of the distance onto the buccal and lingual surface(s) to be included in the call (see **Error! Reference source not found.**).
- Restoration or lesion from incisal edges must extend at least one millimetre onto another surface for that surface to be included in the call.
- Carious lesion from any surface must extend at least one millimetre onto another surface for that surface to be included in the call.

For molars and premolars, always use the "ONE MILLIMETRE RULE" when determining if a single restoration or carious lesion involves more than one surface.

- A filling or lesion must extend more than one millimetre past the line angle before it is considered to involve an additional mesial, buccal, distal or lingual surface.
- A filling or lesion on an occlusal surface must extend more than one millimetre over the cusp tip or marginal ridge before it is considered to involve an additional mesial, buccal, distal or lingual surface.

# **Root Caries Experience and Wear**

# **Clinical procedures**

Diagnosis of root decay is different from that for coronal decay and requires the use of the periodontal probe, because textural changes are used in the diagnosis.

You will get some indication of the texture by dragging the probe across the root surface and gently feeling for any softness. Do not try to push the tip hard into the dentine.

Start at the Mesial surface and then move on to Buccal, Distal, Lingual surfaces.

# Diagnostic codes (call one code for a root surface in the following hierarchy)

Call one code per surface

D	Decay: a discrete, well-defined or discoloured lesion on the root surface that is soft to exploration using the
	periodontal probe.
	R Recurrent carles: detectable carles that is contiguous with a restoration.
Fu	Filled unsatisfactorily: a filling placed for any reason in a surface that has unacceptable defects but none of the above conditions
г	
Fr	Filled root surface that contains one or more permanent restorations placed for any reason but none of the above
	conditions.
	For buccal surfaces only
W	Wear of 2mm or more in depth on a cervical root surface with none of the above conditions
••	wear of 2mm of more in deput on a convical root surface with none of the above conditions.

V	V	Wear	of 2mm	or mo	ore in	depth	on a cerv	rical root s	urface	with none of	of the a	bove con	di
													_

S Sound root surface that is visible and has none of the above conditions.

Nv No visible root surface.

# Diagnostic criteria

### Decay is called if there is a lesion that is soft to exploration using the periodontal probe

Normal cementum is softer than enamel, and frequently will yield to pressure from the tip of a probe. Areas of root caries, however, are softer than surrounding cementum; therefore, it is possible to differentiate sound cementum from carious cementum based on tactile sense.

In some incipient lesions the carious area of the root surface may merely be discolored without cavitation, but the area will be soft to probing. Carious lesions in root surfaces may be yellow/orange, tan, light brown, or black.

Cavitation with jagged margins and a roughened, but soft floor or base usually occurs in advanced lesions.

Arrested lesions that are hardened on probing are coded as Sound, even if the lesion is cavitated.

Additional notes assessment of coronal and root surface lesions:

If both the coronal and root surfaces are affected by the same carious lesion or restoration, use the ONE MILLIMETER RULE to determine the coding.

- If at least one millimetre of the lesion or restoration is coronal to the CEJ, it is coded for the coronal surface.
- If at least one millimetre of the lesion or restoration is apical to the CEJ, it is coded for the root surface.
- If the lesion or restoration extends at least one millimetre onto both coronal and root surfaces, code both surfaces

If there is recurrent caries at the margin of a filling extending at last one millimeter onto coronal and root surfaces, code R for the surface with recurrent caries and **Fr** for the other surface.

# Incisor wear and height assessment

# **Clinical procedures**

Assess the <u>four lower incisors</u> for tooth wear and the vertical height of the anatomical crown will be measured. Incisal wear is assessed using visual criteria. The periodontal probe is used to measure the height of the anatomical crown at the mid point of the labial surface of each incisor.

# Diagnostic codes

# Incisal wear

- 2 Complete loss of enamel on the incisal surface, exposing dentine encircled by a band of enamel.
- 1 Some incisal dentine is exposed, but some incisal enamel is still in place.
- 0 No variable of dentine.
- X Missing tooth or restored incisal edge or tooth that cannot otherwise be assessed.

# Incisor height

- 0 Tooth that has worn to the level of the CEJ or apical to it.
- 1-12 Whole millimetre measurement of crown height
- X Missing tooth or restored incisal edge or tooth that cannot otherwise be assessed.

# Diagnostic criteria

The height of the anatomical crown is defined as the vertical distance from Cemento-Enamel Junction (CEJ) to the labial-incisal line angle.

It is measured at the midpoint of the labial surface.

Record the crown height in whole millimetres, rounding down fractional millimetres to the lower whole millimetre.

If the incisal edge has been restored for any reason, record X.

# Fluorosis examination

# **Clinical procedures**

Study participants aged 15 to 44 will be assessed for dental fluorosis. The computer will indicate age-eligibility of the SP for fluorosis assessment.

Buccal surfaces of both maxillary central incisors will be evaluated, if present.

A tooth will be excluded from fluorosis assessment if it has a restoration on the buccal surface or an orthodontic appliance is attached to the surface.

There is no substitution of excluded teeth.

Teeth are to be wiped with gauze to remove plaque and dried with air for ten seconds and evaluated visually with the aid of mirror and overhead lighting.

Diagnosis uses six categories of the Thylsrup and Fejerskov (T-F) Index (Fejerskov et al. 1988).

# Diagnostic codes the T-F index

**0** The normal translucency of the glossy creamy white enamel remains after wiping and drying of the surface

1 Thin white opaque lines are seen running across the tooth surface. Such lines are found on all part of the surface. The lines correspond to the position of the perikymata. In some cases, a slight "snow-capping" of incisal edge may also be seen.

- 2 The opaque white lines are more pronounced and frequently merge to form small cloudy areas scattered over the whole surface. "Snow-capping" of the incisal edges is common.
- 3 Merging of the white lines occurs, and cloudy areas of opacity occur over many parts of the surface. In between the cloudy areas white lines can also be seen.
- 4 The entire surface exhibits a marked opacity, or appears chalky white. Parts of the surface exposed to attrition or wear may appear to be less affected.
- 5 The entire surface is opaque, and there are losses of enamel surface of any size.
- 9 Non-fluorotic lesion is observed on the buccal surface. This can include precavitated carious lesions (i.e. "white spot lesions"), hypoplasia and opacities of non-fluorotic origin.
- X Tooth excluded because of restoration or fixed orthodontic appliance on any part of the labial coronal surface.

# Diagnostic criteria

The Russell differential criteria are used to assess presence or absence of fluorosis (Russell, 1962).

Table 1. Russen 5 unterential diagnostic effectia for hubrosis								
Characteristics	Dental fluorosis	Enamel opacities						
Area affected	The entire tooth surfaces (all surfaces) often enhanced on or	Usually centred in smooth surface of limited extent						
	near tips of incisal edge.							
Lesion shape	Resemble line shading in pencil sketch, which follow	Round or oval						
	incremental lines in enamel (perikymata). Lines merging and							
	cloudy appearance. At incisal edges formation of irregular							
	white caps ("snow cap").							
Demarcation	Diffuse distribution over the surface of varying intensity.	Clearly differentiated from adjacent normal						
		enamel.						
Colour	Opaque white lines or clouds; even chalky appearance. "Snow	White opaque or creamy-yellow to dark reddish-						
	cap" at incisal edge. Some lesions may become brownish	orange at time of eruption.						
	discoloured at mesio-incisal part of central upper incisors after							
	eruption.							
Teeth affected	Always on homologous teeth. Early erupting teeth (incisors/1 <sup>st</sup>	Most common on labial surfaces of single or						
	molars) least affected. Premolars and second molars (and third	occasionally homologous teeth. Any teeth may be						
	molars) most severely affected.	affected but mostly incisors.						

# Collection of gingival crevice fluid (GCF)

Gingival crevice fluid is a serum exudate that bathes the gingival crevice in health or disease. For this survey, samples will be collected onto filter paper strips that will be frozen and stored for later analysis in laboratories at The University of Adelaide. The analysis will quantify levels of the body's naturally produced chemicals that are involved in inflammation. The chemicals are called interleukin-1 $\beta$  and the pyridinoline cross-linked caboxy-terminal telopeptide of type I collagen. Levels of those chemicals will be assessed for their potential role in producing periodontitis that is being measured clinically as described in Section 0.

# **Clinical procedures**

Attention: Check the medical history to make sure the SP is suitable for periodontal probing. If the SP is NOT medically fit for periodontal probing, skip this section of the examination

The data entry program will indicate those subjects who meet all three of the following inclusion criteria for collection of GCF: • SP aged 18 and over

- SP has given signed consent to collect GCF
- Four (4) or more sites have been assessed for periodontal probing

For eligible subjects, the computer will select four periodontal sites that are measured for probing depth (see Section 0). The recorder puts a stand on the bracket table, unscrew tubes' lids and put two tubes (one for GCF strips, the other for buccal swabs) on the stand.

The recorder will read those sites from the computer and tell the examiner.

- GCF collection must occur at least five minutes after the completion of periodontal probing.
- Start with the first site listed on the computer. This order is necessary to keep track of strips for each site.
- Isolate the tooth with cotton rolls lingual and buccal for lower teeth, buccal for upper teeth. Gently dry tooth with air. If there is plaque or blood at the site, gently clean it with gauze.
- Remove one Periopaper by grasping the orange end with tweezers and peeling the strip away.
- Gently insert the white end of paper strip into crevice until light resistance occurs, keeping it parallel with the axis of the tooth. Instruct the recorder to start the 10 sec timer.
- Leave the strip inside socket until the timer sounds after ten seconds and remove strip with tweezers.
- Place the strip on the aluminium foil, and fold the foil over once, covering the Periopaper strip.
- Repeat the process at the same site.
- Repeat the above procedures with other selected sites (a total of eight strips), placing successive strips onto the same foil, and rolling it over.
- When all four sites have been sampled, put the wrapped foil in a plastic tube in the stand on the bracket table. Label the vial by writing the five-digit SP identification code using indelible pen.
- Do not screw the top onto the tube for at least two hours. Leave the open tube standing for at least two hours to permit the samples to air dry (eg. leave overnight if collected at end of day). If the examination team is moving to a different clinic use the perforated tubes for samples collected later in the day. In this case, put tubes into a zip lock bag for storage after air drying.

# Collection of buccal mucosal cells

Buccal cells are being collected for storage and subsequent laboratory analysis to identify variation in genes that are may be involved in oral diseases. Buccal cells exfoliate naturally from the cheeks and can be collected painlessly and without damage to the tissues by rubbing the cheeks with cotton swabs.

Laboratory analyses will be undertaken using DNA from these cells to identify common variants in genes the regulate inflammation and neurotransmission. These variants, called single nucleotide polymorphisms, are not mutations and the variants, themselves, do not cause any known diseases. Hence, the information obtained in the genetic analyses will not identify any conditions that would affect the current or future health of individual study participants or their offspring. The genetic material will not be used to identify any biological relationships that may happen to exist between study participants. The data entry program will indicate those subjects who meet both of the following inclusion criteria for collection of buccal mucosal cells:

- SP aged 18 and over
- SP has given signed consent to collect buccal cells

# Procedures for collecting buccal cells with cotton swab

- Open pack of two sterile swabs
- Wipe and slowly rotating one swab, six times firmly across buccal mucosa of right cheek
- Put swab into plastic collection tube and break stick so that the tip fits entirely in the tube
- Wipe and rotate one swab, six times firmly across buccal mucosa of left cheek
- Put swab into plastic collection tube and break stick so that the tip fits entirely in the tube
- The recorder writes SP's ID on the tube.
- Leave lid off tube and allow swabs to air-dry for at least 2 hours (eg. leave overnight if collected at end of day). If the examination team is moving to a different clinic use the perforated tubes for samples collected later in the day. In this case, put tubes into a zip lock bag for storage.

# Codes to be recorded

0-2 Number of swabs collected.

Notes

1. Do not handle or contaminate the cotton tipped end of the swabs. They should only come in contact with the participant's mouth.

- 2. The swabs are <u>not</u> used to collect saliva but rather cells from the buccal mucosa of the mouth. Therefore, the swabs should be rubbed vigorously against the inside of the cheek.
- 3. Make sure to rotate the swabs in the participant's mouth so that the entire cotton surface of the swab is used for collection.Completing the examination and discharging the study participant
- Following the examination, the dentist must
- inform study participants of the findings from the survey
- offer and provide the study participant with a Colgate Gift pack
- review and print a paper copy of the examination recorded on the laptop computer

# Appendix C: NSAOH self-complete questionnaire

If : Na	ou are not currently in paid work, there are n tional Survey of Adult Oral Health.	o more qu	estions. Th	ank you for	contributio	on to the
Q1.	I have constant time pressure due to heavy workload.	Strongly disagree	Disagree	Neutral	Astron	Strongly agree
Q2.	I have many interruptions and disturbances in the many pob.	Ustrong/y disagree	Disagree	Neutral	Again  _]i	Strongly agter []}
Q3.	Over the past few years my job has become more and more demanding.	Strongly disagree	Disagree	Neutral	Agree	Strongly agent
Q4.	I receive the respect I deserve from my superiors.	Strongly disagree	Disagree	Nicutral	Agene	Strongly agree
Q5.	I receive the respect I deserve from my colleagues.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Q6.	I experience adequate support in difficult situations.	Strongly disagree	Disagree	Neutral	Agroo	Strongly agree
Q7.	My job <b>promotion</b> prospects are poor.	Etrongly disagree	Disagree	Neutral	Agree	Strongly agree
Q8.	Considering all my efforts and achievement, my work prospects are adequate.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Q9.	My job security is poor.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Q10	When I get home, I can easily relax and 'switch off from work.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Q11	People close to me say I sacrifice too much for my job.	Strongly disagree	Disegree	Neutral	Agree	Strongly agree

Thank you for completing each stage of the National Survey of Adult Oral Health. Your help is greatly valued.

Please return this questionnaire in the enclosed reply-paid envelope addressed to:

National Survey of Adult Oral Health Australian Research Centre for Population Oral Health Dental School, the University of Adelaide M7008054 South Australia 5005

16



A1.	I was satisfied with the dental care I received.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
			<b>_</b> ,	1	a	1
A2.	I would like to have had more explanation of my dental	Strongly disagree	Disagree	Neutral	Agree	Strongly
	treatment options.		2	ø	4	5
A3.	The dental surgery had everything needed to provide	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	my dental care.		2	3	<b>S</b> 4	5
A4.	The dental care I received did not improve my dental health.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
			$\square_2$		4	5
A5.	I was able to make the dental visit as promptly as I felt was necessary.	Strongly disagree	Disagree	Neutral	Agree	Strongly
			2		Ø	5
A8.	The dental professional explained whether there were any patient costs and how much before beginning	Strongly disagree	Disagree	Neutral	Agree	Strongly
	treatment.	Dí	2	<b>_</b> 1		5
A7.	The dental professional I saw explained well what	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	treatment was needed.	<b></b>	2			P:
A8.	I am confident that I received good dental care at	Strongly disagree	Disagree	Neutral	Agree	Strongly
	my last visit.		2			10s
A9.	There are things about dental care I received that could	Strongly disagree	Disagree	Neutral	Agree	Strongly
	have been better.		M		П.	

B1.	In the last week, how many times did you brush your te	14 Brush	Write '0 Zarusi	" if you did not h your toeth.	
B2.	In the last week, how many times did you use a mouth or mouth wash?	rinse	0 Mouthrinse	Write 'C use	" if you did not mouth rinse.
B3.	In the last week, how many times did you chew sugar-fi for at least 10 minutes continuously?	ree gum	Q Sugar-free gum	Write C chew s	i' If you did not ugar-free gum.
B4.	Please indicate whether you regularly use either dental floss, dental tape, or an interdental brush.	No, I use none of these (Go to page 3)	Yes, dental floss	Yes, dental tape	Yes, interdenta brush
(11	you use more than one, please tick the one most often used.)	™	2	D,	<b>•</b>
B5.	In the last week, how many times did you clean betweet teeth (using dental floss, dental tape or an interdental betweet the state of th	n your rush)?		Write 0 clean bet	' if you did not week your teeth

IOW OFTEN during the last year	Please t	ICK ONE DO	that best descr	ibes your ex	perience
1 have you had trouble pronouncing any words	Very Often	Fairly Often	Occasionally	Hardly Ever	Neve
dentures?	1	2	3	4	
<ol> <li> have you felt that your sense of taste has worsened because of problems with your teeth.</li> </ol>	Very Often	Fairly Often	Occasionally	Hardly Ever	Nev
mouth or dentures?		2	1	<b></b> :	
3 have you had painful aching in your mouth?	Very Often	Fairly Often	Occasionally	Hardly Ever	Nev
		$\square_2$		4	
<ol> <li>have you found it uncomfortable to eat any foods because of problems with your teeth, mouth</li> </ol>	Very Often	Fairly Often	Occasionally	Hardly Ever	Nev
or dentures?		2	□,	□.	
5 have you been self conscious because of	Very Often	Fairly Often	Occasionally	Hardly Ever	Nev
problems with your teeth, mouth or dentures? ·	1	2	□3	4	
6 have you felt tense because of problems with	Very Often	Fairly Often	Occasionally	Hardly Ever	Nev
your teeth, mouth or dentures?	<b></b> 1	2	3	4	
7 has your diet been unsatisfactory because of	Very Often	Fairly Often	Occasionally	Hardly Ever	Nev
problems with your teeth, mouth or dentures?	<b></b>	2	3	4	
8 have you had to interrupt meals because of	Very Often	Fairly Often	Occasionally	Hardly Ever	Nev
problems with your teeth, mouth or dentures?	<b>_</b> '	2	D	4	
9 have you found it difficult to relax because of	Very Often	Fairly Often	Occasionally	Hardly Ever	Neve
problems with your teeth, mouth or dentures?	1	2	3	4	
10 have you been a bit embarrassed because of	Very Often	Fairly Often	Occasionally	Hardly Ever	Neve
problems with your teeth, mouth or dentures?	D,	2	D)	□.	
11 have you been a bit irritable with other people because of problems with your teeth	Very Often	Fairly Often	Occasionally	Hardly Ever	Neve
mouth or dentures?	1	2	□3	<b></b> 4	
12 have you had difficulty doing your usual jobs because of problems with your teeth. mouth	Very Ofton	Fairly Often	Occasionally	Hardly Ever	Neve
or dentures?	□,	2	□>	<b>_</b> 4	
<ol> <li>have you felt that life in general was less satisfying because of problems with your teeth</li> </ol>	Very Often	Fairly Often	Occasionally	Hardly Ever	Neve
mouth or dentures?	<b></b> 1	2	□3	4	
14 have you been totally unable to function	Very Often	Fairly Ofton	Occasionally	Hardly Ever	Neve
decluse of problems with your teeth, mouth or				Π.	

This page is about your jaws and general facial area. Questions ask about the experience of pain in the jaws, jaw joint or face, muscle stiffness in the cheek area or any difficulty in jaw function such as opening your mouth wide.

	Yes	No	Don't know
<ol> <li>Do you have pain in the jaw joint(s) when opening your mouth wide?</li> </ol>		1	3
	Yes	No	Don't know
<ol><li>Do you have pain in the jaw joint(s) while chewing?</li></ol>		1	
	Yes	No	Don't know
<ol><li>Do you have pain in your face just in front of the ears?</li></ol>		Ds	<b>_</b> ,
i de la construcción de la const			
4. Does either of your jaw joints make a clicking or grating sound when	Yes	No	Don't know
you open and close your mouth?	1	2	3
1		1	
5. Does your law lock or get stuck so that you cannot open your mouth	Yes	No	Don't know
freely? the devotecco		1 Store	3
	Yes	No	Don't know
<ol><li>Do you find it difficult to open your mouth as wide as you would like?</li></ol>		E.	
7 Are the muscles around your jows tender when you wake up in the	Yes	No	Don't know
morning?		B	
		1	1
Constant of Constant Participation of Consta	Yes	No	Don't know
<ol> <li>Do your jaw muscles ever feel tired or stiff?</li> </ol>		₽	
		Ľ	
Provide Constanting Constanting Excellence	Yes	No	Don't know
<ol><li>Do your teeth feel as though they do not fit properly together?</li></ol>		$M_2$	_3
	0.000	-	1. 
	Yes	No	Don't know
<ol><li>Do you grind your teeth or clench your jaw?</li></ol>		$\square_2$	
			STO.
11 Have you ever done to a physician dentist or other health	Yes	No	Don't know
professional for problems related to your jaw joint(s)?			
12 House you aver wom a bits guard made at bard plastic to secure	Yea	No	Don't know
12. mave you ever worn a bite guard made of hard prastic to prevent original or iow pain (NOT a coll enode mouthquard)?		R	
ginneing of Juw pair (NOT a solt sports modeliguare)?	- Annual -	Annual Control of the local sector	and the second second

The following questions ask about foods and drin Please write the total number of serves consumed in a day. Of the total daily serves, please write the number	ks consumed in a US usual day. Write '0' if that is consumed in th	UAL DAY. the item is not co e last hour before	onsumed in a usual e bed.
In the example below, three serves of fruit are eaten in a usual day, and one of these is usually consumed in the last hour before bed.	Standard serve examples	Total daily serves	How many of the deily total serves are consumed in the last hour before bed?
EXAMPLE FOR FRUIT	1 medium piece or 2 small pieces	3	1
E1. Fruit and natural unsweetened fruit juice	1 medium piece 2 small pieces 1 medium glass	2	0
E2. Sweetened fruit drinks/juices	1 medium glass	1	
E3. Sweetened (non-diet) soft drinks, mineral waters, cordials, and sport drinks	1 medium glass	5	0
E4. Artificially sweetened (diet/low kilojoule) soft drinks, mineral waters, and cordials	1 medium glass	1	0
E5. Plain milk	1 medium glass	1	0
E6. Flavoured milk (Milo, chocolate milk, Nesquik, etc.)	1 medium glass	U	<u>د</u>
E7. Sweetened dairy products	1 cup yoghurt 2 scoops ice-cream ½ cup custard	0	C
E8. Breakfast cereal (specify usual cereal in the box below)	1 cup		
E9. Biscuits, cakes, puddings	2 biscuits 1 slice cake 1 cup-cake	1	
E10. Table sugar (in tea, coffee, Milo, on cereal etc.)	1 teaspoon	0	0
E11. Chocolate- and sugar-based confectionery	1 bar chocolate 4–5 lollies	0	Ø
E12. Syrups, jams, and sweet spreads (honey, jam, Nutella, maple syrup etc.)	1 tablespoon	1	
E13. Muesli bars and health bars	1 bar	Θ	U



# We wish to estimate each person's lifetime exposure to fluoridated water supplies. To do this we need to know where you lived in each year from 1964 or later if you were born after 1964.

#### INSTRUCTIONS

- For each year from 1964 onwards please indicate the city or town in which you lived.
- If you were born after 1964, please begin recording your details from the year in which you were born.
- For Australian capital cities, simply tick the capital city column (A-H) for each year that you lived there.
  For other Australian cities or towns please write the name of the city or town (column I) and its postcode (column J). If you are unsure of a postcode leave the postcode column blank.
- · If you lived overseas for 12 months or more please write the name of the country in column K.

#### EXAMPLE

In the example below, this respondent was born in 1966 and began recording from that year onwards. The respondent lived in Sydney in 1966 and 1967, moved to Ballarat in 1968, moved to the United States in 1972 and then returned to Australia to live in Melbourne in 1973.

	Α	в	С	D	E	F	G	н	- 1 · ·	J	K
		Place a	tick for	r each ye	ar live	d in a ca	pital cit	У	Name the area	Write postcode	Name the country
	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Canberra	Darwin	Other Australian city or town	Postcode (only required for non-capital cities)	Country (if not Australia)
1964											
1965											
1966	1					increased					
1967	1										
1968									Ballarat	3612	
1969									Ballarat	3612	
1970									Ballarat	3612	
1971									Ballarat	3612	
1972											United States
1973		1						20		NTV	5.7
1974		1								JINI.	
1975		1		1.1				191	court allaned the		
1976		1									
1977		×									
1978		1									
1979		1									

	Α	в	С	D	E	F	G	н	1	L	к
		Place a	tick for	each ye	ar liveo	in a ca	pital city	/	Name the area	Write postcode	Name the country
	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Canberra	Darwin	Other Australian city or town	Postcode Only required for non-capital cities	Country (if not Australia)
1964					_	2		_			
965											
1966											
1967											
1960											
970											
1971											
1972											
1973											
1974											
975											
1976											
1977											
1978											
1979											
980											
1981											
1982											
1983											
1984											
985											
1986											
1987											
1988											
1989											
990											
1991											
1992											
1993											
1994											
995											
1996											
1997											
1998											
1999											
000											
2001											
2002											
2003											



Appendix D: Back-up self-complete questionnaire

Do you have any other comments?.	NATIONAL SURVEY OF ADULT ORAL HEALTH 2004 – 2006
	THE UNIVERSITY OF ADELAIDE AISTRALIA G+ C
Thank you for completing this questionnaire. Your assistance is greatly appreciated and will make a valuable contribution to understanding the role that dental services make to people's quality of life.	How to answer Most items are answered by ticking one box that best describes your answer (see example below). EXAMPLE
Please return this questionnaire in the enclosed reply-paid envelope addressed to: National Survey of Adult Oral Health Australian Research Centre for Population Oral Health Dental School	If you were not satisfied with the dental care that you received and therefore disagreed with the statement "I was satisfied with the dental care I received" you would tick the box labelled "Disagree."
The University of Adelaide South Australia 5005	I was satisfied with the dental care I received.
	AUSTRALIAN RESEARCH CENTRE FOR POPULATION ORAL HEALTH
4	IF YOU HAVE ANY ENQUIRIES, PLEASE TELEPHONE THE AUSTRALIAN RESEARCH CENTRE F POPULATION ORAL HEALTH AT THE UNIVERSITY OF ADELAIDE TOLLFREE ON 1800-007-

HOW OFTEN during the last year	Please ti	ck ONE box	that best descri	bes your exp	berien
A1 have you had trouble pronouncing any words	Very Often	Fairly Often	Occasionally	Hardly Ever	Ne
dentures?		2		□4	
A2 have you felt that your sense of taste has	Very Often	Fairly Often	Occasionally	F dental prol         ribes your exp         Hardly         Ever         4         Hardly         Ever	Ne
worsened because of problems with your teeth, mouth or dentures?		2	<b>_</b> , •, ,	4	
	Very	Fairly	Occasionally	Hardly Ever	Ne
A3 have you had painful aching in your mouth?			□	rdental pr ribes your e: Hardiy Ever 4 Hardiy	0
A4 have you found it uncomfortable to eat any	Very	Fairly	Occasionally	Hardly	Ne
foods because of problems with your teeth, mouth or dentures?			D,	4	۵
AF have you been call concellate bacques of	Very	Fairly	Occasionally	Fidental pr         ribes your on         Hardy         Ever         4	N
A5 have you been self conscious because of problems with your teeth, mouth or dentures?				4	
	Very	Fairly	Occasionally	Hardly	N
A6 have you feit tense because of problems with your tooth, mouth or dentures?			□3	4	C
	Very	Fairly	Occasionally	Hardly Ever - 4 Hardly Ever	N
A7 has your diet been unsatisfactory because of problems with your teeth, mouth or dentures?	Often	Offen	_1,		[
	Verv	Fairly	Quantization	Hardly	
A8 have you had to interrupt meals because of	Often	Often	Occasionally	Ever	IN
problems with your tooth, mouth or dentures ?	<b></b> 1	2	3	4	l
A9 have you found it difficult to relax because of	Very Often	Fairly Often	Occasionally	Hardly Ever	N
problems with your teeth, mouth or dentures?		<b></b> 2	D,	4	[
Add being unit being a bit emberrare and because of	Very	Fairly	Occasionally	Hardly	N
problems with your teeth, mouth or dontures?			□,	4	1
A11 have you been a bit irritable with other	Vory	Fairly	Occasionally	dental probables your exp bas your exp Hardly Ever a Hardly Ever 4 Hardly Hardl	N
people because of problems with your teeth, mouth or dentures?		2	D,		
A12 have you had difficulty doing your usual	Very	Fairly	Occasionally	Hardly	N
jobs because of problems with your teeth, mouth or dentures?		2	3	4	i
A13 have you felt that life in general was less	Very	Fairly	Occasionally	Hardly	N
satisfying because of problems with your teeth, mouth or dentures?			]		140
A14 have you been totally unable to function	Very	Fairly	Occasionally	Hardly	N
because of problems with your teeth, mouth or dentures?			□3	4	

1. Mobility	I have no problems in walking about	l have in	a some proble walking about	ms	l am conf to bee	ined 1	
<ol> <li>Self-care (e.g. washing, dressing)</li> </ol>	I have no problems with self-care	I have som dr	e problema we essing myself	whing or	r I am unable to wash or dress myself		
(					L]3		
<ol> <li>Usual activities         <ul> <li>(e.g. work, study, housework, (and to relative)</li> </ul> </li> </ol>	I have no problems performing my usual activities	I have performin	e some proble ng my usual ac	ms tivitios	I am unable to perform m ucual activities		
iunity of leadingy			J.		·ت		
34. Pain/discomfort	I have no pain or discomfort	l h pai	n or discomfor	t	I have ext pain or disc	reme comfort	
۱ ۱			L]2		L)		
35. Anxiety/depression	l o anxio	im moderately ous or depress	ed	I am extremely anxious or depressed			
	<b>ب</b>				د <u>ل</u>		
<ol> <li>Cognition (e.g. memory, concentration. coherence, IQ)</li> </ol>	I haw in cog	e some proble mitive function	ms iing	I have extreme problems cognitive functioning			
			+				
These statements are about	your satisfaction with mos	st recent ep	bisode of de	ntal car	e.		
C1. I was satisfied with the der	tal care I received.	Strongly disagree	Disagree	Neutra	I Agree	Strong) agree	
			2	L)		P	
C2. I would like to have had mo treatment options.	re explanation of my dental	Strongly disagree	Disagree	Neutra	I Agree	Strongt agree	
	PERSONAL PROPERTY AND INC.	Charles to				Strong	
C3. The dental surgery had ev my dental care.	erything needed to provide	disagree	Disagree	Neutra	I Agree	agree	
			- LP <sup>2</sup>		v	0	
C4. The dental care I received health.	did not improve my dental	disagree	Disagree	Neutra	Agree	agree	
			<u> </u>	,		,,	
C5. I was able to make the den was necessary.	tal visit as promptly as I felt	Strongly disagree	Disagree	Neutra	Agree	Strongt agree	
						Ctrongel	
C6. The dental professional exp any patient costs and how i	blained whether there were much before beginning	disagree	Disagree	Neutra	Agree	agree	
treatment.		i i i	2	]3	4	s	
C7. The dental professional I sa	aw explained well what	Strongly disagree	Disagree	Neutra	I Agree	Strongl	
treatment was needed.		<b></b>	2	3	4	5	
C8. I am confident that I receive	ed good dental care at	Strongly disagree	Disagree	Neutra	Agree	Strong) agree	
my idial viait.	상태가 이 가격하는		2	D,	<u>A</u>	5	
C9. There are things about der	tal care I received that could	Strongly disagree	Disagree	Neutra	Agree	Strongly	
INVE DECH DELLET.			1 I Ia I	1 1.	1 1 1.		

Appendix E: Twelve month self-complete questionnaire

If you have mislaid your Nervice Use Logbook please fill out the permission si your dental records. If you saw less than 3 clinicians please leave the appropr Dear	ips below so we may access iate sections blank.	THE USE OF DEN SERVICES AND	TAL		Austra		
Re. Release of treatment details to Researchers for the Study of the Use of Dental S	ervices and Quality of Life	QUALITY OF LIFE					
Constant     Constant	Pussion Pussion	THE UNIVERSITY OF ADELAIDE AUSTRALIA					
February 2006 to today. I understand that those details will only be used as part of the which I am a participant.	University of Adelaide Study in		107				
Dear	dincian 2	124/0	101				
Re: Release of treatment details to Researchers for the Study of the Use of Liental S	ervices and county or une						
of	Postcode						
Request that you provide neearchnes involved in the Study of the Use of Dental Sontial University of Adalaida, with details of dental readment which has been provided to nee February 2006 to today. I understand that those details will only be used as part of the which I are a participant.	se and Quality of Life, the t your clinic during the period a University of Adelaide Study in 	How to answer Most items are answered by ticking one box that b EXAMPLE 1	est describe	s your ansv	wer (Exam	ple I).	
Your signature Dear	Cirician 3	I was satisfied with the dental care I received.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Re: Release of treatment details to Researchers for the Study of the Use of Dental S	Pervices and Quality of Life						
1	Postcode	EXAMPLE 2	x (Example	4).			
Request that you provide researchers involved in the Study of the Use of Dental Service University of Adetaide, with details of dental treatment which has been provided to me or February 2006 to today. I understand that those details will only be used as part of the which I am a participant.	as and Quality of Life, the it your clinic during the period e University of Adelaide Study in	How many visits did you make to a dental clinician	2	Number	of visits:		6
You Sphine							
Please return this questionnaire in the enclosed reply-paid envelope addr Netional Survey of Adult Oral Health Australian Research Centre for Population Oral Health School of Dentistry, the University of Adelaide South Australia Souts.	essed to:	AUSTRALIAN RESEARCH CENTR I YOU MAYE ANT ENQUIRIES, PLEASE TELE POPULATION ORAL HEALTH AT THE UNIVERS	E FOR	POPUL E AUSTRA DELAIDE	ATION ALIAN RE TOLLFR	ORA	CENTRE PARTIE

The questions below ask about troubles that peop	te may nav	e in daily	inte because of	uentai pr	obienits.
HOW OFTEN during the last year	Please t	ick ONE box	c that best descr	ibes your ex	perience
A1 have you had trouble pronouncing any words	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
dentures?	Πı	2	3	4	₫5
A2 have you felt that your sense of taste has	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
or dentures?	1	2	□3	□4	125
A3 have you had painful aching in your mouth?	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
	1	2	1	1	5
A4 have you found it uncomfortable to eat any	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
dentures?	1	2	ø	□•	⊳
A5 have you been self conscious because of	Very Often	Fairly Often	Occasionally	Hardly Ever	Nover
problems with your teeth, mouth or dentures?	<b></b> 1	2	3	<b>1</b>	5
A6 have you folt tense because of problems with	Very	Fairly	Occasionally	Hardly	Never
your teeth, mouth or dentures?	<b></b> 1	<b>_</b> :	D	□.	d d'
A7 has your diet been unsatisfactory because of	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
problems with your teeth, mouth or dentures?	1	2	□3	4	
A9 have you had to interrupt made because of	Very	Fairly	Occasionally	Hardly	Never
18 have you had to interrupt meals because of iroblems with your teeth, mouth or dentures?				□. •	<b>B</b>
A9 have you found it difficult to relay because of	Very	Fairly	Occasionally	Hardly	Never
problems with your teeth, mouth or dentures?			3	4	<b>P</b> 5
A10 have you been a hit embarrassed because of	Very	Fairly	Occasionally	Hardly	Never
problems with your teeth, mouth or dentures?			□,	□+	d,
A11 have you been a bit irritable with other	Very Often	Fairly	Occasionally	Hardly	Never
people because of problems with your teeth, mouth or dentures?			□,	4	<b>D</b> 3
A12 have you had difficulty doing your usual	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
dentures?	<b></b> 1	T T	D,	-	Ø,
A13 have you felt that life in general was less	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
or dentures?	1	<b></b> 2	□3	4	₽s
A14 have you been totally unable to function	Very	Fairly	Occasionally	Hardly	Never
because of problems with your teeth, mouth or dentures?			D	4	d,

2

# Please complete the details for the following six items in relation to your general health today.

B1.Mobility	I have no problems	I have some problems	I am confined
	in walking about	in walking about	to bed
B2.Self-care	I have no problems	I have some problems	I am unable to
(e.g. washing, dressing)	with self-care	washing or dressing myself	wash or dress myself
B3.Usual activities	I have no problems	I have some problems	I am unable
(e.g. work, study,	performing my	performing my	to perform my
housework, family or leisure)	usual activities	usual activities	usual activities
B4.Pain/discomfort	I have no	I have moderate	I have extreme
	pain or discomfort	pain or discomfort	pain or discomfort
B5.Anxiety/depression	I am not anxious or depressed	I am moderately anxious or depressed	I am extremely anxious or depressed
B6.Cognition (e.g. memory, concentration, coherence, IQ)	I have no problems in	I have some problems in	I have extreme problems in
	cognitive functioning	cognitive functioning	cognitive functioning

Please complete the details for the following two i	tems in rel	ation to you	ur health	today.		
C1 How would you rate your dental health today?	Excellent	Very Good	Good	Fair	Poor 5	Don't Know
C1 How would you rate your general health today?	Excellent	Very Good	Good	Fair	Poor	Don't Know

# Please complete the details for the following two items in relation to the change in your health over the past year.

D1 Over the past year would you say your	Worsened	Worsened	Stayed the same?	Improved a	Improved a
dental health has:	a lot?	a little?		little?	lot?
D2 Over the past year would you say your general health has:	Worsened a lot?	Worsened a little?	Stayed the same?	Improved a little?	Improved a lot?

The	questions below ask about your jaws and gen	eral facial ar	ea.			
E1.	During the last MONTH, have you had pain in the fa front of the ear, or in the ear?	ice, jaw, temple	e, in	Yes I	No 2	Don't know
E2.	During the last 12 months have you gone to a physic other health professional for problems related to you		Yes	No P	Don't know	
E3.	During the last 12 months have you worn a bite gua plastic to prevent grinding or jaw pain (NOT a sports	rd	Yes	No ⊡r	Don't know	
The	questions below ask about your teeth, mouth o	or dentures.				
E4.	During the last 12 months have you had a	Very Often	Fairly Often	Occasionally	Hardly Ever	Never

E4.	During the last 12 months have you had a toothache?	Often	Often		Ever	Nove.
E5.	How often have you feit uncomfortable about the	Very Often	Fairly Often	Occasionally	Hordly Ever	Never
	during the last 12 months?	<b>_</b> :	2	<i></i>	<b>1</b>	<b>_</b> <
E6.	How often have you had to avoid eating some	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
	or dentures during the last 12 months?	<b>_</b> ,	<b>_</b> 2	d.	Hardly Ever Hardly Ever 4 Hardly Ever 4 Hardly Ever	_r
E7.	During the last 12 months did your natural teeth	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
	cause any pain or discomfort?	<b></b>	2	□3	□4	<b>⊠</b> s
E8.	During the last 12 months, how often have you had sensitive teeth, for example, due to bet or	Very Often	Fairly Often	Occasionally	Hardly Ever	Never
	cold food or drinks?	<b>_</b> 1	2	3	□4	Ø,

# The Question below asks about whether you received dental treatment since you were given the Service Use Logbook but not including the dental clinical examination you may have received last year as part of the National Survey of Adult Oral health (NSAOH).

F Have	you attended a dental clinician	since		Yos		No
	6/6/2006 M7050026	ook	?	→	Please go to Question G1 over page.	
*A dental cli hygienist, a	nician includes a dentist, a dent dental therapist, or a dental tecl	al specialist, a nnician/prosth	dental etist.	L.		

If you did NOT attend a dental clinician in the last 12 months, there are no more questions

Thank you for completing each stage of the National Survey of Adult Oral Health. Your help is greatly valued.

 $\ensuremath{\exists}^{\bullet}$  Please return this questionnaire and the service use logbook in the enclosed reply-paid envelope addressed to:

National Survey of Adult Oral Health Australian Research Centre for Population Oral Health School of Dentistry, the University of Adelaide South Australia 5005

If you DID attend a dental clinician in the last 12 months, please continue over page. Δ

The Questions below ask about the dental clinicians you have seen since you were given the Service Use Logbook but not including the dentist who undertook the clinical examination you may have received last year as part of the National Survey of Adult Oral health (NSAOH).

Please use one column for each dental clinician you visited over the past year.

	Please use this column first dental clinician you visited	n for the DU	Please use this column if you visited a <b>second</b> dental clinician		Please use this column if you visited a <b>third</b> dental clinician	
	Dental Clinician	1	Dental Clinician	2	Dental Clinician	3
G1. Was the dental clinician you visited in a private practice or a public clinic?	Private Practice Public Clinic		Private Practice Public Clinic		Private Practice Public Clinic	
G2. What was the sex of the treating dental clinician?	Male Female	ığı Di	Male Female	□, □,	Male Female	□; □,
G3. What was the approximate age of the treating dental clinician?	20-29 yrs 30-39 yrs 40-49 yrs 50-59 yrs 60+ yrs		20-29 yrs 30-39 yrs 40-49 yrs 50-59 yrs 60+ yrs	] 2 ] 4	20-29 yrs 30-39 yrs 40-49 yrs 50-59 yrs 60+ yrs	1 2 3 4
G4. In which area was the dental clinician located?	Suburb: MEW.TOWN. KOBART Postcode 7008	State:	Suburb:	State:	Suburb:	State:
C5. What type of dental dinician did you visit?	Dentist Dental specialist (Please specify) Other (Please specify)		Dentist Dental specialist (Please specify) Other (Please specify)		Dentist Dental specialist (Please specify) Other (Please specify)	_; _;

The Questions below ask about dental treatment you received since you were given the Service Use Logbook but not including the dental clinical examination you may have received last year as part of the National Survey of Adult Oral health (NSAOH).

Please write 0 if you did not have the dental treatment specified.





	Please use thi for the first de clinician you vi Dental Clinician	s column ntal isited 1	Please use thi you visited a s dental clinician Dental Clinician	s column if econd 1 2	Please use the column if you a third denta clinician Dental Clinician	his i visited il 3
H1. How many visits did you make to the dental clinician?	Number of visits:	1	Number of visits:		Number of visits:	
H2. How many of the visits were for emergency/ relief of pain?	Number of visits:	0	Number of visits:		Numbor of visits:	
H3. Did you have a dental examination?	Number of times:	1	Number of times:	$\square$	Number of times:	
H4. Did you have Extractions? (removal of teeth)	Number of teeth:	0	Number of teeth:		Number of teeth:	
H5. Did you have Fillings?	Number of fillings:	3 ?	Number of fillings:		Number of fillings:	
H6. Did you have Crowns?	Number of crowns:	0	Number of crowns:		Number of crowns:	
H7. Did you have Bridges?	Number of bridges:	0	Number of bridges:		Number of bridges:	
H8. Did you have Dentures? (false teeth)	Number of dentures:	0	Number of dentures:	$\square$	Number of dentures:	
H9. Did you have Root canal treatment? (endodontic treatment)	Number of times:	0	Number of times:	$\square$	Number of times:	
H10.Did you have X-rays?	Number of X-rays:	1	Number of X-rays:		Number of X-rays:	
H11.Dld you have a Scale and clean?	Number of times:	0	Number of times:		Number of times:	
H12.Did you have treatment for your gums?	Number of times:	0	Number of times:	$\square$	Number of times:	
H13. Did you have other treatment? Please specify:						
		6				

#### These statements are about your satisfaction with dental care.

The Questions below ask about dental treatment you received since you were given the Service Use Logbook but not including the dental clinical examination you may have received last year as part of the National Survey of Adult Oral health (NSAOII).

11.	I was satisfied with the dental care I received.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		<b>_</b> 1	2	3	<b>1</b> 4	5
12.	I would like to have had more explanation of my dental	Strongly disagree	Disagree Neutral Agree Strongly agree			
	treatment options.	1	2	<b>1</b> 3	4	5
13.	The dental surgery had everything needed to provide	ental surgery had everything needed to provide Strongly disagree Dis	Disagree	Neutral	Agree	Strongly agree
n	my dental care.		2	□3	14	5
14.	The dental care I received did not improve my dental	Strongly disagree	Disagree	Neutral	leutral Agree Strongly agree	
	health.	□·	e.	<b>_</b> ,	+	5
15.	I was able to make the dental visit as promptly as I felt	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
v	was necessary.	L 1	<u>_</u> 2	3	<b>1</b> 4	Þ
16.	The dental professional explained whether there were any patient costs and how much before beginning	fessional explained whether there were Strongly disagree Disagree	Neutral	Agree	Strongly agree	
t	treatment.		2	3	R.	5
17.	7. The dental professional I saw explained well what treatment was needed.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		<u></u> ι	2	3	<b>V</b> 4	5
18.	I am confident that I received good dental care at	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	my last visit.		2	3	14	s
19.	There are things about dental care I received that could	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	have been better.		2	e,	4	<b>_</b> ,

Thank you for completing each stage of the National Survey of Adult Oral Health. Your help is greatly valued.

Please return this questionnaire and the service use logbook in the enclosed reply-paid

envelope addressed to:

National Survey of Adult Oral Health

Australian Research Centre for Population Oral Health

School of Dentistry, the University of Adelaide

South Australia 5005

If you have mislaid your Service Use Logbook please turn the page.

# Appendix F: Service use logbook



# Visit 1 Dental Practitioner: Please supply all information requested below. See also instructions above. DATE: DIAGNOSIS (if check-up or emergency /relief of pain visit) / Private TYPE OF PRACTITIONER Dentist Dental hygienist Dental therapist Dental prosthetis Dental specialist TREATMENT PLAN (if this is a check-up) Use A.U.A. Code or brief description: Н ify): Use A.D.A. Code or brief description: SOCIODEMOCRAPHICS OF PRACTITIONER: M=mate/F=temale Year of birth: 19 Practice Postcode REASON FOR VISIC Check-up Treatment (not for relief of pain) Emergency /Relief of pain

 Type of USE1

 Single visit course of care

 Initial visit in a course of care

 Follow-up vieit in a course of care

 Final visit in a course of care

# Instructions to Practitioners

Finance Test coord Finance record the A.D.A. dental service item code until the INTIRE treatment plan and ALL of the dental procedures performed in this visit have been item. It does not matter if particular services in the not been completed. Multiple services of the same not been completed. Multiple services of the same type should be recorded as two separate items. Please include ALL items, even if the survey participant was not charged for the procedure.

ics of the si

#### DIA denta

- diag vns. DIAGNOSIS

- Real(maintenance care Recall(maintenance care Caries: coronal primary Caries: root surface Cuspal fracture Denture problem Dentinal sensitivity Restoration unsatisfactory Oselusel problem Periodontal disease: moder Periodontal disease: advane Pulpal/peripalcal infection Assthetic problem Teama
- Trauma Other (please specify)
- gingival inflammation. Srior calculus present on any tooth
   periodontal pocketing 4-firms fifty alveolar bone loss of 3-5
   mm on any tooth.
   periodontal pocketing over 6mm fifty for paint
   Aur alveolar bone loss more than 5mm on any tooth.

the Doubel Convictor		Your dental appointments
and Quality of Life - Instructions to Participants	OF ADELAIDE AUSTRALIA	BATE TME
This wallet contains a logbook for a dental practitioner to complete, and an appointment card	Dental School, Faculty of Health Sciences	BATTE:/ TIME: PLACE:
for your use. The purpose of the dental visits you make record all the details of the dental visits you make over the next twelve months.		DATE: THE:
Each time you make a dental visit in the next twelve months:	STUDY OF USE OF DENTAL SERVICES	PLACE
Write your appointment details down on the appointment card in this wallet.	AND QUALITY OF LIFE	PLACE
<ul> <li>Bring the wallet with you to your appointment.</li> </ul>		DATE TME
<ul> <li>Tall the dental practitioner that you are participating in the Study of Use of Dontal Services and Quality of Ule, run by the Dental School at the University of Adelaide.</li> </ul>	Service Use Logbook	DATE TAME
Ask the dental practitioner to fill out the logbook section at the end of your visit.		DATE TIME
<ul> <li>After twelve months, we will send you a mail self-complete questionnaire and a reply-paid envelope and ask you to roturn both the walk and the questionnare is there entrefy</li> </ul>		PLACE
Thank you very much for your help!		PLACE
Any questions? Contact: Phone Dr Len Crocombe on (08) 8303 7326		PLACE

# Appendix G: Dental treatment audit

