



**MINISTRY OF HEALTH
BRUNEI DARUSSALAM**

ORAL HEALTH INFORMATION BOOKLET 2014

Research and Development Unit
Dental Services
Ministry of Health
Negara Brunei Darussalam

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INTRODUCTION

VISION AND MISSION

Vision

Together towards a Healthy Nation

Mission

To improve Oral Health through effective,
equitable, affordable, accessible, safe &
sustainable Oral Health Care in Brunei

Darussalam

ORGANISATION STRUCTURE

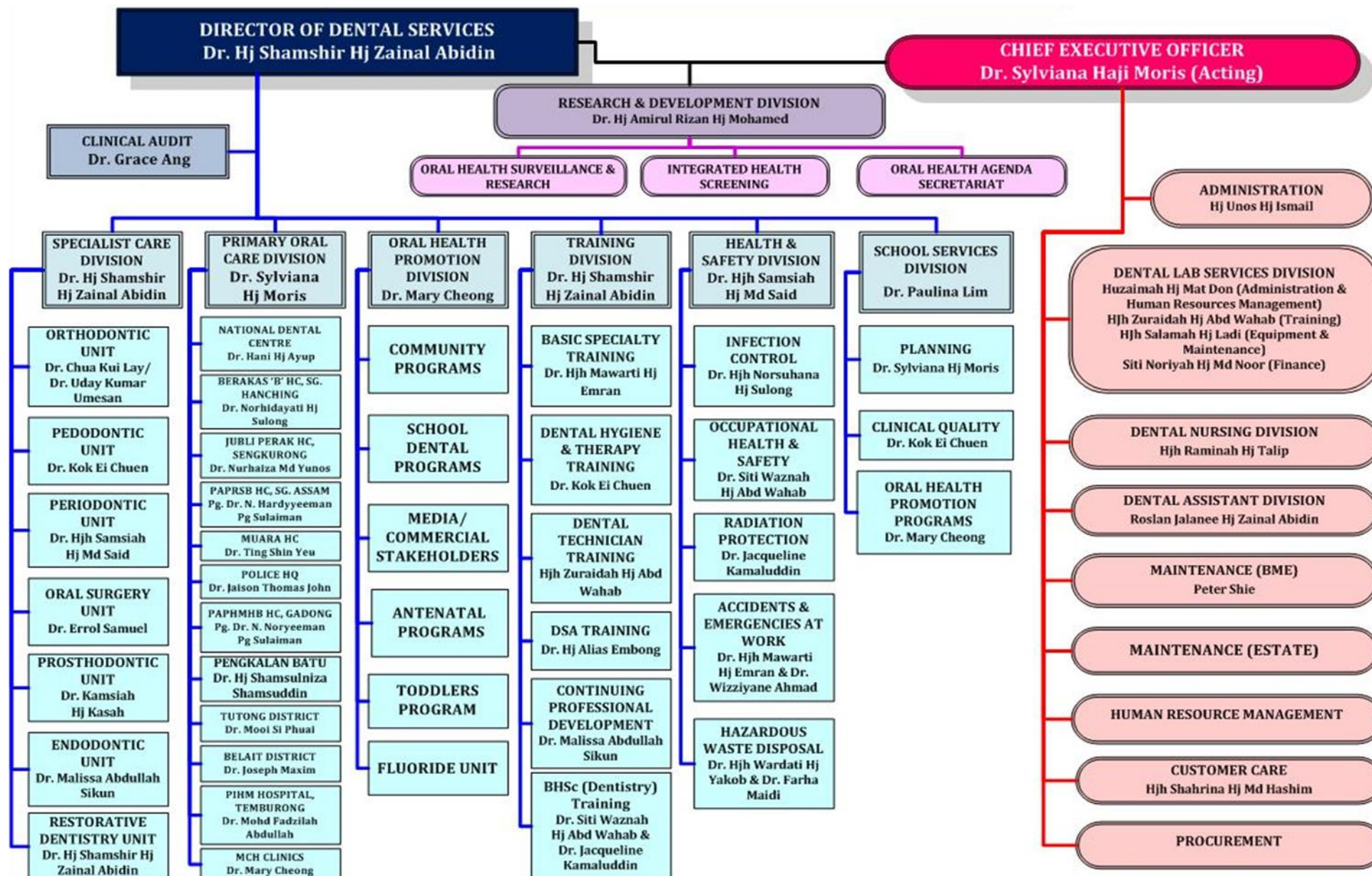


Figure 1.2 Department of Dental Services Organisational Structure

DEMOGRAPHY

Brunei Darussalam conducted the first population census in 1971. The fifth decennial 2011 census of population and housing has been completed by the Department of Economic Planning and Development, Prime Minister's Office.

Table 1.3 Population Demography (2010-2014)

Estimated Population	2010	2011	2012	2013	2014
Total (in thousands) :	386.8	393.372	399.8	406.2	411.9
Male (in thousands) :	199.8	203.144	206.7	210.3	213.5
Female (in thousands) :	187.0	190.228	193.1	195.9	198.4
Sex ratio (M / 100F) :	107	107	107	107	108
Persons / sq.km :	67	68	69	70	71
Annual rate of increase :	1.8%	1.7%	1.6%	1.6%	1.4%
Age Structure (in thousands)					
0 - 4 :	29.8	30.323	31.1	32.0	32.4
5 - 19 :	102.4	104.079	103.5	102.6	102.1
20 - 54 :	218.8	222.540	226.0	229.6	232.1
55 - 64 :	22.2	22.562	24.5	26.5	28.6
65 & Over :	13.6	13.868	14.7	15.5	16.7
Race (in thousands)					
Malay * :	254.1	258.446	262.8	267.2	271.1
Chinese :	39.9	40.534	41.0	41.6	41.9
Others :	92.8	94.392	96.0	97.4	98.9
District (in thousands)					
Brunei-Muara :	275.3	279.924	285.3	290.5	295.3
Belait :	59.7	60.744	61.5	62.5	63.4
Tutong :	43.1	43.852	44.1	44.3	44.3
Temburong :	8.7	8.852	8.9	8.9	8.9

Note:

* - Including other Indigenous Groups of the Malay race namely Belait, Bisaya, Brunei, Dusun, Kedayan, Murut and Tutong.

Source:

Department of Economic Planning and Development, Prime Minister's Office.

POPULATION BY GENDER

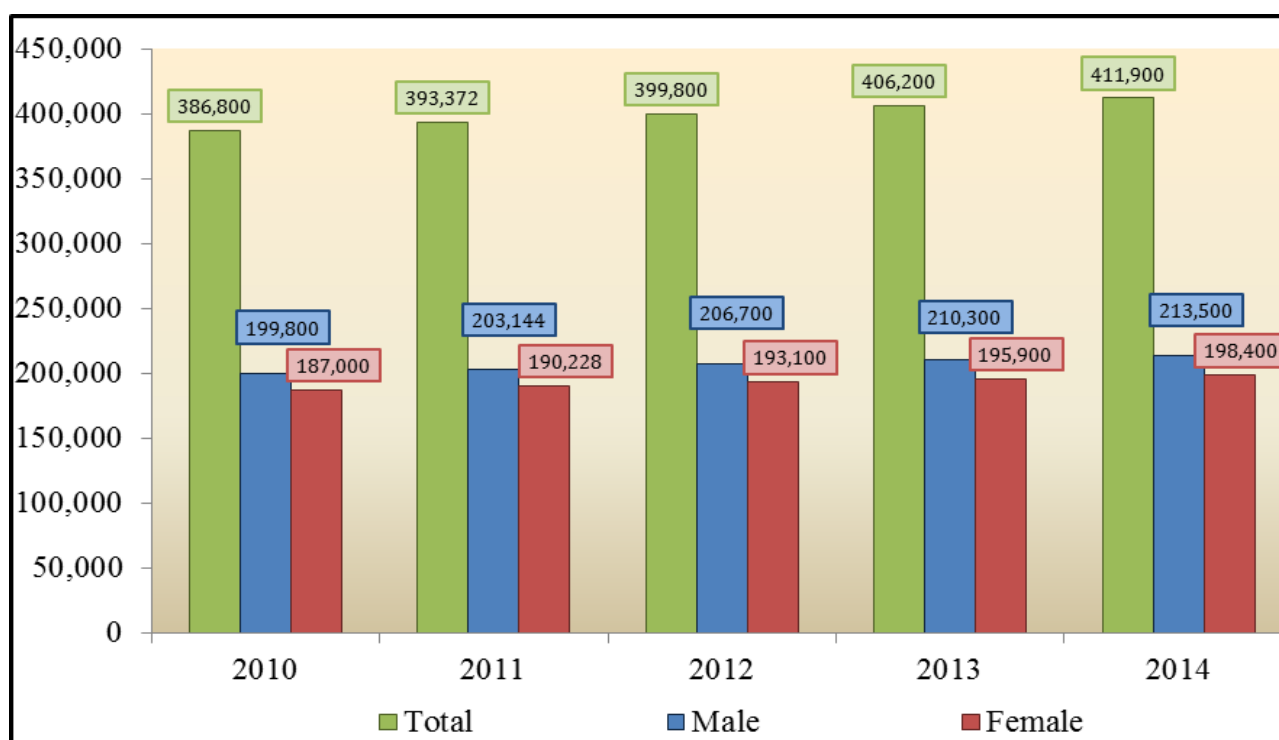


Figure 1.4a Population by Gender (2010-2014)

POPULATION TREND OF BRUNEI DARUSSALAM (1911-2014)

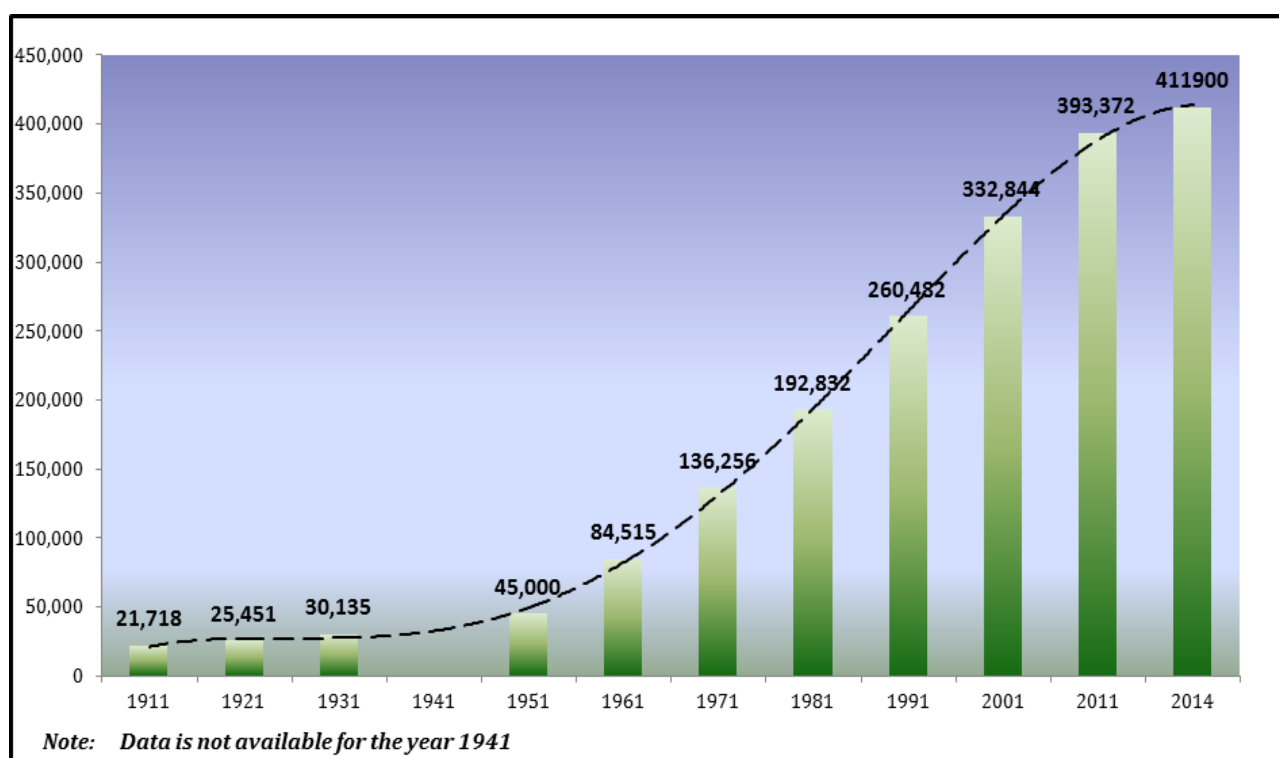


Figure 1.4b Population trend of Brunei Darussalam (1911-2014)

HUMAN RESOURCES

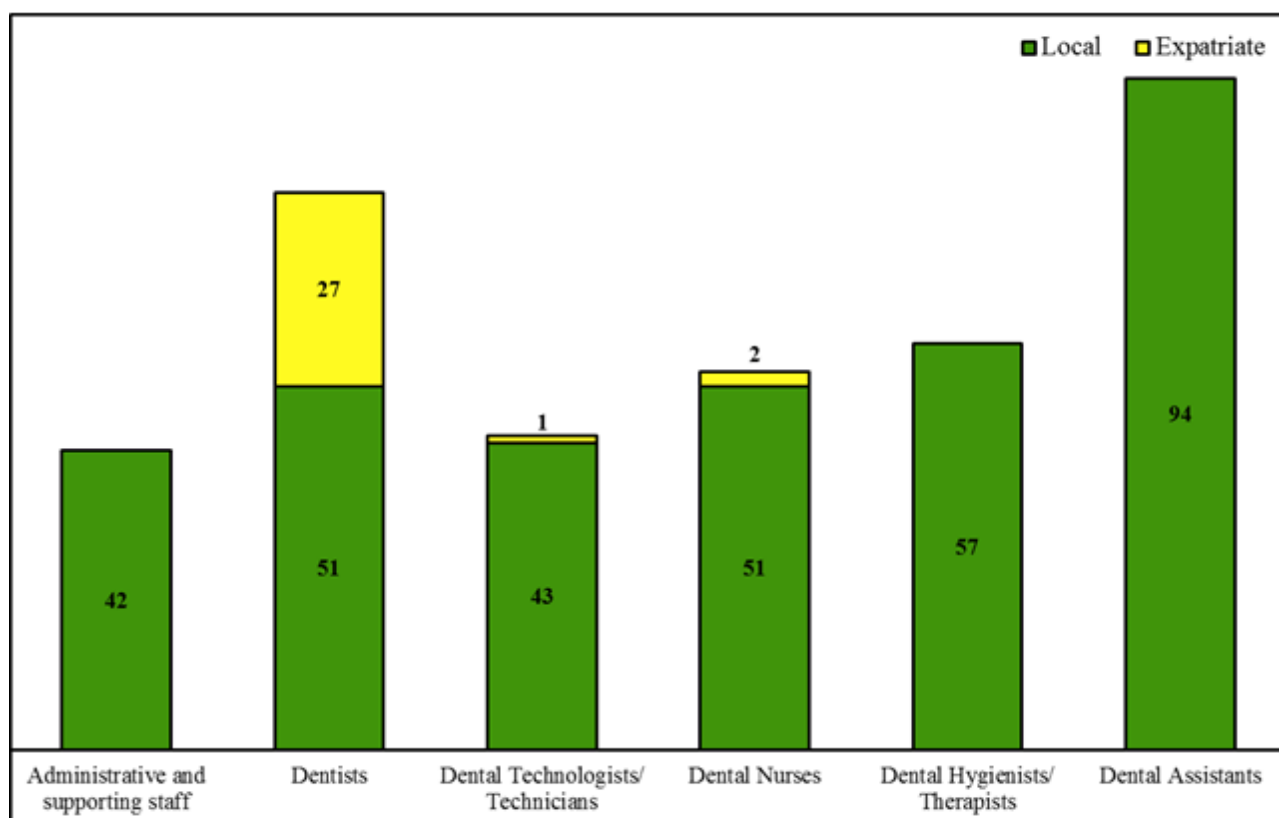


Figure 1.5a Number of human resources in the Department of Dental Services by each discipline

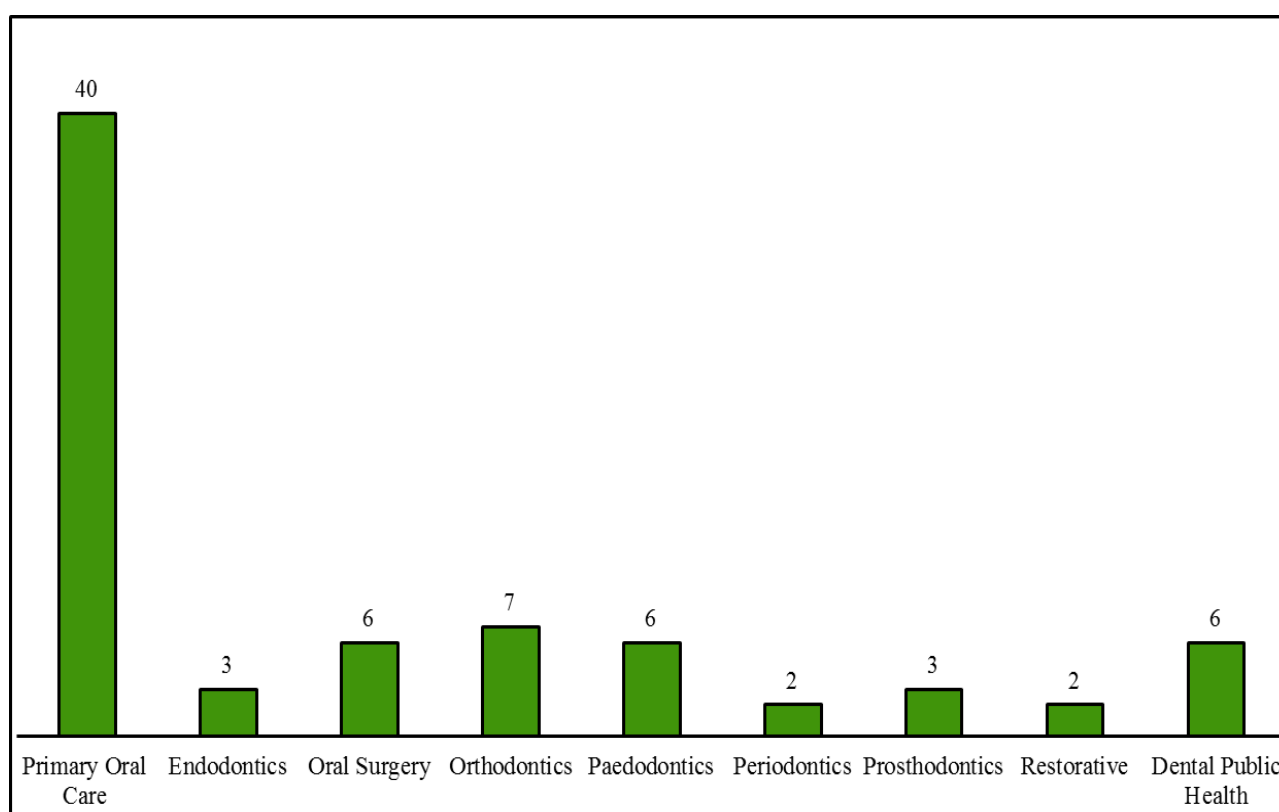


Figure 1.5b Number of Dentists according to Specialty (2014)

DISTRIBUTION OF DENTAL CHAIRS

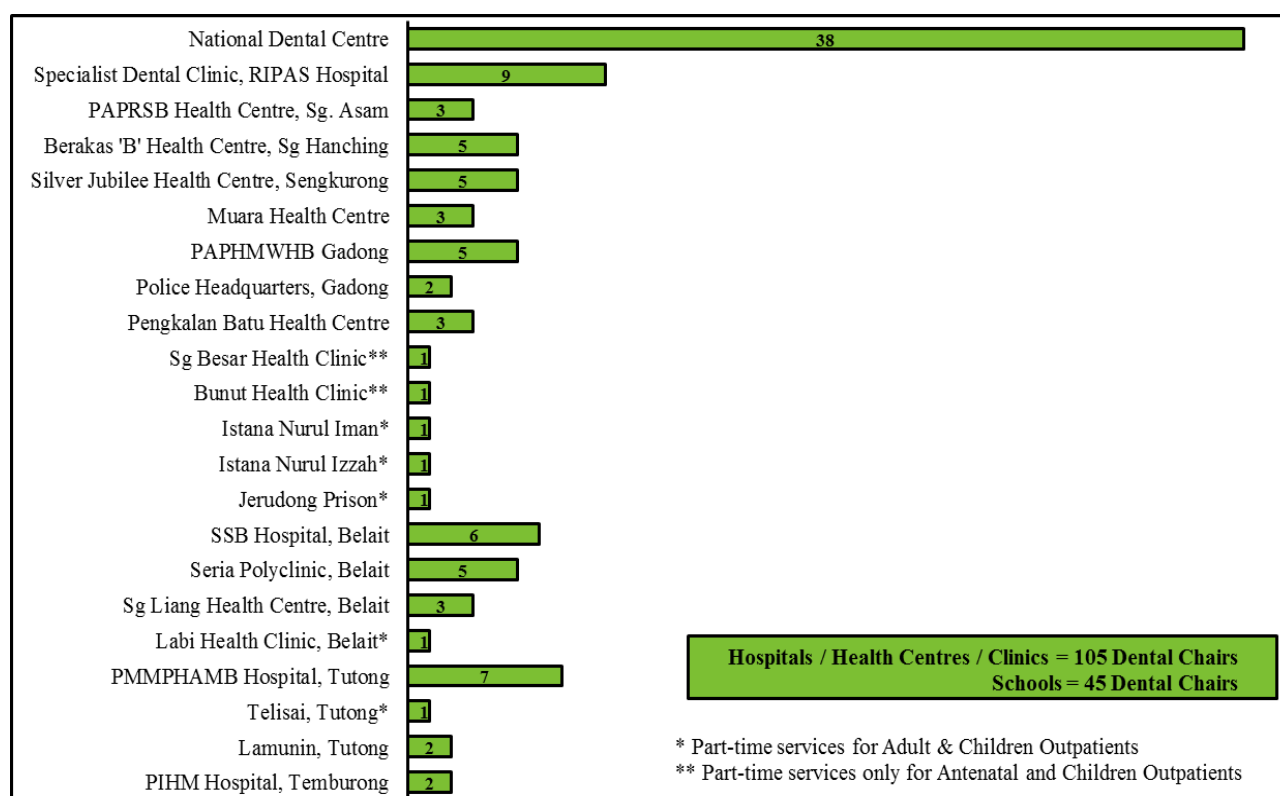


Figure 1.6 Distribution of dental chairs at Hospitals/Health Centres/Clinics and schools (2014)

UTILISATION OF GOVERNMENT DENTAL SERVICES

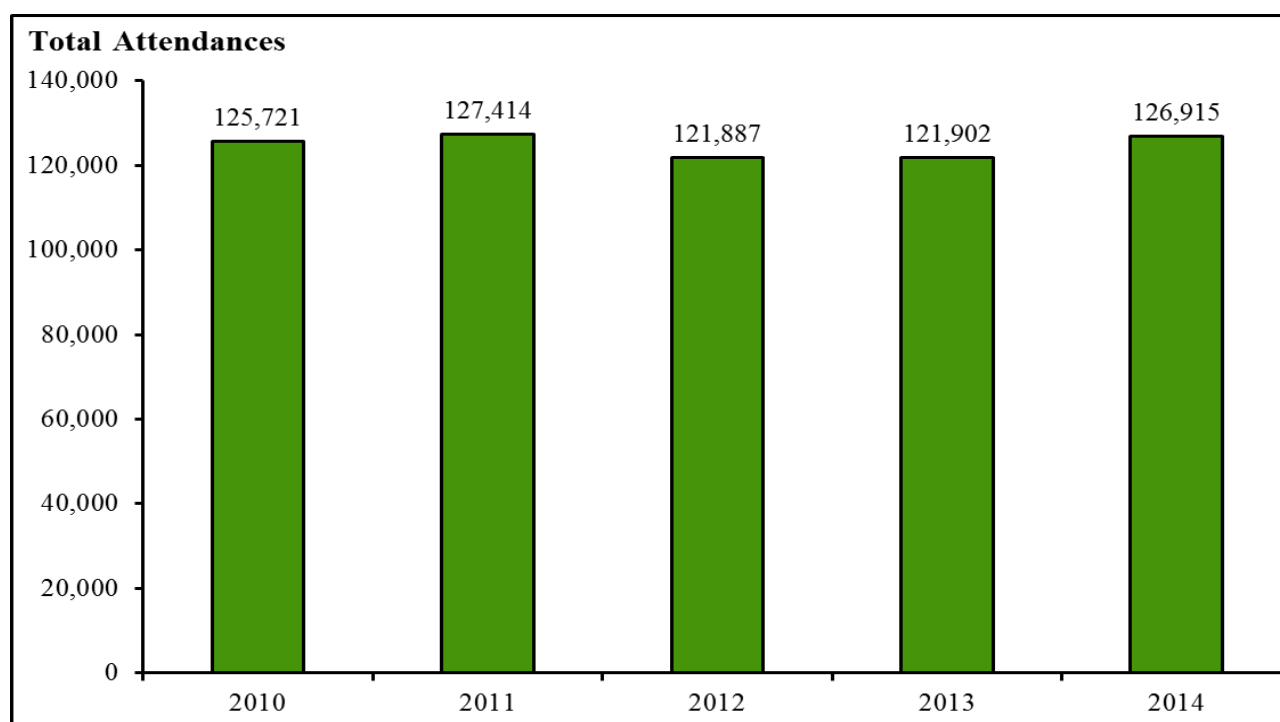


Figure 1.7 Total attendances in Hospitals/Health Centres/Health Clinics (2010-2014)

KEY PERFORMANCE INDICATORS

Table 1.8 Key Performance Indicators for the Department of Dental Services

Goal (FDI, WHO, IADR)	Key Performance Indicators	Baseline	Measurement Indicators	
			2020	2035
Dental Caries				
To increase the proportion of caries free 6-year olds by X%	Percentage caries-free 6-year olds	11.3% (1999)	40%	80%
To reduce the DMFT (Decayed, Missing, Filled Teeth) particularly the D (Decayed) component at age 12 years	DMFT score of 12 year olds	4.82 (1999)	2 or less	1 or less
Periodontal Disease				
To reduce the prevalence of active periodontal infection (with or without loss of attachment) in all ages by X%	Percentage prevalence of active periodontal disease of 10-12 year olds (BPE Code 1)	76.4% (1999)	50%	10%
	Percentage prevalence of active periodontal disease of 35-44 year olds (BPE Code 1)	43.4% (1999)	30%	10%
To increase the proportion of people in all ages with healthy periodontium (gums & supporting bone structure) by X%	Percentage prevalence of healthy periodontium of 10-12 year olds (BPE Code 0)	1.3% (1999)	30%	70%
	Percentage prevalence of healthy periodontium of 35-44 year olds (BPE Code 0)	0.0% (1999)	30%	70%
Health Care Services				
To establish evidence-based plans to create human resources that can provide care that are appropriate to the cultural, social, economic and morbidity profiles of all groups within the population	Dentist : Population ratio	1 : 7,960 (2008)	1 : 5,500	1 : 4,000
	Nurse : 0 -16 yr Population ratio	1 : 1,655 (2008)	1 : 1,200	1 : 800
	Dentist : Technician ratio	2 : 1.4 (2008)	2 : 1.8	2 : 2.5
	Dentist : Dental Assistant ratio	1 : 1.5 (2008)	1 : 1.8	1 : 2
To increase the proportion of the population with access to adequate oral health care	Percentage of Oral Health Care Coverage	21% (2008)	40%	80%

DMFT - Mean number of untreated Decayed, Missing and Filled permanent teeth

WHO - World Health Organization

FDI - Federation Dentaire Internationale (FDI) World Dental Federation

***UTILISATION OF GOVERNMENT
DENTAL SERVICES***

UTILISATION OF GOVERNMENT DENTAL SERVICES

COVERAGE

A measure of the extent to which the services rendered cover the potential need for these services in a community.

Formulae: $\frac{\text{Total New Patients}}{\text{Total Population}} \times 100$

OUTPATIENT

A patient who is a walk-in patient (not an inpatient).

APPOINTMENT

An arrangement to meet the doctor for consultation/treatment at a particular time and place.

CATCHMENT AREA

The area from which people are allocated to a particular Hospital or Health Centre.

PRODUCTIVITY

The rate at which dental services are produced especially output per year.

PATIENT COMPLETION

The degree or extent to which a patient follows or completes a prescribed diagnostic treatment of procedures.

Formulae: $\frac{\text{Total Completed Patients}}{\text{Total New Patients}} \times 100$

Table 2.1a Total attendances (outpatients and appointments) by Hospitals/Health Centres/Clinics for each age group in Brunei-Muara district (2014)

Treatment Centre	Age group																All combined							
	0-5				6-12				13-19				20-55								>55			
	OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT	
	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN
National Dental Centre	75	201	67	5	175	920	778	319	697	355	2,577	253	8,066	366	11,062	2,965	1,208	38	2,268	298	10,221	1,880	16,752	3,840
Hospital-based																								
RIPAS	30	5	387	71	37	3	522	269	42	7	368	145	285	122	2,586	319	58	16	423	88	452	153	4,286	892
Health Centres																								
Sg Assam	13	197	0	59	45	418	1	44	546	160	76	24	2,845	0	522	0	416	0	185	0	3,865	775	784	127
Sg Hanching	28	335	1	2	84	995	3	25	457	370	32	53	4,582	4	393	43	1,052	0	261	6	6,203	1,704	690	129
Sengkurong	19	448	2	81	51	1,105	9	140	727	391	59	205	5,768	0	734	38	937	0	267	4	7,502	1,944	1,071	468
Gadong	44	394	3	3	101	1,140	7	48	718	504	85	101	5114	35	791	183	809	0	261	5	6,786	2,073	1,147	340
Muara	12	109	0	0	48	401	0	1	387	209	36	19	3,143	0	523	0	504	0	149	0	4,094	719	708	20
Police	0	82	0	0	0	213	0	2	23	84	11	4	1,742	0	407	12	2	0	4	1	1,767	379	422	19
Pengkalan Batu	12	267	1	36	29	707	4	85	210	239	33	37	1,932	186	268	98	323	4	160	3	2,506	1,403	466	259
Health Clinics																								
Sg Besar	0	87	0	0	0	69	0	0	0	0	1	0	62	0	107	0	0	0	0	0	62	156	108	0
Subok	0	0	0	0	0	0	0	4	0	0	0	0	0	0	30	0	0	0	0	0	30	0	0	4
Mata-Mata	0	0	0	0	0	0	0	0	0	0	0	0	33	0	23	0	0	0	0	0	33	0	23	0
Bunut	0	154	0	0	0	562	0	13	0	278	2	10	34	0	113	0	0	0	0	0	34	994	115	23
Prison	0	0	0	0	0	0	0	0	0	0	0	0	48	0	2	0	20	0	0	0	68	0	2	0
CDC	0	13	16	237	0	15	6	439	0	4	10	97	0	0	0	0	0	0	0	0	0	32	32	773
All combined	233	2,292	477	494	570	6,548	1,330	1,389	3,807	2,601	3,290	948	33,654	713	17,561	3,658	5,329	58	3,978	405	43,623	12,212	26,606	6,894

Table 2.1b Total attendances (outpatients and appointments) by Hospitals/Health Centres/Clinics for each age group in Belait district (2014)

Treatment Centre	Age group																All combined							
	0-5				6-12				13-19				20-55								>55			
	OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT	
	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN
Hospital-based																								
SSB Hospital	32	335	85	68	85	836	131	133	721	243	257	101	4,767	9	1,740	63	1,175	0	339	16	6,780	1,423	2,552	381
Health Centres																								
Seria	12	95	0	43	42	349	200	77	183	141	945	63	2,164	2	1,734	10	602	0	278	0	3,003	587	3,157	193
Sg Liang	28	154	0	39	33	323	0	47	112	107	13	42	1,858	0	305	5	412	0	147	0	2,443	584	465	133
Health Clinics																								
Labi ^a	1	2	0	3	8	2	0	1	5	2	0	1	88	0	1	0	22	0	0	0	124	6	1	5
All combined	73	606	85	153	168	1,510	331	258	1,021	493	1,215	207	8,877	11	3,780	78	2,211	0	764	16	12,350	2,600	6,175	712

^aLabi – Thursday morning only

Table 2.1c Total attendances (outpatients and appointments) by Hospitals/Health Centres/Clinics for each age group in Tutong district (2014)

Treatment Centre	Age group														All combined									
	0-5				6-12				13-19				20-55						>55					
	OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT					
	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN				
Hospital-based																								
PMMPMHAMB Hospital	35	301	14	79	82	945	87	299	556	229	232	91	4,210	7	933	56	1,053	0	355	4	5,936	1,482	1,621	529
Health Centres																								
Telisai	0	70	0	1	0	118	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	194	0	1
Lamunin	1	224	0	0	16	492	0	0	232	90	13	1	1,519	4	112	3	389	0	11	0	2,157	810	136	4
All combined	36	595	14	80	98	1,555	87	299	788	325	245	92	5,709	11	1,045	59	1,442	0	366	4	8,093	2,486	1,757	534

Table 2.1d Total attendances (outpatients and appointments) by Hospitals/Health Centres/Clinics for each age group in Temburong district (2014)

Treatment Centre	Age group														All combined									
	0-5				6-12				13-19				20-55						>55					
	OP		APPT		OP		APPT		OP		APPT		OP		APPT		OP		APPT					
	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN	DO	DN				
Hospital-based																								
PIHM Hospital	8	237	0	27	16	420	0	33	180	178	33	17	1,212	10	130	61	277	2	26	6	1,693	847	189	144
All combined	8	237	0	27	16	420	0	33	180	178	33	17	1,212	10	130	61	277	2	26	6	1,693	847	189	144

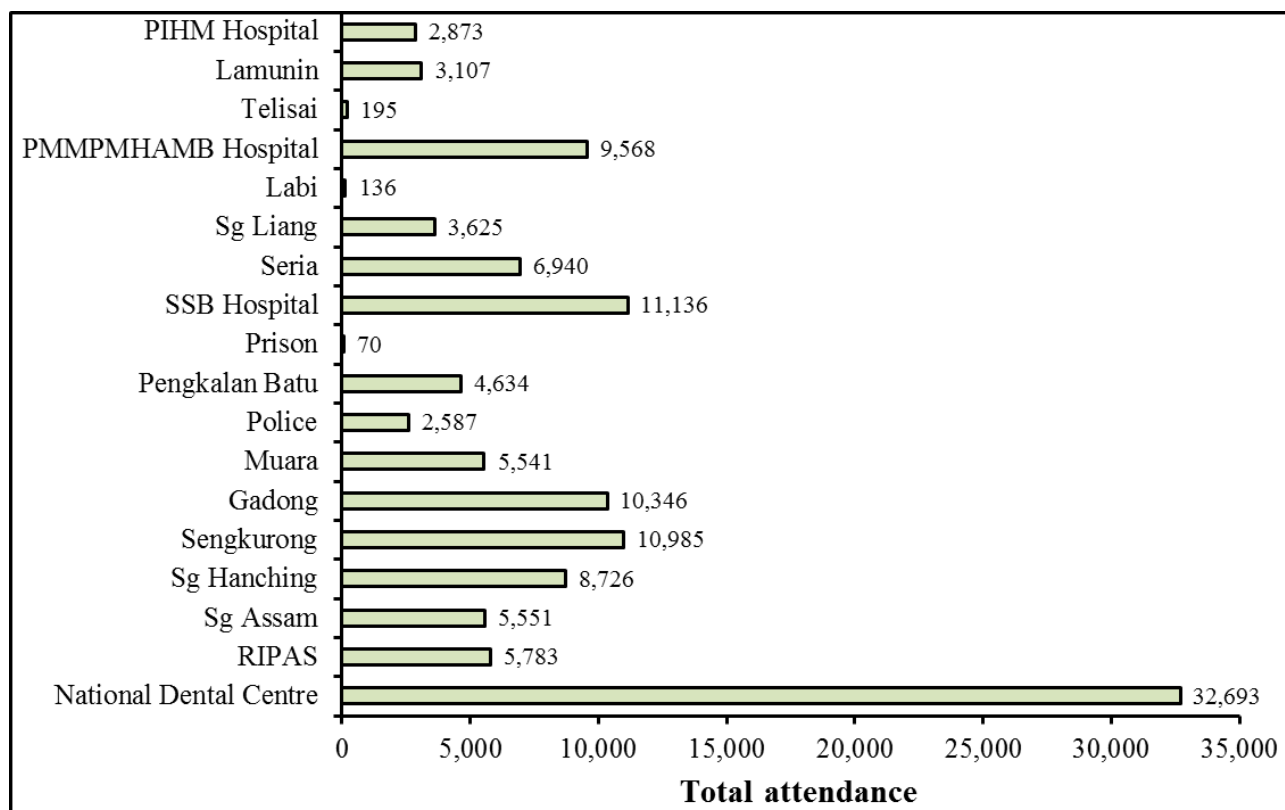


Figure 2.1a Total attendances by Hospitals/Health Centres/Clinics (2014)

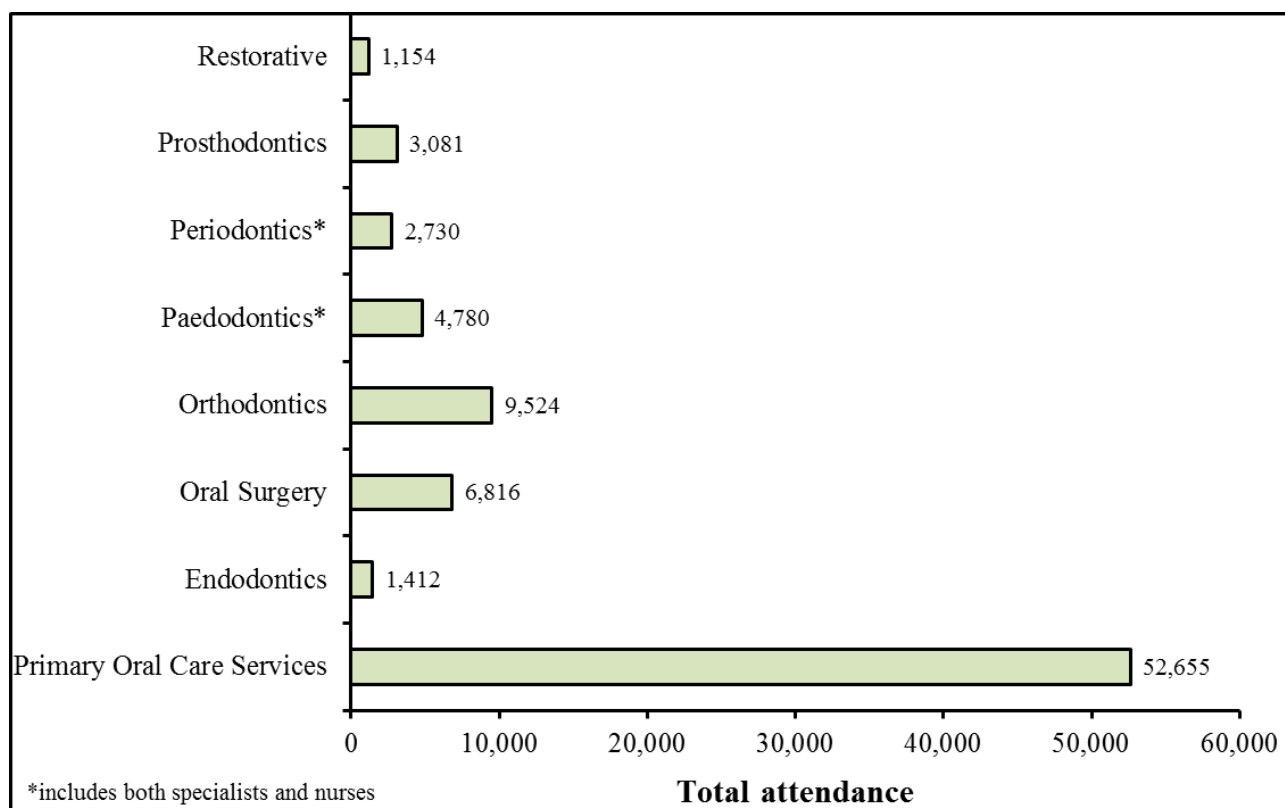


Figure 2.1b Total attendances by specialty (2014)

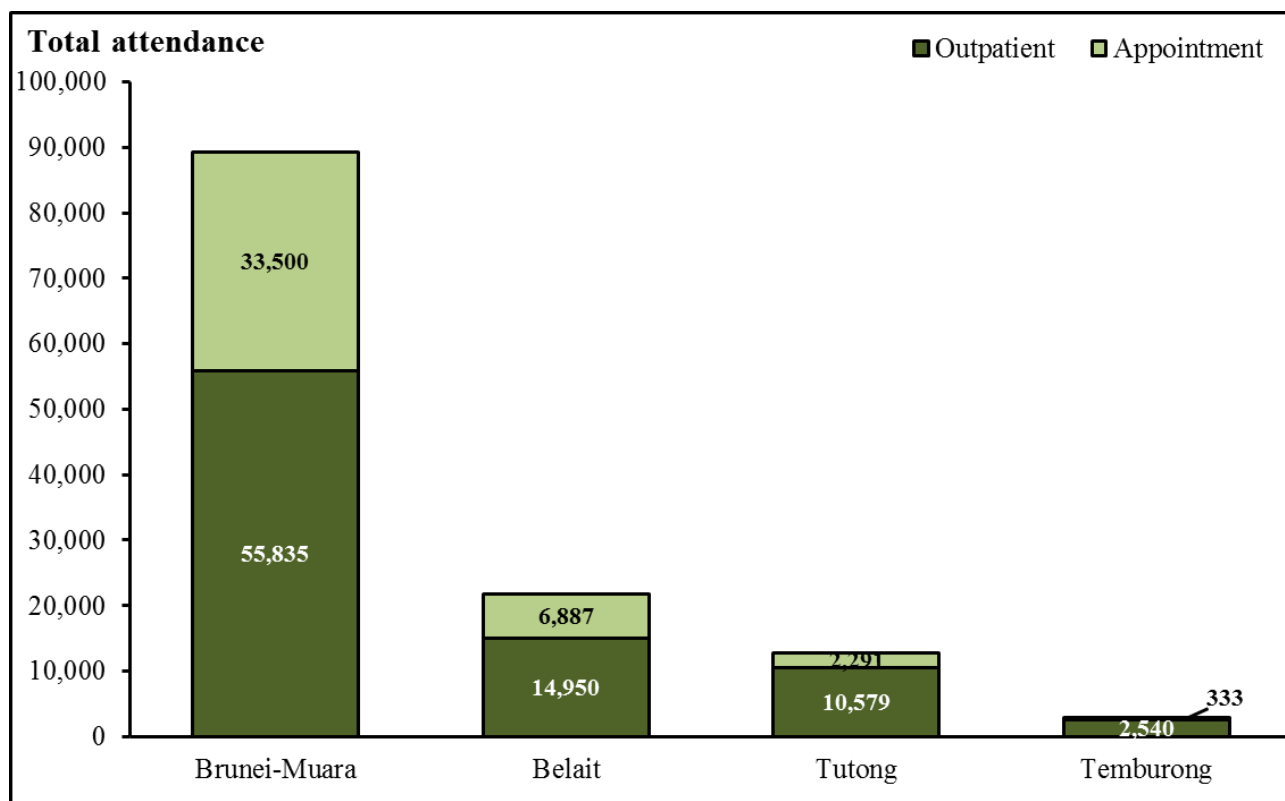


Figure 2.1c Total attendances by district (2014)

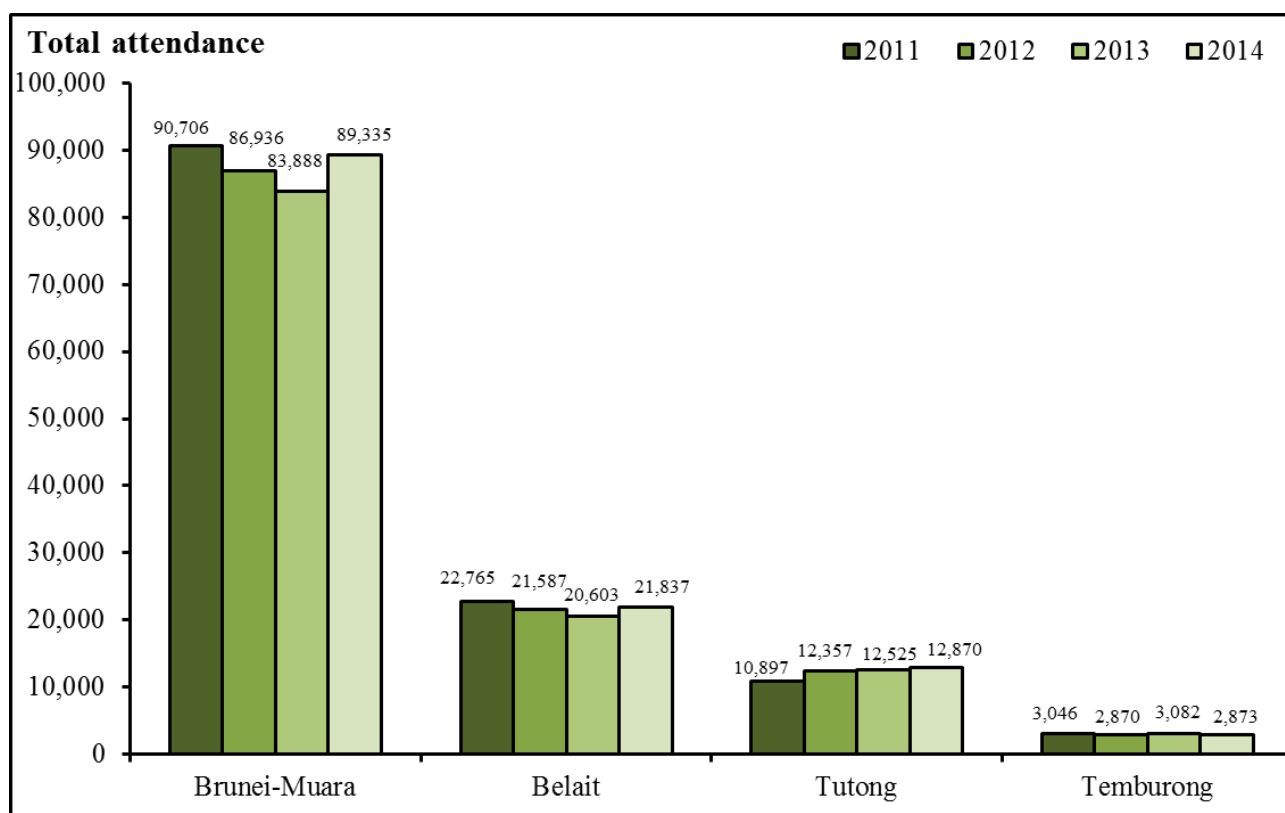


Figure 2.1d Total attendances by district (2011-2014)

SCHOOL DENTAL SERVICES

SCHOOL DENTAL SERVICES

School Dental Services provide oral health care services to the schoolchildren of Brunei Darussalam, in such a way as to improve and maintain their oral health at an optimal level, through various preventive and promotive means, and by ensuring that the oral health care delivered is appropriate and of the highest quality possible.

These include:

1. Providing appropriate preventive, curative, restorative and rehabilitative oral health care to these children.
2. Referral of those children who require oral health care that is beyond the competency of the dental nurses, to dental officers and specialists.
3. Promoting the children's oral health through various oral health promotion programmes and activities to these children and in collaboration with the School Authorities, communities and parents/guardians.
4. Collaborating with the Ministry of Education in the Health Promoting School Programme to promote oral health in schools.

Since 2007, mobile dental squads consisting of 2-4 school dental nurses from each team, using portable equipment to treat schoolchildren in schools without a static school dental clinic. Instead of having target groups, the teams now aim to complete at least 80% of all the students (Pra to Y6) before moving onto another school. They also concurrently treat students in their designated static dental clinics throughout the year.

Table 3.1a Mobile squad teams in Brunei-Muara district (2014)

XCAV8'S (4 Nurses)	K 9 (4 Nurses)	PEARL (4 Nurses)	NASA (4 Nurses)	OMEGA (4 Nurses)
1. SR PPSDSB Mata-Mata	1. SR Sengkurong	1. SR Amar Pahlawan	1. SR Pular Ulak	1. SR Delima Satu
2. Sek St Andrew's	2. SR PAPB Peramu	2. SR PDJ Kg Setia	2. SR Jerudong	2. SR Serasa
3. SR Dato Marsal	3. SR Sg Kebun	3. SR Anggerek Desa	3. SR BS Bunut	3. SM Chung Hwa
4. SR Kiarong*	4. SR Lumapas	4. SR Pulaie	4. SR Mentiri	4. SR Raja Isteri Fatimah
5. SR DMW Lambak	5. SR Pengkalan Batu	5. SR Yayasan SHHB	5. SR Mabohai	5. SR SUAS Muara
6. SR Masin*	6. SR PB Limau Manis	6. SR Sg Siamas	6. SR Beribi Telanai*	6. SR HMS Sg Hanching*
7. SR Batu Marang*	7. SR Saba Darat	7. SR Dato Othman*	7. SR Rimba Satu*	7. SR OKBI Subok*
8. SR Tanah Jambu*	8. SR Pintu Malim	8. SR SAB Sg Besar*	8. SR AHMY Katimahar*	8. SR Kg Mata-Mata*
9. SR NAR Menunggul*	9. SR Junjungan*	9. SR HMJM Kiulap*	9. SR Bebuluh*	9. SR Katok*
10. SR Kapok*	10. SR Kasat*	10. SR Hj Tarif Tamoi*	10. SR Bendahara Lama*	10. SR TK Sg Bunga*
11. SR Dato Basir*	11. SR Dato Ahmad*			11. SR Jln 49 Lambak Kanan*
12. SR Mulaut*				

*Non-Static Schools (Schools without a static dental clinic)

Table 3.1b Mobile squad teams in other districts (2014)

TUTONG		BELAIT		TEMBURONG	
TOPAZ (4 Nurses)	PRIMAROSA (4 Nurses)	ESMERALDE (3 Nurses)	HEBAT (5 Nurses)	TLC (5 Nurses)	DENTEM (5 Nurses)
1. SR Tumpuan Telisai	1. SR Kiudang	1. SR Muda Hashim	1. SR Muhd Alam	1. SR Kuala Belait	1. SR SH Bangar
2. SR OKAWSD Kupang	2. SR Keriam	2. SR Penanjong	2. SRPSNPMY Lorong 3	2. SR Ahmad Tajudin	2. SR Selangan*
3. SR PKN Bukit Beruang	3. SR Birau*	3. SR Bukit Udai*	3. SR Panaga	3. SR PSJPAM Pandan	3. SR Kenua*
4. SR Bakiau*	4. SR AR Tg Maya*	4. SR Lamunin*	4. SR Sg Liang	4. SR Sg Teraban	4. SR Semabat*
5. SR Sinaut*	5. SR PDN PJ Sengkarai*	5. SR Ukong*	5. SR Lumut	5. Sekolah Chung Hwa	5. SR Selapon*
6. SR Perp Bukit Beruang*	6. SR Penapar*	6. SR PM Mahkota*	6. Sekolah Chung Ching	6. SR PSB SOAS*	6. SR Sultan Hashim Batu Apoi*
7. SR Danau*	7. SR Bt Panggal*	7. SR Kg Menengah*	7. SR Sg Tali II*		7. SR Negalang*
		8. SR Lubok Pulau	8. SR Labi*		8. SR Piasau-Piasau*
					9. SR Labu Estate*
					10. SR Rataie*
					11. SR Puni
					12. SR Amo*

*Non-Static Schools (Schools without a static dental clinic)

Table 3.2 Percentage coverage (number of new patients) by districts for each age group (2014)

District	School population	Consented	Age group			All combined	% Coverage
			0-5	6-12	13-19		
Brunei-Muara	37,972	10,866	978	9,147	5	10,130	26.7
Belaït	8,272	3,649	263	3,504	7	3,774	45.6
Tutong	5,198	2,914	224	2,290	0	2,514	48.4
Temburong	1,152	1,030	198	909	21	1,128	97.9
All combined	52,594	18,459	1,663	15,850	33	17,546	33.4

Note: All treatments in Schools are done by Dental Nurses/Therapists

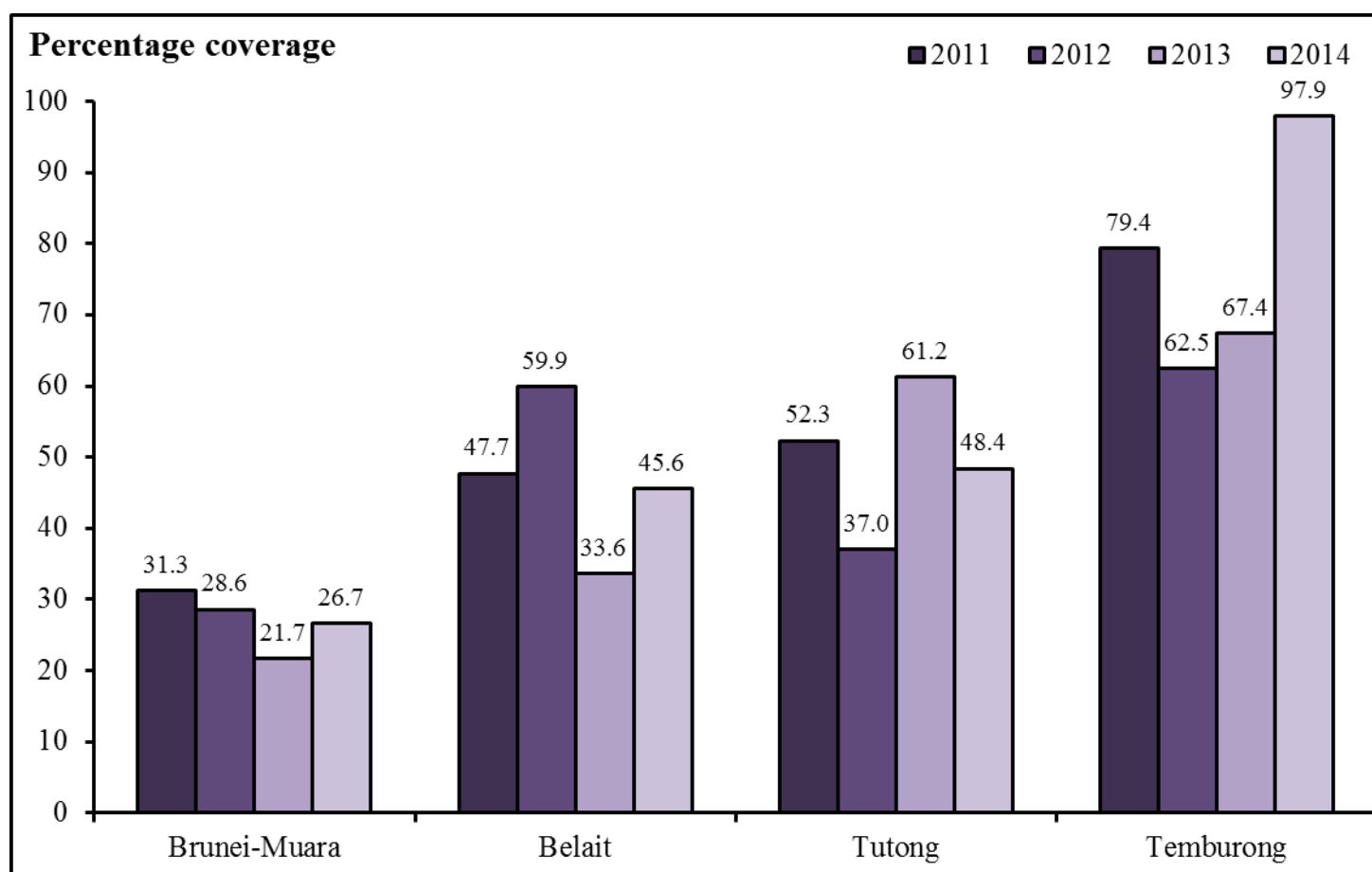


Figure 3.3 Total attendances by district (2011-2014)



Figure 3.4a Deciduous dentition dental caries experience for 5-year-old school children (2011-2014)

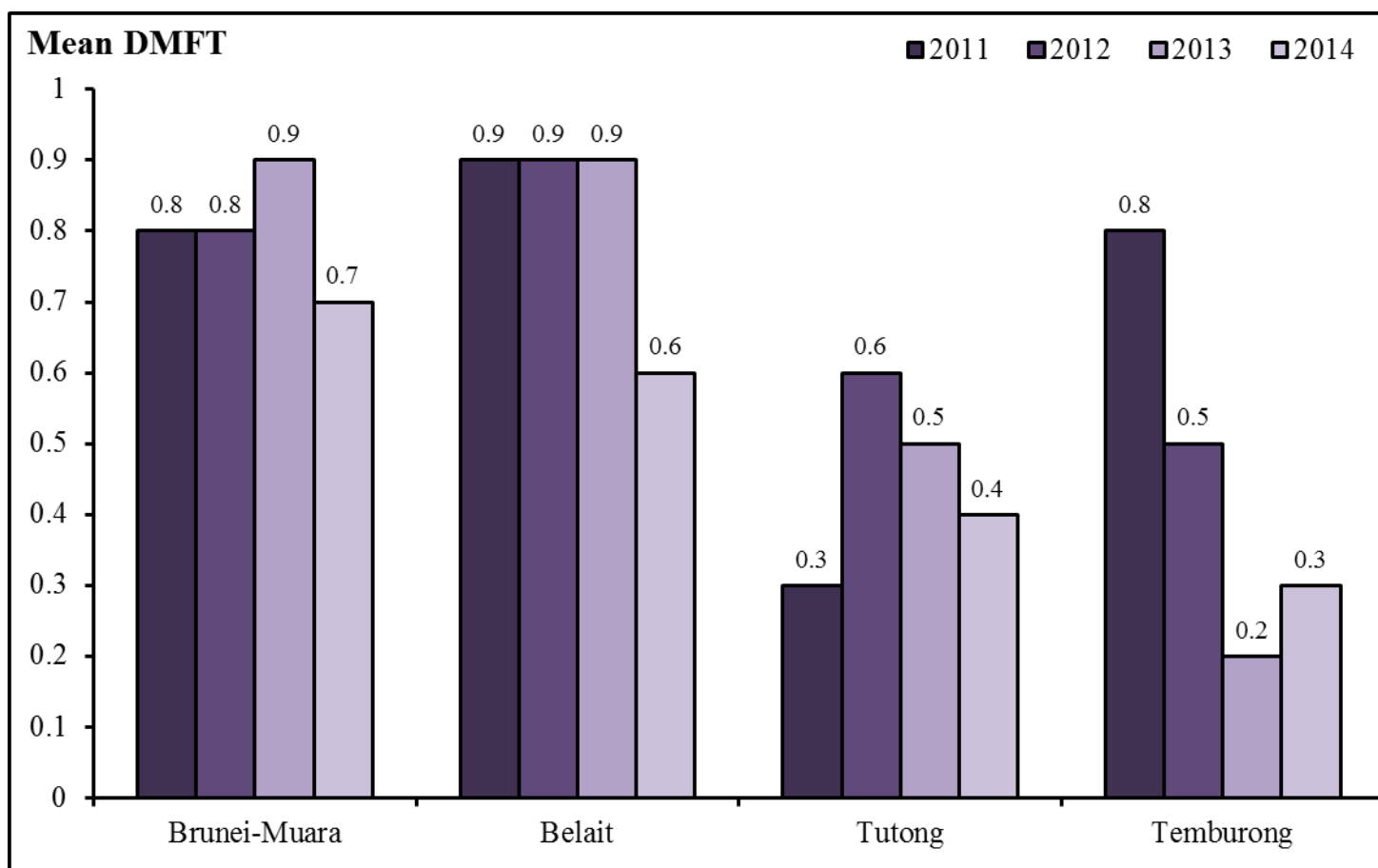


Figure 3.4b Permanent dentition dental caries experience for 12-year-old school children (2011-2014)

PRODUCTIVITY

PRIMARY ORAL CARE SERVICES

Primary Oral Care services provide basic curative, corrective and rehabilitative services to render the patient orally fit, control all active diseases and restore acceptable oral function. It is the first line of oral health care, delivering dental education and basic treatment to achieve better oral health.

Services provided include:

- The emergency relief of pain and discomfort and the control of infection of oro-facial origin
- Routine dental check-up
- Dental extractions under local anaesthetic
- Dental scaling and prophylaxis
- Dental fillings
- Simple root canal treatment
- Plastic dentures (Full and partial dentures)
- Chairside Oral Health Education
- Assess complex cases for specialist referrals

Overview of Primary Oral Care Services

Manpower

5 (4 local and 1 expatriate) Senior Dental Officers

40 (23 local and 17 expatriate) Dental Officers

Table 4.1a Number of conservative and prosthetic procedures done in the Primary Oral Care Division (2014)

Age group	Primary care attendance	CONSERVATIVE						PROSTHETIC										
		Amalgam		Tooth-coloured		Dressing		Recontour -ing of restoration (patient)	Procedure (patient)	Full Denture	Partial Denture	Immediate	Interim	Metal-based partial denture (no of units)	Repairs	Relines	Rebase	Addition
		No. of teeth	surfaces	No. of teeth	surfaces	No. of teeth	surfaces											
Brunei-Muara																		
0-5	43	1	1	1	5	1	2	0	0	0	0	0	0	0	0	0	0	0
6-12	192	6	7	18	30	12	14	3	22	0	0	0	0	0	0	0	0	0
13-19	2,782	513	694	1,057	1,493	241	313	51	86	3	8	4	0	0	2	0	0	1
20-55	24,094	4,799	7,349	9,891	14,105	2,912	2,859	447	1,390	162	558	35	16	9	151	6	2	42
>55	3,860	361	642	1,787	2,578	142	184	114	1,274	306	396	9	13	3	215	11	0	19
Belait																		
0-5	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	141	1	2	11	12	4	4	0	0	0	0	0	0	0	0	0	0	0
13-19	957	82	116	307	424	115	133	0	4	0	1	0	0	0	3	0	0	0
20-55	7,664	398	627	2,866	4,070	1,031	1,208	0	408	30	115	9	0	0	85	1	0	17
>55	1,985	44	73	572	845	115	128	30	503	79	79	1	0	0	184	8	0	56
Tutong																		
0-5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	46	0	0	4	3	0	0	0	2	0	0	0	0	0	0	0	0	0
13-19	754	99	124	226	330	20	21	1	3	0	0	0	0	0	0	0	0	0
20-55	6,064	771	1,140	1,597	2,101	183	202	0	245	26	81	1	3	0	13	1	0	2
>55	2,125	96	151	328	457	8	11	0	354	59	76	1	7	0	30	0	0	1
Temburong																		
0-5	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	16	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
13-19	213	43	52	41	51	33	51	0	0	0	0	0	0	0	0	0	0	0
20-55	1,337	117	164	222	273	148	208	5	11	0	4	0	0	0	0	0	0	0
>55	391	15	24	47	52	17	25	5	18	2	0	1	1	0	1	0	0	0
All combined	52,742	7,346	11,166	18,976	63,467	4,982	5,363	656	4,320	667	1,318	61	40	12	684	27	2	138

Table 4.1b Number of oral surgical procedures done in the Primary Oral Care Division (2014)

Age group	ORAL SURGERY														ORAL MEDICINE (PT)		
	Infection/ Abscess (Pt)	Others (Pt)	Trauma				LA/TA/SEDATION										
							Minor Oral Surgery										
			No of Teeth	Hard Tissue (Pt)	Soft Tissue (Pt)	Splinting	Patients	No of teeth extracted				Soft Tissue Lesion (Pt)	Hard Tissue Lesion (Pt)	Other Oral Lesion	Medical Condition		
								Non-surgical								Surgical (permanent)	
								D		P						3 rd Molar	Other Teeth
								p	n	p	n						
Brunei-Muara																	
0-5	64	0	0	0	0	0	4	3	0	2	0	0	0	0	21	0	
6-12	121	4	7	0	1	0	93	16	3	77	3	0	0	0	21	0	
13-19	166	70	0	0	0	0	735	16	1	725	34	0	0	0	52	0	
20-55	1,811	496	2	10	19	2	9,130	14	7	9,810	225	19	6	37	16	431	2
>55	155	121	0	0	5	1	2,180	0	0	2,467	56	4	1	2	0	101	2
Belait																	
0-5	25	8	4	2	1	0	1	0	0	0	0	0	0	0	0	7	
6-12	62	3	1	0	0	0	27	10	0	15	1	0	0	0	0	35	
13-19	68	17	2	0	1	0	90	3	1	92	5	1	0	0	0	34	
20-55	526	21	0	3	6	0	1,596	12	0	1,732	6	7	5	2	0	462	
>55	90	6	0	0	0	0	604	0	0	699	0	1	2	0	0	61	
Tutong																	
0-5	8	1	0	0	0	0	2	0	0	2	0	0	0	0	0	0	
6-12	6	5	0	0	0	0	13	0	0	12	1	0	0	0	0	0	
13-19	21	19	0	0	0	0	206	0	1	150	4	0	0	0	0	0	
20-55	224	216	0	0	0	42	2,061	1	0	1,753	74	0	1	0	0	0	
>55	30	44	0	0	0	0	723	0	0	724	13	0	0	0	0	0	
Temburong																	
0-5	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6-12	0	13	0	0	0	0	2	0	0	2	0	0	0	0	0	0	
13-19	3	47	0	0	0	0	45	0	0	47	0	0	0	0	0	0	
20-55	0	304	0	0	0	0	450	0	0	470	0	1	0	0	0	0	
>55	3	39	0	0	0	0	168	0	0	186	0	0	0	0	0	0	
All combined	3,383	1,442	16	15	33	45	18,130	75	13	18,965	422	33	15	41	16	627	603

D - Deciduous teeth, P - Permanent teeth, p - pathological, n - non-pathological

Table 4.1c Number of Periodontics and Preventive procedures done in the Primary Oral Care Division (2014)

Age group	PERIODONTICS (NON-SURGICAL)											PREVENTIVE			REFERRAL OF PATIENTS TO:		PATIENT COMPLETION
	OHI/ demonstration	Diet analysis	Review	Scaling & prophylaxis	Root planning (quadrant)	Post RP charting	Removal sutures	Fluoride desensitization	Pocket charting	Infection/ Abscess	Others/Misc.	individual					
												Fissure sealant		Fluoride (prevention) Patient			
												Patient	Surfaces		Dental	Medical	
Brunei-Muara																	
0-5	0	0	0	1	0	0	0	0	0	5	15	0	0	0	15	0	0
6-12	41	0	1	17	0	0	0	0	0	2	24	0	0	0	23	0	11
13-19	1,250	8	16	1,353	0	1	5	15	5	3	129	1	1	6	177	3	592
20-55	7,562	110	178	8,546	16	10	39	120	142	122	832	20	12	54	1,029	38	3,202
>55	624	8	36	767	0	0	11	7	3	7	172	1	16	8	95	17	369
Belait																	
0-5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	10
6-12	21	0	0	5	0	0	0	3	0	0	0	0	0	0	15	1	11
13-19	302	0	37	492	0	0	0	3	0	0	0	0	0	1	43	4	190
20-55	1,963	0	75	2,538	0	0	3	61	0	11	2	3	3	15	191	64	1,182
>55	324	1	25	339	0	0	2	30	0	4	0	0	0	15	32	22	180
Tutong																	
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	4	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0
13-19	251	2	1	286	0	0	0	10	0	0	0	1	1	0	26	1	119
20-55	1,234	1	21	1,453	0	0	0	56	0	0	0	10	21	0	84	28	512
>55	101	0	3	153	0	0	1	3	0	1	0	2	3	0	17	11	67
Temburong																	
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-19	19	0	0	19	0	0	0	1	0	0	0	0	0	0	0	0	10
20-55	126	0	0	126	0	0	0	6	0	0	0	0	0	0	0	0	58
>55	13	0	0	13	0	0	3	1	0	0	0	0	0	0	0	0	4
All combined	13,849	130	393	16,109	16	11	64	316	150	155	1,174	38	57	99	1,751	189	6,517

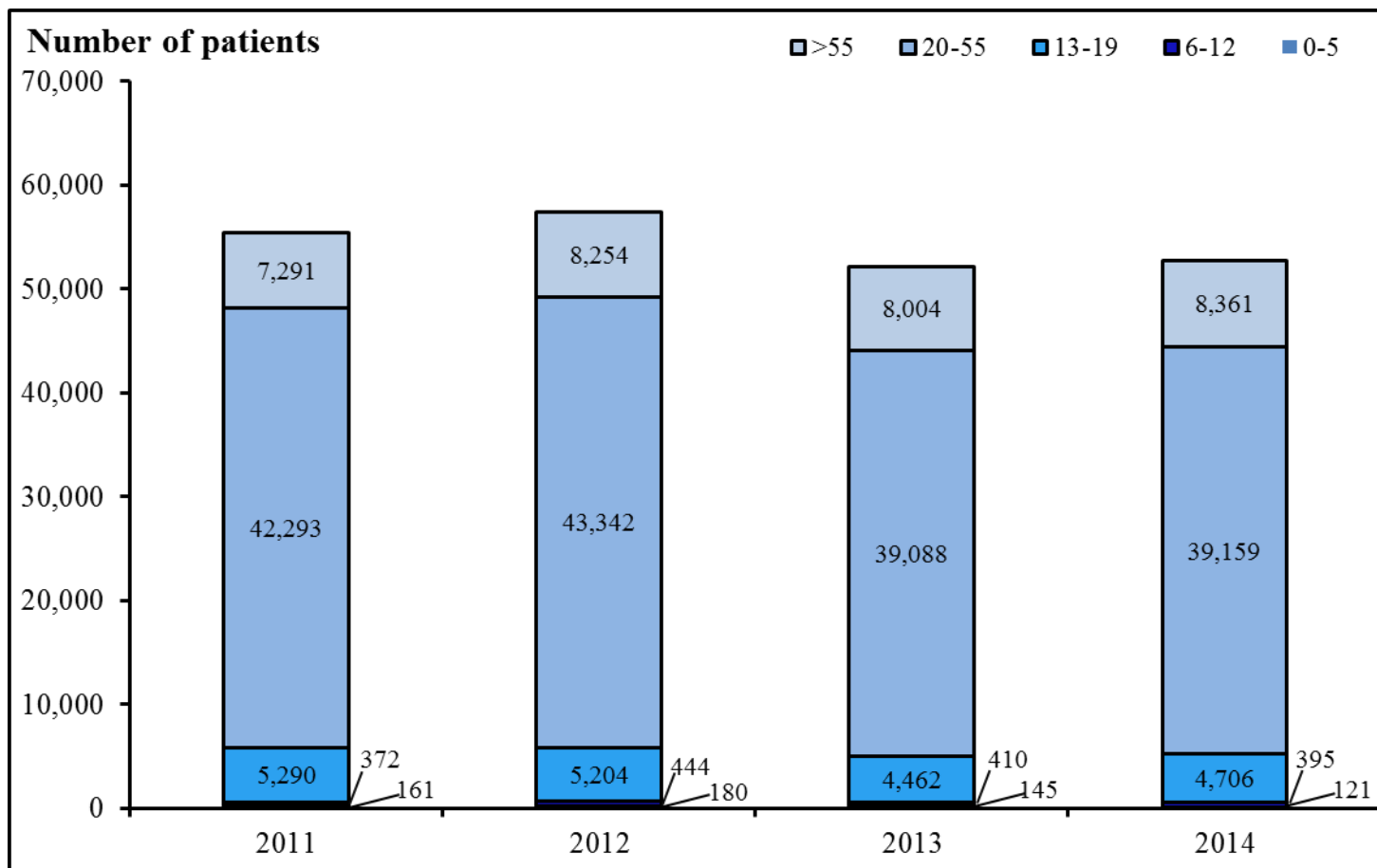


Figure 4.1a Total attendances in Primary Oral Care Division (2011-2014)

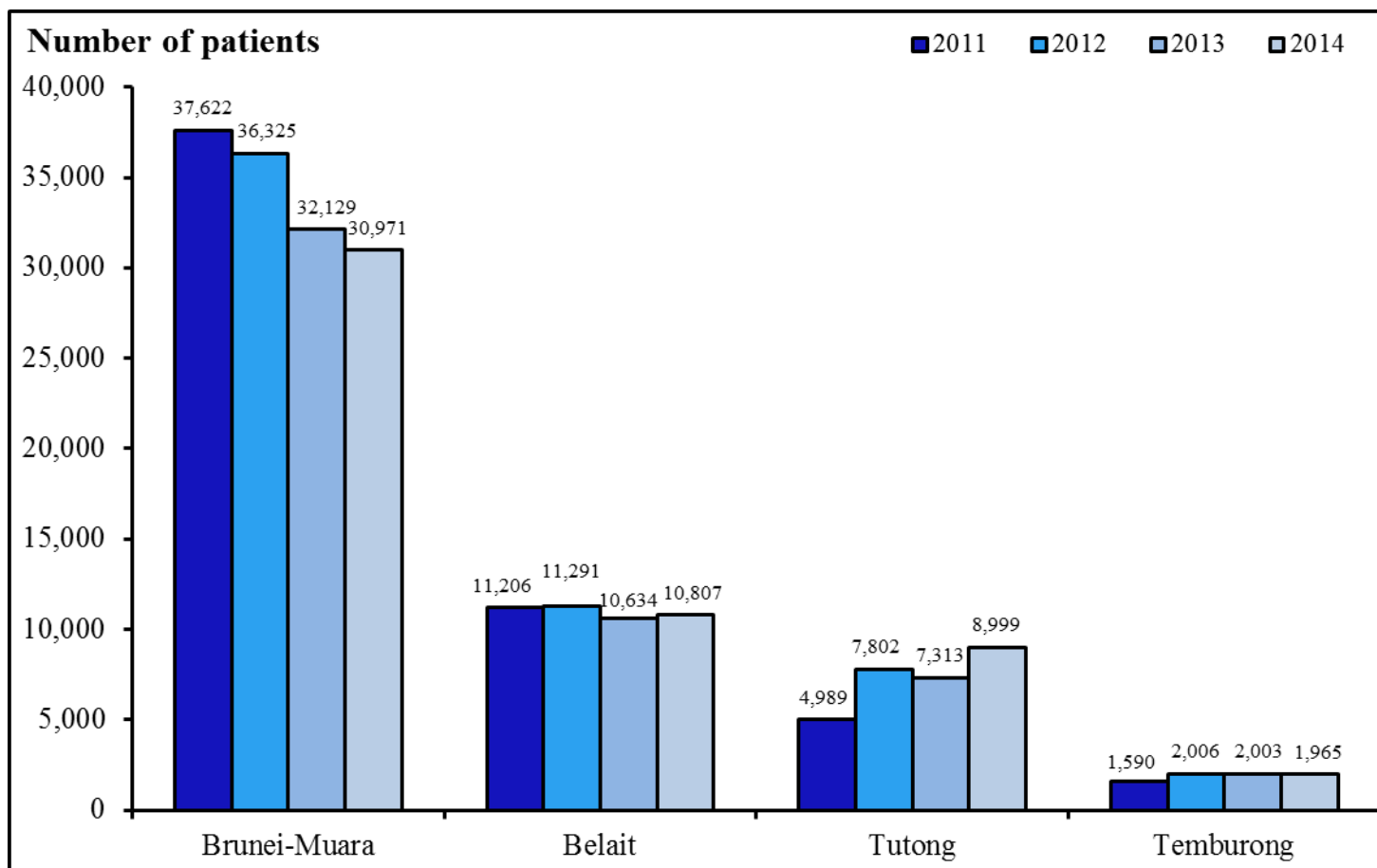


Figure 4.1b Total attendances in Primary Oral Care Division by district (2011-2014)

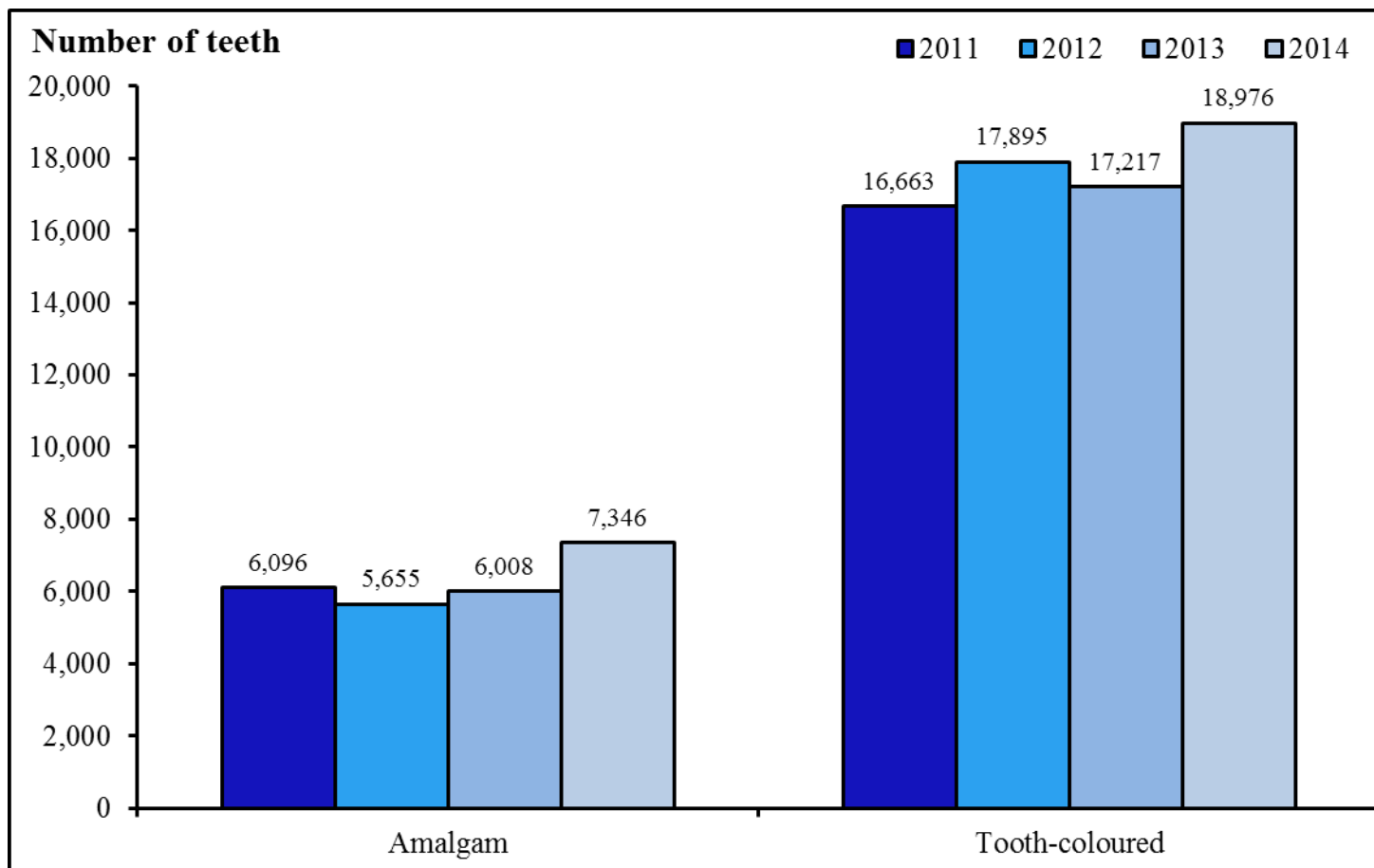


Figure 4.1c Number of teeth permanently filled done by Primary Oral Care Division (2011-2014)

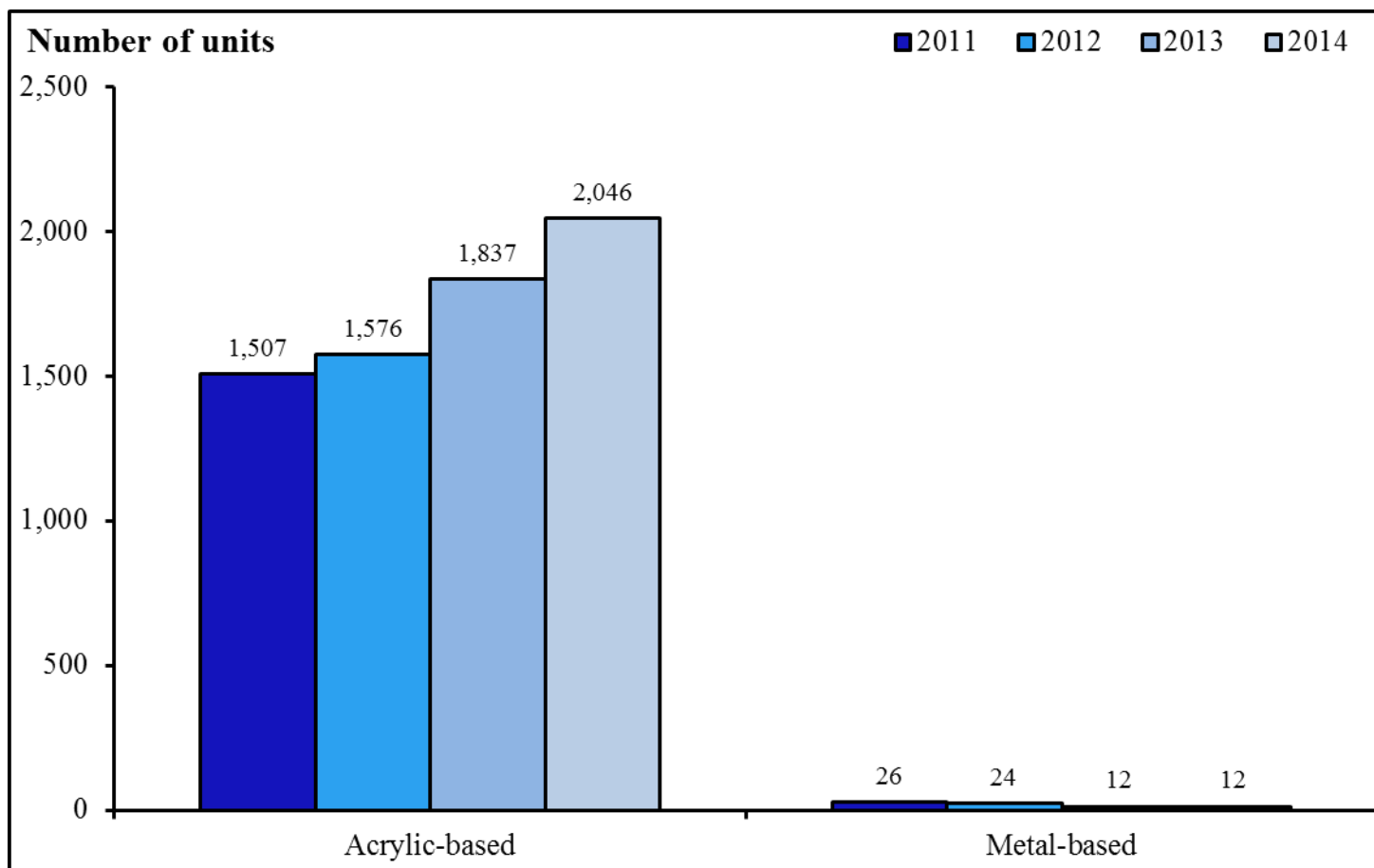


Figure 4.1d Number of acrylic and metal based dentures issued by Primary Oral Care Division (2011-2014)

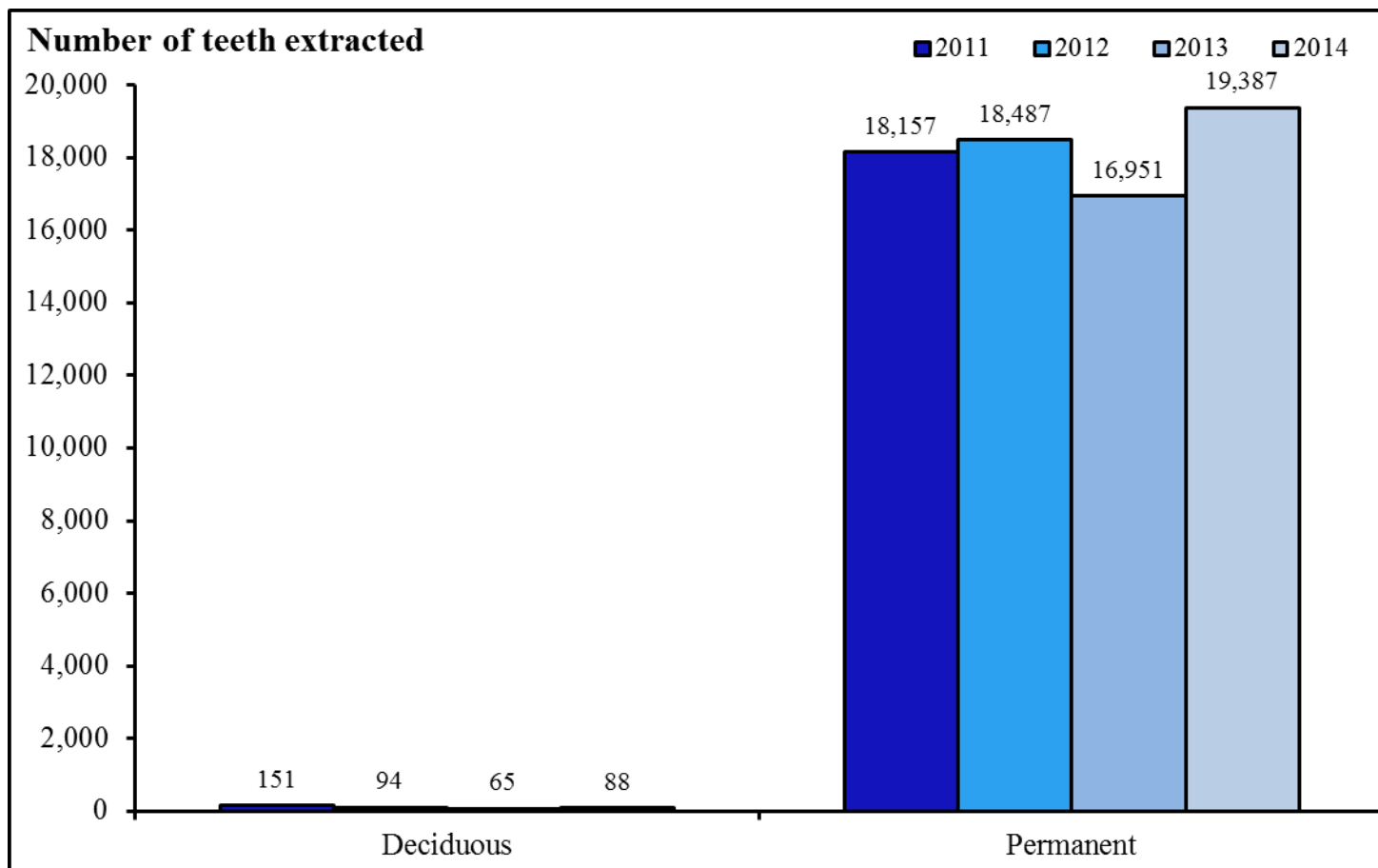


Figure 4.1e Number of non-surgical teeth extraction done by Primary Oral Care Division (2011-2014)

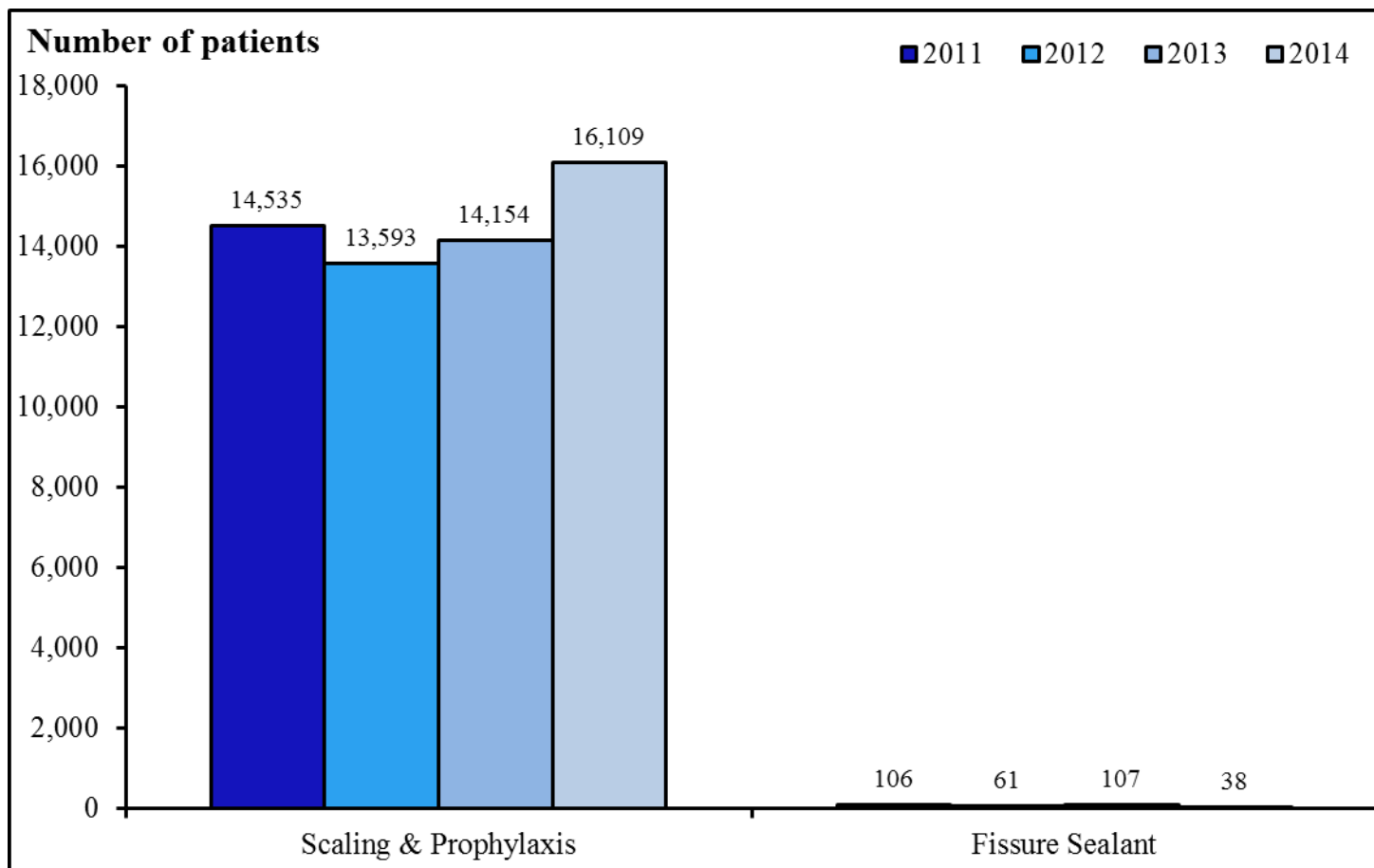


Figure 4.1f Number of scaling and fissure sealant done by Primary Oral Care Division (2011-2014)

ENDODONTICS

The aim of endodontic treatment is to preserve functional teeth without prejudice to the patient's health. The Endodontic Unit deals with treatment involving the roots of teeth.

Services provided include, but is not limited to:

- The differential diagnosis and treatment of oro-facial pain of pulpal and periradicular origin
- Prevention of pulp disease and vital pulp therapy
- Pulp extirpation and root canal treatment
- Root canal treatment in cases of apical periodontitis
- Root canal retreatment in case of post-treatment apical periodontitis
- Surgical endodontics
- Bleaching of endodontically treated teeth
- Treatment procedures related to coronal restoration by means of a core and/or post involving the root canal space

Overview of Endodontic Specialty Services

Manpower

2 (1 local and 1 expatriate) Specialist

1 (expatriate) Senior Dental Officer

The Endodontic Unit is based at the National Dental Centre, Brunei-Muara and accepts referrals from government and private dental clinics throughout Brunei Darussalam.

Table 4.2.1a Number of patients and treatment done in the Endodontic Unit (2014)

Age group	ENDODONTIC ATTENDANCE																	ACTIVE TREATMENT COMPLETED			
	Self-referred Referred by Specialist/DO/DN/DH&T Routine referral Urgent referral New Patient (First Visit) Returning patient (Follow-up Visit) Scheduled Visit (appointment) Unscheduled/Emergency visit for pain (no appointment) Failed/Cancelled appointment									Non-Surgical			Surgical		Gender			Case		Annual review	
										Primary Endodontic Rx Endodontic Retreatment Primary Endodontic Surgery			Endodontic Surgery		Male Female Total			Referred by			
																		Self Specialist DO/DN/DH&T (newly referred)			
6-12	3	0	2	1	3	0	2	1	0	0	0	0	0	3	0	3	3	0	0	0	0
13-19	1	57	70	0	19	50	72	3	19	34	11	0	4	18	29	54	83	2	12	14	3
20-55	111	693	637	8	195	672	991	19	222	427	192	0	0	167	422	608	1,030	46	147	193	8
>55	43	84	113	5	41	84	116	8	20	76	24	3	0	25	49	78	127	11	22	33	3
All combined	158	834	822	14	258	806	1,181	31	261	537	227	3	4	213	500	743	1,243	59	181	240	14

Table 4.2.1b Number of patients and treatment done in the Endodontic Unit (2014)

Age group	X-ray		Tooth type					Number of canal					Non-surgical procedure											
	Extra Oral	Intra Oral	Upper	Lower	Anterior	Premolar	Molar	1	2	3	4	>4	Consultation	Pulp extirpation	Removal of root fillings	Canal preparation	Obturation	Removal of post/# instruments	Repair of root perforation	Repair of tooth/root resorption	Temporary Dressing	Dowel core placement		
																						Amalgam	Composite	
6-12	0	0	0	1	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
13-19	0	21	25	17	8	0	30	17	9	23	13	0	19	0	5	29	20	0	0	0	40	7	3	
20-55	8	172	374	223	194	66	331	174	63	177	61	0	201	33	59	248	157	7	1	2	425	40	48	
>55	5	54	43	102	57	27	59	60	23	15	9	0	43	17	8	45	29	1	0	0	83	5	13	
All combined	13	247	442	343	259	93	421	252	95	215	83	0	265	50	72	322	206	8	1	2	548	52	64	

Table 4.2.1c Number of patients and treatment done in the Endodontic Unit (2014)

Age group	Non-surgical procedure						Surgical procedure										Prescription					
	Post placement		XLA		Mx.of trauma	Pain diagnosis	Others	Explorative Curettage Biopsy Apicectomy Root Amputation Repair of root perf. Repair of tooth/root resorption							XLA		Suture removal Others		Antibiotic cover Antibiotic course Painkiller Others			
	Fibre	Metal	Self	Referred											Self	Referred						
6-12	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13-19	0	0	0	3	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20-55	10	1	0	25	2	5	78	0	0	0	0	0	0	0	0	3	0	4	2	2	4	0
>55	1	0	1	10	1	2	19	0	0	0	5	0	0	0	0	1	1	1	1	1	1	0
All combined	11	1	1	38	3	10	104	0	0	0	5	0	0	0	0	4	1	5	3	3	5	0

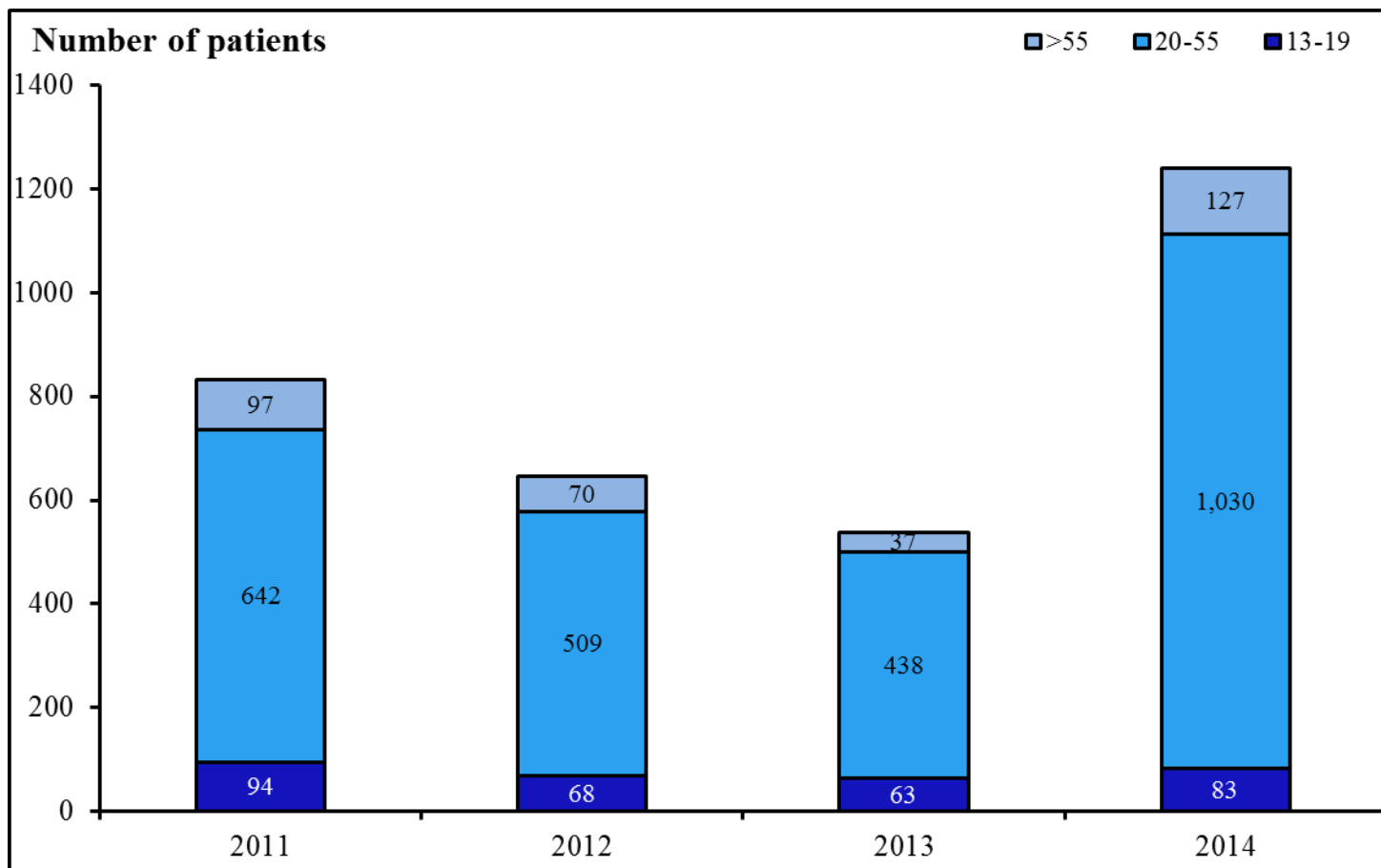


Figure 4.2.1a Total attendances in Endodontic Unit (2011-2014)

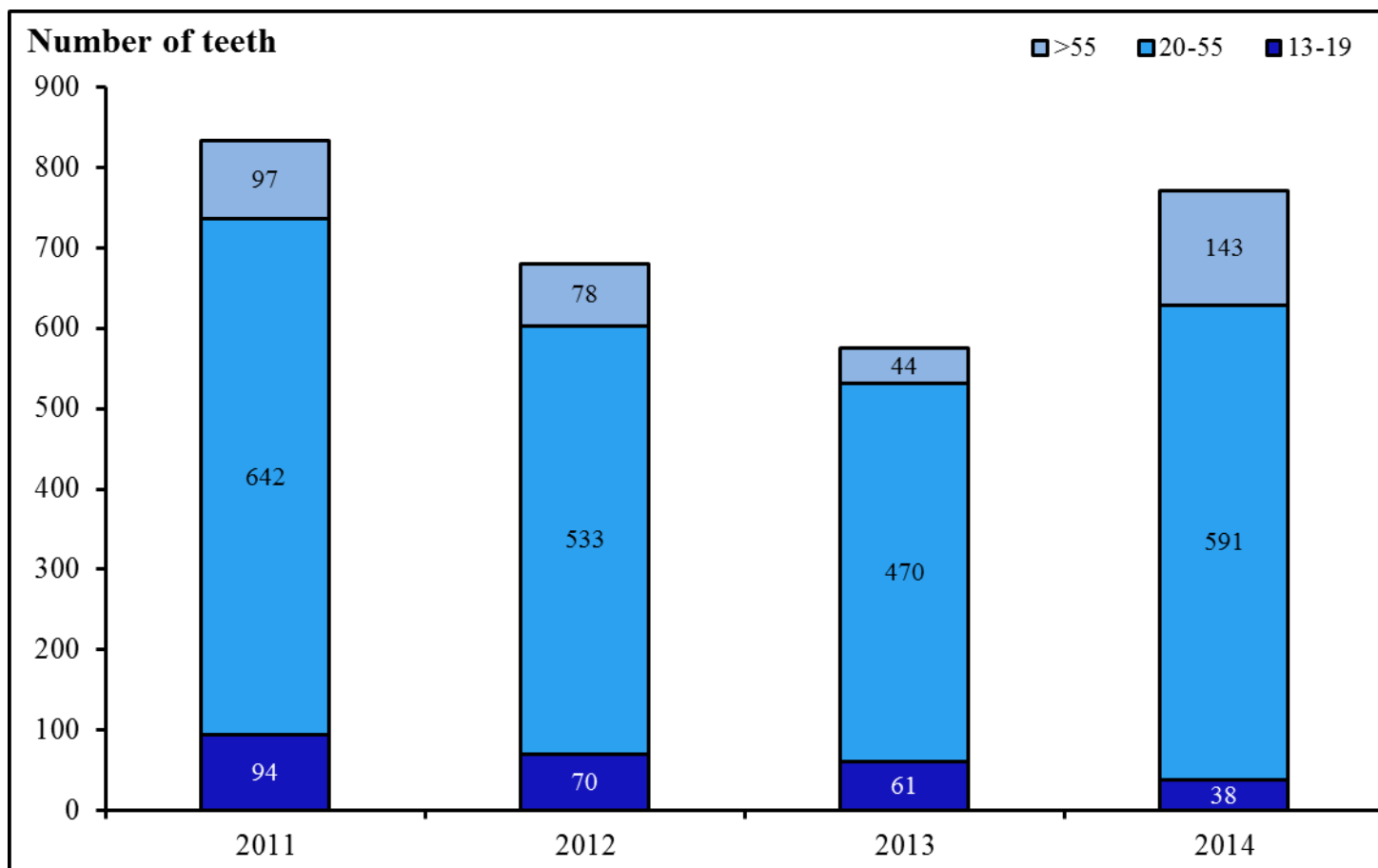


Figure 4.2.1b Number of endodontic treatment done by Endodontic Unit (2011-2014)

ORAL SURGERY

Oral surgery is a branch of medicine, dealing with diagnostics and the surgical treatment of oral diseases.

ORGANISATION

The Specialist Dental Clinic (SDC) was established on 1st December 2000. It is housed on the 3rd floor of the Specialist Block at RIPAS Hospital. It is equipped with 6 dental chairs and operates as a specialist referral clinic. It accepts referrals from dental and medical practitioners from the public sector, private sector and armed services from throughout Brunei Darussalam and in-patients from within the hospital.

Since its inception, the department has attained a reputation as the leading tertiary referral center for hospital dentistry in Brunei. This has been further reinforced by the recognition accorded to it by the Royal College of Surgeons of England as a recognised center for Membership of the Faculty of Dental Surgery (MFDS) training in May 2004. This has been made possible through the efforts and commitment of the pioneer staff towards providing a quality service and a high standard of hospital dentistry.

SERVICES

Services provided include:

- Specialist services in the disciplines of oral surgery, periodontology, oral medicine, and implantology
- Dental management of the medically compromised including children
- Dental management of in-patients
- Hospital Dentistry requiring general anaesthetic and sedation facilities
- Support services for the Oral & Maxillo-facial and Plastic Surgical Unit in the areas of maxillo-facial trauma, cleft lip and palate management and orthognathic surgery
- Support services for the Brunei Cancer Centre for patients undergoing radiotherapy and chemotherapy
- Support services for patients undergoing open heart surgery
- Emergency dental services for hospital personnel

Oral Surgery Procedures performed include:

- Surgical extractions
- Wisdom teeth removal
- Management of complications due to tooth extractions including OAF closure
- Management of dento-alveolar trauma injuries
- Surgical exposure of un-erupted teeth
- Removal of retained roots
- Bone grafting implant sites
- Management of cystic lesions
- Management of acute facial infections
- Biopsy of soft tissue lesions
- Pre-prosthetic surgery e.g. frenectomy, alveolectomy & alveoplasty

Achievements

Since 2001, Day Care Surgery has been introduced for all minor oral surgical procedures. This has made it more convenient for patients, lowered inpatient hospital costs and also freed hospital beds.

MANPOWER

	2000	2011	2012	2013	2014
Specialist	1	1	4* (1 LDP/1 NPL)	4* (1 LDP/1 NPL)	4
Senior Dental Officer	1	3	0	0	0
Dental Officer	0	1	1	1	1
Hygienist	1	0	0	0	0
Senior Dental Assistant	1	3	3	3	3
Dental Assistant	3	4	4	4	4
Amah	1	2	2	2	2
Attendant	0	1	1	1	1
Clerical Assistant	0	1	1	1	1
Receptionist	0	1	1	1	1
Total	8	17	17	17	17

Table 4.2.2a Number of patients and types of treatment in the Oral Surgery Unit for the whole state (2014)

Month	Patient Attendance			ORAL SURGERY PROCEDURES																	
				Soft Tissue							Hard Tissue										
	New Patients (1st Visit)	Review (Repeat Visit)	Total Attendances	Incision + Drainage	Excision Biopsy	Incision Biopsy	Soft tissue excision	Frenectomy	Gingivectomy	Total	Enucleation + Apicectomy	Apicectomy	Alveolectomy	Alveoplasty	Exploration + Curettage	Bone excision	Enucleation	Marsupialisation	Surgical Exposure	Coronectomy	Total
January	256	308	564	0	3	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0	1
February	228	295	523	1	1	0	1	0	0	3	0	0	0	0	1	0	0	0	0	0	1
March	263	343	606	1	0	0	1	0	0	2	0	0	0	0	1	1	0	0	0	0	2
April	211	347	558	0	0	2	0	0	0	2	0	0	0	1	2	0	0	0	0	0	3
May	180	398	578	0	1	0	1	0	0	2	2	1	0	0	0	1	0	0	0	0	4
June	224	400	624	1	1	0	1	0	0	3	0	0	0	0	0	0	1	0	0	0	1
July	168	296	464	0	3	0	1	0	0	4	0	2	0	0	1	0	0	0	1	0	4
August	213	286	499	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
September	274	492	766	2	0	1	3	0	0	6	0	0	1	0	0	0	0	0	0	0	1
October	180	274	454	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
November	215	426	641	0	0	1	3	0	0	4	0	0	0	0	2	0	1	0	2	0	5
December	184	355	539	0	2	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	22
All combined	2,596	4,220	6,816	5	11	7	12	0	0	35	2	3	2	1	7	2	2	0	3	0	44

Table 4.2.2b Number of patients and types of treatment in the Oral Surgery Unit for the whole state (2014)

Month	ORAL SURGERY PROCEDURES																									
	Surgical Removal						Extraction			Dento-alveolar Trauma						Bleeding			Miscellaneous						Case Completion (Discharge)	
	S/R retained roots	S/R Supernumerary	S/R Odontomes	S/R Impacted tooth	S/R 3rd molar	Total	Deciduous	Permanent	Total	Composite splint	Arch Bar Splint	Eyelet splint	Pulpectomy	L / W closure	Total	Bleeding socket arrest	Gingival bleed arrest	Total	Scaling	Sub-gingival scaling	TMJ Disorder	SM Impression				
January	5	2	0	1	75	83	3	257	260	0	0	0	0	0	0	0	0	0	0	11	8	18	0	23	0	56
February	10	0	0	4	68	82	16	193	209	0	0	0	0	0	0	0	0	0	0	15	5	14	0	19	0	78
March	2	3	0	15	91	111	0	269	269	1	0	0	0	0	0	1	0	0	0	14	2	11	0	27	1	68
April	8	0	0	9	77	94	0	198	198	0	0	0	0	0	0	0	0	0	0	12	7	15	0	21	0	66
May	5	0	0	2	88	95	0	267	267	12	0	0	0	0	1	13	0	0	0	19	11	13	0	22	0	69
June	15	3	1	8	92	119	4	270	274	0	0	0	0	0	0	0	0	0	0	21	4	10	0	28	1	71
July	6	3	0	1	71	81	6	171	177	0	0	0	0	0	0	0	0	0	0	7	5	13	0	13	0	63
August	5	0	1	5	98	109	8	166	174	0	0	0	0	0	5	5	0	0	0	19	16	11	0	18	0	74
September	9	3	0	2	122	136	6	255	261	0	0	0	0	0	0	0	0	0	0	27	16	21	0	22	0	120
October	11	0	0	1	54	66	1	200	201	0	0	0	0	0	0	0	0	0	0	6	5	10	0	22	0	65
November	8	0	0	5	99	112	17	223	240	1	0	0	0	0	0	1	2	0	2	5	13	21	0	31	0	102
December	6	0	0	4	69	79	5	189	194	0	0	0	0	0	1	1	0	0	0	4	0	18	0	16	0	72
All combined	90	14	2	57	1,004	1,167	66	2,658	2,724	14	0	0	0	0	7	21	2	0	2	160	92	175	0	262	2	904

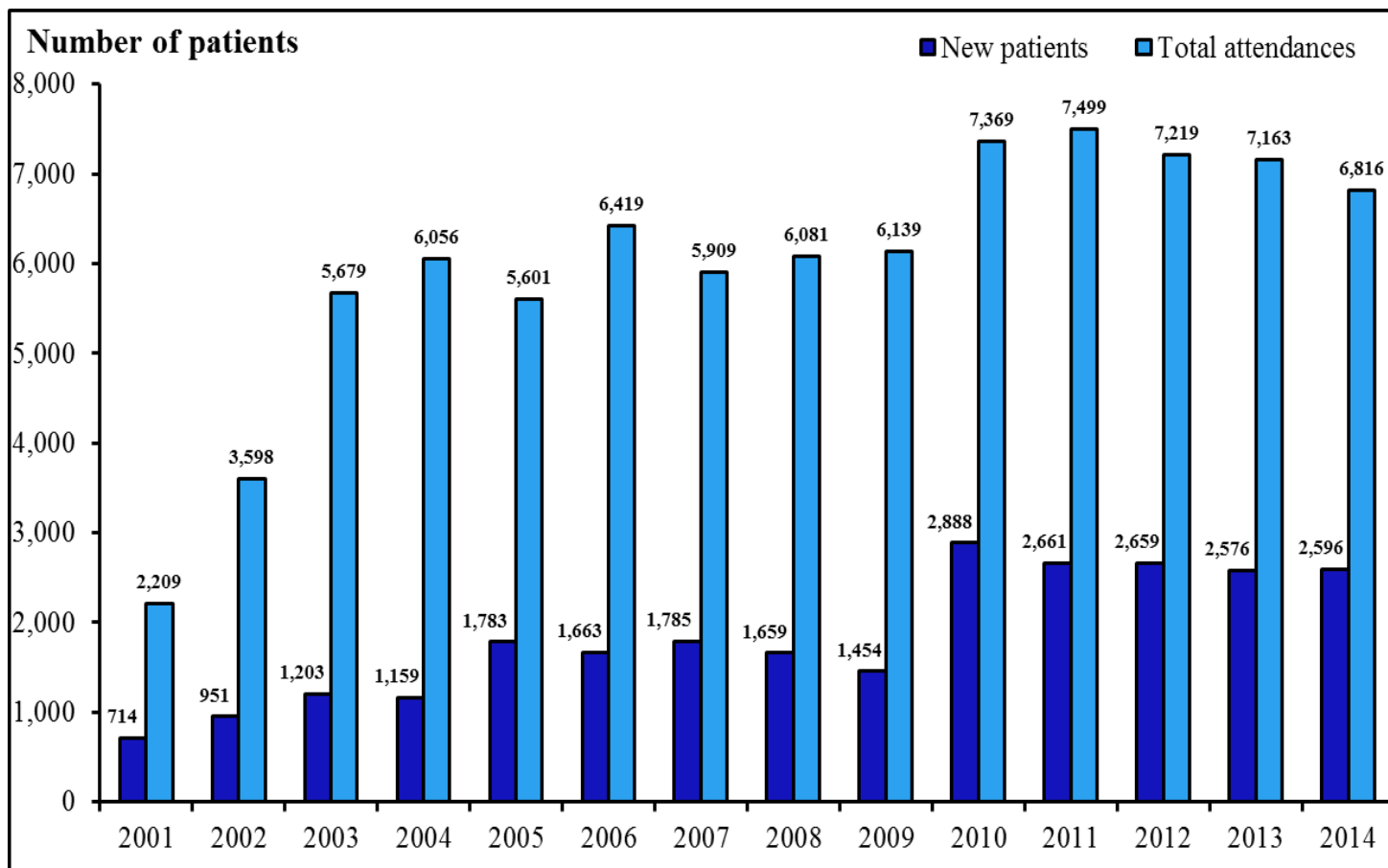


Figure 4.2.2a Annual attendances of Oral Surgery Unit at RIPAS Hospital (2001-2014)

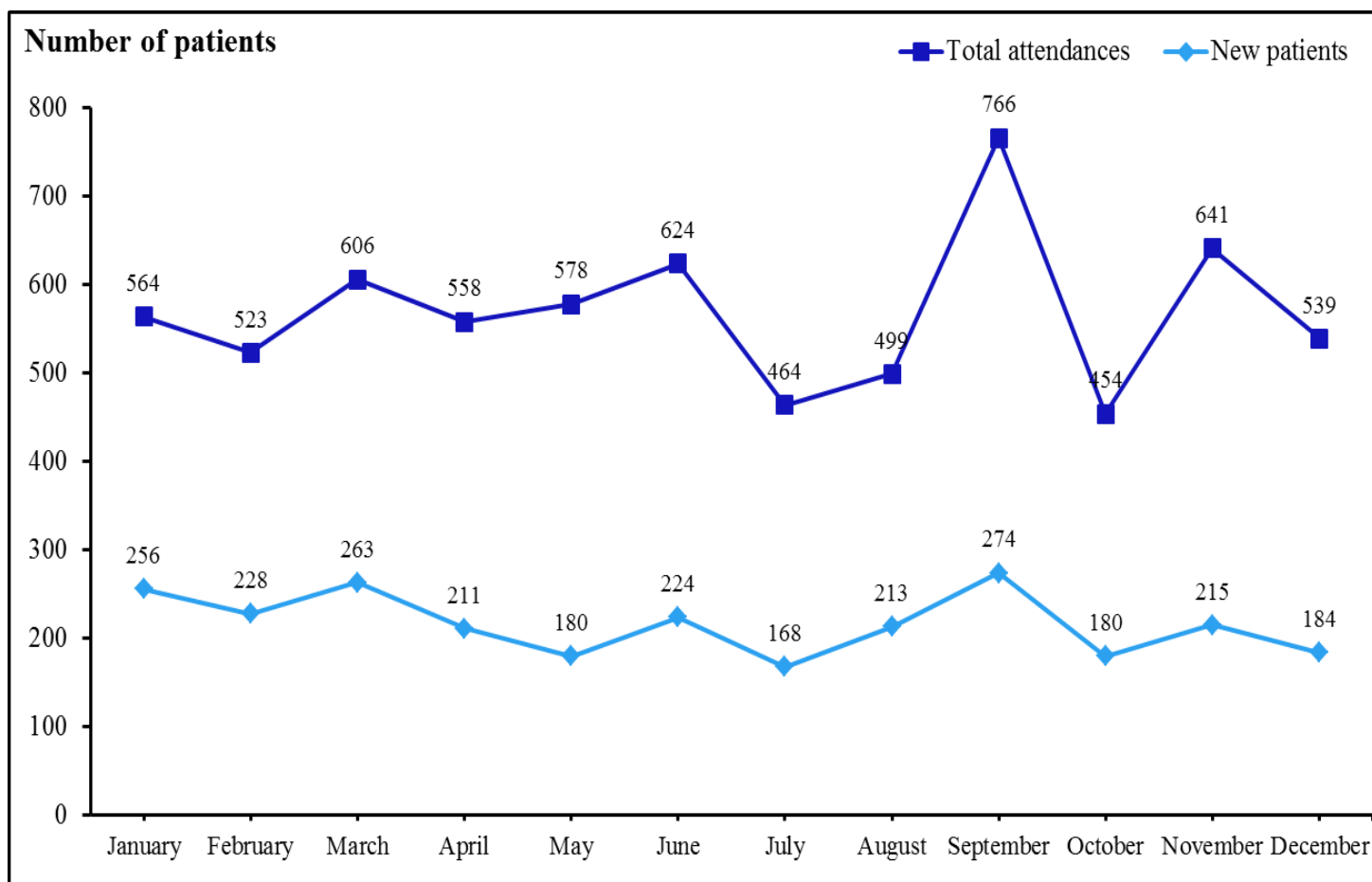


Figure 4.2.2b Number of patients attending Oral Surgery Unit for the whole state by month (2014)

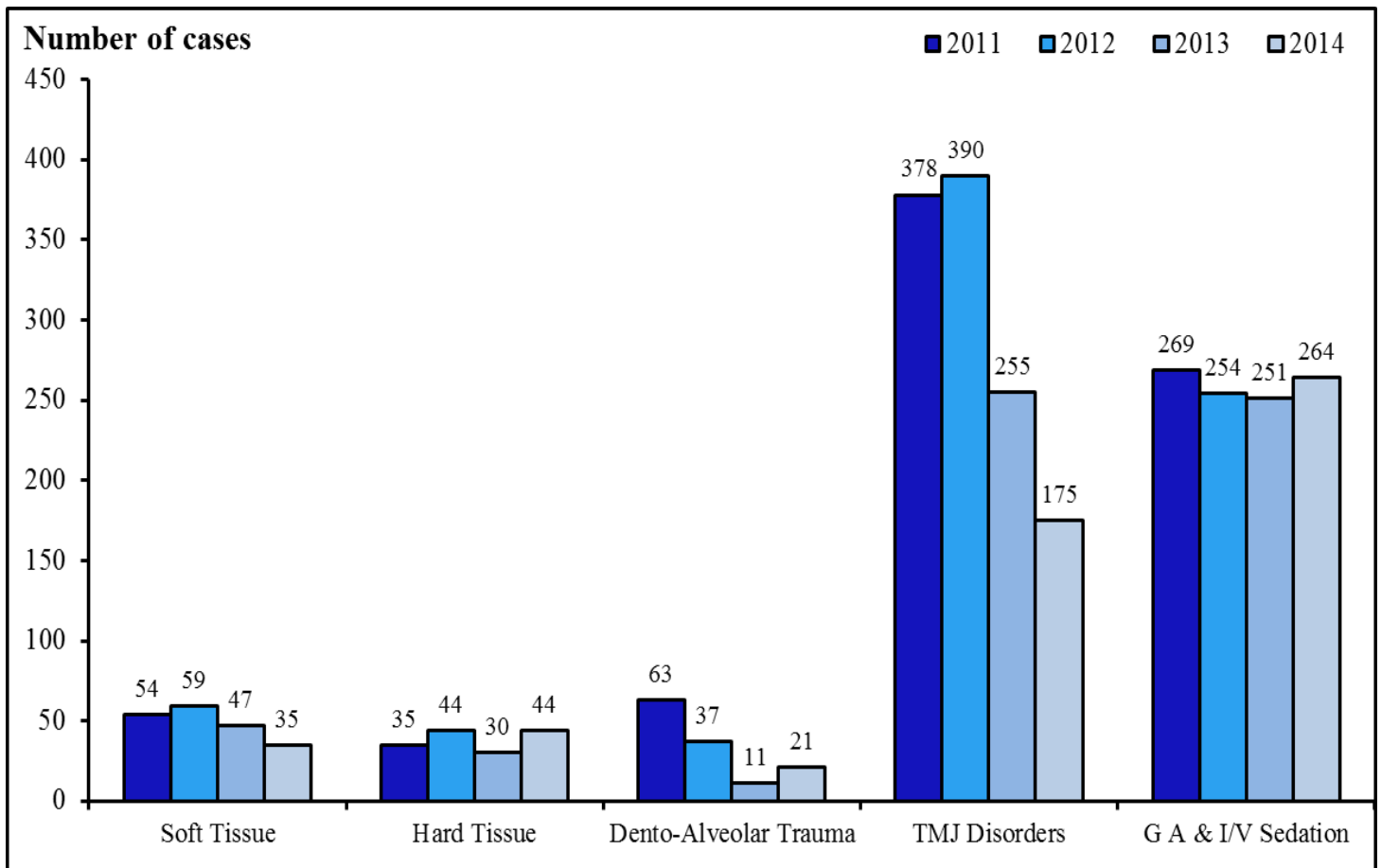


Figure 4.2.2c Surgical procedures done for the whole state (2011-2014)

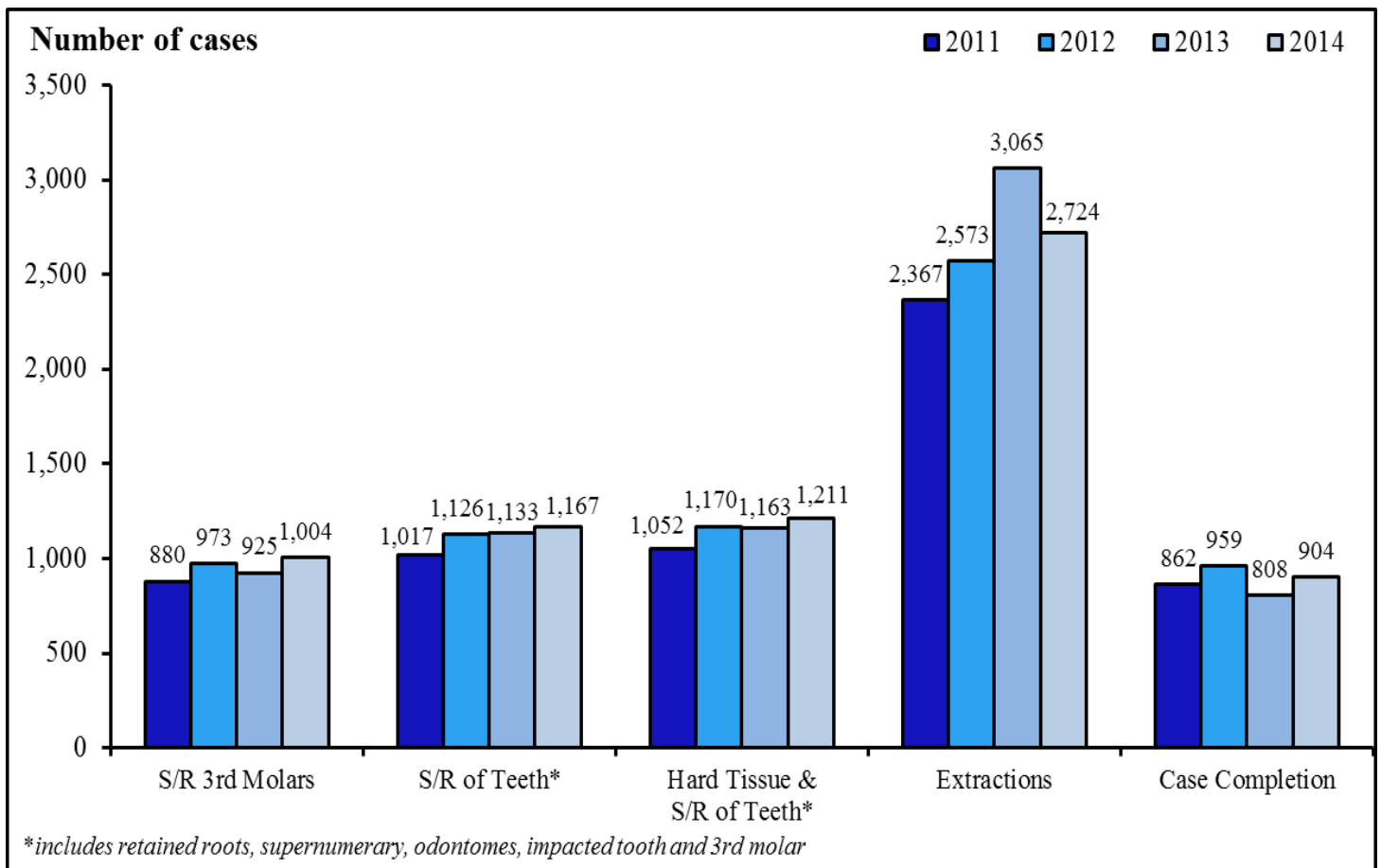


Figure 4.2.2d Surgical procedures done for the whole state (2011-2014)

ORTHODONTICS

Orthodontics is the branch of dentistry that corrects teeth and jaws that are positioned improperly. The benefits of orthodontic treatment include a healthier mouth, a more pleasing appearance, and teeth that are more likely to last a lifetime.

Overview of Orthodontic Specialty Services

Manpower

3 (2 local and 1 expatriate) Specialists

3 (local) Associate Specialists

1 (local) Senior Dental Officer

Distribution of ‘Specialist Orthodontists’ in the districts

Brunei-Muara

5 full-time orthodontists

Belait

1 full-time orthodontist

Tutong

2 travelling orthodontists from Brunei-Muara (4 days a month i.e. once a week)

1 (local) Senior Dental Officer is undergoing in-service training for 1 year

Temburong

Travelling services are not currently undertaken at present due to the fact that there are not many ‘orthodontic referrals’ from the district.

Orthodontic Waiting lists

Last updated in November 2014:

Brunei-Muara - 1,720 (November 2010)

Belait - 426 (March 2011)

Tutong - 240 (October 2010)

(dates in brackets is the current stage in the waiting list)

Table 4.2.3a Orthodontic patients ‘Attendance statistics’ for 3 districts (2012-2014)

Districts	Patient attendance ^a			Percentage distribution of patient attendance		
	2012	2013	2014	2012	2013	2014
Brunei-Muara	7,459	6,495	6,897	70.3	71.8	72.4
Belaït	2,286	1,600	2,122	21.6	17.7	22.3
Tutong	860	945	505	8.1	10.5	5.3
All combined	10,605	9,040	9,524	100.0	100.0	100.0

^aPatient attendance includes patient seen for any orthodontic procedure or review

Discussion

Total patient attendance has increased in 2014 compared to 2013. However, it is still less than in 2012 because 1 Senior Dental Officer is continuing her in-service training for a year.

Table 4.2.3b Patients ‘Failed to Attend’ (FTA) Orthodontic appointments for 3 districts (2012-2014)

Districts	Total number of appointments given			Total number of ‘Failed To Attend’ (FTA)			% of FTAs to number of appointments given		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
Brunei-Muara	8,435	7,336	7,769	976	841	871	11.6	11.5	11.2
Belaït	2,514	1,791	2,330	229	191	212	9.1	10.7	9.1
Tutong	928	1,035	563	68	90	58	7.3	8.7	10.3
All combined	11,877	10,162	10,662	1,273	1,122	1,141	10.7	11.0	10.2

Discussion

The percentage of failed appointments in 2015 is lower than in 2012 and 2013. This may be due to Bru-HIMS patient SMS reminders.

Table 4.2.3c Orthodontic referrals for 3 districts (2012-2014)

Districts	ORTHODONTIC REFERRALS											
	No orthodontic treatment indicated ^a			Too early for definitive orthodontic treatment			Enter waiting list for fixed appliances treatment			Interceptive treatment ^b		
	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014
Brunei-Muara	72	49	140	36	29	28	338	311	329	102	100	102
Belait	4	4	4	5	4	7	117	97	93	4	1	13
Tutong	6	15	13	4	7	5	84	53	32	2	14	6
All combined	82	68	157	45	40	40	539	461	454	108	115	121

*No orthodontic treatment is indicated if patient is found to have (i) very mild irregularity of teeth and is aesthetically pleasing (ii) the risks outweigh the benefit of orthodontic treatment in cases of patients having poor oral hygiene and/or mutilated dentition (multiple missing teeth, teeth with poor prognosis, heavily filled teeth etc)

^brefers to treatment provided to young patients having problems with the development and position of jaws

Table 4.2.3d Orthodontic treatment planning for 3 districts (2012-2014)

Districts	TREATMENT PLANNING					
	Fixed appliance treatment for cleft patients			Patients taken off waiting list for fixed appliances treatment ^c		
	2012	2013	2014	2012	2013	2014
Brunei-Muara	12	7	48	336	186	216
Belait	0	1	0	12	34	59
Tutong	0	0	1	45	9	10
All combined	12	8	49	393	229	285

^cfrom the number of patients taken off from the waiting list for fixed appliance treatment, some opt for delaying treatment till after exams/opt to start treatment after returning to Brunei for good (if studying abroad) or decide not to have treatment as they are not keen to have orthognathic surgery etc.

Discussion

There was an increase in the number of patients taken off the waiting list for fixed appliances in 2014 compared to 2013, as expected. However, it is still 100 less than in 2012.

- In 2014, all 6 officers were providing service and 1 officer is undergoing in-service training in the UK.
- Most patients taken off the waiting list in 2012 are still undergoing orthodontic treatment cycle which may be completed by end of 2015.

In general,

- The number of patients where no orthodontic treatment was indicated and required interceptive treatment have increased.
- The number of patients who was referred too early for definitive orthodontics has remained consistent.
- The number of patients entering the waiting list for fixed appliance treatment has reduced which may be due to lesser referral from dental nurses or establishment of private clinic offering orthodontic treatment.
- The number of patients entering the waiting list still far outweighs the number taken off waiting list by an average of 150 patients.

Table 4.2.3e Summary of various orthodontic procedures for 3 districts (2012-2014)

Districts	Number of appliances fitted ^a @per arch/per unit			Number of appliance adjustments ^b @per arch/ per unit			Number of appliance Repairs ^c @per arch/per unit			Debond of fixed appliances ^d @per arch/per unit		
	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014
Brunei-Muara	986	928	837	8,643	7,664	8,116	479	353	351	371	364	390
Belait	128	163	210	3,014	1,682	2,228	51	20	31	116	139	82
Tutong	111	70	63	826	1,248	503	45	47	55	24	41	26
All combined	1,225	1,161	1,110	12,483	10,594	10,847	575	420	437	511	544	498

^afitting of orthodontic appliances such as fixed, removable, functional appliances and others

^bincludes adjustments of fixed, removable, functional appliances and others

^cincludes repairs of broken orthodontic appliances such as fixed, removable, functional appliances and others

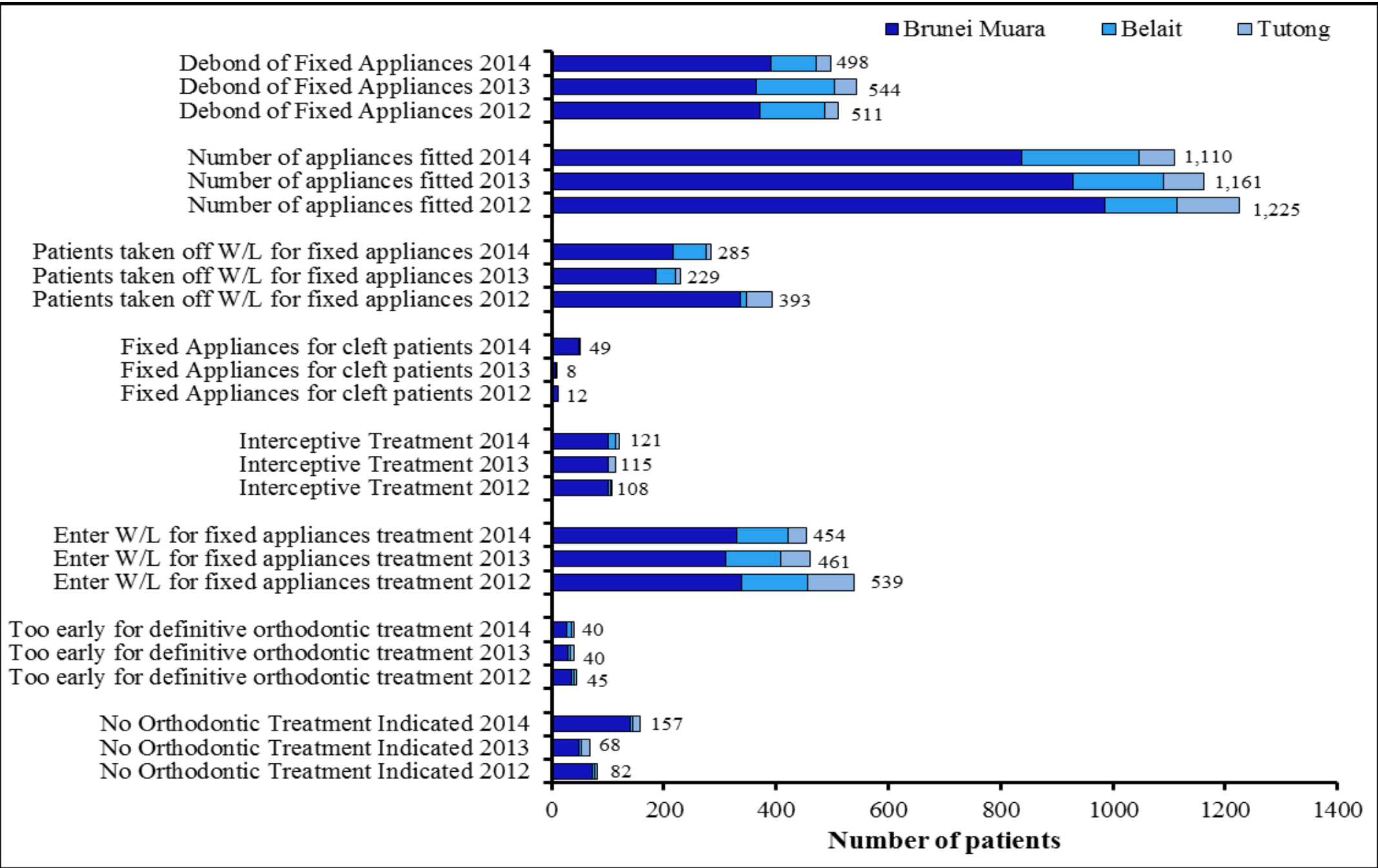
^dDebond of fixed appliances by arch– removal of fixed appliances from upper/ lower/both arches where each arch is recorded as ‘a unit’

Discussion

The number of appliances fitted has reduced in 2014 compared to 2012 and 2013. This is in contrast to the increase in number of patients taken off waiting list and those requiring interceptive treatment. This may be attributed to:

- Delay in delivering the appliance due to exams (patient requests fit in the 2015).
- Some patients opt to defer treatment or failure to attend subsequent appointment.

There is a drop in the number of debonds of fixed appliances as expected. This is because most of the patients are still in the orthodontic treatment cycle. On average, 1 patient (with upper and lower appliances) per day has a debond in a year for all 3 districts.



4.2.3 Comparative summary of orthodontic patient data for 2012-2014

PAEDODONTICS

Paediatric Dentistry specialises in provision of oral health care (preventive- and treatment-oriented) to children that are referred to the unit and the management of children with special needs.

Services provided include the dental management of:

- Children with acute dental pain and/or intraoral infections and swellings requiring immediate in-patient management
- Children with medical, physical, emotional, behavioural and intellectual/learning challenges
- Children with oro-dental trauma
- Children requiring complex dental treatment such as pulpotomy, root canal treatment, veneers, crowns and bridges and the management of rampant caries
- Children with genetic and developmental disorders of teeth e.g.
 - Hypodontia or missing teeth
 - Tooth structure anomalies
 - Supernumerary teeth
- Children with delayed eruption of teeth
- Children requiring minor oral surgical procedures
- Children requiring multiple extractions or comprehensive treatment under general anaesthesia
- Adolescents and young adults with special needs requiring comprehensive dental treatment under general anaesthesia
- Support primary oral care provided by dental officers and dental nurses/therapists

Overview of Paediatric Dental Specialty Services

Manpower

2 (local) Consultants

1 (expatriate) Specialist

2 (local) Acting Specialists

1 (expatriate) Senior Dental Officer

5 (local) Paediatric Dental Nurses

Distribution of 'Paediatric Dental Specialist' in the districts

Brunei-Muara

- National Dental Centre- 1 Paediatric Dental Consultant, 1 Acting Specialist, 1 Senior Dental Officer and 1 Dental Nurse (moved to CDC in April 2013)
- RIPAS Hospital- 1 Paediatric Dental Consultant, 1 Specialist and 1 Dental Nurse
- Child Development Centre, Kiarong- 1 Paediatric Dental Consultant (travelling 2 days a month) and 2 Dental Nurses

Belait

1 Acting Dental Specialist (2 days a week) and 1 Dental Nurse (3 days a week).

Tutong

1 Paediatric Senior Dental Officer (travelling services 2 days a week) and 1 Dental Nurse.

Temburong

Services provided by Paediatric Dental Nurse- once a month. Cases are referred to Paediatric Dental Specialist in Hospital RIPAS when needed.

Table 4.2.4a Number of patients and preventive procedures done in the Paedodontics Unit (2014)

Age group	Attendances		Patient Consultation		PREVENTIVE					
	1st	Repeat	Self	Referred	PV Attendances	OHI	Scaling & Prophylaxis	Diet Counseling	Fluoride Varnish	Fissure Sealant Patient Teeth
Brunei-Muara										
0-5	405	560	33	160	804	740	405	516	91	138 619
6-12	740	1,059	98	160	1,540	1,450	1,211	1,021	253	402 2,113
13-19	338	397	42	86	589	549	607	385	135	95 722
Belait										
0-5	66	141	3	24	207	184	112	162	45	30 102
6-12	148	220	1	30	368	339	272	301	51	56 245
13-19	40	101	0	7	141	111	83	101	14	20 128
Tutong										
0-5	29	68	4	6	81	81	37	70	16	12 44
6-12	119	216	10	21	298	298	222	246	13	124 534
13-19	33	68	7	3	94	93	80	67	18	24 179
Temburong										
0-5	0	0	0	0	0	0	0	0	0	0 0
6-12	15	8	0	0	23	23	23	23	5	12 53
13-19	8	1	0	0	9	9	9	9	0	0 0
All combined	1,941	2,839	198	497	4,154	3,877	3,061	2,901	641	913 4,739

Table 4.2.4b Number of restorative procedures done in the Paedodontics Unit (2014)

Age group	CONSERVATIVE										ENDODONTICS						PROS- THETIC
	Amalgam		Tooth-coloured				Teeth Permanently Filled		Dressing		Procedure (Patient)	Anterior Completion (Teeth)		Posterior Completion (Teeth)		Completion (Patients)	
			GIC		Composite												
	Teeth	Surfaces	Teeth	Surfaces	Teeth	Surfaces	Teeth	Surfaces	Teeth	Surfaces		D	P	D	P		
Brunei-Muara																	
0-5	1	3	386	527	84	129	471	659	18	21	7	1	0	2	0	0	
6-12	11	15	711	1,105	143	205	865	1,325	92	119	44	0	6	15	1	3	
13-19	15	26	426	568	173	245	614	839	32	38	17	2	9	1	2	3	
Belait																	
0-5	3	8	56	100	6	14	65	122	11	23	0	0	0	0	0	0	
6-12	10	22	49	89	22	44	81	155	25	36	8	0	0	0	0	3	
13-19	2	9	9	15	22	45	33	65	35	39	15	0	4	0	0	0	
Tutong																	
0-5	0	0	55	77	0	0	55	77	0	0	0	0	0	0	0	0	
6-12	0	0	141	207	15	27	156	234	5	6	1	0	1	0	0	0	
13-19	0	0	42	89	17	29	59	118	3	4	1	0	0	0	0	2	
Temburong																	
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6-12	0	0	3	3	0	0	3	3	0	0	0	0	0	0	0	0	
13-19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All combined	42	83	1,878	2,780	482	738	2,402	3,597	221	286	93	3	20	18	3	11	

D - Deciduous teeth, P - Permanent teeth

Table 4.2.4c Number of oral surgical procedures done in the Paedodontics Unit (2014)

Age group	ORAL SURGERY																REFERRAL PATIENTS TO:		CASE COMPLETION
	Infection/Abscess (Pt)	TRAUMA				LA/TA/SEDATION				GA				Oral Mucosal Lesions	Other Dental Specialty Medical				
		No. of Teeth	Hard Tissue (Pt)	Soft Tissue (Pt)	Splinting	Patients	No. of Teeth Extracted				Patients	No. of Teeth Extracted							
							D		P			D					P		
							pathological	non-pathological	pathological	non-pathological		pathological	non-pathological				pathological	non-pathological	
Brunei-Muara																			
0-5	78	27	3	4	0	23	31	3	0	0	84	1,102	0	0	0	16	25	11	259
6-12	60	27	10	7	0	154	113	45	21	7	63	457	3	74	0	14	71	10	545
13-19	27	4	0	0	2	73	13	2	54	15	12	2	0	54	0	13	38	2	255
Belait																			
0-5	7	4	6	11	0	15	27	4	0	0	18	204	0	1	0	3	4	2	49
6-12	6	3	3	1	0	45	40	16	0	2	12	91	0	6	0	3	15	0	67
13-19	0	0	0	0	0	9	8	1	3	0	0	0	0	0	0	0	4	1	21
Tutong																			
0-5	0	1	0	3	0	2	2	0	0	0	0	0	0	0	0	0	4	0	26
6-12	1	1	0	0	0	31	20	16	3	1	0	0	0	0	0	0	12	0	88
13-19	0	0	0	0	0	9	4	2	4	0	0	0	0	0	0	0	4	0	51
Temburong																			
0-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
6-12	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	1	0	12
13-19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All combined	179	67	22	26	2	363	262	89	85	25	189	1,856	3	135	0	49	178	26	1,384

D - Deciduous teeth, P - Permanent teeth

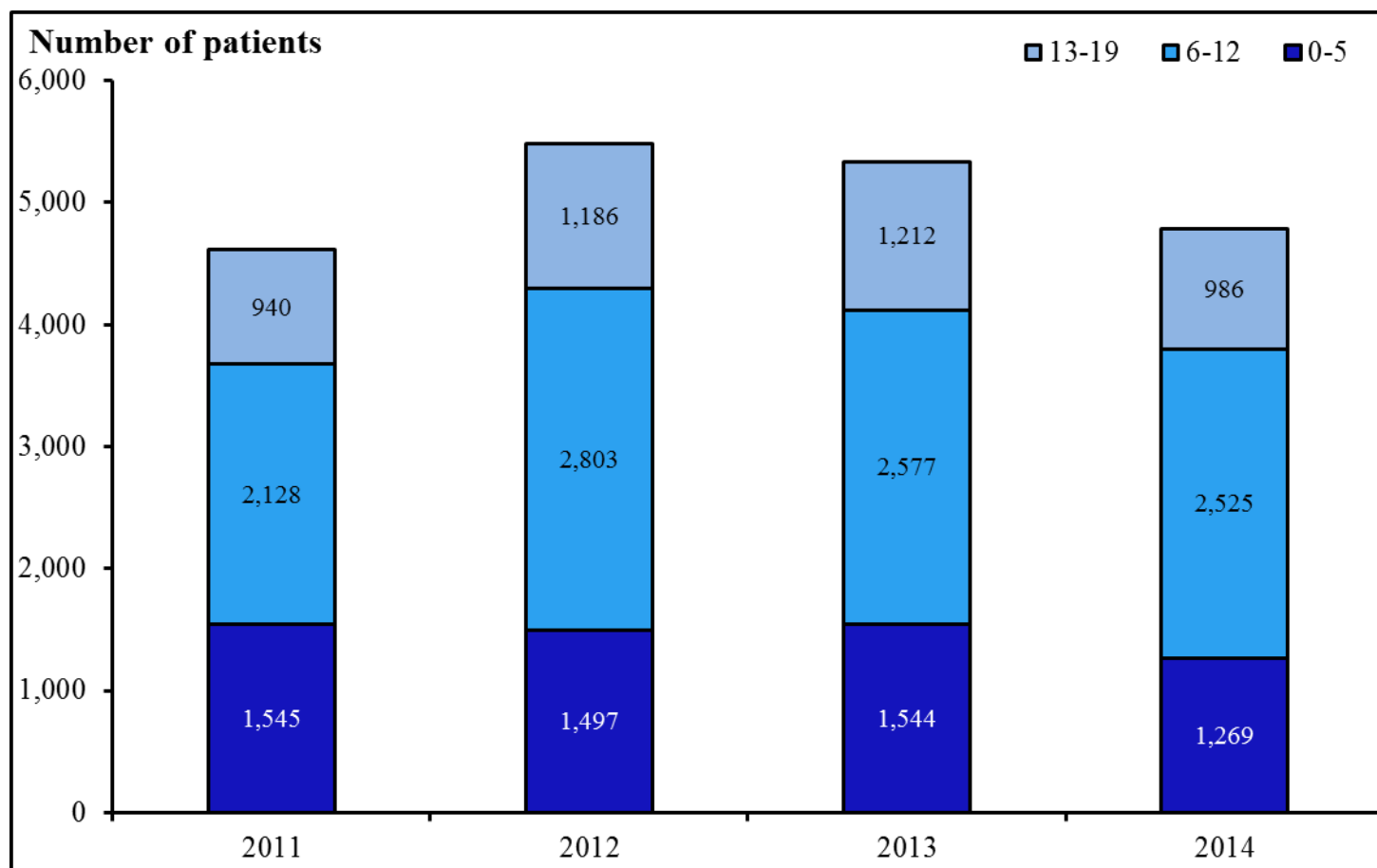


Figure 4.2.4a Total attendances in Paedodontic Unit (2011-2014)

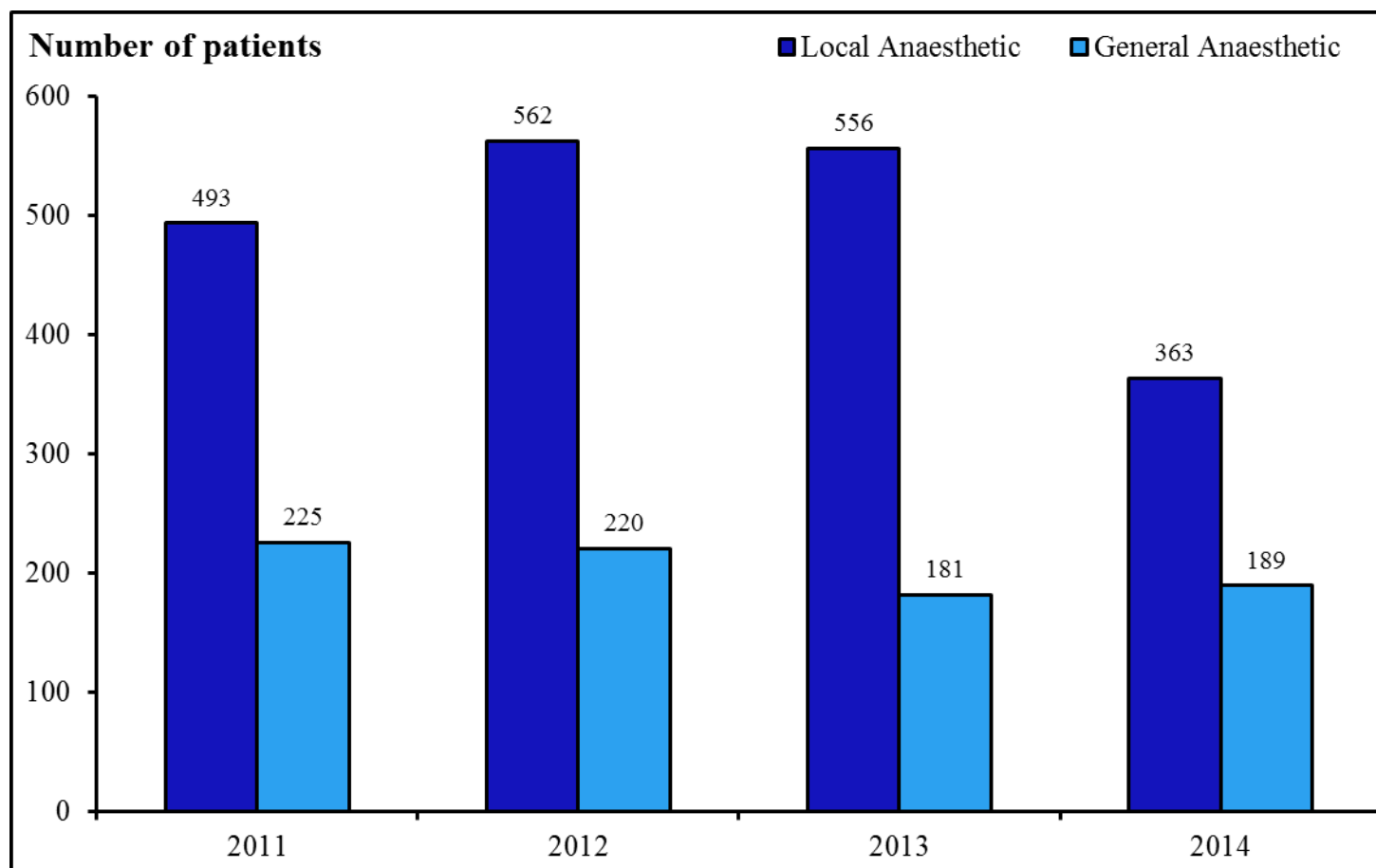


Figure 4.2.4d Number of extractions done under LA/GA by Paedodontic Unit (2011-2014)

PERIODONTICS

Periodontics is the branch of dentistry that is concerned with the management and care of the supporting structures of teeth and its substitutes (including implants).

Services provided include:

- Oral hygiene instructions
- Comprehensive periodontal management and care (which may include ‘non-surgical’ and ‘surgical’ treatment)
- Periodontal management and care of patients with dental implants (if required)

Overview of Periodontic Specialty Services

Manpower

2 (local) Specialist

3 part-time (local) Dental Nurses (Perio/Hygienists)- twice a week

22 part-time (local) Dental Hygienists/Therapists- once a week

Distribution of ‘Specialist Periodontist’ in the districts

Brunei-Muara

2 full-time Periodontists (based in the National Dental Centre, Berakas). One of the Periodontist is based in Rimba Health Centre once a week (except for school holidays).

Belait

Travelling services provided by the 2 Periodontists; once a week (4 days a month with the exception of the fasting month).

Tutong and Temburong

Referred cases are seen in the National Dental Centre, Berakas, as the number of referral cases is not sufficient in numbers to justify travelling Periodontic services to the 2 districts (very few referred cases especially from Temburong).

Table 4.2.5 Number of patients and treatment done in Periodontics Unit (2014)

Age group	Attendances			Patient Consultation (Exam & Charting)	Oral Hygiene & Demo	Non-surgical			Surgical	Extraction		Head & Neck Cancer Patients
	Newly Referred Specialist/DO/DN/DH/DT	No. of Patients with Appointments	Failed/Cancelled Appointment			Scaling	Root Planning (Quadrant)	Maintenance		Pathological	Non-pathological	Post Radiotherapy Maintenance
Brunei-Muara												
6-12	0	0	0	0	0	0	0	0	0	0	0	0
13-19	41	166	49	30	150	136	0	0	0	0	0	39
20-55	421	2,252	883	330	1,600	1,648	51	730	2	1	0	1
>55	45	322	79	92	168	105	44	165	1	1	0	231
Belait												
6-12	0	0	0	0	0	0	0	0	0	0	0	0
13-19	5	13	3	10	10	10	0	0	0	0	0	0
20-55	40	93	20	73	16	55	9	20	0	0	0	0
>55	1	5	1	4	4	2	2	2	0	0	0	0
Tutong												
6-12	0	0	0	0	0	0	0	0	0	0	0	0
13-19	10	80	15	65	55	40	0	0	0	0	0	0
20-55	26	150	40	110	73	101	6	15	0	0	0	0
>55	2	3	1	2	2	2	0	0	0	0	0	0
Temburong												
6-12	0	0	0	0	0	0	0	0	0	0	0	0
13-19	4	4	0	4	4	4	0	0	0	0	0	0
20-55	48	105	26	79	14	50	5	6	0	0	0	0
>55	5	6	0	6	1	5	0	1	0	0	0	0
All combined	648	3,199	1,117	805	2,097	2,158	117	939	3	2	0	271

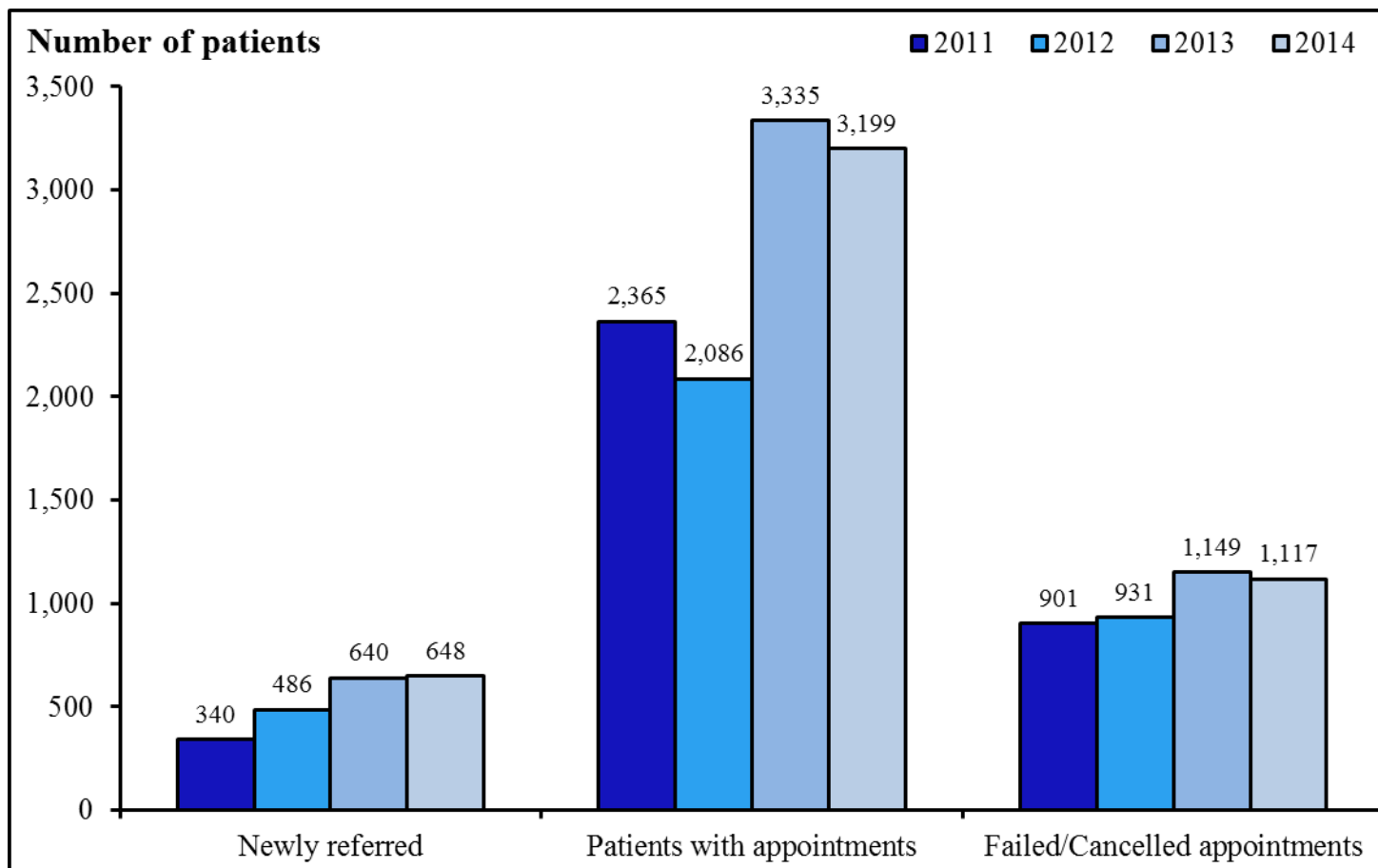


Figure 4.2.5a Number of different categories of attendances in Periodontic Unit (2011-2014)

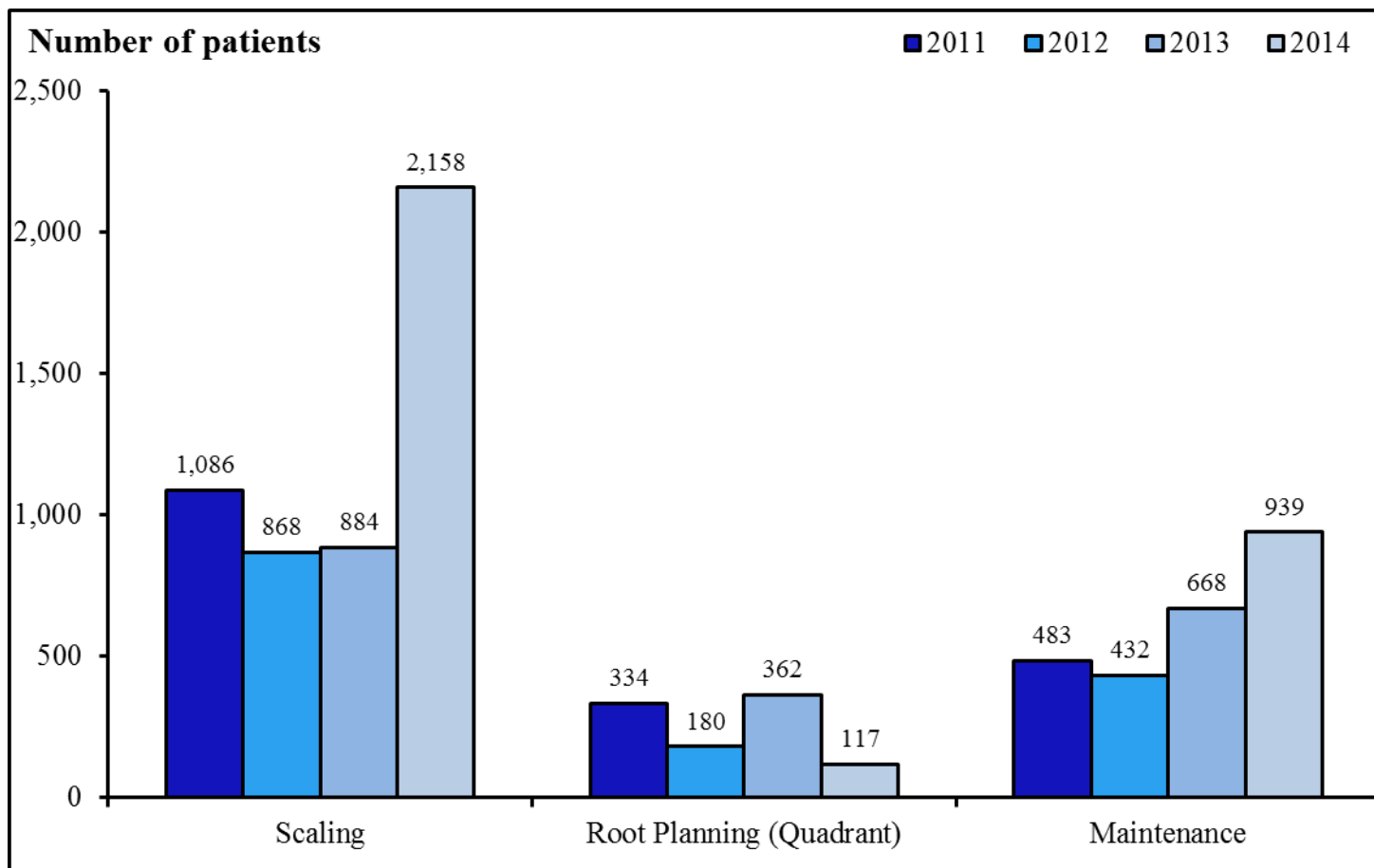


Figure 4.2.5b Number of non-surgical treatments done by Periodontic Unit (2011-2014)

PROSTHODONTICS

Prosthodontics is the branch of dentistry that specialises in the replacement of missing teeth or other structures of the oral cavity with prostheses in order to restore the patient's appearance, comfort, function and/or health.

Services provided include:

- Consultation and giving second opinions
- Providing comprehensive dental care
- Referral for stabilising treatment such as Dental Surgery, Endodontic, Periodontic and Orthodontic treatments according to patients' treatment needs
- Complex direct restorative treatments such as amalgam onlays and composite restorations to improve tooth morphology
- Indirect restorative treatment such as inlays, onlays, veneers or crowns
- Replacement of missing teeth with removable prostheses
- Replacement of missing teeth with fixed prostheses such as bridges
- Replacement of missing teeth with fixed or removable prostheses supported by dental implants
- Complex multidisciplinary restorative treatment
- Surgical crown-lengthening prior to provision of dental crowns or bridges
- Providing occlusal bite raising appliances to patients suffering from temporo-mandibular joint dysfunctions (TMJDs) or bruxism, for the relief of associated muscles and joint pain

Overview of Prosthodontics Specialty Services

Manpower

2 (local) Specialists

1 (expatriate) Senior Dental Officer

The Prosthodontic Unit is based at the National Dental Centre, Brunei-Muara. Travelling services to Belait are provided by 2 prosthodontists once a week; while patients from Tutong and Temburong are referred to the National Dental Centre.

Table 4.2.6a Number of patients and treatment done in the Prosthodontics Unit (2014)

Age group	FIXED PROSTHESIS																																			
	Cancellation FTA Consultation Procedures (patient) Recementation of crown/bridge Temporisation preparation Occlusal adjustment Review patient for case completion Patient completion									Onlay (Units)	Crown (Units)						Bridge (Units)		Post (Units)		Impression															
										Gold onlay Ceramic onlay NiCr onlay	Anterior Veneer Anterior PBC Anterior FPC Posterior PBC Posterior Full Metal Crown New Crown Cases Repeat Crown Cases	New Bridge Resin Bonded Bridge Conventional Bridge Replacement Bridge	Fabrication of Duralay Pattern Custom Post & Core Pre-Fabricated Fiber Post & Core Pre-Fabricated Metal Post	Maxillary Alginate Mandibular Alginate Silicone Maxillary Silicone Mandibular Maxillary Zinc Oxide Mandibular Zinc Oxide Maxillary Polysulphide Mandibular Polysulphide																						
13-19	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
20-55	55	53	96	396	147	265	13	19	37	0	0	3	2	14	57	19	49	8	21	0	25	32	19	8	5	36	9	2	68	80	79	40	6	5	0	4
>55	14	9	11	87	32	36	5	3	4	0	0	0	2	0	3	0	11	1	0	0	0	5	19	5	0	0	1	0	11	11	15	12	2	0	0	0
All combined	69	62	107	485	179	301	18	22	41	0	3	4		14	60	20	60	9	21	0	25	37	38	13	5	36	10	2	79	91	94	52	8	5	0	4

Table 4.2.6b Number of patients and treatment done in the Prosthodontics Unit (2014)

Age group	PERIODONTAL TREATMENT																						
	Cancellation FTA Consultation Procedures (patient) Review patient for case completion Patient completion Suture removal							Bleaching (Units)			Splint			Extraction		Non-surgical				Surgical			
								Walking bleaching	IN/OUT bleaching	Night Guard bleaching	Upper soft splint	Lower soft splint	Michigan splint	Posterior	Anterior	OHI	Charting	Full mouth scaling	Polishing/removal of stain	Root planning	Crown lengthening	Gingivectomy	Frenectomy
13-19	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
20-55	8	3	1	89	0	41	0	7	1	2	1	0	6	31	8	0	1	29	5	0	5	0	238
>55	0	2	1	60	3	21	2	1	0	0	3	0	0	32	11	7	1	22	1	3	3	2	230
All combined	8	5	2	150	3	62	2	8	1	2	4	0	7	63	19	7	2	51	6	3	8	2	415

Table 4.2.6c Number of patients and treatment done in the Prosthodontics Unit (2014)

Age group	Cancellation FTA Consultation Procedures (patients) Review Patient for Case Completion Patient Completion	ARCYLIC-BASED DENTURE										METAL-BASED DENTURE						MODIFICATION			IMPRESSION									
		Copy Complete Partial Immediate Try-in P/P Try-in F/F Bite Registration P/P Bite Registration F/F Issue F/P Issue P/P Issue F/F Issue F/-	Cobalt Chrome Try-in P/P Try-in F/F Bite Registration P/P Bite Registration F/F Issue P/- Issue P/P Issue F/F	Addition Denture Repair Denture Rebase Denture First Relines Further Relines	Maxillary Alginate Mandibular Alginate Silicone Maxillary Silicone Mandibular Maxillary Zinc Oxide Mandibular Zinc Oxide Maxillary Polysulphide Mandibular Polysulphide																									
13-19	0 0 1 3 1 0	0 0 0 1 0 1 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0																									
20-55	8 16 44 97 11 11	0 1 5 10 2 10 6 2 0 10 4 0	9 4 1 1 1 2 0 1 0 0 1 1	7 5 2 6 8	27 28 4 2 2 1 0 0																									
>55	13 23 36 151 23 13	0 6 8 8 13 19 19 14 1 11 12 1	4 4 0 0 0 1 0 0 1 0 0 0	10 4 0 5 8	34 37 13 10 8 3 0 1																									
All combined	21 39 81 251 35 24	0 7 13 19 15 30 25 16 1 21 16 1	13 8 1 1 1 3 0 1	18 9 2 11 16	61 65 17 12 10 4 0 1																									

Table 4.2.6d Number of patients and treatment done in the Prosthodontics Unit (2014)

Age group	Cancellation FTA Consultation Procedures (patients)				ENDODONTIC (UNIT)						DIRECT RESTORATION (NEW SURFACES)					INDIRECT RESTORATION (REPEAT)					RADIOGRAPH (NO. OF FILMS)			
					Review Patient for Case Completion	Patient Completion	Endodontic New (Anterior)	Endodontic New (Posterior)	Endodontic Repeat (Anterior)	Endodontic Repeat (Posterior)	No. of teeth restored	Amalgam restoration	Composite restoration	GIC restoration	IRM restoration	No. of teeth restored	Amalgam restoration	Composite restoration	GIC restoration	IRM restoration	OPG	Left bitewing	Right Bitewing	IOPA
13-19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-55	3	17	8	204	2	101	33	77	19	5	268	80	239	184	4	6	0	8	2	2	9	6	7	108
>55	4	4	37	10	10	10	6	5	9	43	34	45	26	12	3	0	9	1	0	2	0	0	16	0
All combined	7	21	45	214	12	111	39	82	28	48	302	125	265	196	7	6	9	9	2	4	9	6	23	108

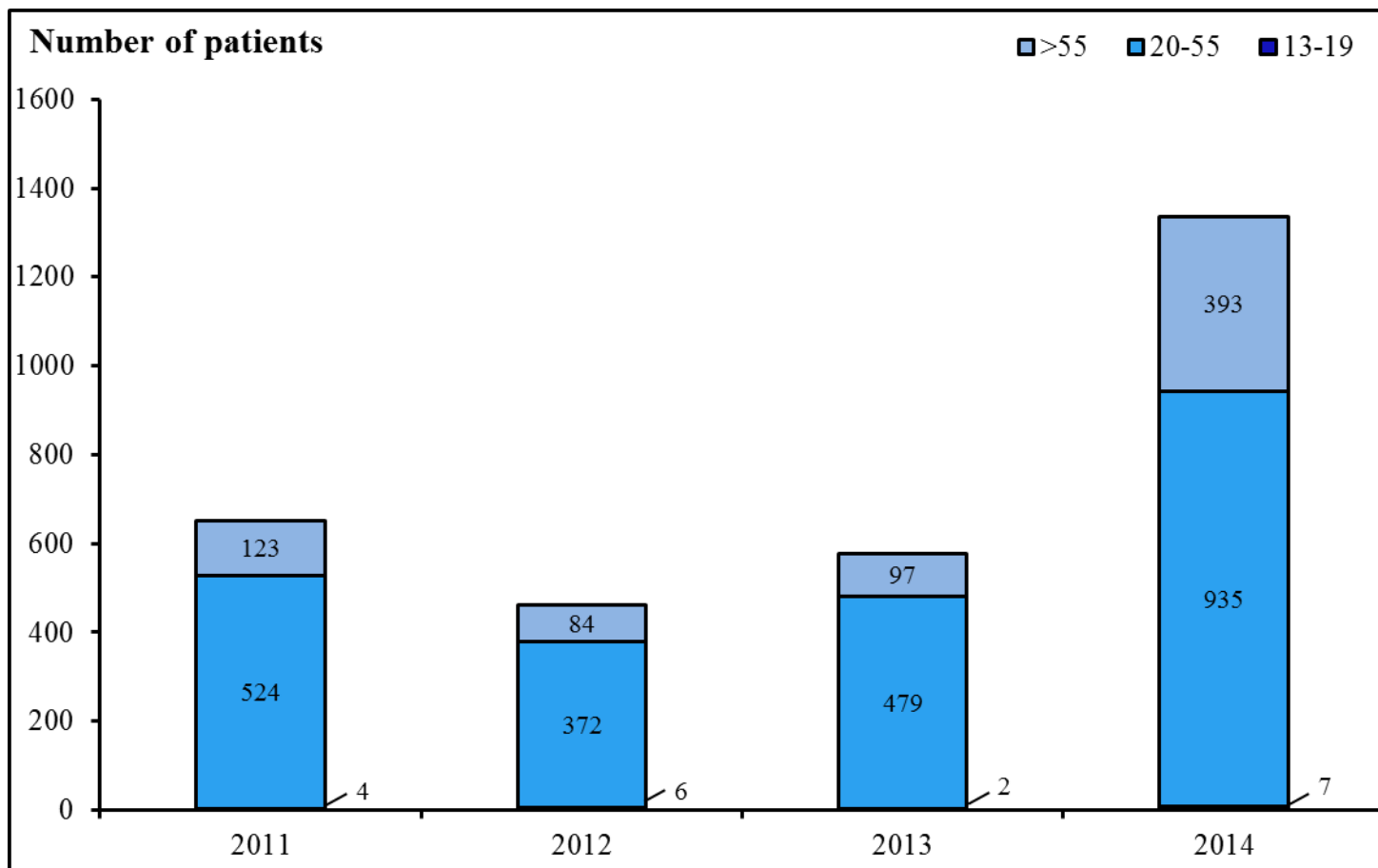


Figure 4.2.6a Total attendances in Prosthodontic Unit (2011-2014)

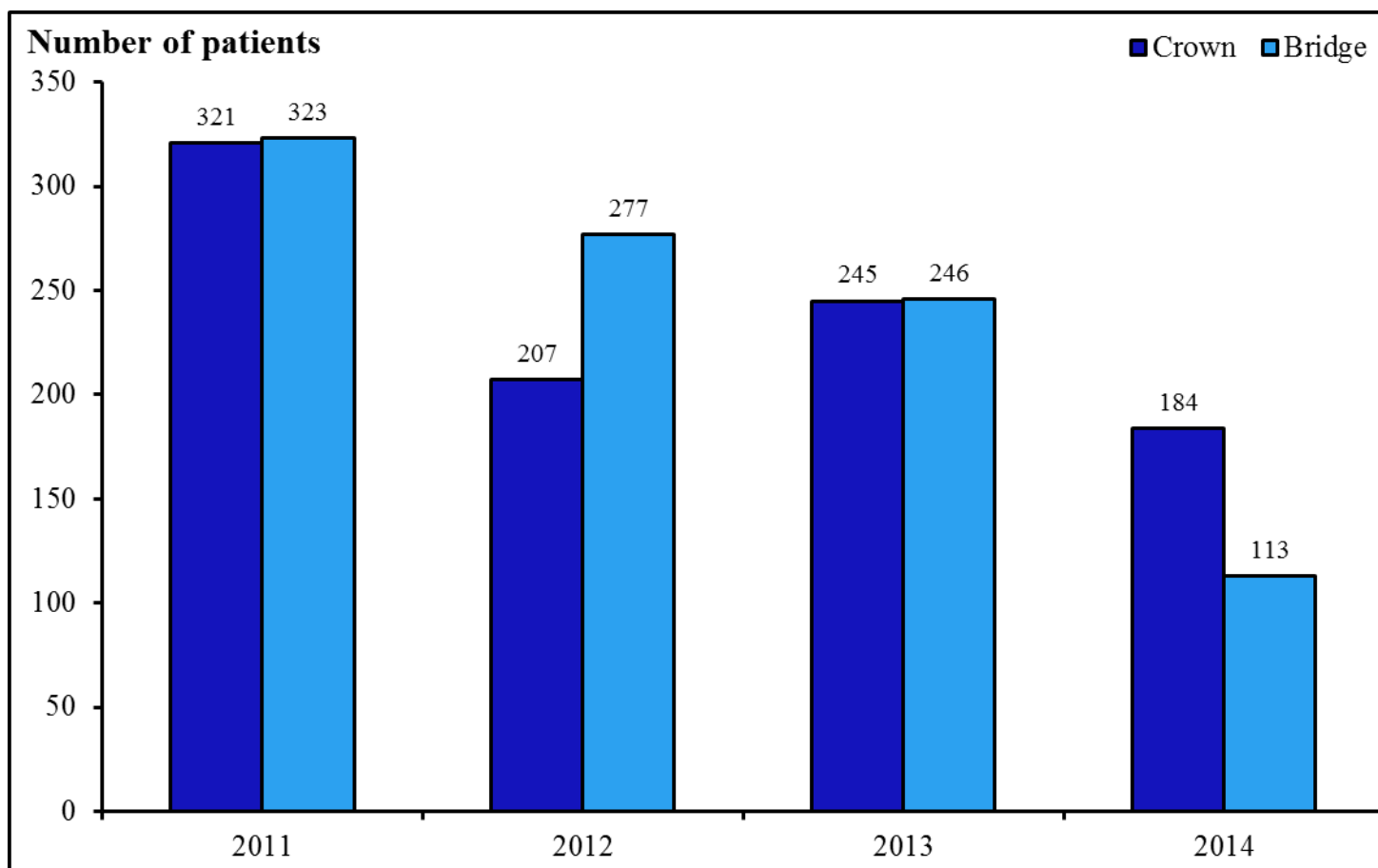


Figure 4.2.6b Number of crowns and bridges issued by Prosthodontic Unit (2011-2014)

RESTORATIVE

The Restorative Unit involves both surgical and restorative aspects of implant dentistry, with special attention to patient care under comprehensive treatment planning.

- Services provided include:
- Consultation
- Investigations
- Diagnosis
- Treatment planning and referrals
- Surgery - Routine clinical procedures
- Replacement of missing teeth:
 - Single tooth gap
 - Multiple missing teeth
- Surgery - Advance clinical procedures
- Full mouth rehabilitation
- Ridge augmentation
- Sinus floor elevation

Overview of Restorative Specialty Services

Manpower

2 (local) Specialists

The Restorative Unit is based at the National Dental Centre, Brunei-Muara and accepts referrals from government and private dental clinics throughout Brunei Darussalam.

Table 4.2.7 Number of patients and treatment done in the Restorative Unit (2014)

Age group	Consultations		Implant Surgery		Total number of Implants, Crowns, Bridges and Dentures		
	Self	Referred	Procedure (Patients)	Units of Implant placed	Procedure (Patients)	Fixed (Units)	
						Implant	Pontic
13-19	0	1	14	3	0	0	0
20-55	1	159	76	95	192	85	33
>55	0	81	26	53	124	27	2
All combined	1	241	116	151	316	127	35

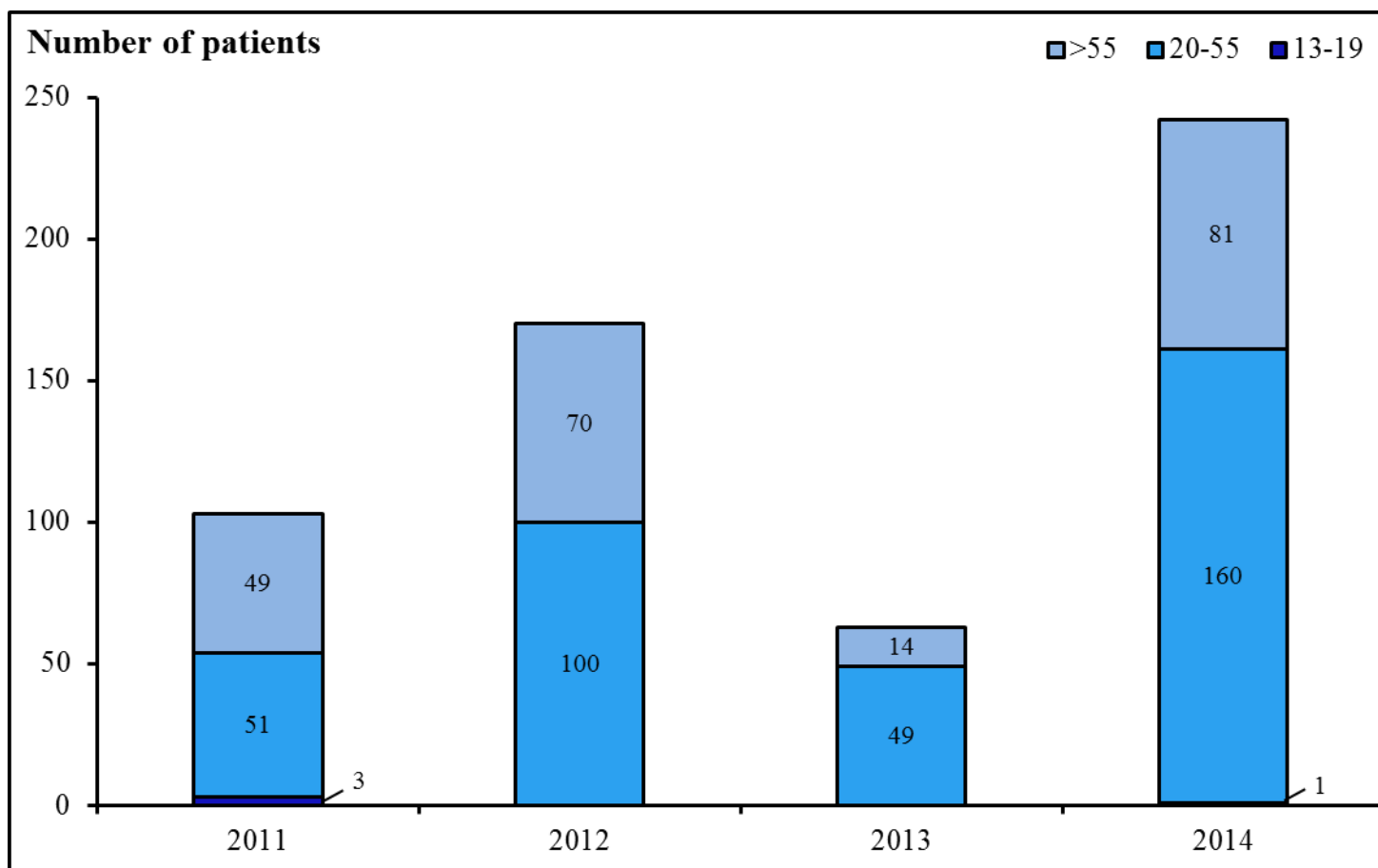


Figure 4.2.7a Total attendances in Restorative Unit (2011-2014)

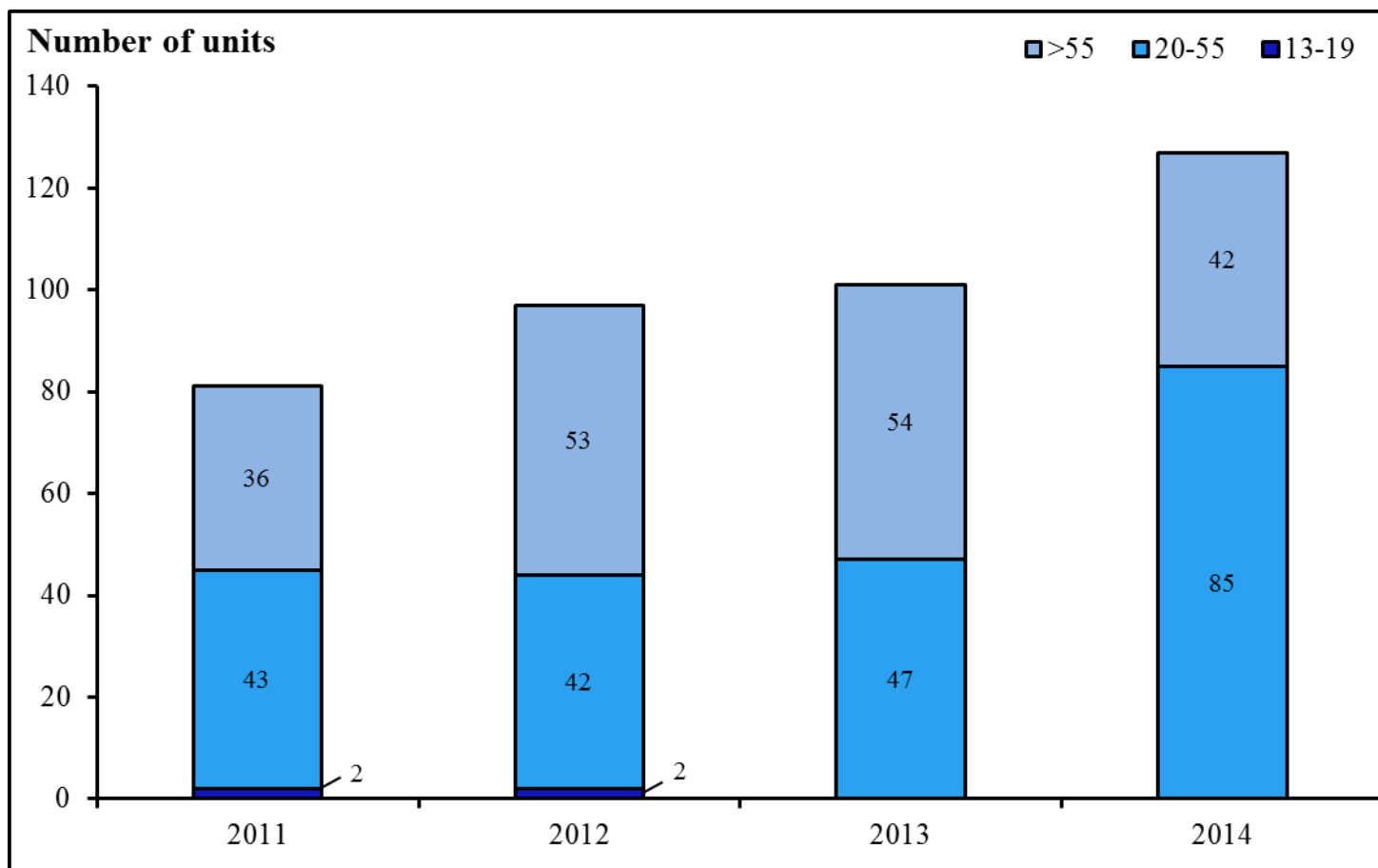


Figure 4.2.7b Number of fixed implants units done by Restorative Unit (2011-2014)

ORAL HEALTH PROMOTION

Oral Health Promotion is the branch of dentistry which is practiced in relation to population and group, which drives from epidemiology and awareness of service required to organise the application of these services for the benefit of the population.

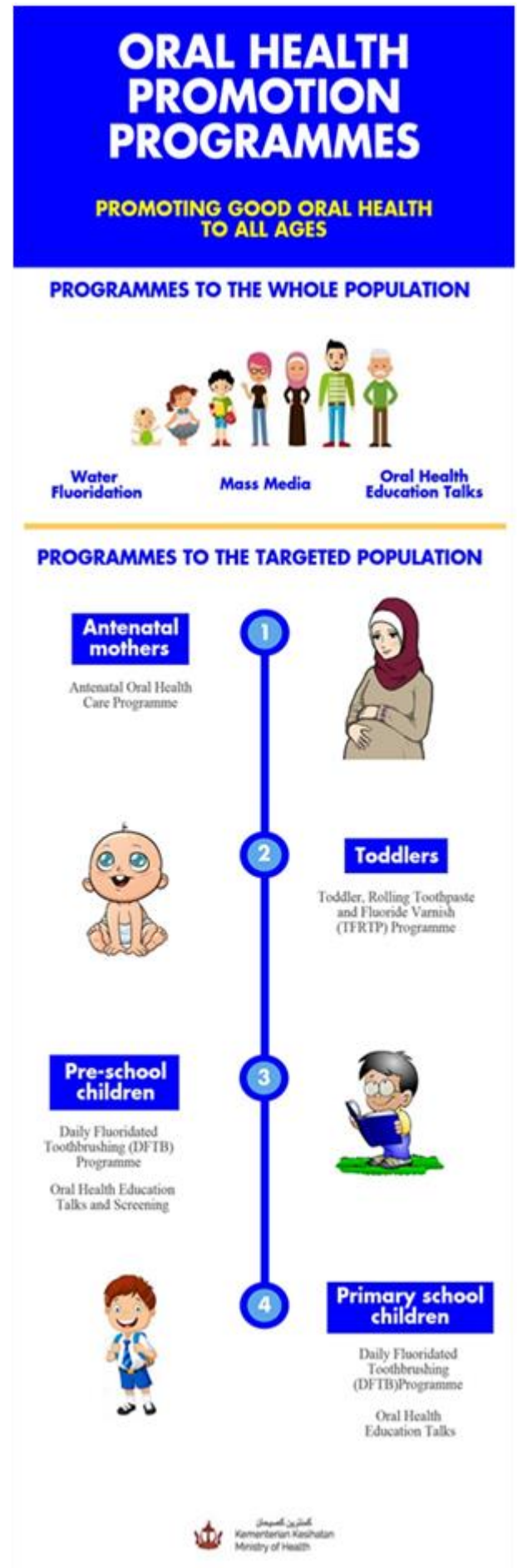
Goals:

1. To reduce the prevalence of dental caries and periodontal disease in the population.
2. To strengthen the Oral Health Promotion Division to oversee all oral health promotion activities.
3. To target population that is at risks to oral diseases and to utilise proven interventions.

Overview of Oral Health Promotion (OHP) Division

Manpower

- 1 (local) Acting Specialist
- 1 (local) Senior Dental Officer
- 2 (expatriate) Dental Officers – 1 full-time
- 4 (local) Staff Dental Nurse
- 1 (local) Clerk



Summary of Oral Health Promotion activities in 2014

Schools receiving PollyPaste	Brunei-Muara= 24 schools Tutong= 4 schools Belait= 8 schools Temburong= 3 schools
Oral Health Education talks in schools	Private schools kindergarten=13 schools (Brunei-Muara= 6, Belait= 5, Temburong= 2) Government primary schools= 18 schools (Brunei-Muara= 7, Belait= 1, Temburong= 10) Religious school= 1 school (Sekolah Persediaan Arab Temburong)
Health Promoting School Activity (SMK)	Brunei-Muara= 3 schools Belait= 1 school
World Oral Health Day	On 20 th and 22 nd March 2014, free dental check-ups and a smoking counseling session was conducted at Block C, National Dental Centre in conjunction with World Oral Health Day.
Exhibitions	Mukim Sihat at MCH Gadong (20 April 2014) Non communicable disease Campaign (June 2014) 10 th Asia Breast feeding Campaign (27 th Oct-2 nd Nov 2014)
Special Needs Children	Oral health education for special needs children at Pusat Ehsan Al Ameerah Al Hajah Maryam in Bengkurong followed by a 3 day oral health consultation, dental screening toothbrushing practices and fluoride varnish application.
Tooth Model & Tooth Brush	200 Tooth Models (100 permanent and 100 deciduous) along with Toothbrush, has been distributed to all dental surgery rooms in Brunei-Muara, Belait, Tutong and Temburong, including specialists clinics, mobile and school dental services.

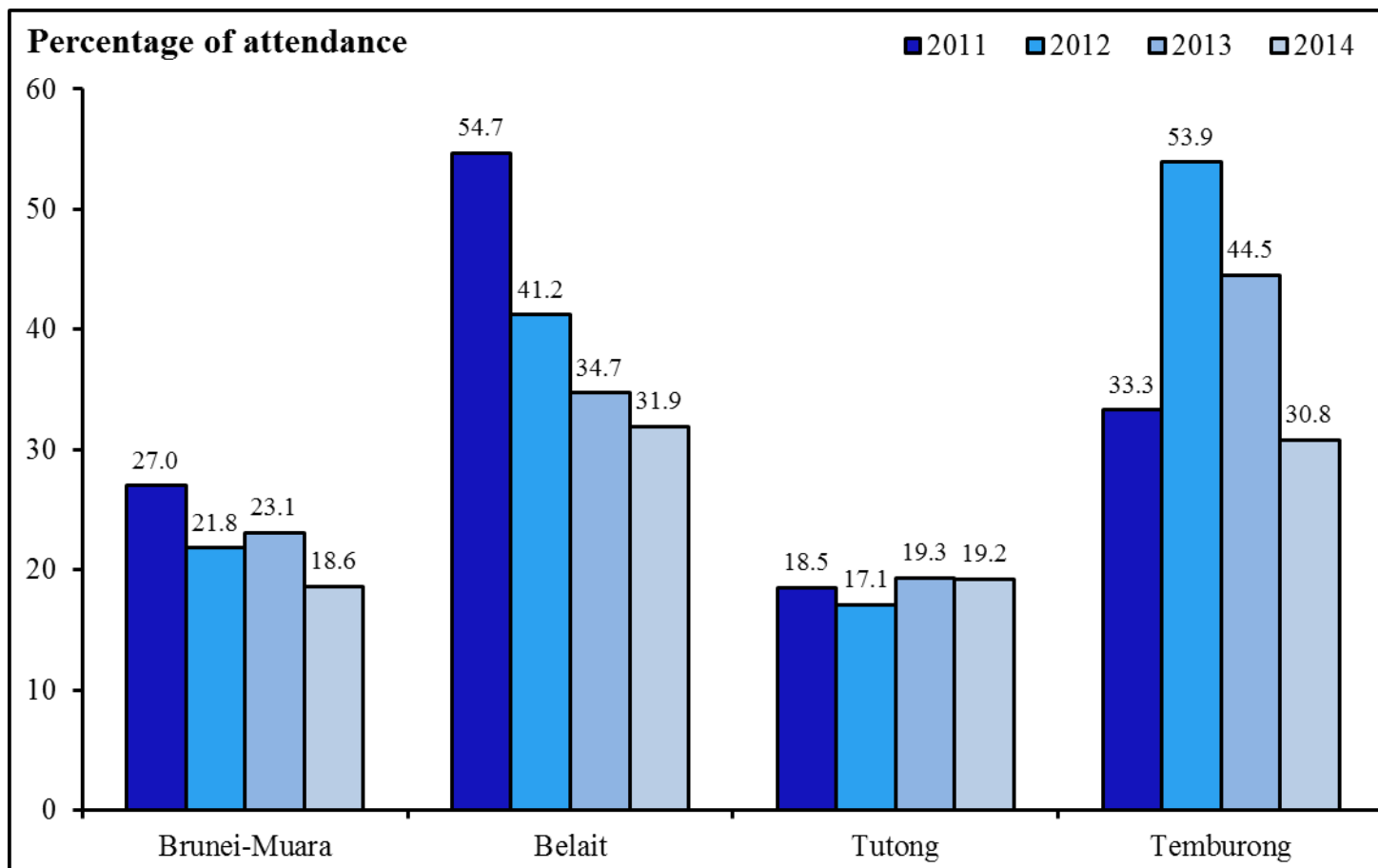


Figure 4.3a Percentage of antenatal patient attendances at dental clinics by districts (2011-2014)

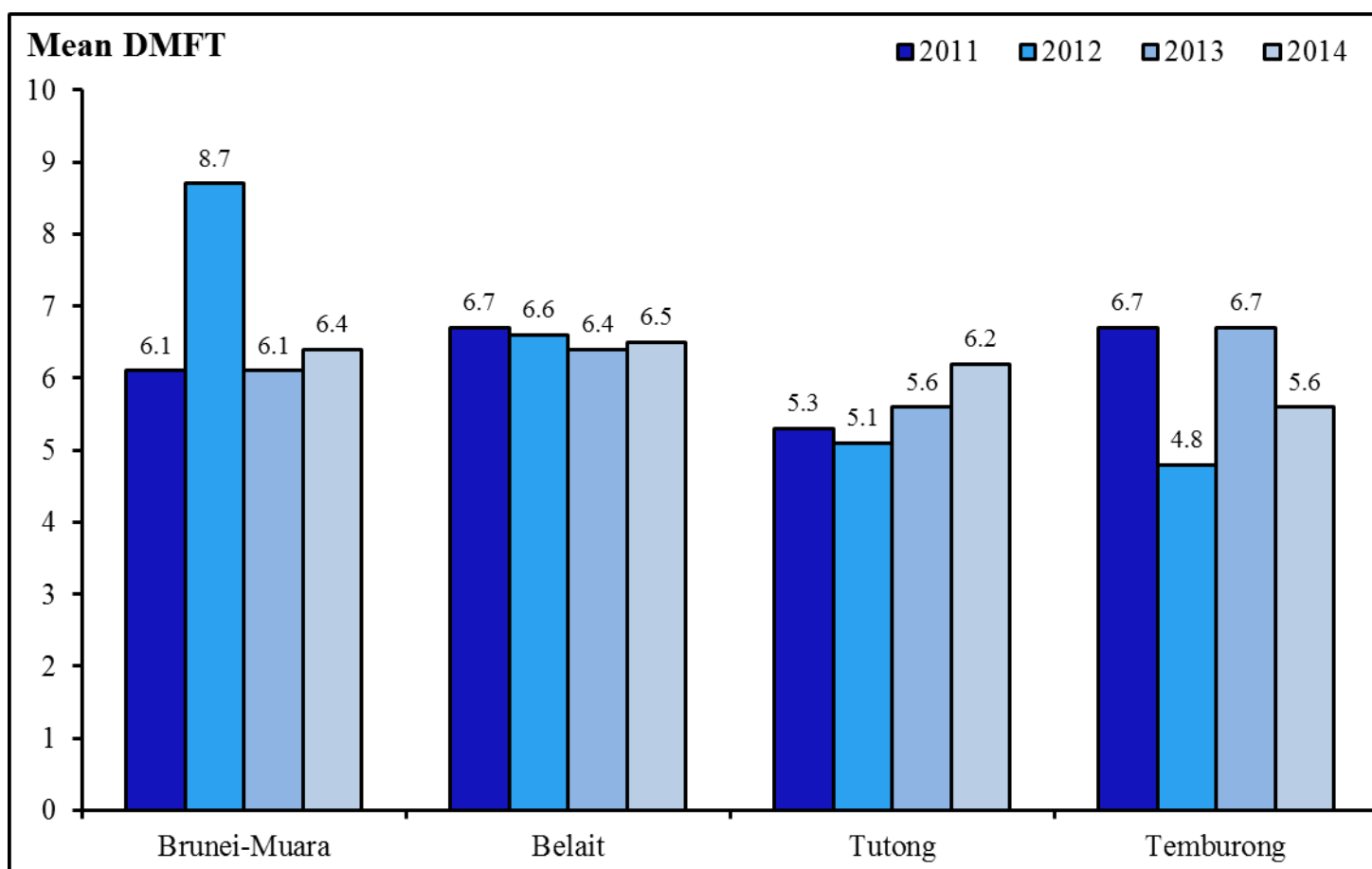


Figure 4.3b Mean DMFT for antenatal patients attending dental clinics by district (2011-2014)

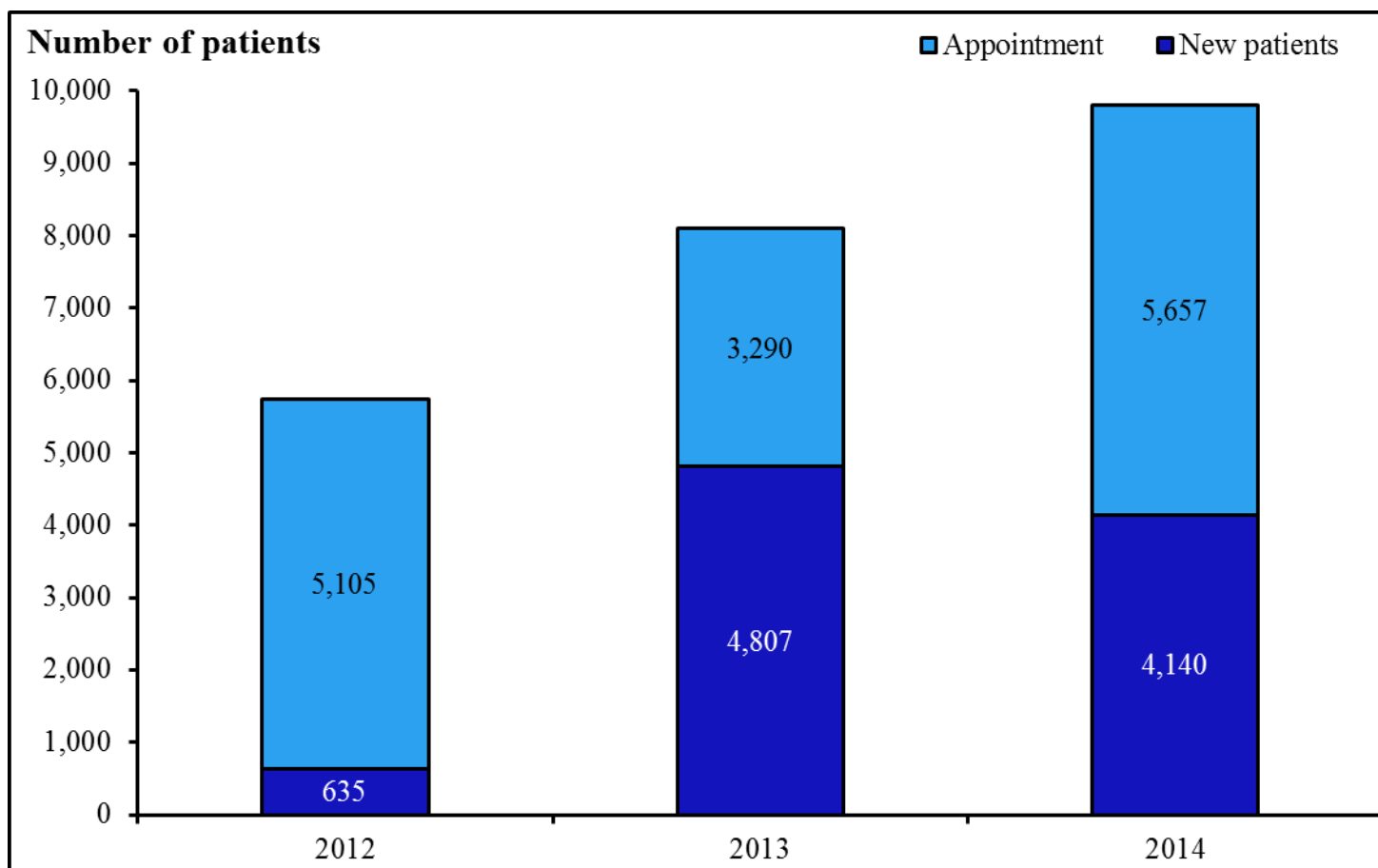


Figure 4.3c TF RTP total attendance (2012-2014)

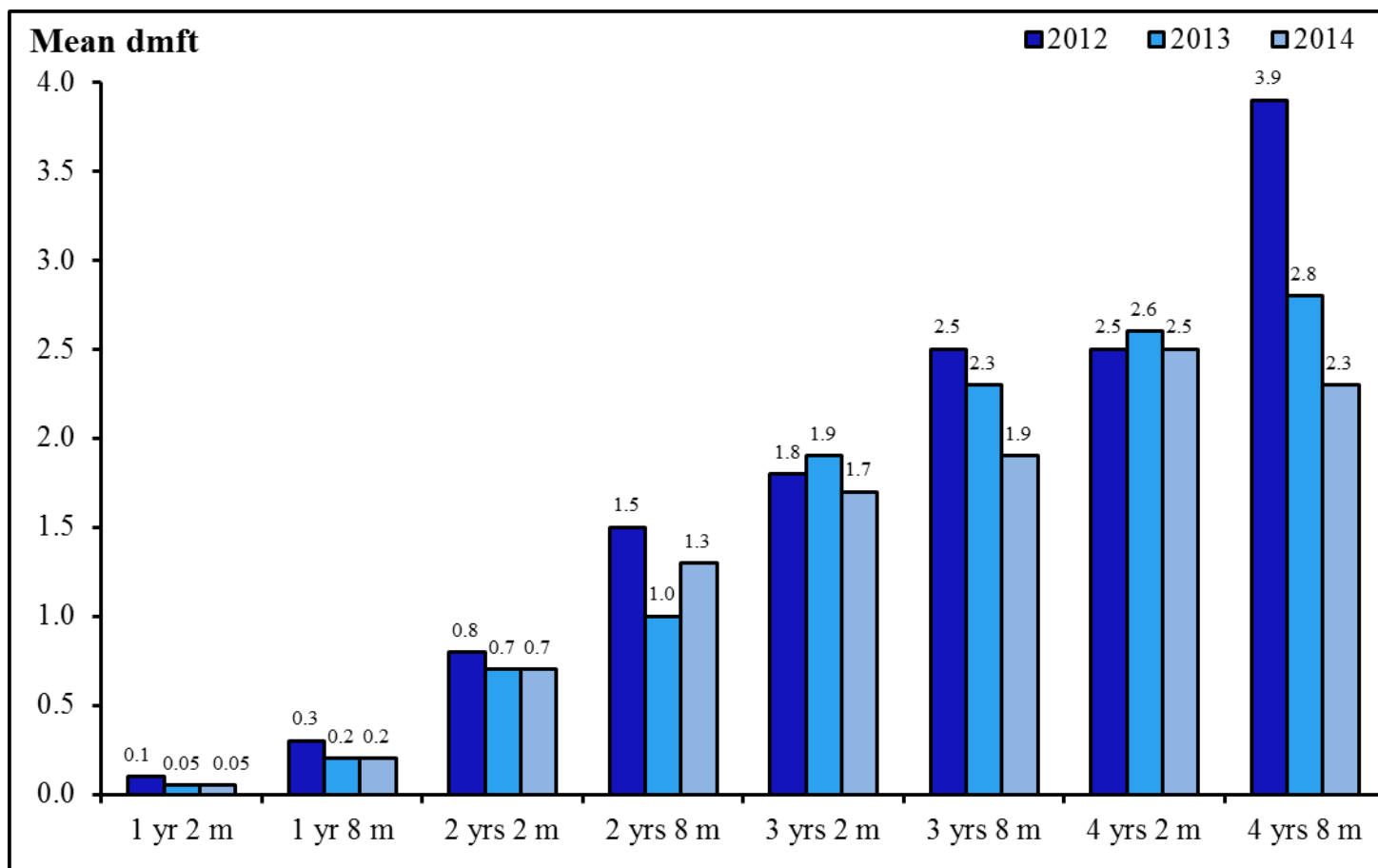


Figure 4.3d Deciduous dentition dental caries experience for 1 year 2 months to 4 years 8 months (2012-2014)

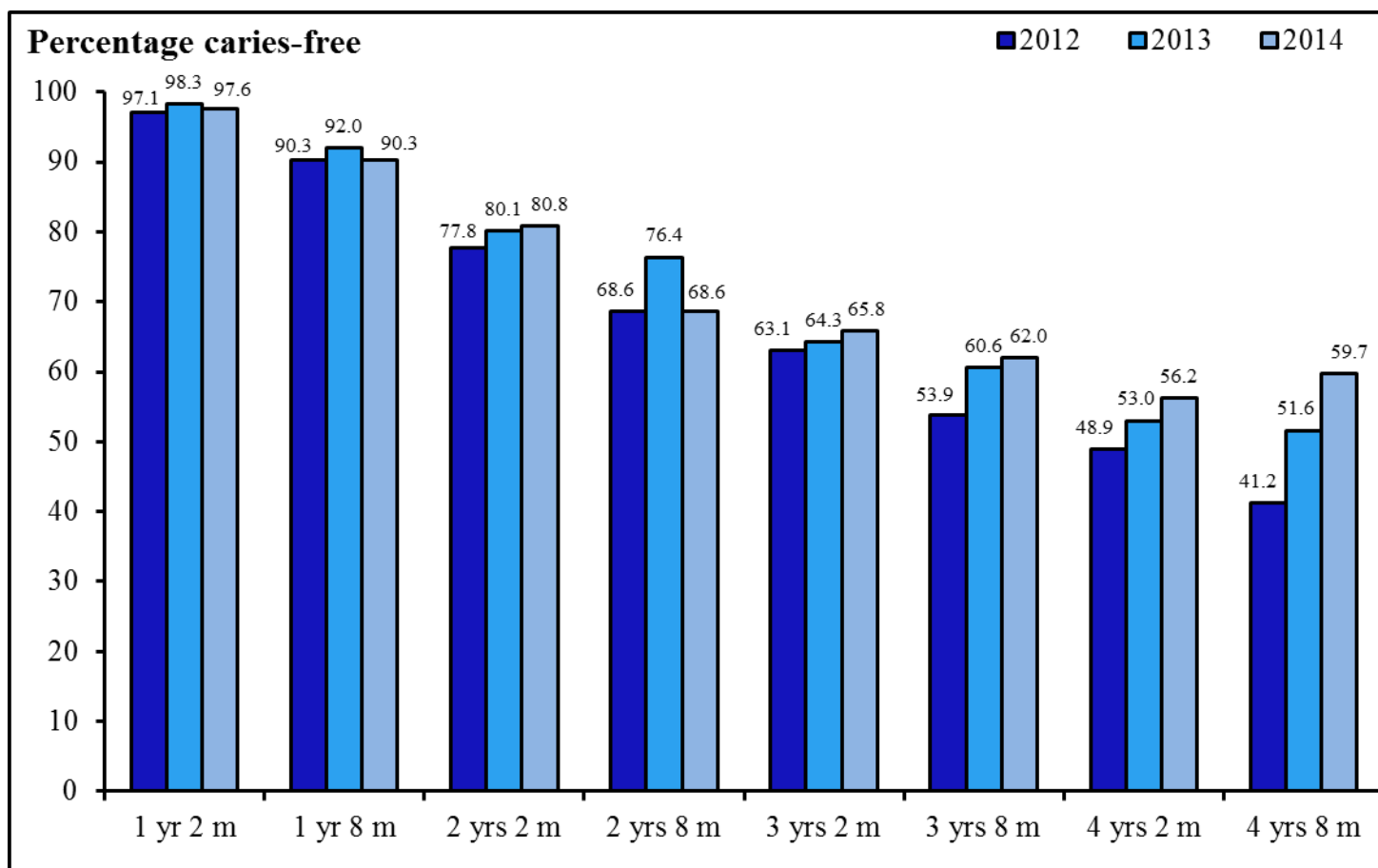


Figure 4.3e Percentage caries-free for 1 year 2 months to 4 years 8 months (2012-2014)

DENTAL LABORATORY

Dental Laboratory plays an important role in supplying a custom-made dentures, crowns and bridges, orthodontic appliances, splints and repair of dentures for individual patient's needs.

Services provided include:-

- *Prosthetics- This includes fabrication of acrylic dentures and chrome cobalt framework dentures, splints and repair of dentures.*
- *Conservatives- This includes fabrication of crown and bridgework, surgical stent, temporary crown, postcore, inlays and onlays.*
- *Orthodontics- This include fabrication of fixed and removable retainers, splints and study models.*

Overview of Dental Laboratory services

Manpower

7 (local) Senior Dental Technologists

4 (local) Dental Technologists

5 (local) Chief Dental Technicians

5 (local) and 1 (expatriate) Senior Dental Technicians

20 (local) Dental Technician Trainees- 1 post borrowed by OMF

Scheme of charges

Most completed dental appliances are charged according to the latest scheme of charges approved.

Distribution of cases received

Dental Laboratory receive cases from various Dental Clinics throughout the country. Cases from Temburong Dental Clinics are sent to Dental Laboratory in National Dental Centre.

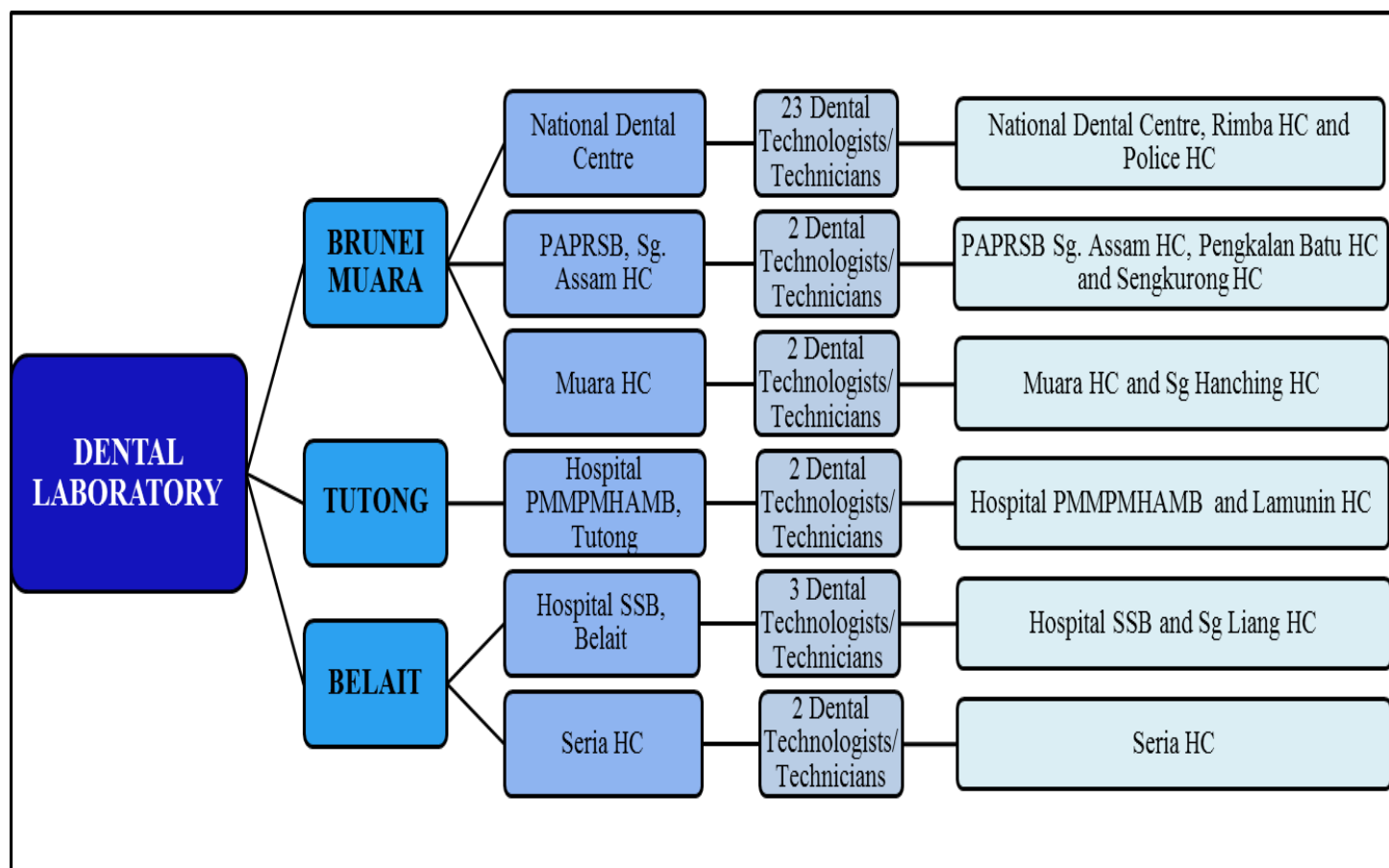


Figure 4.4a Dental Laboratory in Negara Brunei Darussalam (2014)

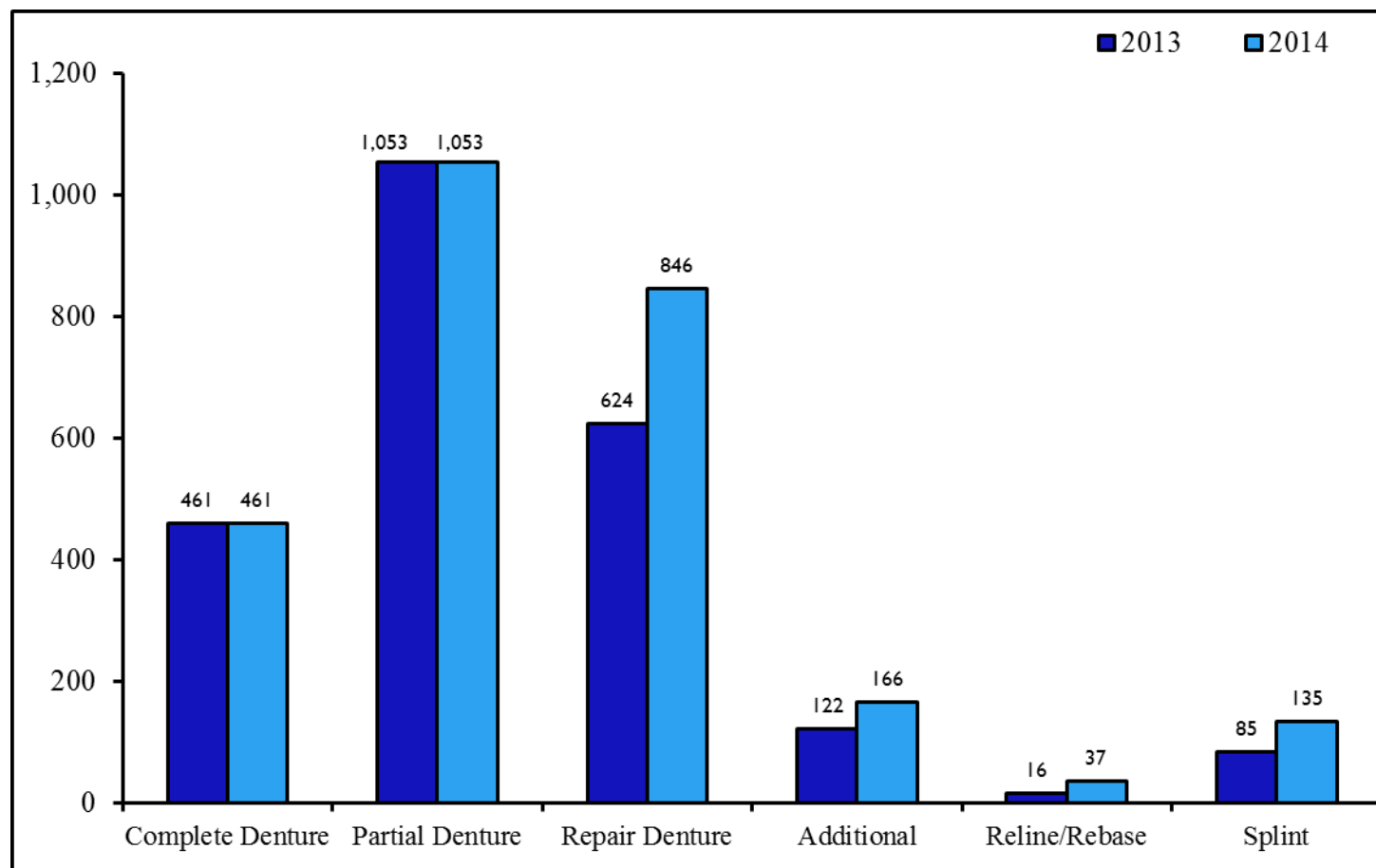


Figure 4.4b Number of prosthetic produced cases (2014)

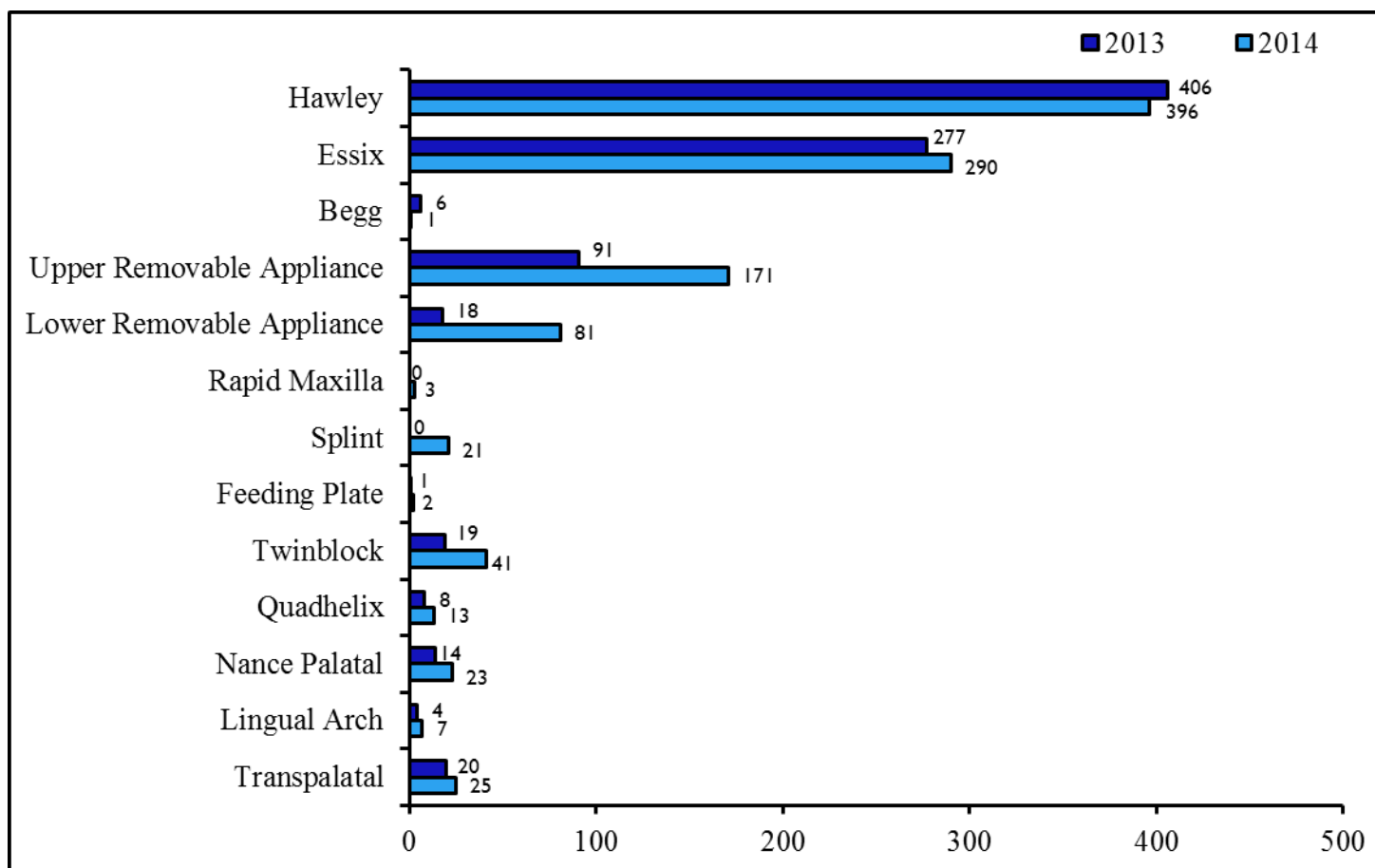


Figure 4.4c Number of orthodontic produced cases (2014)

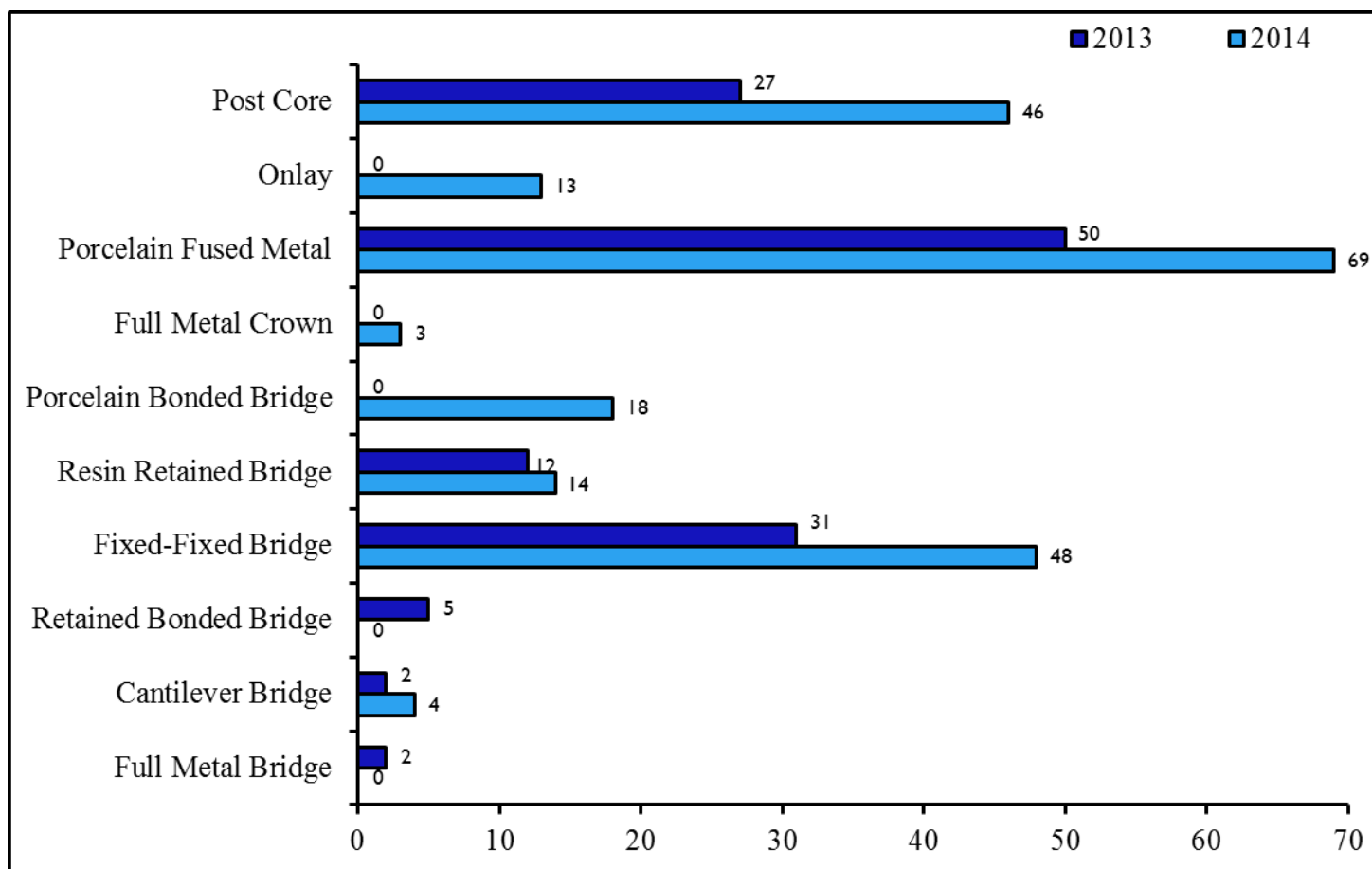


Figure 4.4d Number of crown and bridge produced cases (2014)

CONTACTS
ACKNOWLEDGEMENTS
PUBLISHING COMMITTEE

CONTACTS

For further information, please contact:

*Research & Development Unit
National Dental Centre
Old Airport Road, Berakas, BB 3510
Dental Services
Ministry of Health
Tel: +673 2380433 ext 139
Website: www.moh.gov.bn*

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Statistics Unit
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Ministry of Health

PUBLISHING COMMITTEE

Dr Haji Amirul Rizan bin Haji Mohamed
Haji Mazlan bin Haji Ahmad
Lai Moi Ling
Hajah Rohani binti Haji Marani