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Dentists in the RSA, 1972 and 1982
A study of geographic spread and dentist to population ratios

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SUMMARY

Using data available for 1972 and 1982, the geographic spread of dentists in the RSA, and dentist to polulation ratios were studied. In general the numbers of dentists per magisterial district have increased but only 5 per cent of dentists are in rural districts (population <10 000). Dentist to population ratios decreased irregularly over the 10 year period, more in urban than in rural districts. An estimate was made of dentist to population ratios of regular attenders for dental care. This indicated that in urban areas the ratio could be as low as 1:299. The study has shown that there is a maldistribution of dentists and that there is inadequate information on which to predict future trends.

OPSOMMING

Aan die hand van beskikbare data vir 1972 en 1982 is die geografiese verspreiding van tandartse in die Republiek van Suid-Afrika en die tandarts-bevolking getalleverhouding bestudeer. In die algemeen het die getal tandartse per landdrosdistrik toegeneem maar slegs 5 persent van tandartse is in plattelandse distrikte (bevolking kleiner as 10 000). Die verhouding van tandartse tot bevolking het op onreëlmatige wyse afgeneem in die betrokke tienjaarperiode en dié neiging was meer merkbaar in stedelike as in plattelandse distrikte. 'n Skatting is gemaak van die verhouding van tandartse tot bevolking in die geval van pasiënte wat gereeld aanmeld vir tandheelkundige sorg en aanduidings is dat dié verhouding so laag as 1:299 kan wees. Hierdie studie het getoon dat 'n wanverspreiding van tandartse bestaan en dat onvoldoende inligting vir die voorspelling van toekomstige neigings beskikbaar is.

For many years a major activity in clinical dental practice has been the repair of damage caused to teeth by dental caries. In general, the amount of repair needed has exceeded the facilities available, thus ensuring adequate employment of dentists. Gradually, particularly through the availability of fluoride and other preventive measures, there has been a real decline in dental caries prevalence (Almann, 1982). The need for repair of tooth damage has thus declined but has, nevertheless, been accompanied by an increase in dental graduates so that in certain countries such as Sweden, dentist unemployment is common. This has now resulted in the closing of two dental schools, while in other countries there has been a reduction in the intake of dental students (Mühlemann, 1984). Consequences of the decreasing prevalence of dental caries on dental education in the United States has been highlighted by Bohannan (1982) who has predicted that there will be reductions in the number of dental schools, decreased numbers of dental students and even amalgamation of dental specialities. As might be expected these disturbing trends have stimulated studies of future dental manpower needs, a recent such example having been completed in Canada (House, Johnson and Edwards, 1983).

The information in this paper was first presented at the Annual Scientific Conference of the International Association for Dental Research, Pretoria, 18 September 1984.

Thus far the changes mentioned have affected Europe, North America and the United Kingdom. What might happen in Africa is unclear. For example, in Nigeria, recent studies in Black African populations have described no appreciable change in caries prevalence (Akpata 1979) as well as an increase in prevalence (Enwonwu 1981).

In South Africa, cross-sectional studies have shown increasing dental caries prevalence in the primary dentition of rural Black, urban Black and urban Indian children but have also demonstrated a decreasing prevalence among White children (Cleaton-Jones *et al*, 1983). In the permanent dentition, Walker *et al*, 1981 have reported as increase in caries prevalence among urban Black high-school pupils and little change in caries prevalence in rural Black and urban White pupils. South Africa has, at present, therefore a mixture of both increasing and decreasing prevalences of dental caries.

There have been two r ecent studies concerning dentist numbers in the RSA. In 1979 Germishuys discussed how many dentists should be trained and some population ratios. He noted that an earlier investigation (Commission of Enquiry into the Dental Services and the Training of Non-White Dentists, 1967) had predicted that, by 1980, there would be 1 708 registered dentists, a figure

actually reached by 1973. This trend led Germishuys (1979) to conclude that there would be an overproduction of dentists by 1983. Lemmer (1979) followed another route of investigation. He analysed training statistics at the South African dental schools and highlighted a possible shortage of suitable patients on whom to train dentists.

Both of these valuable studies (Germishuys, 1979; Lemmer, 1979) were restricted in their scope, so the present investigation was undertaken to study the geographic spread of dentists in the RSA, and dentist to population ratios.

MATERIALS AND METHODS

Dentists listed in the 1972 and 1982 registers of the South African Medical and Dental Council, excluding those in Namibia and the independent states of Bophuthatswana, Ciskei, Transkei, Venda, and outside the RSA were the sample studied. They were grouped in magisterial districts according to their registered address. Specialists were included as dentists, and no distinction was made between dentists in academic or institutional employment and in private practice.

Population figures used in the investigations were those of national census (1970, 1980) adjusted for 1972 and 1982 for the same magisterial districts. The Magisterial districts were classified as rural and urban according to a method used in the Department of Geography, University of the Witwatersrand (Beavon, 1984). All districts with a total population <10 000 were termed rural. Details were transferred onto computer punch cards and manipulated in an IBM 370/158 computer using the SAS (Statistical Analysis System 1982).

RESULTS

The numbers of dentists registered in the magisterial districts in 1972 and 1982, plus the percentage change over the 10-y period are listed in the Appendix. Of the 164 magisterial districts the number of dentists remained constant in 28 (17 per cent), increased in 121 (75 per cent) and decreased in 15 (9 per cent).

The breakdown by province is:

Transvaal 60 districts	(constant 8 (13 per cent), increased 52 (87 per cent), decreased 0);
Cape Province 57 distrists	(constant 7 (12 per cent), increased 43 (76 per cent), decreased 7 (12 per cent);
Orange Free State 27 districts	(constant 9 (33 per cent), increased 14 (52 per cent), decreased 4 (15 per cent);
Natal 20 districts	(constant 4 (20 per cent), increased 12 (60 per cent), decreased 4 (20 per cent).

The greatest increases have thus been in the Transvaal and Cape Province.

To illustrate the information in another way, the data were grouped into 5 categories according to the number of dentists per magisterial district (0, 1-2, 3-10, 11-50, 50) and plotted on maps of the RSA (Figs. 1, 2). Change in dentists per district is clear but another noticeable feature is the expanse of country without any dentist. As might be expected the highest concentration is in the large urban centres, the densest concentration being on the Witwatersrand, in Cape Town, Durban and Port Elizabeth. In order further to examine the general trend in the magisterial districts with 50 or less dentists in 1972, the numbers of dentists registered in each magisterial district in 1972 were plotted against the numbers in the same district in 1982 (Fig. 3). The general increase in dentists is highlighted by the position of the linear regression line ($y = 2{,}22 + 1{,}41x$). This is well to the left of a line drawn to show a constant number of dentists. The further the regression line is to the left of the constant line, the greater is the rate of increase in dentists. When the rural and urban districts were examined, the percentage spread of dentists and total population in 1972 was urban 96 per cent dentists (population 49 per cent), rural 4 per cent dentists, (population 51 per cent) proportions similar to those in 1982 which were urban 95 per cent dentists (population 54 per cent) and rural 5 per cent dentists (population 46 per cent). Subdivision by province showed that in both 1972 and 1982 the distribu-

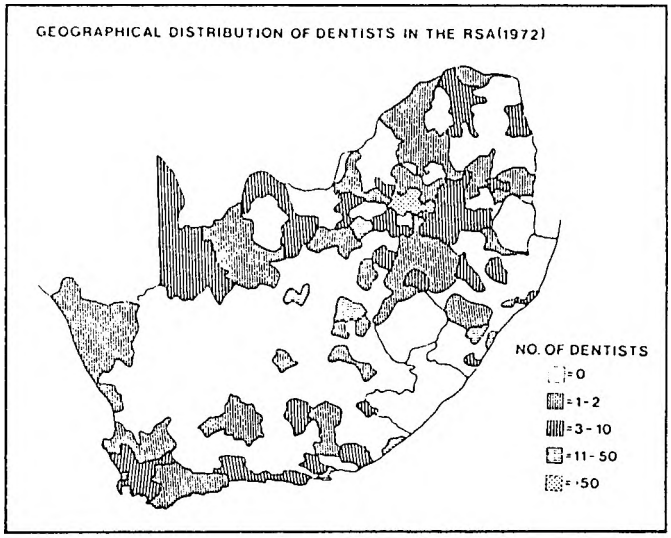


Fig. 1. Number of dentists in the magisterial districts in 1972.

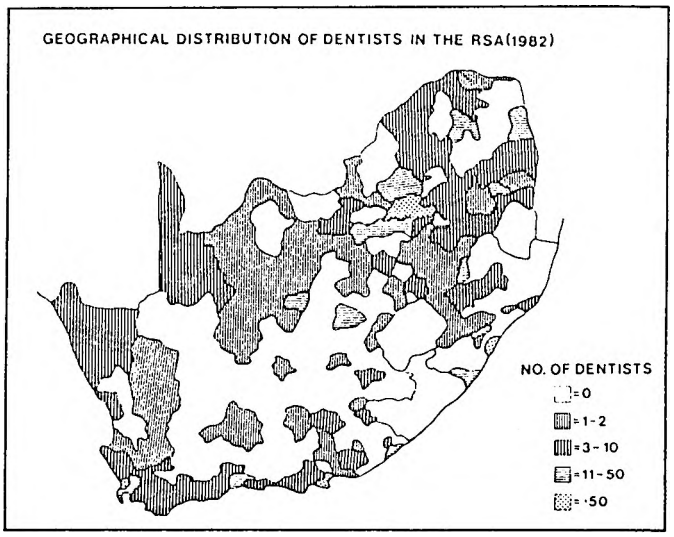


Fig. 2. Number of dentists in the magisterial districts in 1982.

tion of dentists was similar. In decreasing order this was Transvaal 55 per cent (population 41 per cent), Cape Province 27 per cent (population 32 per cent), Natal 14 per cent (population 20 per cent) and Orange Free State 4 per cent (population 8 per cent).

The approximate dentist to population ratios for each magisterial district are listed in the appendix, according to the total populations in the district. The five lowest and five highest dentist to total population ratios in 1972 and 1982 in each province are listed in Table I, together with the magisterial district. Large urban centres have the lowest dentist to total population ratios and, in general, rural districts show the opposite. Between the 1972 and 1982 data several changes are evident. There is a reduction in the dentist to population ratios in the urban districts and some rural districts, while in some of the latter, movement away of a small number of dentists has worsened the situation.

Ratios of dentists to total populations are unrealistic since not all people need or seek dental care, and this figure is further adjusted by economic factors, such as the inability to afford dental services. In the absence of figures of populations that might be considered to attend the dentist regularly an estimate had to be made. Discussion with dentists practising in urban and rural areas suggested that an estimate of 30 per cent of the population attending for regular treatment would be reasonable. Some revised dentist to population ratios are listed in Table I. The imbalance in the magisterial district dentist to population ratios is clearly shown. It is also clear that the lowest dentist to population ratios are in the most popular urban centres, a trend which increased from 1972 to 1982.

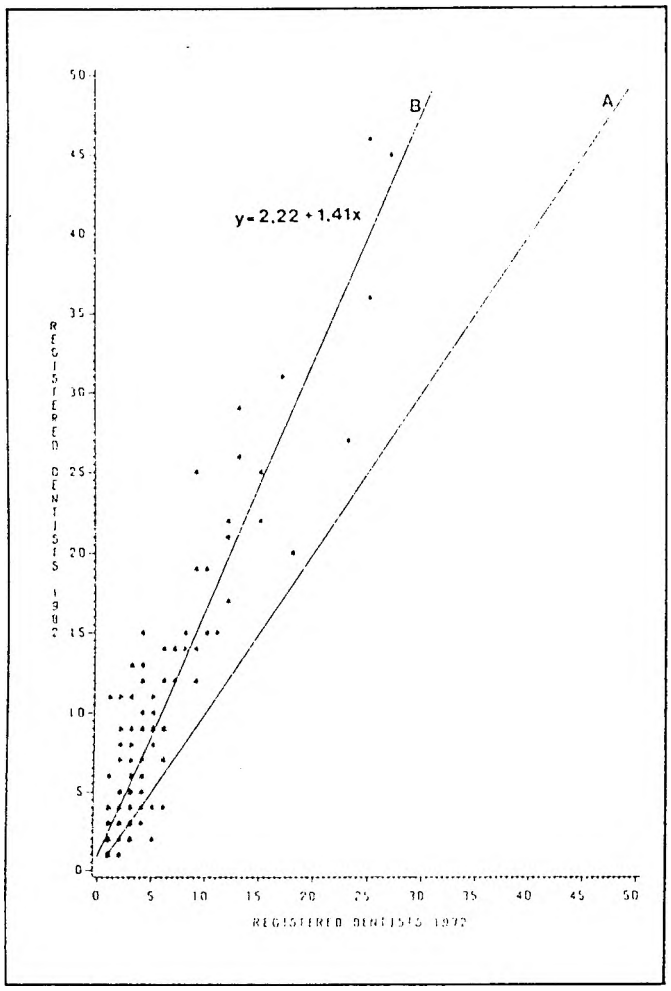


Fig. 3. Plot of numbers of dentists registered in 1972 in magisterial districts with less than 50 dentists against the numbers in the same districts in 1982.
A = line indicating a constant number of dentists.
B = regression line of plots.

In Table II all the magisterial districts with dentist to total population ratios of 1:40 000 or more, in 1972 or 1982 or both, have been listed. This table shows that in 4 out of 5 such districts in Natal, 3 out of 4 in the Orange Free State, and 2 out of 7 in the Transvaal, the dentist to total population ratio worsened, a trend seen too for revised ratios.

CHANGES IN DENTIST NUMBERS

There has been an increase in registered dentists from 1 599 in 1972 to 2 584 in 1982, an increase of 61,6 per cent. During this period the total population for the areas studied has increased from 19,4 to 25,5 million an increase of 31,3 per cent. The total dentist:population ratio has decreased from 1:12 144 to 1:9 868. If the present rates of increase are continued then by 1992 the total population will have increased to 33,5 million, and the number of registered dentists to 4 176 to produce a dentist:total population ratio of 1;8 019. If the revised population ratios are considered the dentist:population ratio could be 1:2 400.

However, the rate of increase in dentist numbers may be even greater than anticipated. If the 61,6 per cent increase in dentists from 1972 to 1982 is considered to be a 6,2 per cent growth per year then this increase can be compared to what Geldenhuys (1984) has recorded — a 9,4 per cent growth from 1982 to 1983, which, if continued, would mean an increase of 94 per cent in dentist numbers by 1992. An interesting change concerns the numbers of male and female dentists. Between 1972 and 1982 male dentists increased from 1 551 to 2 446 (57 per cent increase and female dentists from 48 to 138 (187 per cent increase).

DISCUSSION

This investigation has shown several things. It has highlighted the increasing number of dentists and decreasing dentist to population ratios. The study has shown how difficult it is to use available information should one wish to plan numbers of dentist to train. For example, how is allowance to be made for the needs and demands of populations in future planning; how should one consider individuals in private practice and academic and institutional practice? Since all registered dentists have the potential to enter private practice, all were treated equally in this study. It is also unclear how specialists should be regarded. Similarly, no allowance has been made for dentists doing their National Service in the armed forces, nor for trends in caries.

In this study the maldistribution of dentists by geographic area has been highlighted. This appears to be gradually improving through economic pressure because as dentist to population ratios drop there is a greater movement to smaller centres, shown in the Appendix. There is a need to encourage better geographic

spread. One method could be the annual publication of dentist:population ratios by magisterial district.

This investigation has not considered ethnic groupings of either dentist or populations. Recently, Dreyer, Lemmer and Dreyer (1984) summarised the impressions of members of various branches of the Dental Association of South Africa, Faculties of Dentistry and others regarding the dental manpower situation in the RSA. They concluded that no new dental faculties should be established, that the existing faculties should be expanded and opened to all ethnic groups, and that four-yearly reviews of the dental manpower situation should be undertaken. Reddy (1985) too has emphasised the need to consider ethnic groups in future planning of dental training.

The dental profession will need to guard against the temptation to overtreat as dentist:population ratios drop and economic pressures increase. Although not considered in this investigation, one may speculate that the financial expectations of new graduates will have to be lowered.

APPENDIX

Numbers of registered dentists in 1972 and 1982 by magisterial district. Percentage increase or decrease (—) over the 1972 figures, and dentist to total population (D:P) ratios are shown.

Magisterial District	1972	1982	% Change	D.P. Ratios 1972	1982
Cape	430	702	63		
Albany	5	9	80	1:14100	1:1576
Alexandria		1	100		1:30660
Aliwal-North	2	3	50	1:11054	1:7527
Bathurst	4	3	−25	1:7536	1:11000
Beaufort West	1	1	0	1:26948	1:27600
Bellville	27	105	289	1:10149	1:2057
Bredasdorp	2	3	50	1:8410	1:5513
Burgersdorp	1	1	0		
Caledon	4	4	0	1:11933	1:15060
Calvinia		2	200		1:9180
Cape Town	174	212	22	1:1379	1:997
Ceres	1	2	100	1:29834	1:18390
Cradock	2	4	100	1:17958	1:97900
De Aar	1	1	0	1:20324	1:24140
East London	23	27	17	1:7167	1:6080
Fort Beaufort		1	100		1:22020
George	4	12	200	1:12779	1:5188
Goodwood	9	25	178		1:9468
Gordonia	3	3	0	1:27825	1:31953
Graaff-Reinet	3	2	−33	1:11250	1:14910
Hartswater	1		−100	1:27449	0:820
Herbert		1	100		1:20080
Hermanus	5	4	−20	1:2494	1:3850
Humansdorp	3	4	33	1:9323	1:6660
Kimberley	12	21	75	1:9610	1:7329
King William's Town	4	7	75	1:8073	1:4689
Knysna	6	9	50	1:5252	1:3842
Kuilsriver	1	4	300		1:13280
Kuruman	1	2	100	1:25575	1:16320
Mafikeng	1		−100	1:31132	0:400
Malmesbury	3	6	100	1:17570	1:13003
Mossel Bay	2	5	150	1:15982	1:6648
Namaqualand	1	6	500	1:56009	1:11067
Oudtshoorn	5	10	100	1:9978	1:6146
Paarl	9	14	56	1:9310	1:7776
Piketberg	1	1	0	1:29544	1:28900
Port Elizabeth	45	71	58	1:9199	1:7911
Postmasburg	1	1	0	1:41627	1:55880
Prieska		1	100		1:26000
Queenstown	6	4	−33	1:9267	1:12215
Riversdale	2	3	50	1:10827	1:6733
Robertson	1	2	100	1:25514	1:13970
Simonstown	6	12	100	1:5388	1:4043
Somerset East	1	2	100	1:27397	1:13450
Somerset West	7	12	71	1:4068	1:3727
Stellenbosch	9	19	111	1:8532	1:3374
Sterkstroom		1	100		1:9280
Strand	2	9	350	1:13714	1:3358
Swellendam	1	2	100	1:24797	1:13480
Uitenhage	5	9	80	1:18909	1:14960
Vredenburg	1	4	300	1:18851	1:7980
Vredendal	1	3	200	1:19679	1:7613
Vryburg	3	2	−33	1:21286	1:39770
Warrenton		1	100		1:18840
Wellington	3	5	67	1:8374	1:6180
Worcester	6	9	50	1:14183	1:10567
Wynberg	8	15	88	1:70190	1:49736

* using 1970 and 1980 population figures.

Magisterial District	1972	1982	% Change	D:P Ratios 1972	1982
Natal	216	352	63		
Camperdown	1	1	0	1:26431	1:42180
Dundee	3	3	0	1:11630	1:11187
Durban	133	195	47	1:4095	1:2657
Eshowe	1	1	0	1:13807	1:28680
Estcourt	2	1	−50	1:22549	1:50660
Inanda	3	13	333	1:64710	1:11938
Klipriver	2	5	150	1:34196	1:21004
Lions River	3	2	−33	1:13597	1:21940
Lower Tugela	3	7	133	1:33846	1:18329
Lower Umfolozi	3	8	167	1:12717	1:7895
Mooi River		1	100		1:23680
Newcastle	4	13	225	1:11309	1:4282
Pietermaritzburg	25	46	84	1:6967	1:4070
Pinetown	17	31	82	1:13925	1:11429
Pondo	1	1	0		
Port Shepstone	4	15	275	1:11505	1:5275
Umvoti	2	1	−50	1:18007	1:45220
Umzinto	5	2	−60	1:10975	1:46970
Underberg		1	100		1:14540
Vryheid	4	5	25	1:22116	1:17644

* using 1970 and 1980 population figures.

Magisterial District	1972	1982	% Change	D:P Ratios 1972	1982
Orange Free State	66	107	62		
Bethlehem	4	6	50	1:19308	1:13537
Bethulie	1	2	100	1:11632	1:4940
Bloemfontein	27	45	67	1:7955	1:5689
Bothaville		1	100		1:60220
Bultfontein		1	100		1:27940
Clocolan	1		−100	1:20756	
Dewetsdorp	1		−100	1:15029	
Edenburg	1		−100	1:8644	
Ficksburg	1	1	0	1:28239	1:32580
Frankfort	1	1	0	1:42891	1:43900
Harrismith	2	2	0	1:37818	1:39760
Heilbron	1	1	0	1:38397	1:39900
Hennenman		1	100		1:19120
Kroonstad	5	8	60	1:18634	1:13020
Ladybrand	1	2	100	1:34031	1:15930
Lindley	1		−100	1:37936	
Odendaalsrus	1	1	0	1:40482	1:55160
Parys	1	3	200	1:27859	1:10707
Reitz		1	100		1:31120
Sasolburg	4	9	125	1:15072	1:8631
Senekal	1	1	0	1:48853	1:48500
Theunissen	1	1	0	1:29974	1:27320
Virginia	3	3	0	1:17939	1:25273
Vrede	1	1	0	1:42280	1:48040
Welkom	7	14	100	1:19932	1:13404
Wepener		1	100		1:14300
Wesselsbron		1	100		1:24120

* using 1970 and 1980 population figures.

Transvaal	887	1423	60		
Alberton	3	9	200	1:50735	1:28693
Amersfoort		1	100		1:29160
Balfour		1	100		1:46000
Barberton	2	8	300	1:39449	1:8860
Belfast	1	1	0	1:32772	1:33100
Benoni	13	26	100	1:12657	1:7901
Bethal	3	5	67	1:36715	1:17588
Boksburg	7	14	100	1:15000	1:11199
Brakpan	9	12	33	1:12705	1'6650
Brits	2	11	450	1:33842	1:6307
Bronkhorstspruit	1	3	200	1:40004	1:12940
Carolina		1	100		1:31840
Christiana	1	1	0	1:13873	1:14280
Delareyville		3	300		1:10860
Delmas		1	100		1:42800
Ermelo	6	7	17	1:17334	1:17129
Germiston	25	36	44	1:5642	1:4623
Groblersdal	1	3	200	1:39906	1:21313
Heidelberg	2	4	100	1:17735	1:10710
Highveld Ridge	3	11	267		1:12304
Johannesburg	429	587	37	1:3305	1:2613
Kempton Park	12	22	83	1:12112	1:13150
Klerksdorp	15	25	67	1:13791	1:9547
Koster	1	1	0	1:31579	1:27980
Krugersdorp	15	22	47	1:8481	1:6995
Lenasia		12	1200		
Letaba	5	11	120	1:16867	1:8087
Lichtenburg	6	7	17	1:12832	1:11151
Lydenburg	2	3	50	1:23242	1:14560
Marico	1	1	0	1:48573	1:49020

Transvaal (continued)					
Messina	1	1	0	1:23014	1:26520
Middelburg	4	10	150	1:30545	1:12746
Nelspruit	6	12	100	1:12511	1:9138
Nigel	3	5		1:10107	1:6392
Oberholzer	5	9	80	1:19181	1:13984
Pilgrimsrest		3	300		1:17927
Piet Retief	2	3	50	1:31135	1:35840
Pietersburg	6	14	133	1:11998	1:8249
Potchefstroom	10	15	50	1:12415	1:9400
Potgietersrus	2	7	250	1:47286	1:15103
Pretoria	185	328	77	1:3419	1:1668
Randburg	10	19	90		1:11037
Randfontein	3	4	33	1:19570	1:22865
Roodepoort	13	29	123	1:10964	1:5950
Rustenburg	8	14	75	1:11025	1:7837
Schweizer-Reneke	1	1	0	1:39308	1:41306
Soutpansberg	3	3	0	1:23058	1:25500
Springs	11	15	36	1:9561	1:11345
Standerton	3	6	100	1:28795	1:15410
Swartruggens		1	100		1:11880
Vanderbijlpark	12	17	42	1:7541	1:19838
Vereeniging	18	20	11	1:12479	1:8861
Volksrust	1	1	0	1:29537	1:29860
Warmbad	1	3	200	1:36675	1:14140
Waterberg	2	5	150	1:29764	1:15076
Westonaria	3	5	67	1:21310	1:21296
White River	1	2	100	1:30870	1:64360
Witbank	6	9	50	1:17386	1:17156
Wolmaransstad	1	2	100	1:56803	1:29280
Wonderboom	1	11	1000		1:25931

Table I: Five lowest and five highest dentist to total population ratios in 1972 and 1982 by magisterial district and province. Estimates of possible revised dentist to population ratios (i.e. likely attenders for treatment) are listed.

Year 1972	Lowest		Possible Revised	Highest		Possible Revised
Province	D:P Ratio	District	D:P Ratio	D:P Ratio	District	D:P Ratio
Cape Province	1:1379	Cape Town	1:414	1:70190	Wynberg	1:21058
	1:2494	Hermanus	1:748	1:56009	Namaqualand	1:16802
	1:4068	Somerset West	1:1220	1:41627	Postmasburg	1:12488
	1:5252	Knysna	1:1576	0:33645	Alexandria	0:10094
	1:5388	Simonstown	1:1616	1:29544	Piketberg	1:8864
Natal	1:4095	Durban	1:1228	1:64710	Inanda	1:19414
	1:6967	Pietermaritzburg	1:2090	1:34196	Kliprivier	1:10258
	1:10975	Umzinto	1:3292	1:33846	Lower Tugela	1:10154
	1:11505	Port Shepstone	1:3452	1:26431	Camperdown	1:7930
	1:11630	Dundee	1:3490	1:22116	Vryheid	1:6634
Orange Free State	1:7955	Bloemfontein	1:2387	1:48853	Senekal	1:14656
	1:8644	Edenburg	1:2593	1:42891	Frankfort	1:12867
	1:11632	Bethulie	1:3490	1:42280	Vrede	1:12684
	1:15029	Dewetsdorp	1:4509	1:40482	Odendaalsrus	1:12145
	1:15072	Sasolburg	1:4522	1:38397	Heilbron	1:11519
Transvaal	1:3305	Johannesburg	1:992	1:56803	Wolmaransstad	1:17041
	1:3419	Pretoria	1:1026	1:50735	Alberton	1:15221
	1:5642	Germiston	1:1693	1:48573	Marico	1:1457
	1:7541	Vanderbijlpark	1:2262	1:47286	Potgietersrus	1:14186
	1:8481	Krugersdorp	1:2544	0:46318	Balfour	0:13895
Cape Province	1:997	Cape Town	1:299	1:55880	Postmasburg	1:16764
	1:1576	Albany	1:473	1:49736	Wynberg	1:14921
	1:2057	Bellville	1:617	1:39770	Vryburg	1:11931
	1:3374	Stellenbosch	1:1012	1:31953	Gordonia	1:9586
	1:3727	Somerset West	1:1118	1:30660	Alexandria	1:9198
Natal	1:2657	Durban	1:797	1:50660	Estcourt	1:15198
	1:4070	Pietermaritzburg	1:1221	1:46970	Umzinto	1:14091
	1:4282	Newcastle	1:1285	1:45220	Umvoti	1:13566
	1:5275	Port Shepstone	1:1583	1:42180	Camperdown	1:12654
	1:7985	Lower Umfolosi	1:2396	1:23680	Mooi River	1:7104
Orange Free State	1:4940	Bethulie	1:1482	1:60220	Bothaville	1:18066
	1:5689	Bloemfontein	1:1707	1:55160	Odendaalsrus	1:16548
	1:8631	Sasolburg	1:2589	1:48500	Senekal	1:14550
	1:10707	Parys	1:3212	1:48040	Vrede	1:14412
	1:13404	Welkom	1:4021	1:43900	Frankfort	1:13170
Transvaal	1:1668	Pretoria	1:500	1:64360	White River	1:19308
	1:2613	Johannesburg	1:784	1:49020	Marico	1:14706
	1:4623	Germiston	1:1387	1:46000	Balfour	1:13800
	1:6307	Brits	1:1892	1:42800	Delmas	1:12840
	1:6650	Brakpan	1:1995	1:35840	Piet Retief	1:10752

Table II: Magisterial districts with dentist to total population ratios of 1:40000 or more in 1972 or 1982 or both.

Magisterial District	Dentist		D:P Ratios			
	1972	1982	1972		1982	
			Total	Revised	Total	Revised
Cape						
Namaqualand	1	6	1:56009	1:11373	1:11067	1:1877
Wynberg	8	15	1:70190	1:16254	1:49736	1:9761
Natal						
Camperdown	1	1	1:26431	1:4887	1:42180	1:6720
Estcourt	2	1	1:22549	1:3594	1:50660	1:6200
Inanda	3	13	1:64710	1:3312	1:11938	1:1425
Umvoti	2	1	1:18007	1:1691	1:45220	1:3540
Umzinto	5	2	1:10975	1:1404	1:46970	1:4390
Orange Free State						
Bothaville	—	1	—	—	1:60220	1:4780
Frankfort	1	1	1:42891	1:4982	1:43900	1:4600
Odendaalsrus	1	1	1:40482	1:7863	1:55160	1:9320
Senekal	1	1	1:48853	1:4402	1:48500	1:3880
Vrede	1	1	1:42280	1:4181	1:48040	1:3420
Transvaal						
Alberton	3	9	1:50735	1:9076	1:28693	1:5215
Balfour	—	1	—	—	1:46000	1:5520
Bronkhorstspruit	1	3	1:40004	1:5947	1:12940	1:2607
Delmas	—	1	—	—	1:42800	1:7760
Marico	1	1	1:48573	1:7747	1:49020	1:7420
Potgietersrus	2	7	1:47286	1:7219	1:15103	1:2109
Schweizer-Reneke	1	1	1:39308	1:4285	1:41360	1:4160
White River	1	2	1:30870	1:6850	1:64360	1:4610
Wolmaransstad	1	2	1:56803	1:8155	1:29280	1:3650

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