THE CAUSES OF DEATH OF SOUTH AFRICAN DOCTORS AND DENTISTS*

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It has been well established that there is a social class difference in life expectancy and that the upper economic class has a longer life-span than the lower.[1] Although doctors are usually in the upper income group, they live lives with irregular hours and great nervous strain. This study was therefore undertaken to compare the expectation of life of South African doctors and dentists with other South Africans in the same racial and age-groups and also to find out how the causes of death of doctors and dentists compared with those of other South Africans.[2]

STATISTICAL DATA

The number of doctors registered by the South African Medical and Dental Council has increased four times from 1931 to 1966 (Table I). On the other hand, the number of dentists registered has only doubled during this period. A special census of doctors and dentists was carried out by the Bureau of Statistics in June 1964, and at that time there were 8,723 doctors and 1,347 dentists registered with the Medical and Dental Council, some of whom were not living in South Africa at the time of the census. The census was very thorough and nearly all the registered doctors and dentists were eventually traced either in South Africa or abroad. At the start of this study the age and race distribution of the South African doctors and dentists was not known by the Medical and Dental Council because they are registered without any reference to their racial group. The Director of the Bureau of Statistics and his staff arranged that the census forms of doctors and dentists resident in South Africa at the time of the 1964 census should be re-analysed by sex, whether White, Coloured, Asian or Bantu, and by age-group. At the time of the 1964 census 944 doctors and 146 dentists registered with the Council were not resident in South Africa, although many of them were practising in nearby territories, for instance in South West Africa and Rhodesia. Others were in Europe or the USA.

TABLE I. DOCTORS AND DENTISTS OF BOTH SEXES AND ALL RACES INCLUDING THOSE NOT RESIDENT IN SOUTH AFRICA REGISTERED WITH THE SOUTH AFRICAN MEDICAL AND DENTAL COUNCIL

Year ending	*Doctors*	*Dentists*
1931	2,338	684
1941	3,688	766
1951	5,777	991
1961	8,063	1,327
1964*	8,723	1,347
1966	9,303	1,397

*A census of doctors and dentists residing in South Africa took place in June 1964.

There were 6,483 White male doctors and 800 White female doctors resident in South Africa in June 1964, out of a White population of 3·3 million (1964). There were 298 Asian male and 19 female doctors out of 520,000 Asians. There were only 70 male and 3 female Coloured doctors out of a Coloured population of 1·7 million, and 98 male and 8 female Bantu doctors out of a Bantu population of just on 12 million. There were 1,177 White male and 14 White female dentists. There were only 10 Asian and no Coloured or Bantu dentists.

Because of the rapid increase in the doctor population in the last 35 years, both because of the increasing number of medical students who graduate and because of immigrants from Europe, the doctor population is a young one and more than half the doctors registered with the Council are below the age of 45 years (Table II). Some doctors over the age of 70 years have terminated their registration with the Medical Council at their own request and the number of doctors resident in South Africa over the age of 70 years is therefore more than is shown in Table II.

Having obtained the age distribution of the doctor and dentist population resident in South Africa and registered with the Medical Council, the problem was to trace the records of those who had died before and after the 1964 census. A 7-year period, 1960 - 1966, was taken for this purpose. The Bureau of Statistics decoded the cards in which the profession on the death certificates had been

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TABLE II. AGE DISTRIBUTION OF SOUTH AFRICAN DOCTORS AND DENTISTS REGISTERED WITH THE COUNCIL AND LIVING IN SOUTH AFRICA AT THE TIME OF THE CENSUS (1964)

	Doctors											*Dentists*										
Age-group	*White*		*Asian*		*Coloured*		*Bantu*		*Total all doctors*			*White*		*Asian*		*Coloured*		*Bantu*		*Total all dentists*		
	M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*Total*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*Total*
20–24	110	32	6	1	1	—	—	—	117	33	150	13	1	—	—	—	—	—	—	13	1	14
25–29	676	83	63	2	25	—	19	1	783	86	869	163	3	—	—	—	—	—	—	163	3	166
30–34	805	112	104	8	19	2	31	4	959	126	1,085	195	3	—	1	—	—	—	—	195	4	199
35–39	1,081	146	58	5	14	1	21	1	1,174	153	1,327	226	4	5	—	—	—	—	—	231	4	235
40–44	1,070	133	35	1	7	—	14	—	1,126	134	1,260	126	—	1	—	—	—	—	—	127	—	127
45–49	872	86	15	1	2	—	9	2	898	89	987	81	2	2	—	—	—	—	—	83	2	85
50–54	604	64	10	1	1	—	2	—	617	65	682	50	1	—	—	—	—	—	—	50	1	51
55–59	380	45	2	—	—	—	1	—	383	45	428	63	—	1	—	—	—	—	—	64	—	64
60–64	412	40	3	—	—	—	1	—	416	40	456	114	—	—	—	—	—	—	—	114	—	114
65–69	244	43	2	—	—	—	—	—	246	43	289	87	—	—	—	—	—	—	—	87	—	87
70–74	120	9	—	—	—	—	—	—	120	9	129	40	—	—	—	—	—	—	—	40	—	40
75–79	64	4	—	—	1	—	—	—	65	4	69	15	—	—	—	—	—	—	—	15	—	15
80–84	30	2	—	—	—	—	—	—	30	2	32	3	—	—	—	—	—	—	—	3	—	3
85+	15	1	—	—	—	—	—	—	15	1	16	1	—	—	—	—	—	—	—	1	—	1
Total	6,483	800	298	19	70	3	98	8	6,949	830	7,779	1,177	14	9	1	—	—	—	—	1,186	15	1,201
S.A. population mid-year estimates 1964 (× 1,000)	3,323		520		1,699		11,915		17,457													
Deaths 1960–66	440	22	10	—	3	—	14	—	467	22	489	90	2	—	—	—	—	—	—	90	2	92

coded as a doctor (medical practitioner) or dentist. It was found that the information coded on the death certificates was unreliable and only represented about two-thirds of the total number of doctors and dentists who had died. A number who were not registered doctors were coded as doctors, for instance doctors of homoeopathy, and many medical doctors who had on their death certificates some such profession as hospital superintendent or professor of surgery were not coded as doctors.

The Registrar of the South African Medical and Dental Council very kindly prepared a list from the Council's records of deaths among doctors for the 7-year period. The records of the Medical and Dental Council were found to be well kept, up-to-date and very reliable. The records where a doctor's name had been erased, for instance due to non-payment of the annual fee to the Council, were also checked. All the doctors and dentists who were registered with the Council and who are known to have died during the 7-year period have now been traced, including those who died overseas. The Council lists were compared with the lists mentioned above from the Bureau of Statistics and with the obituaries in the medical journals, and it is considered that very few, if any, deaths have been missed.

The next step was to trace and study the death certificates of all the doctors and dentists who had died and, where necessary, to cross-check the cause of death on the death certificate with the records of the hospital or of the attending doctor. During the 7-year period there were 489 deaths among doctors resident in South Africa, of whom 462 were White, 10 were Asian (9 Indian and 1 Chinese), 3 were Coloured and 14 were Bantu. There were 92 dentists who had died, all of them White (Table II).

In the older age-groups a higher porportion of doctors were immigrants from the United Kingdom and Europe (Table III).

TABLE III. BIRTHPLACE OF WHITE MALE DOCTORS DYING IN SOUTH AFRICA, 1960–1966

Age-group	*S.A.-born*	*Born in UK*	*Born in Europe*	*Born elsewhere*	*Total all immigrants*	*Grand total*
25–39	36	2	1	0	3	39
40–49	55	5	3	3	11	66
50–59	54	9	8	3	20	74
60–69	93	11	26	4	41	134
70+	58	44	17	8	69	127
Total	296	71	55	18	144	440

Age-Specific Death Rates

It was only possible to make a detailed comparison of the causes of death of the White male doctors and dentists with those of the general population, because the numbers in the non-White groups were too small. General comments, however, will be made about the other groups. As there is doubt about the numbers at risk over the age of 70 years, only rates up to the age of 69 years have been calculated.

The age-specific death rate in White South African male doctors and dentists (1960 - 1966) compared with all White South Africans (1959 - 1961) is shown in Table IV. At all ages the White doctors and dentists have a lower death rate than that of the total White male population.

TABLE IV. AGE-SPECIFIC DEATH RATES IN WHITE SOUTH AFRICAN MALE DOCTORS AND DENTISTS (1960–1966) COMPARED WITH RATES FOR ALL WHITE SOUTH AFRICANS (1959–1961) (PER 1,000 MALE POPULATION AT RISK)

Age at death	*All White South Africans*		*White doctors*		*White dentists*
25–29	2·3	2·6	2·1	2·0	2·0
30–34	2·8		2·0		
35–39	3·6	4·6	2·4	3·1	2·0
40–44	5·7		3·7		
45–49	8·0	10·4	6·1	6·1	4·4
50–54	13·1		6·1		
55–59	20·3	25·2	17·7	21·6	19·4
60–64	31·5		25·3		
65–69	47·6		37·5		41·1
70+	103·2		80·*		80·*

* Estimated.

Starting at the age of 25 years, the percentage of doctors and dentists surviving in successive 10-year periods has been compared with all White male South Africans (Table V). Sixty percent of doctors, 62% of dentists and 51% of all White male South Africans can expect to reach the age of 70 years. The life expectancy of doctors in South Africa compares very favourably with that of doctors in the United Kingdom.

TABLE V. PERCENTAGE WHITE MALE SOUTH AFRICANS SURVIVING AT DIFFERENT AGES FROM 25 YEARS ONWARDS

Age in years	*Percentage surviving*		
	All White males	*White doctors*	*White dentists*
25	100	100	100
35	97	98	98
45	93	95	96
55	84	89	92
65	65	72	76
70	51	60	62

THE CAUSES OF DEATH

The causes of death of the White doctors and dentists have been classified by age-group according to the International Classification of Diseases, 7th revision, using the B code (Table VI).

White doctors have considerably lower death rates than the 'expected' number of deaths, based on the deaths among the total White male population at risk in the same sex and 5-year age-groups as the doctors. This is true for all causes of death except coronary thrombosis, suicide, lung cancer, as will be shown later, and a few relatively uncommon conditions.

Analysis of Certain Selected Causes

B1 - 17: There were 3 deaths from infectious diseases, 2 meningitis and 1 cerebral malaria, while the expected number is 12·9.

TABLE VI. CAUSES OF DEATH OF WHITE SOUTH AFRICAN DOCTORS AND DENTISTS (LIST B) 1960–1966

	Code B	Doctors 25–29 years	30–34 years	35–39 years	40–44 years	45–49 years	50–54 years	55–59 years	60–64 years	65–69 years	70+ years	Total deaths	Expected deaths based on total White male population	Dentists	Female doctors
Infectious diseases	1-17	—	—	1	—	—	—	—	1	1	—	3	12·9		
Malignant neoplasms	18	—	3	2	1	3	5	9	20	11	21	75	100·9	15	9
Diabetes mellitus	20	—	—	—	1	—	1	—	—	1	1	4		4	1
Anaemias	21	—	—	—	—	—	—	—	—	—	3	3			
Vascular lesions of CNS	22	—	1	1	—	2	2	5	5	5	9	30	49·1	9	3
Chronic rheumatic heart disease	25	—	—	—	—	—	—	2	1	—	—	3			
Arteriosclerotic heart disease 420	26	2	2	5	11	16	12	19	30	28	35	160	169	33	3
422		—	—	—	—	—	—	1	2	1	5	9		3	
Other diseases of the heart	27	—	—	—	—	—	—	2	—	—	—	2			
Hypertension with heart disease	28	—	—	—	—	1	1	—	1	1	1	5			
Hypertension without mention of heart	29	1	—	—	—	—	1	—	—	—	1	3			
Pneumonia	31	—	—	—	—	1	1	2	1	1	16	22	28·3	3	
Bronchitis	32	—	—	—	—	—	—	2	2	1	3	8	7·7		
Ulcers of stomach and duodenum	33	—	—	—	1	—	—	1	—	—	2	4		2	
Cirrhosis of liver	37	—	—	2	1	1	1	—	1	—	1	7	5·5	1	
Nephritis and nephrosis	38	—	—	1	1	2	—	—	—	1	1	6			1
Hyperplasia of prostate	39	—	—	—	—	—	—	—	—	—	—	—		1	
Senility without mention of psychosis	45	—	—	—	—	—	—	—	—	—	6	6			
All other diseases	46	—	—	1	2	3	1	2	3	5	15	32		7	2
Total		3	6	13	18	29	25	45	67	56	120	382		78	20
Motor vehicle accidents	47	3	2	1	3	3	—	1	3	3	1	20	20·1	3	1
All other accidents	48	2	2	2	4	1	—	—	1	2	2	16	25·8	4	
Suicide	49	2	2	2	3	4	1	3	2	2	1	22	17·5	5	1
Aged 25–49 years												13	13·4	1	1
Over 50 years												9	4·1	4	—
Total		7	6	5	10	8	1	4	6	7	4	58		12	2
Grand total		10	12	18	28	37	26	49	73	63	124	440		90	22

B18: Malignant neoplasms caused 75 deaths; the expected number is 100·9. The cancer deaths are discussed below.

B22: Vascular diseases of the central nervous system caused 30 deaths; the expected number is 49.

B31: Pneumonia accounted for 22 deaths; the expected number is 28·3.

B26: Arteriosclerotic and degenerative heart disease accounts for by far the highest number of deaths, 169 out of 441, or 36% of the deaths. Of these deaths, 160 were listed as being deaths from coronary thrombosis. The death rate from coronary thrombosis among doctors is as high as in the general White population at risk.[2] The expected number of deaths is 169.

A higher death rate than average from coronary thrombosis normally occurs in the upper socio-economic group to which the doctors and dentists belong[3]—a sedentary life, high-fat diet and cigarette smoking are probably the main contributory factors. As doctors presumably receive good medical attention, morbidity rates from coronary thrombosis in doctors may well be higher than the average in the general population.

B32: There were 8 deaths caused by bronchitis, i.e. about the same as the expected number. Death from chronic bronchitis is relatively uncommon in South Africa compared with the situation in the UK.

B37: Deaths from cirrhosis of the liver (7) are about the same as the expected number. This is probably an understatement of the true number of deaths at least partly due to cirrhosis of the liver, as there is a natural reluctance to give this cause of death on the death certificate. A high consumption of alcohol is common in South Africa.

B46: There were 32 male deaths from natural causes other than those specifically indicated in the B code. Seven were from ruptured aortic aneurysms (code 451)—the expected number was 2·4; 7 were from pulmonary embolism (code 465)—the expected number was 6; 3 were from generalized arteriosclerosis (code 450); there were 2 deaths each from gangrene (code 455), emphysema (code 527), hepatorenal failure (code 584) and pancreatitis (code 587). The remaining 7 deaths were from different causes. One of them was a death from multiple sclerosis (code 345), a disease that is relatively uncommon in South Africa.

Deaths from Violence, B47 - 49

B47: The number of deaths in motor car accidents among doctors (code 20) is the same as the expected number. Doctors travel a greater mileage than average, often in a state of fatigue, and their accident rate per distance travelled is therefore probably below average.

B48: All other accidents accounted for 16 deaths, while the expected number is 25·8. These accidental deaths included 3 anaesthetic deaths, one aeroplane and one minicopter crash, one death from bee stings, and one doctor who disappeared and was presumed drowned.

B49: It has been noted in other studies that doctors have a higher than average suicide rate.[4-6] In this study there were 22 suicides, while the expected number was 17·5. Up to the age of 50 years the number of suicides (13) is the same as the 'expected' number. Over the age of 50 years the 9 suicides are twice the expected number.

In other studies most doctors who committed suicide did so by taking an overdose of narcotic drugs, usually barbiturates, but 12 of the 22 South African doctors, all South African-born, committed suicide by shooting. Of the re-

maining 10—6 South African-born, 2 immigrants from England, 1 from Austria and 1 from Lithuania—8 took barbiturates or a narcotic drug and 1 an overdose of insulin, and 1 fractured his skull. Shooting is the commonest method of committing suicide used by White male South Africans, possibly because guns are easily available.[2] In the UK shooting is an unusual suicide method.

Discreet enquiries were undertaken to find out as far as possible the reasons why these doctors took their own life. Depression often associated with a heavy work load, but sometimes a depressive psychosis, was the commonest cause. About a third had been addicted to drugs which are not normally available to the general public, and the commonest drug was pethidine. Alcoholism was another factor that often appeared to play a part. Clearly, doctors and dentists need to be particularly careful not to run the risk of addiction to habit-forming drugs such as pethidine and morphine.

Women Doctors

There were only 22 deaths during the 7-year period among the White women doctors, although 800 were registered with the Medical Council and resident in South Africa in 1964. The expected number of deaths if the women had had the same mortality as the total White South African women at risk in the same age-groups would be 44. Women doctors have therefore a much lower death rate than the average White South African woman.

In women doctors one cause of death stands out, namely lung cancer, which accounted for 5 out of the 9 cancer deaths and 5 out of the total of 22 deaths.

Bronchial Carcinoma and Other Cancers

By far the commonest cancer to cause death in South African doctors is cancer of the lung (17 male and 5 female deaths). The expected number was 19 and 0·5, respectively. In male doctors the risk of developing lung cancer is therefore of the same order as in the White population as a whole (Tables VII and VIII). In women the rates are the highest reported for any group in the world.

The next of kin of the men and women who died from lung cancer were asked for details about their smoking habits, and wherever possible this information was confirmed from their medical attendants. Reliable information was obtained about the smoking habits of all the men and women who died from this cause. Of the 17 men, 15 smoked cigarettes, 1 was a heavy cigar smoker and 1 did not smoke. Of the 15 men who smoked cigarettes, 11 smoked on average 30 or more cigarettes daily and, of these, 7 smoked 40 or more. The average number of cigarettes reported to be smoked by the 15 cigarette-smoking men who died from lung cancer was 36·5 cigarettes a day. Four of the 5 women doctors who died from lung cancer smoked cigarettes, and they were all heavy smokers, smoking on average 30 or more cigarettes daily.

TABLE VIII. LUNG CANCER DEATH RATES AMONG SOUTH AFRICAN DOCTORS (ANNUAL RATES/100,000)

Age-group	*Male*	*Female*
45 - 64 years	50 (8)	182 (3)
Over 65 years	272 (9)	484 (2)

Numbers in parentheses indicate lung cancer deaths.

These smoking habits are very similar to those found in a retrospective study of the smoking habits of South African-born men and male immigrants to South Africa who had died from lung cancer between the ages of 45 and 64 during the 10-year period 1947 - 1956.[3] In this study the smoking habits of the men who died from lung cancer were compared with controls chosen from men dying in the same age-groups but from other causes. More of the men who died from lung cancer smoked cigarettes than the controls, and they smoked more than the controls. For instance, the average number of cigarettes smoked by men born in the Republic who smoked cigarettes and who died from lung cancer was 31/day, compared with the controls who smoked, who averaged 24/day. Among the immigrants from the UK the cigarette smokers who developed lung cancer averaged 33 cigarettes/day, and the controls who smoked cigarettes 27/day. The number of cigarettes smoked by the South African

TABLE VII. DEATHS FROM MALIGNANT NEOPLASMS (B18) AMONG WHITE DOCTORS AND DENTISTS REGISTERED WITH THE SOUTH AFRICAN MEDICAL AND DENTAL COUNCIL WHO DIED IN SOUTH AFRICA 1960–1966

		Doctors								*Dentists*		
		Male				*Female*				*Male*		
Cancer	*A code*	*S.A.-born*	*Immigrant*	*Total*	*'Expected' number*	*S.A.-born*	*Immigrant*	*Total*	*All doctors*	*S.A.-born*	*Immigrant*	*Total*
Stomach	150	3	3	6	19·1				6			
Large bowel	153	4	3	7	6·2				7			
Rectum	154	—	2	2					2			
Pancreas	157	5	—	5	5·1				5	1	—	1
Lung	162	11	6	17	19·5	1	4	5	22	3	1	4
Prostate	177	6	2	8					8	1	2	3
Kidney	180	3	1	4					4			
Bladder	181	2	1	3					3	1	—	1
Lymphosarcoma	200	2	4	6	1·0	1	—	1	7			
Myeloma	203	2	—	2					2			
Leukaemia	204	2	4	6	3·9	—	2	2	8	—	1	1
All others		5	4	9		1	—	1	10	2	3	5
Total		45	30	75		3	6	9	84	8	7	15

men who died from lung cancer and smoked in 1947 - 1956 (average 32/day) is very similar to the number of cigarettes smoked by the doctors who smoked and who died from lung cancer between 1960 and 1966, who averaged 36·5 cigarettes/day.

In the UK, unlike South Africa, the lung cancer death rate of doctors has fallen during the last 15 years in marked contrast to the rates in the general population which, as in South Africa, have risen steadily.[5] This fall in the death rates from lung cancer among British doctors has followed a marked reduction in the number of doctors smoking cigarettes in the UK.

There is clearly a strong relationship between cigarette smoking and the risk of lung cancer. When the South African doctors follow the example of their colleagues in the UK, there will be every reason to expect that here, too, there will be a marked fall in the lung cancer deaths.

TABLE IXA. DEATH RATES/1,000 MEN AGED 35 - 84 YEARS (STANDARDIZED FOR AGE)*

Place	*1954 - 1957*	*1958 - 1961*	*1962 - 1964*
All England and Wales	1·49	1·71	1·86
British doctors	1·09	0·83	0·76

*From Doll.[10]

TABLE IXB. CHANGES IN DOCTORS' SMOKING HABITS

Habit	*1951*	*1957 - 58†*	*1961†*
Non-smokers and ex-smokers (%)	34	45	56
Smokers of cigarettes alone (%)	43	33	24
Smokers of cigarettes and tobacco (%)	12	9	8
Smokers in other forms: pipes and/or cigars (%)	11	13	12
	100	100	100

*From the Royal College of Physicians' report.[11]
†The 1957 and 1961 populations were the survivors of the 1951 population.

In marked contrast to the lung cancer deaths the number of doctors who died from stomach cancer was small, namely 6. The expected number is 19. Death from stomach cancer is less than half as common among the upper social class as among the total population. The difference between the actual number and the expected number is not, therefore, statistically significant.[9]

There were 9 deaths from cancer of the colon and rectum—about the expected number. Cancer of the colon and rectum is more common in the UK and among immigrants from the UK and Europe to South Africa than in the South African-born,[2] and 5 out of the 9 deaths from cancer of the colon were among immigrants.

Cancer of the prostate occurred mostly in men aged over 70 years and was about the expected number. It is a common cancer causing death in South Africa.

Six deaths were classified as lymphosarcoma, while only 1 would be expected. A follow-up study was made of these 6 deaths. One was a Schwannoma, but 5 were lymphosarcomas proved at biopsy. All 5 were Jewish and 4 of these were immigrants from Europe. This type of cancer is of particular interest because of the possibility that it may be caused by a virus infection. The background of the doctors who died from lymphosarcoma is being investigated further.

Deaths in South African dentists cannot be analysed in such detail as among the doctors, because the numbers who died in the period under study are not as great. It can be seen that the causes of death in dentists follow a similar pattern to that of the doctors. Lung cancer is the commonest cancer to cause death (Table VI).

DEATHS AMONG THE ASIAN, COLOURED AND BANTU DOCTORS

There were 3 deaths among the 70 Coloured male doctors practising in South Africa in 1964. If the Coloured doctors had the same risk of death as White male doctors in the same age-groups, the expected number would be 2, not a significant difference. The 3 deaths were from rheumatic heart disease, cirrhosis of the liver and a motor car accident, respectively.

Among the Asians there were 10 deaths; 9 Indian and 1 Chinese. The expected number of deaths among the Asian doctors, if they had the same risk of death as the White male doctors, would have been 7; not a significant difference. The causes of death among Indian doctors were similar to those among White doctors: 3 from coronary thrombosis, 1 from hypertensive heart disease, 2 from cerebral haemorrhage, 1 from chronic pyelonephritis, 1 from pulmonary tuberculosis and 1 in a motor accident. The high risk of death from coronary thrombosis, hypertension and cerebral haemorrhage which has been noted among the Indian population as a whole[2] also occurred among the Indian doctors. The Chinese doctor died in a motor accident.

There were 14 deaths among male Bantu doctors out of the total Bantu doctor population of 98. The expected number, if the Bantu doctors had the same risk of death as the White male doctors in the same age-groups, would have been 3.

The high death rate among Bantu doctors is worthy of special thought and comment. Alcoholism with its complications was mentioned 4 times as the primary cause of death. There were 2 deaths after motor car accidents, 1 death from pulmonary tuberculosis and 1 death from subacute bacterial endocarditis (no doubt due to rheumatic heart disease), 2 deaths from lobar pneumonia, and 1 from cancer of the pancreas, left-sided heart failure, coronary thrombosis and subarachnoid haemorrhage, respectively. There are so few Bantu doctors in South Africa —1 doctor out of every 120,000 Bantu—that great care should be taken in the selection of Bantu students for medical school as far as their physical and psychological fitness is concerned, and they should be specially warned of the dangers to their health to which they appear particularly liable.

CONCLUSION

White South African doctors and dentists have a considerably lower mortality than the average White South African, no doubt because of their high economic status, good standard of living and, on the whole, good medical care. Nevertheless they do have a death rate from coronary thrombosis, lung cancer and suicide as high as or higher than occurs in the general population. These 3 causes of death result, in the main, from our modern way of life. Coronary thrombosis, for instance, is related to a

sedentary life and lack of daily exercise, a rich man's diet, cigarette smoking and perhaps nervous tension. Cancer of the lung is highly related to the number of cigarettes smoked. Suicide in doctors often results from drug or alcohol addiction besides the more usual cause of depression.

The reasons for the high mortality rates in Bantu doctors require further study so that suitable remedial action can be taken, perhaps by more careful screening of candidates for a medical career, both psychologically and physically, and by good counselling of medical students.

We are our brothers' keepers. Doctors and dentists have a duty not only to the general public but also to themselves. Should we not take better care of our own health, for instance by taking regular exercise—at least a good daily walk, and by using stairs rather than a lift; by not smoking cigarettes and by being moderate with alcohol; and by regular periods of relaxation and holiday? We would also be setting a good example for our patients. Because it is a tradition—a good one—that doctors do not charge their colleagues, we are on the whole slow to seek advice about our own physical and psychological problems, except in serious need, since we do not wish to impose on the time of our friends. Perhaps there should be a medical benefit society for doctors and dentists, as this would encourage us to have our own personal physician. We should always remember the special danger to doctors and dentists inherent in habit-forming drugs, such as pethidine, which are easily obtainable. These drugs should not be self-administered except in dire emergency and on a single occasion.

SUMMARY

White South African doctors and dentists have considerably lower mortality rates at all ages than the general White population of South Africa. Coloured and Asian doctors also have a relatively low mortality risk. Bantu doctors have a high mortality rate, 5 times higher than the mortality in White doctors.

White doctors and dentists have a risk of death from most diseases less than the risk in the general White population. There is, however, a relatively high mortality risk from coronary thrombosis, carcinoma of the lung and suicide. Women doctors have a very high death rate from lung cancer.

Doctors and dentists have a duty to their own health as well as that of their patients, and would be wise to have their own personal physician.

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