Report on the public health / Southern Rhodesia.

SOUTHERN RHODESIA.

Report on the Public Health for the Year 1920.

Presented to the Legislative Council,
1921.

PART I.

In presenting the Public Health Report for the year 1920, though we have to confess to a year of little progress in the direction of much-needed sanitary reform and legislation, it is a subject for congratulation that this year has been marked by an absence of serious diseases or epidemics, and the general health of the people, both European and native, has been above the average.

The birth rate continues high in relation to the probable number of females of marriageable age, though the approaching Census will supply us with more accurate particulars in this respect, whilst the death rate continues to decline, and as far as Europeans are concerned now compares favourably with that of any province of South Africa.

Vital Statistics.

On the eve of a Census the estimation of the European population of the country by the somewhat crude methods we have been forced to adopt in the last few years, owing to conditions brought about by the war and other causes, may appear to be a work of supererogation, if not altogether Gilbertian. At the same time, in order to maintain conformity with previous years, some attempt must be made to arrive at even an approximate estimate of what the total European population may be. Working, therefore, on the lines previously adopted, we find that as the excess of immigration over emigration during the period 1st July, 1919, to 30th June, 1920, was approximately 2,075, and the excess of births over deaths was 442, there was a net gain of 2,517, bringing the estimated population at the middle of 1920 to 40,801.

During the year the number of persons entering the Territory in excess of those leaving was 4,279, as follows :—

1920.	Number of Europeans entering the Territory by rail.		Number of Europeans leaving the Territory by rail.	
	Males.	Females.	Males.	Females.
January	1,242	752	1,234	895
February ...	1,176	724	957	587
March	789	521	682	340
April	1,233	720	1,034	617
May	1,180	801	915	432
June	1,637	1,010	1,226	913
July	1,460	1,023	1,082	888
August	1,329	897	1,093	845
September ...	1,150	903	929	707
October	964	663	852	601
November ...	1,147	688	899	536
December ...	1,547	1,123	1,262	874
	14,854	9,825	12,165	8,235
Total	24,679		Total	20,400

Births.—855 European births were registered in the Territory during the year under review, of which 436 were males and 419 females, being an increase of 99 over the previous year. This gives a crude birth rate on the estimated population of 20.96 per thousand.

The following table gives the birth rate calculated on the estimated population for the last ten years :—

1920.	1919.	1918.	1917.	1916.	1915.	1914.	1913.	1912.	1911.
20.96	19.75	21.38	24.17	23.56	23.84	23.81	23.60	27.30	27.11

There were five plural births—all twins—seven illegitimate and nineteen still births.

The parental nationality is given in Table I. of the appendix, and shows a continued slight decrease in the proportion of births where both parents were British, and a correspondingly slight increase where both parents were Dutch.

Deaths.—The total number of deaths recorded amongst the European population is 345, as compared with 372 in 1919, with a crude mortality rate on the estimated population of 8.46 per thousand.

The following are the death rates per thousand of the population for the last ten years :—

1920.	1919.	1918.	1917.	1916.	1915.	1914.	1913.	1912.	1911.
8.46	9.72	17.6	8.45	6.97	10.46	9.58	10.74	12.68	12.20

In the absence of any figures as regards age and sex distribution of the population, no attempt can possibly be made to arrive at a corrected death rate.

Excluding fluctuations due to epidemic disease, a general review of mortality rates over an extended period of years shows that the death rate from essentially climatic diseases, such as malaria and blackwater, is on the whole declining, as is to be expected with the improvable conditions of life in rural areas, and with a gradually increasing population the deaths now registered cover a wider range of diseases.

There were only 28 deaths from malaria in 1920, as compared with 40 in 1919, but a slight increase in the number of deaths from blackwater.

Of other causes of death, 10 were returned as due to epidemic influenza, as compared with 61 in 1919. There were 25 deaths from pneumonia, as compared with 33 the previous year, a certain number of which were probably influenzal in origin. Deaths from other causes do not call for any comment.

A classification showing all causes of deaths in the Territory for the period under review will be found in the appendix.

Health and Sanitation on Mines.

The health of European miners does not call for comment, and is included in the general returns in the country. Amongst native miners the general health has shown a marked improvement, the death rate from disease being the lowest on record. The number of employers of labour, *i.e.*, mines rendering returns, continues to decrease, being only 287, as compared with 478 in 1919. The total number of native miners employed, however, shows a distinct increase, the average number employed on mines during the year being 37,669, as against 30,296 in 1919.

Number of Employers of Labour.—The number of employers of labour rendering returns was as follows :—

Matabeleland	147
Mashonaland	140
	287

The number rendering returns in each district was :—

Salisbury	79
Hartley	61
Gwelo	52
Bulawayo	81
Victoria	14
	287

Number of Native Labourers Employed.—The number of native labourers employed was 37,669, as compared with 30,296 last year. They were distributed as follows :—

Matabeleland	23,745
Mashonaland	13,924
	37,669

The number in each district was :—

Salisbury	8,643
Hartley	5,281
Gwelo	7,733
Bulawayo	13,651
Victoria	2,361
	37,669

Territorial classification :—

Southern Rhodesia	9,746
Portuguese East Africa	5,203
Northern Rhodesia	9,361
Nyasaland	12,869
Other sources	711
	37,890

Note.—The figure 37,669 represents the daily average of natives employed, and the figure 37,890—territorial classification—represents the average of the actual number of natives on the mines on the last day of each month, and not the daily average.

The increase of native mine labourers has been chiefly in the base metal mines, with a shrinkage in the numbers employed on gold mines.

Six hundred and seventy-four deaths were registered amongst native mine employees, giving a total death rate of 17.9 per thousand, as compared with 19.71 in 1919.

The death rate from diseases, excluding accidents and injuries, was 15.9, as compared with 16.73 in the previous year. This mortality rate now compares favourably with the death rates amongst native miners in the Rand and elsewhere in the Union, and, as I have already mentioned, is the lowest yet recorded in Southern Rhodesia.

Native mine labour is almost entirely recruited from Southern Rhodesia, Portuguese East Africa, Northern Rhodesia and Nyasaland, and the mortality rates amongst these groups are of some interest, in view of the importance of the importation of alien labour for work on mines and farms in this country.

The following table gives the mortality rate amongst these various groups during 1920 :—

MORTALITY AMONGST NATIVE MINE LABOURERS IN SOUTHERN RHODESIA FOR THE YEAR 1920.

CAUSES OF DEATH.

Territorial classification.	Malarial fever.	Scurvy.	Syphilis.	Pneumonia.	Phthisis.	Other diseases of chest.	Dysentery.	Diarrhœa.	Other intestinal diseases.	Heart disease.	Debility.	Other diseases.	Accident.	Totals.	Death rate per 1,000 per annum employed.		
															Disease.	Accident.	All causes.
Southern Rhodesia ...	9	...	1	28	4	4	2	1	2	6	3	17	16	93	7·91	1·64	9·56
Portuguese E. Africa	1	...	1	25	9	5	2	...	2	3	2	11	6	67	11·72	1·15	12·88
Northern Rhodesia ...	23	3	1	55	19	5	12	1	9	11	3	37	17	196	19·12	1·81	20·94
Nyasaland	21	4	4	135	15	8	6	...	9	21	3	50	34	310	21·45	2·64	24·09
Other Natives ...	...	...	...	2	3	1	...	...	..	...	...	...	...	2	8	8·44	2·81	11·25
Totals	54	7	9	246	48	22	22	2	22	41	11	115	75	674	15·81	1·98	17·79

From this it will be seen that the mortality rate amongst alien natives north of the Zambesi is considerably higher than amongst indigenous natives or natives from Portuguese East Africa.

It is difficult, however, to draw definite conclusions from these figures, or to say that in consequence of these returns one group of natives is more susceptible to disease than another, or is less suited to mining, for we know that both in the Union in the south, and in the Congo territory in the north, alien labour, whether drawn from the north or the south respectively, suffers more in proportion from disease than do natives recruited in their own country and in the vicinity of the mines. This applies especially to the first and second years of mining, and after that a progressive immunity appears to become established, till with the practised native miner the mortality rate conforms more or less with the mortality rate existing amongst indigenous natives engaged in pastoral or other pursuits.

If any deduction at all can be drawn from this, it is that as far as mining is concerned it is highly desirable to build up a permanent mining class either of indigenous or alien natives who will reside permanently on or in the vicinity of the mines with their wives and families, and who will not return after a period of work to their homes, but will remain to form the nucleus of a permanent labour class.

The factors which apply to natives engaged on farms do not appear to apply to those employed on mines. Though we have no reliable returns of the mortality rate amongst natives engaged on farms or in other classes of employment, taking it all round the mortality rate amongst them may be said to be light, irrespective of whether they are alien or indigenous.

Turning now to the cause of death amongst native mine employees, we find as in previous years that by far the larger proportion is due to pneumonia, 246 or 36.50 per cent. of the total deaths being ascribable to this cause, being somewhat higher than last year. The death rate per thousand per annum was practically the same as it was in 1919, though considerably reduced from previous years.

Systematic inoculation with anti-pneumococcal vaccines was practised on certain of the larger mines during the year, especially in the latter six months when pneumonia was most prevalent, but the results on the mortality rate must be admitted to be somewhat disappointing, though it is too early to make any definite statements until we can obtain further figures, including control returns from mines where this system of inoculation is not practised, for purposes of comparison. I hope to have more reliable data to include in the annual report next year.

The reports of Compound Inspectors generally show an improvement in sanitation, feeding and general conditions under which the native mine employee works, and there was a surprising absence of petty crime.

Malaria was fairly common as a cause of sickness, especially on the Wankie coal mines. Scurvy also was prevalent in the latter part of the year in certain districts, though, as I have previously reported, it has ceased to rank as a disease of serious economic importance as it used to in the past.

The sanitation on mines generally has been well maintained, and the duties of the Compound Inspectors have been satisfactorily carried out.

The number of natives brought down during the year by the Rhodesian Native Labour Bureau and distributed to mines was 4,418.

Matabeleland	2,810
Mashonaland	1,608

There were 6,017 Bureau boys on the mines on the 31st December, 1920.

The following table, showing the number of properties employing various numbers of boys, is inserted to give some idea of the size of the mining properties in this Territory :—

3	properties employing	2,000	and over.
2	,,	1,500	,,
4	,,	1,000	,,
—	,,	900	,,
3	,,	800	,,
1	property	700	,,
—	,,	600	,,
2	properties	500	,,
2	,,	400	,,
3	,,	300	,,
23	,,	200	,,
38	,,	100	,,
58	,,	50	,,
42	,,	25	,,
231*	,,	under 25.	

*The figure 231 includes all small employers of labour rendering returns.

The following was the mortality rate per thousand per annum employed for each quarter :—

	Sickness.	All causes.
First quarter	3.81	4.29
Second quarter	3.12	3.57
Third quarter	3.84	4.29
Fourth quarter	4.95	5.55

Infectious Disease.

Smallpox.—Sporadic outbreaks of smallpox occurred in the various native reserves throughout the year, being a continuation of the epidemic of 1919. These outbreaks fortunately were limited in extent.

There were altogether 18 separate outbreaks, occurring in the following districts :—Inyanga, Salisbury, Umtali, Gwelo, Melsetter, Inyati, Belingwe, Sinoia, Umvuma, Gwanda, Felixburg, Chibi, Selukwe, Victoria, Mashaba, Chilimanzi, Enkeldoorn and Gutu, embracing 448 cases, with 67 deaths.

The systematic vaccination of the native population, which had fallen into temporary abeyance, was pushed forward as rapidly and extensively as possible this year, and approximately 200,000 natives were vaccinated by Government officials and others; all expenditure incurred in this connection being borne by the Government.

The systematic vaccination of European children attending school was also undertaken by the various District Surgeons and Government Medical Officers, and will be continued annually from now onwards.

Vaccine lymph is obtained as required from the Union Government Laboratories in Capetown. The cost to the Administration for this lymph is, however, becoming a very heavy item, and the time has arrived when it should be considered whether it would not be advisable to manufacture locally all lymph required for the Territory. This will mean a considerable capital outlay, but a commensurate saving in future years.

The majority of the white population, both adult and children, are now protected by vaccination, and I am glad to say a large proportion of the native population.

Epidemic Influenza.—Several reports of slight outbreaks of epidemic influenza were received during the year, but they were limited in extent, and the mortality rate was small.

Typhoid Fever has shown a marked increase, both in the number of cases admitted to hospitals and also in the number of deaths from this cause. There were 68 cases admitted to general hospitals throughout the country during the year, as compared with 38 in 1919; there were 13 deaths from this cause, as compared with 5 in the previous year. These outbreaks, which fortunately never assumed epidemic form, occurred chiefly in Bulawayo, Salisbury and Gwelo, the cases in other districts being limited to a few.

Malaria.—The malarial incidence, as taken from admissions to general hospitals, shows a decline as compared with the population, the numbers being practically the same as last year. The mortality was low, 28 deaths being recorded, as against 40 in 1919. The great mass of the cases of malaria, however, never come to hospital and are never notified, and this is especially applicable to the country districts.

It is to be presumed that the increasing number of persons settling on the land will be followed by a proportionate rise in the malarial curve, which will be more marked some years than in others, according to the particular climatic conditions existing.

Farmers and other settlers in rural districts have been, as in former years, instructed by pamphlets and other means as to the necessity for safeguarding the health so as to avoid malaria, but in many instances I am afraid the seed has fallen on stony ground; but this after all is only the common result of leaving the care of his health to the individual concerned.

In the larger towns such as Bulawayo and Salisbury malaria is fortunately perhaps of comparatively little importance, the majority of the cases returned from there having contracted the infection outside of their borders.

Blackwater Fever has been somewhat more prevalent, there having been 70 cases in general hospitals, as compared with 36 in 1919, and 22 deaths occurred from this cause, as against 18 in the previous year. Owing to its high mortality rate and wide distribution, this disease continues to be the most important to the farmer and the settler, and the attenton of the Research Scholar when he arrives will first be directed towards investigation into its cause and prevention.

A report will be found in the appendix of the various infectious diseases reported to this Department during the year under review.

Venereal Disease.—Several of the District Surgeons in their annual reports continue to draw attention to the spread of venereal disease amongst certain sections of the native population, especially those adjacent to mines or other centres of European occupation. We have no means yet of collecting definite information as to the extent or spread of this disease amongst natives in the reserves or in towns, but in the latter instance the operation of the proposed regulations for the medical examination of natives employed in towns should supply us with useful figures.

Public Hospitals and Asylums.

Conditions as regards buildings remain the same as previously reported. Owing to lack of funds it was found impossible to undertake the extensive building programme sketched out, and hospitals generally are as they were in 1919.

The need for further accommodation for sick, especially natives, is yearly becoming more urgent, but one need only refer to reports to find that it is not due to lack of official recognition and sympathy, but rather to the general political and financial situation which has prevented these very necessary additions and reforms being undertaken before this.

Government Medical Officers, in reporting on their hospitals and asylums, were unanimous in urging for extensive additions, but what is even more necessary in some cases, repairs to existing buildings. The need of new buildings is most urgently required for the native hospital at Salisbury, and the mental hospital at Bulawayo.

The general increase in the number seeking admission to general hospitals has thrown considerable strain on the nursing staff, who united in demanding more considerate treatment in the direction of shorter hours and better housing, in both of which the Administration are in entire sympathy, and an effort will be made as soon as possible to reduce the working hours of nurses to not more than 54 hours per week; but this to a certain extent must wait on the building programme, as it will require increased staff to carry it out, and at present there is lack of accommodation for existing staffs in almost all the hospitals, more especially in Salisbury.

The total European admissions to general hospitals show a marked increase, rising from 2,868 admissions in 1919 to 3,123 in 1920. The Salisbury hospital now tops the list with the largest number of European admissions, there being 1,121 to that hospital during the year; next on the list comes Bulawayo with 872, the next to that again being Umtali with 356, and then Gatooma with 223. Native admissions have also increased from 2,330 to 2,949. Here the largest number of admissions were at Bulawayo.

Expenditure.—The gross expenditure on Government hospitals, exclusive of Ingutsheni Asylum, in 1920 amounted to £36,856, as compared with £34,239 in 1919. The increase was general at all hospitals excepting Gwanda.

The revenue amounted to £12,186, leaving a total deficit of £24,670. The revenue collected during 1919 amounted to £11,186, showing an increase of £1,000. The earnings from paying patients showed an increase of £2,998 as compared with the previous year, being £14,387, as compared with £11,389 during 1919.

Tables Nos. 10 to 16 in the appendix show admissions, earnings from paying patients, revenue and expenditure and the average cost per head per patient for each hospital. Particulars are also shown of the number of Government and pauper patients treated in Government hospitals during the year.

Ingutsheni Mental Hospital.—The report of the Medical Superintendent is attached as an addendum. There is a slight increase in the number of admissions, there being 165 patients on the register at the 31st December, 1920, as compared with 154 at the same date in 1919. An extension in the system of liberation on probation has been put into

force during the year, with apparently satisfactory results. The daily average under treatment is very much the same as last year. The report on gardening and farming operations in the asylum shows a satisfactory return, in addition to providing a healthy means of employment and recreation for the patients.

The Medical Superintendent continues to urge the necessity for extension, especially in the direction of female native patients' quarters, the block set aside for them being now overcrowded and congested.

Morgenster Leper Settlement.—There are now 96 lepers confined in the asylum, as compared with 80 last year. There were 21 lepers admitted during the year. Two escaped and eight died. The extension of this settlement to include the bulk of the lepers in this country has also been held back on account of lack of funds. Further buildings are required, the most important being a central hospital for bedridden cases.

The Superintendent has urged that an attempt should be made to introduce an irrigation scheme by which a considerable portion of land could be irrigated for the benefit of the lepers. These improvements and requirements, however, are still in abeyance.

On the whole, the lepers are contented and live entirely under their natural conditions of life, there being no attempt made to incarcerate within the limitation of the reserve set aside for them.

Maternity Hospitals and District Nurses.

The policy of assisting in the appointment of district nurses in rural districts and of grants-in-aid to small maternity homes in various centres has been continued throughout the year.

The following hospitals and districts now receive Government grants either towards a home or for a district nurse, or in certain cases for both:—Maternity homes, Umtali, Victoria, Gatooma, Hartley, Gwelo, Selukwe, The Hostel, Salisbury, the Memorial Hospital, Bulawayo, and the districts of Sinoia and Inyanga. They are found to be very useful once they are established, and in only one instance has it been necessary to withdraw a district nurse on account of lack of work.

District Surgeons and Government Medical Officers.

As foreshadowed in my report for last year, the status and emoluments of District Surgeons have undergone considerable alteration. Under the conditions previously existing it was found that the inducements for medical men to settle in Southern Rhodesia were so small, and the prospects of remunerative private practice so slight, that it was decided, in order to provide for the increasing needs of the farmer and settler in rural areas, the conditions of service under which medical men were engaged must be altered.

With certain specified exceptions, all medical men employed either wholly or partly in the Government Service are now brought under the Civil Service Regulations, and are entitled to all the privileges of members of that body, including pension on retirement. They are required to undertake all Government duties free of charge, and are paid a fixed salary, rising by annual increments to the maximum of the grade in which they may be serving at the time.

Special privileges are accorded with regard to private practice in the district in which they may be serving, but they are still required to

attend farmers and settlers, who may reside outside a stated radius from their headquarters, at fixed rates for the time occupied in travelling, plus the cost of transport; also fees to be charged for the medical service rendered, which remain as before.

Publication of these terms in the medical press in England led to an excellent response. Two appointments were filled at once by medical men available in the country, whilst five medical men were specially engaged in England, and are now stationed at the following centres:—Enkeldoorn, Filabusi, Gwanda, Ndanga, Bindura, Umvukwe and Hartley. In addition, a Government Medical Officer has now been stationed at Rusape.

Existing District Surgeons were given the option of coming in under the new regulations or continuing under their original agreement with the Government, and all of them have elected to come in under the new conditions.

The reorganisation of the medical service of the country has not only improved materially the conditions under which Government Medical Officers were serving, but has also placed their relation with the farmer and settler in rural districts on a more definite basis, to the mutual advantage of the doctor and the people alike, and at the same time has preserved the individuality of the medical man, and not turned him into a mere machine attending as many patients in as short a period as possible for a contract wage, which is one of the drawbacks of the panel system.

Public Health Laboratory and Pasteur Institute.

The report of the Pathologist will be found in Part II. of this report. He again draws attention this year to the need for additional laboratory buildings, and it is hoped that the funds set aside in the proposed loan may be found to cover this.

A lady laboratory assistant was appointed during the year. The work of the laboratory has been increased in proportion, and the laboratory is now able to undertake work of a more advanced nature.

More or less final arrangements have now been completed with the London Tropical School of Medicine whereby a Research Scholar shall be appointed to Southern Rhodesia, and he will arrive about November of this year, prior to the commencement of the wet season.

After considerable discussion, it has been decided that a series of Research Scholars should be sent out, each one of some seniority and expert in his particular branch of tropical science. Accordingly, it has been arranged that the first to arrive shall be a protozoologist of known standing, who will devote himself for a period to the study of protozoal diseases existing in the country, with special reference to blackwater fever. He again will be followed up by another scholar who will study on the spot for a period some other branch of tropical science, such as the helminthology of the Territory, it being intended to continue this team work for a period of years.

It is felt that more definite results could be obtained by the appointment of senior scientists, who are trained in special branches, to undertake research into their own special subject, rather than to appoint one man who would study the diseases incidental to the Territory generally without reference to his own special line.

Sanitation and Health Administration.

The sanitation of towns and villages shows no particular change. Negotiations are on foot for a water supply for the Victoria township being drawn from the Umshagashi River.

Fever hospitals for the isolation of cases of infectious diseases have been erected and equipped both in Bulawayo and in Salisbury—similar plans having been adopted in each case, which are satisfactory and sufficient for the needs of the population for the present.

The disposal of night soil and town refuse is still carried out by system of hand collection, and probably it will be many years before local authorities will be in sufficiently affluent circumstances to enable them to adopt more modern methods of removal. All that can be done is to insist that the system in vogue should be as sanitary as possible, and in this connection there is, I am glad to say, little fault to be found.

Insufficient care is still shown by local authorities generally in the direction of mosquito and fly destruction. This might well receive the more earnest attention of the various city fathers, with profit to the health and comfort of the communities committed to their care.

The regulations for the medical examination and, if necessary, the isolation and treatment of natives in domestic and other employment in towns are still a matter of discussion between the municipalities concerned and the Government, but it is expected that the outstanding causes of difference will be overcome in the near future, and it is anticipated that these regulations will be brought into force at an early date.

In connection with the administration of these regulations, the Bulawayo Municipality have proposed to inaugurate a dispensary for native out-patients. This is an important step, and it is hoped the example of this municipality will be followed by others.

The administration of the Foods and Drugs Act was hampered with the difficulties of obtaining Government analysts competent and willing to undertake the analyses required under the Act. This has now been provided for, and Government analysts have been appointed in Bulawayo and Salisbury respectively for the carrying out of the provisions of this Act.

As in the past, my thanks are again due to the medical and lay staff of the Department for their loyalty and assistance to me in the year under review.

ANDREW M. FLEMING,

Medical Director.

PART II.

Pasteur Institute and Public Health Laboratory.

Pasteur Institute.

During the year we secured the appointment of a fully trained laboratory assistant in the person of Miss Truter, who began work about the middle of May; so that during my absence on leave (March to December) the work was carried on without the usual cessation. Indeed, as the figures below will show, more advanced work can be and has been carried out as the result. An increased amount of fees earned will inevitably follow, and there seems no reason to doubt that, if properly equipped, we shall eventually be self-supporting.

A research worker will soon arrive on the scene, I hope, when a wide field of valuable work will be opened up, research being greatly needed in many directions.

A properly situated and equipped laboratory is urgently needed, and especially so for the purposes of the proposed research; while the laboratory is even now inadequate for the increase of work that has taken place. I have written a separate report on the subject, pointing out the real economy and increased efficency that will result from a departure from our present make-shift arrangement. The money spent will be profitably invested, as the laboratory should soon pay its own way and give valuable return in work done.

The following is an analysis of work done:—

The rabbits remain healthy, and the fixed virus was kept going during the year.

Four patients were treated, the fourth of whom refused further treatment after receiving two injections. All were quite well on discharge.

Cases.	From	Injuries.	Probability of Infection.
1. European male	Northern Rhodesia.	Bitten by dog.	Probably rabid.
2. European male	Northern Rhodesia.	Bitten by cat.	Supposed rabid.
3. European female	Northern Rhodesia.	Scratched by cat.	Supposed rabid.
4. European male	Northern Rhodesia.	Bitten by dog.	Possibly rabid.

Since 1913 most of our cases have come from Northern Rhodesia, where rabies appears to be constantly present, although from our own experience it seems quite possible to stamp out the disease. It is desirable that when patients are sent more definite proof be furnished that the animals which bit them were rabid.

Fees are now being charged for treatment, which will go towards diminishing the cost of upkeep, although it will not cover it unless many cases are treated.

Public Health Laboratory.

A.—Research.

In 1919, 288 examinations were made. In 1920 the work had necessarily to be confined to routine.

Diseases due to protozoa will be investigated on the arrival of the research worker in that branch, but meanwhile I intend to make investigations in other directions which he will not deal with, and would otherwise have to await subsequent specialists.

B.—Routine Work.

1. Materials dealt with :—

Material.	Number of Examinations. 1919.	1920.
Blood	206	269
Nose and throat swabs	30	64
Urine	76	70
Pus	40	55
Sputum	66	69
Fæces	9	6
Hair	0	5
Cerebro spinal fluid	0	1
Skin	8	0
Organs and morbid tissues	0	13
Water	1	3
Miscellaneous (clothing, etc.)	19	5
Totals	455	560

2. Methods employed :—

	1919.	1920.
Bacteriological—		
Microscopical examinations	301	281
Agglutination tests, single	7	29
Agglutination tests, group	9	39
Cultural examinations	23	46
Decomplementising	14	30
Vaccines	0	66
Examinations of water supply	0	3
Biological tests	1	0
Physical tests	1	0
Pathological—		
Microscopical examinations	48	28
Examinations of sections	0	11
Chemical—		
Tests	27	22
Estimations	0	1
Medico-legal—		
Chemical	15	2
Microscopical	9	2
Totals	455	560

C.—Remarks.

Agglutination tests and cultural examinations show a satisfactory increase, though the former may be due to increased prevalence of the diseases tested for. It is most satisfactory to note that vaccines are now being made, which was not possible before. The above analysis will not convey much to the ordinary mind, as many methods include preceding ones; and a better idea of the work being done now will be found in the statement of fees (given later) which depend directly on the amount and quality of work involved.

Malaria.—135 examinations gave 20 positive results. Examinations are, however, often negative if the blood be taken at the wrong time or after quinine administration. A certain portion showed plasmodium falciparum, the rest were benign forms. Malaria and blackwater both await the Research Protozoologist whom we expect.

Relapsing Fever.—Two examinations were negative. The disease undoubtedly exists in the Territory.

Diphtheria.—50 examinations gave 14 positive results. There has been, apparently, a good deal of the disease in Salisbury.

Enteric and Paratyphoid A. and B.—All three organisms are now tested for, whether so requested or not. Enteric was found 32 times, para A. on three occasions and para B. once. The B. strain latterly became unreliable and will be renewed. It is usually a commoner cause than para A.

Malta Fever.—Two tests gave one positive result. I fancy this disease is not uncommon, and propose to verify this.

Bilharziosis.—Twelve tests gave 7 positive results. An outbreak at Umtali is to be investigated.

Gonorrhœa.—31 tests gave 11 positive results.

Syphilis.—The Wasserman tests will be done here if the number of tests increases much. At present it is preferable to decomplementise only.

Leprosy.—One test; negative.

Trypanosomiasis.—Twelve tests; negative.

Tuberculosis.—Forty-one tests; 10 positive.

Filariasis.—Two tests; negative. I think filaria perstans would be the only one that is at all common. A series of tests can easily be made.

Dysentery.—One test; negative for amœbæ. It is important to ascertain in each case whether the disease is bacillary or amœbic, but few specimens have been sent so far. The Research Protozoologist will no doubt deal with this.

Ringworm.—Three positive results.

Favus.—One positive.

Malignant Growths.—Sections were made in 11 cases of suspected growths.

Water Supply.—Two samples of the town water were examined by me; also the water at Daisyfield.

D.—Statement of Fees Earned.

The fees classified below as "Government" are for non-paying patients, B.S.A. Police and other Government or occasional gratuitous work, and though charged, are not actually received. They represent, however, the value of the work done. "Private" means fees from doctors, and represents actual cash.

	1919.	1920.
Pasteur Institute	No fees charged	£13 2 6
Laboratory—Private	£22 15 6	108 2 0
Government	45 2 6	41 14 6
Totals	£67 18 0	£162 19 0

It should be remarked that practically all the private fees in 1920 were earned in the latter half of the year (after the arrival of the assistant) for work that had been impossible in the absence of a whole-time official. The immediate benefit of thus encouraging the laboratory is obvious. It will be seen, too, that on this six months' basis the laboratory is now earning fees at the rate of about £300 per annum, of which about £200 will be in actual cash. A revised tariff has been made, instead of the purely nominal fees hitherto charged, which will further increase our income. Properly situated and equipped, the laboratory should prove a profitable investment in every way.

L. J. JOHN ORPEN,

Bacteriologist.

Annual Report of the Medical Superintendent, Ingutsheni Asylum.

On the first day of January, 1920, there were 154 patients on the register. During the year 57 were admitted, 26 were discharged recovered, 1 discharged by escape, 2 relieved and handed over to an escort from their country of origin, 1 was transferred to Valkenberg Mental Hospital and 16 died. On the 31st December, 1920, there remained on the register 165 patients. In residence there were 162, *i.e.*, 29 male Europeans, 110 male natives and 23 female natives. One male native and 2 female natives were absent on probation. There is accommodation for approximately 36 European males, 124 native males and 20 native females.

The daily average number under treatment was 154, as against 152 in the previous year. The recovery rate calculated on the number of admissions, excluding patients discharged by transfer and escape, was 49.12. The death rate calculated on the total number of patients under treatment was 7.58.

Liberation on probation was allowed in 20 cases, 17 of whom were discharged, while 3 remained on probation at the end of the year. Probation as a means of liberation is much appreciated by the native patients; this procedure is also a useful guide in ascertaining if cases subject to recurrent attacks are fully recovered prior to their discharge from the asylum.

There were no serious accidents during the year, though there were, as usual, a number of minor accidents.

Mechanical restraint was not used during the year. Seclusion had to be used in the case of three patients on three occasions. The reason for seclusion was for uncontrollable violence and to avoid struggles.

There were four escapes during the year; three were recovered and brought back to the asylum, and one failed to return. The latter was consequently discharged under section 3, General Lunacy Regulations. Considering that the greatest possible liberty is allowed the patients, it is satisfactory to be able to report such a small number of attempts to escape. Ten Europeans and twelve native patients were on parole in the grounds, and in only one instance was the privilege abused.

The asylum farm and garden show fairly satisfactory results and a balance on the right side. Ample supplies of vegetables and milk for the requirements of the institution, as well as 227 bags of mealie meal, were produced. As anticipated in my report last year, the mealie crop was considerably below the yield for the year previous. Additional land has been cleared and put under cultivation; 90 acres are under mealies and two under potatoes, and I am glad to report that the prospect of a good crop appears favourable at present. While the results are greatly dependent on rains, what success we have had has been due in a large measure to the regular employment on the land of all patients fit to work, and to the energy of the staff, who take a personal interest in the work of production. No buildings were erected during the year. There is now a long list of arrears of buildings and repairs. I may instance as the most important, painting and glazing of the European division of the asylum, a new laundry and cow-shed, and new quarters for natives —female patients and staff. I referred to the need of these additions and repairs in my report last year; but possibly nothing could be done, in any event, owing to the financial condition of the country, but that

something should be done is apparent. I need scarcely go into details of the difficulties with which we are confronted owing to the overcrowded state of the native female wards. This state of affairs existed last year, and is becoming increasingly more pressing. I earnestly hope that the matter of making provision for the requirements referred to will be taken into consideration when estimates for the year 1921 are being prepared.

The buildings on the military reserve, Bulawayo, lately occupied by Mr. Edmonds, were taken over by the Government for the use of this institution. Part of the dwelling house when repaired will be used as quarters for the Under Keeper, and the other portion for other members of the staff. This will help to relieve congestion in the staff quarters in the Euopean asylum. The grounds adjoining these premises are fairly extensive, and, assuming that the asylum may have the use of them, will be a useful addition to the present ground, which is becoming somewhat cramped owing to the increase of the cultivated area.

The receipts from paying patients, and for the maintenance of patients supported by the Government of Northern Rhodesia, together with a sum of £59 17s. from sales of produce, amount to £530 12s. Dairy and other produce supplied from asylum grounds amounted to the value of £844 3s. 10d. The utmost economy consistent with efficiency is being practised, and every effort is directed to increase the revenue.

The cost of maintenance, including asylum produce, is 2s. 2d., and the cost per patient per diem, excluding asylum produce, is 1s. 11d. The net cost to the Government, after deducting revenue from asylum vote of maintenance, etc., is 1s. 8d.

In view of the increase in the cost of supplies during the past year, it is gratifying to be able to show such a low figure for maintenance. The cost for the previous year was 1s. 8d.

W. M. EATON,

Medical Superintendent.

TABLE 1.—EUROPEAN BIRTHS REGISTERED.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	
	Percentage of total births.	Percentage of total births.	Percentage of total births.	Percentage of total births.	Percentage of total births.	Percentage of total births.	Percentage of total births.	Percentage of total births.	Totals Males and Females.
Father and mother British	56·56	57·77	58·42	61·54	57·08	57·53	54·63	54·39	465
Father and mother Dutch	21·65	21·12	23·85	20·63	24·56	24·33	25·80	28·77	246
Father and mother Jewish	4·05	4·25	3·95	3·93	3·27	2·40	2·10	2·11	18
Father and mother Italian	·42	·80	·51	·37	·58	·38	·80	·70	6
Father and mother Greek	·42	1·20	1·02	·25	·94	·38	·93	·58	5
Father and mother French	...	·13	...	...	...	...	·13	...	...
Father and mother Swedish	...	·13	·13	·12	·23	·25	...	...	...
Father and mother Turkish	...	·13	...	...	...	...	·13	...	...
Father and mother Norwegian ...	...	...	...	...	·12	·12	...	...	...
Father and mother American ...	·28	·27	...	·37	...	...	...	·12	1
Father and mother Portuguese ...	...	...	·26	...	·12	...	...	...	...
Father and mother Roumanian ...	·42	·53	·13	·37	·12	...	·26	...	...
Father and mother Swiss	...	...	·26	...	...	...	...	·35	3
Father and mother Egyptian ...	...	...	...	·12	...	...	...	...	...
Father and mother Austrian ...	·56	·13	·26	·12	·12	...	·26	·12	1
Father and mother German	·84	·13	·13	·12	·23	·38	·13	·23	2
Father British, mother Dutch ...	8·94	7·57	5·87	6·63	6·78	6·72	8·33	7·72	66
Father British, mother French ...	...	·40	·38	...	...	·12	·26	·23	2
Father British, mother Swiss ...	...	·13	...	...	...	...	...	...	...
Father British, mother Japanese ...	...	...	·13	...	...	...	...	...	...
Father British, mother Norwegian...	...	...	...	...	...	...	·26	...	...
Father British, mother Russian ...	...	·13	...	...	·23	...	·13	...	...
Father British, mother Danish ...	...	...	·13	·12	...	...	...	...	...
Father British, mother Swedish ...	...	·13	·26	·12	...	...	...	...	...
Father British, mother American ...	...	...	·26	·37	·12	...	...	·12	1
Father British, mother German ...	·28	·66	·51	·49	·47	·88	·53	...	...
Father Dutch, mother British ...	1·26	·53	1·02	1·23	1·28	2·15	1·85	2·22	19
Father Dutch, mother Portuguese ...	...	...	·13	...	...	...	...	...	...
Father Jewish, mother British ...	·14	·13	·26	·25	·23	·12	·13	·12	1
Father Jewish, mother Dutch ...	...	...	·38	·12	...	·12	...	...	...
Father Italian, mother British ...	...	·13	...	·12	...	...	...	...	...
Father Italian, mother Dutch ...	·14	·13	·13	·12	...	...	·13	·12	1
Father Italian, mother Egyptian ...	...	...	...	·12	...	·12	...	...	...
Father Italian, mother Russian ...	...	...	...	...	·12	...	...	...	...
Father Greek, mother British ...	...	·13	...	...	...	...	...	·12	1
Father Greek, mother Dutch ...	...	...	...	·25	·23	...	·13	·12	1
Father Greek, mother Roumanian ...	...	...	...	...	·12	·12	...	...	...
Father Greek, mother Egyptian ...	...	...	...	·12	...	...	·13	...	...
Father French, mother British ...	·14	·13	...	...	...	...	·26	...	...
Father French, mother Belgian ...	...	...	...	...	...	...	...	·12	1
Father Danish, mother British ...	...	...	...	...	·12	...	·13	·12	1
Father Swiss, mother Dutch ...	...	·13	...	...	...	...	...	...	...
Father Swiss, mother German ...	...	·13	...	...	·12	...	...	...	...
Father Russian, mother British ...	...	...	...	·25	·12	·12	...	...	...
Father Russian, mother Dutch ...	...	...	...	·12	...	...	...	...	...
Father Russian, mother Austrian ...	...	...	...	...	...	...	·13	...	...
Father Russian, mother German ...	...	·13	...	·25	·12	...	...	...	...
Father Russian, mother Spanish ...	...	...	...	...	...	...	·13	...	...
Father Norwegian, mother British...	...	...	...	...	...	·12	...	...	...
Father Swedish, mother British ...	...	·13	...	·12	...	·12	...	...	...
Father Swedish, mother Dutch ...	·28	·13	...	·12	·35	...	...	...	...
Father American, mother British ...	...	...	·38	·49	·23	·12	...	...	...
Father American, mother Dutch ...	·14	·13	...	...	·23	...	...	·12	1
Father American, mother Greek ...	...	...	...	·12	...	...	...	...	...
Father Austrian, mother British ...	...	·13	...	·12	...	·12	...	...	...
Father Austrian, mother Russian ...	...	·27	...	...	·12	·12	...	...	...
Father German, mother British ...	...	·13	·13	·25	·23	·38	·53	·23	2
Father German, mother Dutch ...	...	·66	·38	·37	·12	·25	·13	·23	2
Father German, mother Jewish ...	...	·13	·13	...	·12	...	...	...	...
Father German, mother Swiss ...	·14	·13	...	...	...	...	...	...	...
Father German, mother Russian ...	...	·13	...	...	...	...	...	...	...
Father Bulgarian, mother Russian...	...	·27	...	...	...	...	...	...	...
Father Roumanian, mother Jewish...	...	...	...	...	...	...	...	...	...
Father Roumanian, mother Russian	...	...	...	...	...	...	·13	...	...
Father Portuguese, mother British...	...	...	...	...	...	...	...	·12	1
Illegitimate—mother of European parentage, paternal parentage unknown	·84	·53	·51	·49	1·29	2·15	1·32	·94	8
Total births	716	753	784	815	855	789	756	...	855

Table 2.

EUROPEAN BIRTHS, 1920.

District.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Salisbury	16	7	19	27	23	29	21	20	27	25	15	25	254
Bulawayo	17	21	19	15	28	19	20	16	17	18	24	13	227
Umtali	3	3	11	4	10	5	9	10	10	15	8	8	96
Hartley	1	...	...	...	1	...	...	...	...	3	...	...	5
Gwelo	7	6	4	3	5	4	7	6	3	4	4	7	60
Gwanda	2	2	...	2	1	3	...	1	1	1	...	...	13
Gatooma	1	3	4	2	1	5	2	1	5	2	4	...	30
Charter	1	10	5	12	2	9	7	11	4	6	1	4	72
Que Que	2	1	3	2	7	1	1	1	1	1	3	2	25
Victoria	...	1	1	1	4	2	4	3	2	2	2	4	26
Melsetter	4	4	5	2	3	1	1	...	6	4	3	...	33
Selukwe	...	...	2	...	1	1	1	...	3	1	1	4	14
Totals	54	58	73	70	86	79	73	69	79	82	65	67	855

TABLE 3.

EUROPEAN DEATHS, 1920.

District.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Salisbury	10	5	9	12	9	13	9	6	6	9	4	7	99
Bulawayo	13	9	13	10	8	15	13	12	3	5	11	7	119
Umtali	3	3	1	7	2	3	3	1	...	3	3	2	31
Hartley	1	...	...	2	...	...	...	..	...	...	...	...	3
Gwelo	2	2	1	2	5	1	...	1	2	4	3	...	23
Gwanda	...	...	...	2	1	...	1	...	...	2	1	...	7
Gatooma	1	5	...	2	2	1	...	...	2	1	1	...	15
Charter	...	...	3	5	..	3	1	2	4	1	1	1	21
Que Que	...	...	...	1	1	...	1	...	...	..	1	...	4
Victoria	2	2	1	3	1	1	...	...	1	...	...	1	12
Melsetter	1	1	...	2	1	1	1	...	...	1	1	...	9
Selukwe	...	...	...	...	1	...	...	...	1	...	...	...	2
Totals	33	27	28	48	31	38	29	22	19	26	26	18	345

Table 4.

EUROPEAN DEATHS, 1920.

Age Periods.	Males.	Females.	Totals.
0-1	33	24	57
1-5	13	16	29
5-15	7	12	19
15-25	12	6	18
25-35	19	12	31
35-45	43	16	59
45-55	39	10	49
55-65	33	7	40
65-75	18	8	26
75-85 and over	7	5	12
Age unknown	4	1	5
All ages ...	228	117	345

Table 5.

The following table shows the number of properties in each district, with the mileage to be travelled to visit them, the average mileage done, and the average number of properties visited per month in each district :—

District.	Maximum mileage for district excluding rail.	Number of properties in district, excluding contractors.	Average mileage per month.		Average number of properties visited per month.
			Rail.	Car.	
Salisbury ...	1,667	102	158	538	22
Hartley ...	500	91	26	294	21
Gwelo	800	84	95	514	19
Bulawayo ...	1,500	108	212	467	14
Victoria ...	360	14	...	64	3

Table 6.

The following table is a comparative statement of mortality amongst natives employed on mines in Southern Rhodesia for the twelve months January to December, 1920, with the rates for the last thirteen years for comparison:—

Comparative Statement of Mortality amongst Natives Employed on Mines in Southern Rhodesia, January to December, 1920.

Month.	Average No. of natives employed.	No. of deaths from disease.	Death rate per 1,000 per mensem from disease.	No. of deaths from accident.	Death rate per 1,000 per mensen from accident.	Total No. of deaths.	Death rate per 1,000 per mensen from all causes.
January ...	32,271	71	2·17	4	·15	75	2·32
February ...	32,699	34	1·01	6	·21	40	1·22
March ...	33,768	28	·83	4	·12	32	·95
April ...	34,684	44	1·30	6	·14	50	1·44
May ...	35,128	46	1·31	2	·06	48	1·37
June ...	36,869	24	·65	8	·22	32	·87
July ...	37,648	44	1·17	2	·05	46	1·22
August ...	38,359	57	1·43	6	·18	63	1·61
September...	39,324	53	1·35	9	·23	62	1·58
October ...	39,153	57	1·81	5	·16	62	1·97
November...	37,765	64	1·69	12	·32	76	2·01
December ...	38,915	77	1·98	11	·28	88	2·26

Totals and Averages.

Year.		Per annum.		Per annum.		Per annum.
1920 ...	37,669	599	15·90	75	1·99	674	17·90
1919 ...	30,296	507	16·73	90	2·97	597	19·71
1918 ...	32,766	3,629	110·76	88	2·69	3,717	113·44
1917 ...	38,861	700	18·01	149	3·83	849	21·85
1916 ...	40,520	911	22·48	172	4·24	1,083	26·73
1915 ...	37,928	832	21·94	159	4·19	991	26·13
1914 ...	36,100	897	24·85	135	3·74	1,032	28·59
1913 ...	33,543	783	23·49	158	4·71	946	28·20
1912 ...	34,494	1,073	31·11	163	4·73	1,236	35·83
1911 ...	37,909	1,085	28·62	164	4·33	1,249	32·95
1910 ...	37,826	1,682	44·74	182	4·81	1,864	49·28
1909 ...	32,721	1,383	42·27	161	4·92	1,544	47·19
1908 ...	30,865	1,397	45·26	132	4·28	1,529	49·54
1907 ...	26,098	1,486	56·94	102	3·91	1,588	60·85

Table 7.

The following table shews the number of deaths from pneumonia and scurvy, etc., for each of the five districts.

District.	Average No. employed.	Malarial fever.	Scurvy.	Syphilis.	Pneumonia.	Phthisis.	Other diseases of chest.	Dysentery.	Diarrhœa.	Other intestinal diseases.	Heart disease.	Debility.	Other diseases.	Accident.	Totals.
Salisbury	8,643	14	...	2	66	9	3	4	...	2	6	...	12	25	144
Hartley...	5,281	2	3	2	48	11	6	1	...	5	4	2	15	4	103
Gwelo ...	7,733	6	1	2	27	9	5	3	1	5	5	...	34	11	109
Bulawayo	13,651	30	3	2	75	15	7	8	1	7	21	9	47	31	256
Victoria...	2,361	2	...	1	30	4	1	6	...	3	5	...	7	3	62
Totals ...	37,669	54	7	9	246	48	22	22	2	22	41	11	115	75	674

TABLE 8.

The following return shows the number of cases of sickness, number of deaths, death rate per cent., sickness incidence rate per mille per annum, and death rate per mille per annum amongst natives employed on mines for the year 1920:—

SOUTHERN RHODESIA (number employed, 37,669).

Name of disease.	Total sick.	Deaths.	Case mortality per cent.	Sickness incidence rate per mille per annum employed.	Death rate per mille per annum employed.
Malaria	3,622	54	1·49	96·14	1·43
Scurvy	94	7	7·48	2·49	·18
Syphilis	209	9	4·31	5·54	·23
Pneumonia	948	246	25·90	24·89	6·53
Phthisis	71	48	67·62	1·88	1·27
Other diseases of chest	2,092	22	1·05	55·55	·58
Dysentery	176	22	12·50	4·67	·58
Diarrhœa	341	2	·59	9·05	·05
Other intestinal diseases	162	22	13·60	4·32	·58
Disease of heart	38	41	107·90	1·01	1·09
Debility	269	11	4·09	7·15	·29
Influenza	23	8	34·80	·61	·22
Other diseases	3,572	107	2·99	94·82	2·85
Minor ailments	4,087	...	...	108·50	...
Accidents	258	75	28·89	6·85	1·99
Minor injuries	4,853	...	...	128·83	...
Totals	20,815	674	3·24	552·57	17·90

Table 9.

Table showing Infectious Diseases Reported to Public Health Department during 1920.

Disease.	District.	Number of Cases.		Number of Deaths.	
		European	Native.	European	Native.
Smallpox	Salisbury	...	42	...	15
	Umtali	1	15	...	2
	Gwelo	...	57	...	11
	Inyanga	...	9	...	3
	Melsetter	...	29	...	1
	Inyati	...	5	...	...
	Belingwe	...	2	...	...
	Sinoia	...	16	...	4
	Umvuma	...	64	...	3
	Gwanda	5	57	...	...
	Felixburg	1	...	...	...
	Chibi	...	6	...	...
	Selukwe	...	93	...	25
	Victoria	...	22	...	...
	Mashaba...	...	1	...	...
	Chilimanzi	...	4	...	...
	Enkeldoorn	...	22	...	...
	Gutu	...	4	...	3
Influenza	Bulawayo	55	...	...	...
	Salisbury	6	33	1	1
	Gwelo	27	1	...	...
	Bindura	3	76	...	1
	Inyanga	...	12	...	...
	Umvuma	...	170	...	3
	Victoria Falls	4	3	...	...
	Que Que	2	...	...	...
	Gatooma...	1	...	...	...
Cerebro spinal meningitis ...	Bindura	...	1	...	1
Diphtheria	Salisbury	4	...	...	...
	Sinoia	2	...	1	...
	Umvuma	3	...	...	...
Scarlet fever	Salisbury	1	...	...	...
	Umvuma	...	1	...	...
	Victoria	1	...	...	...
Enteric fever	Gwelo	29	4	...	1
Measles	Bulawayo	58	...	...	...
	Shabani	2	...	...	...
	Que Que	1	...	...	...
German measles ...	Gwelo	70	...	...	...
	Victoria	4	...	...	...
Chicken-pox	Gwelo	8	1	...	...
	Hartley	...	3	...	...
	Wankie	..	149	...	...
Encephelitis lethargica ...	Shagani	...	1	...	...
Whooping cough ...	Rusape	4	...	...	...
Kaffir-pox	Shangani	...	2	...	...

Table 10.

Table showing European Admissions to Hospitals during 1920.

Name of hospital.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Salisbury	94	99	101	115	116	89	67	83	91	82	92	92	1,121
Bulawayo	89	57	64	78	75	65	62	78	77	80	72	75	872
Umtali	41	38	54	41	45	25	20	11	16	22	23	20	356
Gwelo	17	14	12	18	14	9	16	11	18	15	17	16	177
Victoria	10	6	6	8	6	7	8	6	5	10	5	6	83
Gwanda	2	3	2	5	2	1	3	...	2	2	2	...	24
Enkeldoorn	1	2	1	1	1	...	...	2	1	...	2	4	15
Gatooma	19	28	28	32	26	13	14	10	15	15	11	12	223
Shamva	15	14	22	19	21	15	8	4	8	6	7	11	150
Sinoia	6	12	12	11	10	5	2	4	7	6	8	7	90
Belingwe	1	1	1	2	1	1	1	1	...	1	2	...	12
Totals	295	274	303	330	317	230	201	210	240	239	241	243	3,123

Table 11.

Table showing Native Admissions to Hospitals during 1920.

Name of hospital	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Salisbury	54	56	68	76	67	74	63	66	78	74	78	64	818
Bulawayo	63	52	64	58	61	77	62	86	67	85	108	114	897
Umtali	7	11	7	12	9	10	9	8	14	14	11	11	123
Gwelo	17	26	20	24	34	23	21	27	41	39	28	25	325
Victoria	23	6	4	4	9	3	7	10	6	8	8	3	91
Gwanda	20	13	12	14	6	20	21	23	17	11	18	13	188
Enkeldoorn	5	2	2	3	1	1	2	1	3	3	4	2	29
Gatooma	32	25	28	34	25	27	22	23	34	25	23	36	334
Sinoia	7	5	4	8	7	10	3	11	12	11	10	13	101
Belingwe	1	3	2	3	4	3	2	4	6	5	6	4	43
Totals	229	199	211	236	223	248	212	259	278	275	294	285	2,949

Table 12.

Table showing the Monthly Admissions to Hospitals during 1920, from Malaria, Blackwater Fever, Dysentery, Pneumonia, Typhoid and Scurvy.

EUROPEANS.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Malaria	79	96	133	144	116	57	34	26	17	23	33	38	798
Blackwater	...	7	10	12	17	11	7	1	1	2	...	2	70
Dysentery	8	10	3	3	1	...	1	3	15	7	2	5	58
Pneumonia	...	2	2	11	5	6	13	11	12	3	6	2	73
Typhoid	14	2	12	6	8	...	5	5	2	2	3	9	68
Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	...

NATIVES.

Malaria	22	13	24	39	28	15	14	13	21	20	13	17	239
Blackwater	...	...	2	...	2	1	...	...	...	...	...	...	5
Dysentery	2	1	...	2	4	...	1	4	2	6	2	2	26
Pneumonia	16	6	7	7	13	18	27	26	37	31	20	21	229
Typhoid	...	1	3	...	...	...	1	...	...	...	...	1	6
Scurvy	...	6	5	6	2	...	4	8	13	12	16	17	89

Table 13.

EARNINGS FROM PAYING PATIENTS.

Hospitals.	1919.	1920.
	£ s. d.	£ s. d.
Salisbury	6,213 12 0	7,882 12 1
Umtali	1,455 11 3	1,641 13 3
Gwelo	997 14 2	1,104 6 9
Victoria	296 6 6	428 6 5
Gwanda	153 8 2	253 19 2
Enkeldoorn	85 5 6	52 0 0
Gatooma	1,381 0 5	1,916 0 1
Shamva	416 14 3	505 17 10
Sinoia	260 15 8	368 5 5
Belingwe	128 16 0	234 14 9
Totals	£11,389 3 11	£14,387 15 9

Table 14.

Table showing the Number of Beds in each Government Hospital and Ingutsheni Asylum, the Daily Average of Patients Treated, and the Revenue and Expenditure of each.

Name of hospital.	Number of beds.		Daily average of patients treated.		Gross expenditure.	Revenue.	Nett expenditure.
	White.	Native.	White.	Native.	£ s. d.	£ s. d.	£ s. d.
Salisbury	56	45	47·2	46·5	17,244 5 10	6,219 3 10	11,025 2 0
Umtali	30	16	10·9	8·2	4,010 14 9	1,593 7 1	2,417 7 8
Gwelo	32	30	7	19·5	4,126 5 1	1,000 5 2	3,125 19 11
Victoria	12	12	2·6	14	2,148 4 11	419 13 3	1,728 11 8
Gwanda	9	22	·006	·51	688 0 8	228 3 10	459 16 10
Enkeldoorn	5	4	·70	1·46	586 17 3	63 0 0	523 17 3
Gatooma	16	60	6·15	45·56	4,532 9 11	1,704 0 8	2,828 9 3
Shamva	13	...	4·18	...	1,819 5 5	389 11 7	1,429 13 10
Sinoia	7	6	2·08	4·62	1,199 5 7	343 12 6	855 13 1
Belingwe	9	13	·29	1·46	500 14 10	225 4 11	275 9 11
Ingutsheni Asylum	36	144	26	128	5,368 2 7	530 12 0	4,837 10 7

Table 15.

Table giving the Average Cost per head at the several Government Hospitals and Ingutsheni Asylum.

Name of hospital.	In-patients, European and native.	Days treated—patients.	Days maintained—staff.	Total days maintained—staff and patients.	Cost per caput per diem worked out on gross expenditure.	Deficit of revenue over expenditure. £ s. d.	Approximate charge on public funds for each patient treated. £ s. d.
Salisbury	2,017	34,182	34,740	68,922	5/–	11,025 2 0	5 9 4
Umtali	492	6,981	6,001	12,982	6/2	2,417 7 8	4 18 3
Gwelo	530	9,691	6,624	16,315	5/1	3,125 19 11	5 18 0
Victoria	174	5,891	4,387	10,278	4/2	1,728 11 8	9 18 8
Gwanda	217	2,222	1,861	4,083	3/4	459 16 10	2 2 6
Enkeldoorn	46	692	1,098	1,790	6/7	523 17 3	11 7 9
Gatooma	606	18,929	7,019	25,948	3/6	2,828 9 3	4 13 4
Sinoia	198	2,509	2,871	5,380	4/5	855 13 1	4 6 5
Shamva	157	1,528	4,015	5,543	6/7	1,429 13 10	9 2 2
Belingwe	55	641	1,095	1,736	5/9	275 9 11	5 0 2
Ingutsheni Asylum ...	211	56,244	7,938	64,182	1/8	4,837 10 7	22 18 6

Table 16.

Return of Government and Pauper Patients Treated in Goverment Hospitals during 1920.

Name of hospital.	Number of free patients.	Total number of units treated.	Cost to hospital votes of treatment, maintenance, etc., worked out on gross expenditure basis.	Loss of revenue represented.
			£ s. d.	£ s. d.
Salisbury	478	12,303	6,459 1 0	1,534 0 0
Umtali	111	2,690	795 15 10	446 10 0
Gwelo	178	5,113	1,371 9 2	849 0 7
Victoria	91	4,327	797 9 8	571 10 0
Gwanda	125	1,207	231 6 10	155 5 0
Enkeldoorn	17	261	64 0 0	38 12 6
Gatooma	258	12,054	2,667 7 6	1,546 0 0
Shamva	28	209	67 18 6	52 5 0
Sinoia	69	1,014	82 8 2	142 5 0
Belingwe	26	271	19 11 9	38 2 6
Totals	1,381	39,449	12,556 8 5	5,373 10 7

Table 17.

Cases, with mortality rate per cent., admitted to hospitals during 1920, as compared with 1919.

Name of hospital.		1919.			1920.		
		Cases.	Deaths.	Mortality rate per cent.	Cases.	Deaths.	Mortality rate per cent.
Salisbury	White	977	27	2·76	1,121	37	3·30
	Native	631	45	7·13	818	69	8·44
Umtali	White	370	9	2·43	356	13	3·65
	Native	113	15	13·27	123	17	13·01
Gwelo	White	158	8	5·06	177	11	6·21
	Native	223	29	13·00	325	37	11·38
Victoria	White	77	9	11·69	83	6	7·23
	Native	89	9	10·11	91	6	6·59
Gwanda	White	31	...	...	24	1	4·17
	Native	159	3	1·89	188	12	6·38
Enkeldoorn ...	White	10	...	...	15	...	...
	Native	25	...	...	29	...	...
Gatooma	White	174	4	2·30	223	4	1·79
	Native	266	36	13·53	334	57	17·07
Bulawayo	White	802	39	4·86	872	49	...
	Native	730	91	12·47	897	100	...
Shamva	White	176	3	1·70	150	5	3·33
	Native	...	...	...	...	...	...
Sinoia	White	90	4	4·44	90	1	1·11
	Native	69	3	4·35	101	10	9·90
Belingwe	White	3	1	33·33	12	1	8·33
	Native	25	1	4·00	43	4	9·30
Totals ...	White	2,868	104	3·63	3,123	182	4·10
	Native	2,330	232	10·00	2,949	312	10·58

Table 18.

Cases, with mortality rate per cent., of malarial fever admitted to hospitals in 1920, as compared with 1919.

Name of hospital.		1919.			1920.		
		Cases.	Deaths.	Mortality rate per cent.	Cases.	Deaths.	Mortality rate per cent.
Salisbury	White	198	2	1·01	209	3	1·44
	Native	67	1	1·49	55	1	1·82
Umtali	White	192	...	...	193	...	...
	Native	5	...	...	5	1	20·00
Gwelo	White	42	...	...	39	1	2·56
	Native	40	...	...	69	...	...
Victoria	White	19	...	...	28	...	...
	Native	6	...	...	...	..	...
Gwanda	White	12	...	...	7	...	...
	Native	24	...	...	22	...	...
Enkeldoorn ...	White	1	...	...	6	...	...
	Native	2	...	...	...	...	...
Gatooma	White	44	1	2·27	86	...	...
	Native	22	...	...	21	1	4·76
Bulawayo	White	115	2	1·74	90	1	1·11
	Native	52	1	1·92	42	...	...
Shamva	White	117	1	0·85	93	2	2·15
	Native	...	...	...	...	...	...
Sinoia	White	42	1	2.38	44	...	...
	Native	10	1	10·00	24	...	...
Belingwe	White	1	...	...	3	...	...
	Native	3	...	...	1	1	100·00
Totals ...	White	783	7	0·89	798	7	0·88
	Native	231	3	1·30	239	4	1·67

Table 19.

Cases, with mortality rate per cent., of hæmoglobinuric fever (blackwater) admitted to hospitals in 1920, as compared with 1919.

Name of hospital.		1919.			1920.		
		Cases.	Deaths.	Mortality rate per cent.	Cases.	Deaths.	Mortality rate per cent.
Salisbury	White	8	1	12·50	24	2	8·33
	Native	...	...	...	2	...	...
Umtali	White	4	1	25·00	12	4	33·33
	Native	...	...	...	1	...	...
Gwelo	White	1	...	...	...	...	...
	Native	...	...	...	...	...	...
Victoria	White	1	...	...	1	...	...
	Native	...	...	...	..	...	...
Gwanda	White	...	...	...	1	...	...
	Native	...	...	...	...	...	...
Enkeldoorn	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Gatooma	White	3	...	...	10	2	20·00
	Native	1	...	...	...	...	...
Bulawayo	White	4	2	50·00	5	1	20·00
	Native	...	...	...	2	...	...
Shamva	White	8	1	12·50	13	1	7·69
	Native	...	...	...	...	...	...
Sinoia	White	7	2	28·57	3	...	...
	Native	...	...	...	...	...	..
Belingwe	White	...	...	...	1	...	...
	Native	...	...	...	...	...	...
Totals	White	36	7	19·44	70	10	14·29
	Native	1	...	...	5	...	...

Table 20.

Cases, with mortality rate per cent., of dysentery admitted to hospitals in 1920, as compared with 1919.

Name of hospital.		1919.			1920.		
		Cases.	Deaths.	Mortality rate per cent.	Cases.	Deaths.	Mortality rate per cent.
Salisbury	White	27	...	...	23	...	...
	Native	8	...	...	14	1	7·14
Umtali	White	7	...	...	3	...	...
	Native	...	...	...	1	...	...
Gwelo	White	3	...	...	2	...	...
	Native	3	...	...	...	...	...
Victoria	White	2	...	...	4	...	...
	Native	...	...	...	1	1	100·00
Gwanda	White	2	...	...	1	...	...
	Native	...	...	...	1	...	...
Enkeldoorn	White	...	...	...	2	...	...
	Native	...	...	...	...	...	...
Gatooma	White	1	...	...	2	...	...
	Native	...	...	...	...	...	...
Bulawayo	White	16	1	6·25	13	...	...
	Native	8	1	12·50	7	1	...
Shamva	White	4	...	...	4	...	...
	Native	...	...	...	...	...	...
Sinoia	White	3	...	...	4	...	...
	Native	5	...	...	1	1	100·00
Belingwe	White	...	...	...	...	...	...
	Native	...	...	...	1	...	...
Totals	White	65	1	1·54	58	...	...
	Native	24	1	4·17	26	4	15·38

Table 21.

Cases, with mortality rate per cent., of pneumonia admitted to hospitals in 1920, as compared with 1919.

Name of hospital.		1919.			1920.		
		Cases.	Deaths.	Mortality rate per cent.	Cases.	Deaths.	Mortality rate per cent.
Salisbury	White	26	2	7·69	15	4	26·66
	Native	45	12	26·67	71	26	36·62
Umtali	White	8	2	25·00	4	...	...
	Native	9	4	44·44	11	5	45·45
Gwelo	White	7	...	...	16	3	18·75
	Native	16	5	31·25	32	8	25·00
Victoria	White	7	4	57·14	4	1	25·00
	Native	3	...	...	6	...	...
Gwanda	White	...	...	...	1	...	...
	Native	6	3	50·00	6	1	16·67
Enkeldoorn ...	White	...	...	...	3	...	...
	Native	3	...	...	...	...	...
Gatooma	White	6	1	16·67	10	...	...
	Native	27	6	22·22	44	11	25·00
Bulawayo	White	8	4	50·00	13	3	23·08
	Native	106	40	37·74	48	20	41·67
Shamva	White	1	...	...	3	1	33·33
	Native	...	...	...	...	...	...
Sinoia	White	1	...	...	4	...	...
	Native	3	...	...	5	2	40·00
Belingwe	White	1	1	100·00	...	...	...
	Native	4	...	...	6	3	50·00
Totals ...	White	66	14	21·21	73	12	16·44
	Native	222	70	31·53	229	76	33·19

Table 22.

Cases, with mortality rate per cent., of typhoid fever admitted to hospitals in 1920, as compared with 1919.

Name of hospital.		1919.			1920.		
		Cases.	Deaths.	Mortality rate per cent.	Cases.	Deaths.	Mortality rate per cent.
Salisbury	White	10	...	...	20	3	15·00
	Native	6	...	...	3	1	33·33
Umtali	White	3	...	...	2	...	...
	Native	...	...	...	...	...	...
Gwelo	White	18	...	...	13	2	15·38
	Native	4	2	50·00	1	...	...
Victoria	White	1	...	...	5	2	40·00
	Native	...	...	...	...	..	...
Gwanda	White	...	...	...	1	...	...
	Native	...	...	...	...	...	...
Enkeldoorn ...	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Gatooma	White	1	...	...	...	...	...
	Native	...	...	...	...	...	...
Bulawayo	White	5	3	60·00	25	4	16·00
	Native	3	...	...	2	1	50·00
Shamva	White	...	...	...	1	...	...
	Native	...	...	...	...	...	...
Sinoia	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Belingwe	White	...	...	...	1	1	100·00
	Native	...	...	...	...	...	...
Totals ...	White	38	3	7·89	68	12	17·65
	Native	13	2	15·38	6	2	33·33

Table 23.

Cases, with mortality rate per cent., of scurvy admitted to hospitals in 1920, as compared with 1919.

Name of hospital.		1919.			1920.		
		Cases.	Deaths.	Mortality rate per cent.	Cases.	Deaths.	Mortality rate per cent.
Salisbury	White	...	...	...	...	...	...
	Native	2	...	...	2	...	...
Umtali	White	1	...	...	...	...	...
	Native	13	1	7·69	...	...	...
Gwelo	White	...	...	...	...	...	...
	Native	13	1	7·69	10	1	10·00
Victoria	White	...	...	...	..	...	...
	Native	1	1	100·00	...	...	...
Gwanda	White	...	...	...	...	...	...
	Native	9	...	...	10	2	20·00
Enkeldoorn	White	...	...	...	...	...	...
	Native	3	...	...	...	...	...
Gatooma	White	...	...	...	...	...	...
	Native	4	1	25·00	28	2	7·14
Bulawayo	White	...	...	...	...	...	...
	Native	33	7	21·21	39	9	23·08
Shamva	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Sinoia	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Belingwe	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Totals	White	1	...	...	...	...	...
	Native	78	11	14·10	89	14	15·73

Table 24.

Cases, with mortality rate per cent., of Spanish influenza admitted to hospitals in 1920, as compared with 1919.

Name of hospital.		1919.			1920.		
		Cases.	Deaths.	Mortality rate per cent.	Cases.	Deaths.	Mortality rate per cent.
Salisbury	White	14	...	...	10	...	...
	Native	75	...	...	100	3	3·00
Umtali	White	3	...	...	...	...	...
	Native	17	1	5·88	3	2	...
Gwelo	White	...	...	...	4	...	...
	Native	...	...	...	1	1	100·00
Victoria	White	1	...	...	...	...	...
	Native	...	...	...	...	...	...
Gwanda	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Enkeldoorn	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Gatooma	White	1	...	...	...	...	...
	Native	3	1	33·33	2	...	...
Bulawayo	White	16	3	18·75	30	...	...
	Native	87	5	5·75	73	5	6·85
Shamva	White	3	...	...	3	...	...
	Native	...	...	...	...	...	...
Sinoia	White	...	...	...	...	...	...
	Native	6	...	...	...	...	...
Belingwe	White	...	...	...	...	...	...
	Native	...	...	...	...	...	...
Totals	White	38	3	7·89	47	...	...
	Native	188	7	3·72	179	11	6·15

Table 25.

CLASSIFICATION OF DEATHS—EUROPEANS, 1920.

Deaths classified according to the international classification of causes of sickness and death.

Classification No.	Disease.	Number of deaths, 1920.
1	Typhoid fever	13
4	Malaria	28
4a	Blackwater fever	22
8	Whooping cough	4
9	Diphtheria and croup	2
10	Influenza	2
10a	Spanish influenza	10
14	Dysentery	2
18	Erysipelas	1
20	Purulent infection and septicæmia	2
28	Tuberculosis of the lungs	13
29	Acute miliary tuberculosis	1
40	Cancer and other malignant tumours of the stomach and liver	12
41	Cancer and other malignant tumours of the peritoneum, intestines and rectum	3
42	Cancer and other malignant tumours of the female genital organs	2
43	Cancer and other malignant tumours of the breast	1
45	Cancer and other malignant tumours of other organs, or of organs not specified	6
47	Acute articular rheumatism	2
48	Chronic rheumatism and gout	1
50	Diabetes	3
55	Other general diseases	1
56	Alcoholism (acute or chronic)	6
61	Simple meningitis	2
64	Cerebral hæmorrhage, apoplexy	6
67	General paralysis of the insane	2
69	Epilepsy	1
70	Convulsions (non-puerperal)	1
71	Convulsions of infants	7
78	Acute endocarditis	2
79	Organic diseases of the heart	16
80	Angina pectoris	4
81	Diseases of the arteries, atheroma, aneurysm, etc.	6
82	Embolism and thrombosis	1
87	Diseases of the larynx	1
89	Acute bronchitis	4
90	Chronic bronchitis	2
91	Broncho-pneumonia	3
92	Pneumonia	25
98a	Miners' phthisis	2
100	Diseases of the pharynx	3
102	Ulcer of the stomach	1
103	Other diseases of the stomach (cancer excepted)	3
104	Diarrhœa and enteritis (under 2 years)	6
108	Appendicitis and typhilitis	2
109	Hernia, intestinal obstruction	4
110	Other diseases of the intestines	1
113	Cirrhosis of the liver	3
114	Biliary calculi	2
115	Other diseases of the liver	1
117	Simple peritonitis (non-puerperal)	6
119	Acute nephritis	2
120	Bright's disease	4
123	Calculi of the urinary passages	1
124	Diseases of the bladder	1
125	Diseases of the urethra, urinary abscess, etc.	1
126	Diseases of the prostate	1
134	Accidents of pregnancy	2
137	Puerperal septicæmia	1
146	Diseases of the bones (tuberculosis excepted)	1
150	Congenital malformations (still-births not included)	2
151	Congenital debility, icterus and sclerema	21
152	Other causes peculiar to early infancy	2
154	Senility	5
155	Suicide by poison	1
159	Suicide by firearms	2
163	Other suicides	3
165	Other acute poisonings	5
168	Absorption of deleterious gases (conflagration excepted)	1
169	Accidental drowning	4
170	Traumatism by firearms	2
172	Traumatism by fall	2
175	Traumatism by other crushing (vehicles, railways, landslides, etc.)	5
181	Electricity (lightning excepted)	1
182	Homicide by firearms	1
185	Fractures (cause not specified)	2
186	Other external violence	1
188	Sudden death	2
189	Cause of death not specified or ill-defined	15
	Total	345

TABLE 26.

CLASSIFICATION OF DEATHS—NATIVES, 1920.

Deaths classified according to the international classification of causes of sickness and death.

Classification No.	Disease.	No. of Deaths, 1920.
1	Typhoid fever	3
4	Malaria	8
4a	Blackwater fever	2
10	Influenza	1
10a	Spanish influenza	12
14	Dysentery	6
20	Purulent infection and septicæmia	2
28	Tuberculosis of the lungs	74
30	Tuberculous meningitis	1
31	Abdominal tuberculosis	1
34	Tuberculosis of other organs	2
37	Syphilis	3
39	Cancer and other malignant tumours of the buccal cavity	1
40	Cancer and other malignant tumours of the stomach and liver	2
45	Cancer and other malignant tumours of other organs, or of organs not specified	2
47	Acute articular rheumatism	1
49	Scurvy	11
50	Diabetes	2
53	Leuchæmia	1
55	Other general diseases	3
60	Encephalitis	3
61	Simple meningitis	24
61c	Meningitis, other forms	1
64	Cerebral hæmorrhage, apoplexy	4
66	Paralysis without specified cause	3
68	Other forms of mental alienation	11
69	Epilepsy	1
71	Convulsions of infants	2
74	Other diseases of the nervous system	1
76	Diseases of the ears	1
77	Pericarditis	1
79	Organic diseases of the heart	4
89	Acute bronchitis	3
91	Broncho-pneumonia	2
92	Pneumonia	83
93	Pleurisy	3
103	Other diseases of the stomach (cancer excepted)	1
104	Diarrhœa and enteritis (under 2 years)	2
105	Diarrhœa and enteritis (2 years and over)	1
108	Appendicitis and typhilitis	1
109	Hernia, intestinal obstruction	3
110	Other diseases of the intestines	1
113	Cirrhosis of the liver	4
114	Biliary calculi	1
115	Other diseases of the liver	2
116	Diseases of the spleen	2
117	Simple peritonitis (non-puerperal)	3
119	Acute nephritis	9
126	Diseases of the prostate	1
134	Accidents of pregnancy	1
142	Gangrene	4
144	Acute abscess	3
151	Congenital debility, icterus and sclerema	5
152	Other causes peculiar to early infancy	1
157	Suicide by hanging or strangulation	1
165	Other acute poisonings	1
167	Burns (conflagration excepted)	3
170	Traumatism by firearms	1
175	Traumatism by other crushing (vehicles, railways, landslides, etc.)	1
185	Fractures (cause not specified)	9
186	Other external violence	2
186a	Execution	5
187	Ill-defined organic disease	2
188	Sudden death	1
189	Cause of death not specified, or ill-defined	13
	Total	369