DEPARTMENT OF PROVINCIAL SECRETARY

TENTH ANNUAL REPORT

OF

THE TRANQUILLE SANATORIUM

OF THE PROVINCE OF

BRITISH COLUMBIA

FOR THE

FISCAL YEAR ENDED MARCH 31ST, 1931

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

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1932.

To His Honour J. W. FORDHAM JOHNSON,

Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully submits herewith the Annual Report of the Medical Superintendent of Tranquille Sanatorium for the fiscal year ended March 31st, 1931.

S. L. HOWE,

Provincial Secretary.

Provincial Secretary's Office.

DEPARTMENT OF THE PROVINCIAL SECRETARY.

HON. S. L. HOWE, *Provincial Secretary.*

P. WALKER, *Deputy Provincial Secretary.*

TRANQUILLE SANATORIUM HEADQUARTERS STAFF.

A. D. LAPP, M.B., *Medical Superintendent.*

H. JEFFERIS, *Bursar.*

H. G. CHISHOLM, M.D., *Assistant Medical Superintendent.*

M. MCQUITTY, M.B., *Assistant Physician.*

H. A. JONES, M.D., *Assistant Physician.*

A. HAKSTIAN, M.B., *Assistant Physician.*

W. G. LOTHIAN, *Radiologist.*

G. DARLING, *Laboratory Technician.*

G. J. CAMERON, D.D.S., *Dentist.*

Miss B. BIBBY, *Matron.*

Miss L. WRIGHT, *Dietitian.*

J. G. SIMMONDS, *Clerk.*

Miss M. L. HAYCROFT, *Stenographer.*

W. JACKSON, *Farm Manager.*

A. N. LOW, *Steward.*

T. G. KINGSCOTE, *Book-keeper.*

J. TREVORS, *Laundry Manager.*

J. L. STEPHENSON, *Chief Engineer.*

Rev. Dr. E. D. MCLAREN, *Chaplain.*

DEPARTMENT OF PUBLIC WORKS.

J. R. MATHIESON, *Clerk of Works.*

TRANQUILLE SANATORIUM.

REPORT OF MEDICAL SUPERINTENDENT.

TRANQUILLE, B.C., March 31st, 1931.

The Honourable S. L. Howe,
Provincial Secretary, Victoria, B.C.

SIR,—I have the honour to submit herewith the Tenth Annual Report of Tranquille Sanatorium, covering the fiscal year April 1st, 1930, to March 31st, 1931.

Although there was no increase in the bed accommodation, more patients were treated during the year just ended than in any previous year. This was owing to a somewhat shorter average stay than formerly. On account of many of our patients being homeless, and as no other provision is made for them, many patients are here for long periods. This prevents us from making the best use of the Sanatorium and delays the admission of patients who might have a chance to get well. Patients who are here for too long periods also become more or less demoralized and have a demoralizing effect on the whole institution.

The conditions described above could be remedied to a great extent if the scheme which I recommended last year was put into operation. This scheme provided for machinery for early diagnosis, expert supervision in the home while waiting admission, shorter period of more active treatment and training in the Sanatorium, expert supervision of remainder of treatment in homes or special wards of general hospitals, and co-ordination of all anti-tuberculosis work in the Province under one direction.

If such a scheme is not possible, some special provision should be made for cheaper care of the advanced chronic cases who are likely to remain dependent on the State for an indefinite period. The Sanatorium should be for active treatment and training only. Once the type referred to above have been trained, they could safely be transferred to a place in the nature of a home where they could look after themselves to a great extent. It is this type who find the rigid Sanatorium rules irksome and make it difficult to enforce them on those in the more active stages, for whose special benefit these rules are made. A suitable place for the care of these people might be operated in connection with the Hospital for Incurables under the charge of a Sanatorium-trained nurse.

MEDICAL AND SURGICAL.

The medical service is the one around which the operation of the whole institution centres. The Sanatorium is divided into sections, with a resident physician in charge of each. He is responsible to the Superintendent for all patients under his charge. Newly admitted patients are allotted to the physicians in turn for their initial examination. Each week there is a meeting of the whole medical staff with the Superintendent, at which the physicians present the cases they have examined. The possibilities of special treatment are discussed and each patient in this way has the benefit of the opinions of the whole staff. It also familiarizes the whole medical staff with each patient's condition. Special treatments, periodical examinations, and daily visits to patients keep the medical staff fully occupied.

There were 144 people referred to us for chest examinations and eleven ex-patients came in for examination during the year.

The field of surgery in the treatment of pulmonary tuberculosis is being steadily extended.

Artificial pneumothorax is the simplest operation used in surgical treatment. This is performed by our own staff. At the beginning of the year there were fifty-three patients receiving this treatment. It was attempted in sixty-four new cases during the year. No free space could be found in twenty-one cases and it was successful in forty-three. In addition, eight cases were admitted with the treatment already established. A total of 1,896 refills were given during the year.

The next surgical step is avulsion of the phrenic nerve to reduce the intrathoracic space and limit the movement of the more affected lung. This operation was attempted in twenty-five

cases, but no phrenic nerve could be found in two. The value of this operation is undoubted in many cases and we have had some striking results.

The major operation of thoracoplasty, which involves the removal of the ribs on the badly affected side, has been performed on forty-four patients here. During the past year there have been only three and the results have not been good in these. On the whole, however, we are satisfied with the results obtained here and intend to continue to recommend it in suitable cases.

There were seven tonsilectomies and six other major operations performed by the consulting staff.

Probably the greatest achievement of the year in our medical work was the successful beginning of our affiliation courses for nurses-in-training. We are affiliated with the larger hospitals of the Province and give a two-month course to each class. The course is made fairly intensive and an examination is given at the end of it. We can give this training to between sixty and seventy nurses each year. As they come from all parts of the Province, the value of this work cannot be estimated in dollars and cents. In addition to teaching these young women about tuberculosis, its early symptoms, treatment, etc., it familiarizes them with the Sanatorium and the work it is doing. They carry this knowledge throughout the Province and pass it on to their friends. This is almost certain to help the Sanatorium in its relations with the public.

FINANCIAL.

There is a limit beyond which one cannot go, in reducing operating costs, without lowering the standard of treatment. I am very happy to be able to report that during the past year we have reduced our gross cost by 37 cents per patient-day, while actually increasing the service to the patients. The average *per capita* cost for the past year was 95 cents per day less than that reported two years ago. The credit for this showing is largely due to the better business methods in buying, etc., introduced by Mr. Jefferis, our present Bursar.

SANATORIUM FARM.

On account of the poor financial showing of the farm in the past we have had to make excuses for its existence. At last we are in a position to show that the farm can be made to pay and will justify its existence financially as well as on account of its necessity for supplying milk. In spite of considerable unproductive expenditure, such as building new corrals, fencing, etc., there has been a drop of about $32,000 in our deficit as compared with the previous year. I feel confident in predicting a substantial profit next year and in being able to maintain or increase this profit.

The herd of range cattle used for beef purposes has had a natural increase of 170 head since the spring of 1929, in addition to supplying all the beef required by the Sanatorium and farm since the autumn of the same year. For some years previous to 1929 there had been no appreciable increase in the herd and we had been forced to buy a great deal of our beef each year. A short time ago we sold forty sterile scrub cattle off the range and replaced them with forty pure-bred Hereford heifers. This will mean a great saving as we can produce our own sires and should also have pure-bred sires for sale. In three or four years at the present rate of increase we should have about 1,000 head of range stock and be supplying a considerable amount of beef to other Government institutions.

Our new piggery looks very trim and clean. The spring litters have brought our total herd of swine up to around 500. Remodelling of the slaughter-house with the addition of a cool-room and smoke-house has enabled us to begin the curing of our own hams and bacon. All by-products are used up in the making of sausages, lard, etc. We now have enough work to keep a full-time butcher employed profitably.

The whole farm now presents a neat and well-kept appearance, quite the opposite from that of a year or two ago. The outlook is most encouraging and I am confident that next year's showing will justify my optimism.

Mr. Jackson, the Farm Manager, has worked hard to accomplish in less than two years what we anticipated would take at least three, and I would like to commend him for the good work he has done since his appointment in July, 1929.

An account of the farm activities would not be complete without some mention of the dairy herd, and we are very fortunate in having a herdsman with the ability and experience of Mr. Tapscott. The herd was fully accredited during the last year and this will be a great advan-

tage when we have stock for sale. No attempt was made to create new records of production, but the average production of the herd is steadily being raised. Our new sire is also improving the type. The herd was tested for bacillus abortus infection and only three reactors found. Those were isolated and will be disposed of if they continue positive. Tests of the herd for this infection are now done at regular intervals. The bacterial count of the milk is taken every week and has been kept at new low levels—around 5,000.

BUILDING OPERATIONS.

No new buildings were erected in connection with the Hospital during the past year.

At the farm a cow-barn with maternity-pens on one side and stalls for young stock on the other was added to the accommodation for the dairy herd. This is a fine building and will be of great assistance in the handling of the herd.

An isolation-barn for the care of any dairy stock on the sick-list was built at a little distance from the main barn. This will accommodate six head and will help prevent the spread of any infection in the herd.

A long open driving-shed was added to the farm buildings and during the past winter we were able to store all implements in this shed after they had been repaired.

The slaughter-house was enlarged and fully equipped by the addition of a cool-room, smoke-room, and machines sufficiently to enable us to give it the more dignified name, "abattoir."

At some distance from the Sanatorium several substantial pig-pens were built around the garbage-cooking house in the form of a hollow square. We now have splendid accommodation for several hundred hogs.

RECOMMENDATIONS.

The need for the contemplated administrative block is becoming more evident every year. This should be proceeded with as soon as finances will permit.

Now that the power question has been definitely settled for some time, our antiquated and patch-work X-ray outfit should be scrapped and a modern machine installed. Although we have been getting remarkably good results considering the equipment, this work, which is such an important part of the medical work, can be improved several hundred per cent. by the installation of a modern plant.

The laying of a steam-line to the farm with improvements in the dairy facilities should be earnestly considered again. By having all heating centralized the saving in fuel and labour would soon pay for this undertaking.

There is land available close by, at a moderate price, suitable for growing hay. If we are to continue increasing the beef herd this land should be purchased.

At this time I would not recommend any extension to the grounds, but the hard-surfacing of roads and paths should be extended each year.

ACKNOWLEDGMENTS.

I take this opportunity of expressing my appreciation for the community welfare-work which has been done by the members of the Red Cross, the I.O.D.E., the visiting clergymen, and various organizations which have provided entertainments during the year. Also for any donations received from individuals or organizations.

The very hearty co-operation of all members of the staff of the Sanatorium as well as the work of the consulting staff is gratefully acknowledged.

In conclusion, allow me, Sir, to thank you for the support and encouragement which I have had not only from yourself, but from all members of your Department.

I have the honour to be,
Sir,
Your obedient servant,

A. D. LAPP, M.B.,
Medical Superintendent.

STATISTICAL TABLES.

TABLE No. 1.—GENERAL STATISTICS FOR YEAR 1930–31.

Movement of Population.	Male.	Military.	Female.	Total.
Number of patients in Sanatorium, March 31st, 1930	184	11	130	325
Number of patients admitted, 1930–31	102	26	109	237
Number of patients discharged, 1930–31	119	20	96	235
Number of patients treated, 1930–31	286	37	239	562
Number of patients in Sanatorium, March 31st, 1931	160	24	143	327
Daily average population	.....	....	.....	325
Total number of patient-days	.....	....	.....	118,558

TABLE No. 2.—CLASSIFICATION OF 237 CASES ADMITTED TO SANATORIUM DURING YEAR 1930–31.

Classification.	Male.	Military.	Female.	Total.	Percentage.
Incipient	8	....	10	18	7.6
Moderately advanced	35	13	31	79	33.3
Far advanced	56	13	67	136	57.4
Miscellaneous	3	....	1	4	1.7
Totals	102	26	109	237	100.0

TABLE No. 3.—CLASSIFICATION OF FOUR CASES ADMITTED AS MISCELLANEOUS.

Classification.	Male.	Female.	Total.
Asthma	1	....	1
Bronchitis	1	....	1
Debility	....	1	1
Pleurisy	1	....	1
Totals	3	1	4

TABLE No. 4.—SHOWING CIVIL STATE OF PATIENTS ADMITTED FROM APRIL 1st, 1930, TO MARCH 31st, 1931.

Civil State.	Male.	Female.	Total.
Married	52	38	90
Single	72	62	134
Divorced	1	1	2
Widowed	3	8	11
Totals	128	109	237

TABLE No. 5.—SHOWING THE NATIONALITY OF PATIENTS ADMITTED FROM APRIL 1st, 1930, TO MARCH 31st, 1931.

Nationality.	Male.	Female.	Total.
American	6	6	12
Canadian	56	71	127
Danish	....	1	1
English	28	13	41
Finnish	4	2	6
Grecian	....	1	1
Icelandic	....	1	1
Irish	5	2	7
Italian	2	1	3
Norwegian	2	....	2
Polish	....	1	1
Russian	1	1	1
Scotch	17	7	24
Serbian	1	....	1
Swedish	1	2	3
Ukranian	1	....	1
Welsh	5	....	5
Totals	128	109	237

TABLE No. 6.—SHOWING WHAT DISTRICTS CONTRIBUTED PATIENTS FROM APRIL 1st, 1930, TO MARCH 31st, 1931.

Place of Residence.	Male.	Female.	Total.
Albert Canyon	1	....	1
Anyox	....	1	1
Black Pool	....	1	1
Britannia Mine	1	....	1
Burnaby	1	3	4
Cawston	1	....	1
Chilliwack	2	2	4
Cloverdale	1	1	2
Coghlan	1	....	1
Comox	1	....	1
Cranbrook	1	....	1
Crescent Beach	....	1	1
Duncan	1	....	1
Eburne	1	1	2
Fernie	1	....	1
Fort St. James	1	....	1
Fraser Mills	....	1	1
Gibsons Landing	1	....	1
Golden	1	....	1
Harrop	1	....	1
Heffley Creek	1	....	1
Hosmer	1	....	1
Ioco	1	1	2
Kamloops	12	6	18
Kaslo	....	1	1
Kelowna	1	1	2
Keremeos	1	2	3
Ladysmith	1	3	4
Lytton	....	1	1
Matsqui	1	....	1
Michel	....	1	1
Mission City	....	1	1
Nanaimo	3	....	3
New Westminster	3	2	5
Carried forward	42	30	72

TABLE No. 6.—SHOWING WHAT DISTRICTS CONTRIBUTED PATIENTS—*Continued.*

Place of Residence.	Male.	Female.	Total.
Brought forward	42	30	72
Prince Rupert	....	5	5
Powell River	1	1	2
Salmon Arm	1	1	2
Sardis	2	1	3
Smithers	....	1	1
Solsqua	1	....	1
Summerland	....	2	2
Terrace	....	1	1
Trail	2	2	4
Tranquille	3	1	4
Vancouver	67	50	117
Vanderhoof	....	1	1
Vedder Crossing	....	1	1
Vernon	....	2	2
Victoria	7	7	14
Webster's Corners	....	1	1
Westwold	1	....	1
Williams Lake	1	....	1
Wilmer	....	1	1
Ymir	....	1	1
Totals	128	109	237

TABLE No. 7.—SHOWING THE OCCUPATIONS OF THOSE ADMITTED FROM APRIL 1ST, 1930, TO MARCH 31ST, 1931.

Occupation.	Male.	Female.	Total.
Barber	2	....	2
Car-driver	4	....	4
Carpenter	3	....	3
Clerical	21	7	28
Domestic	....	8	8
Druggist	2	....	2
Engineer and mechanic	7	....	7
Farmer	9	....	9
Fireman	2	....	2
Housewife	....	38	38
Janitor	2	....	2
Labourer	15	....	15
Laundry-maid	....	2	2
Logger	2	....	2
Mining and smelting	8	....	8
None	2	13	15
Nurse-in-training	....	3	3
Nurse, graduate	....	9	9
Printer	2	....	2
Radio service	2	....	2
School-teacher	1	2	3
Seaman	3	....	3
Stenographer	....	8	8
Soldier	2	....	2
Steward	3	....	3
Student	7	9	16
Waiter	5	3	8
Miscellaneous	24	7	31
Totals	128	109	237

TABLE No. 8.—SHOWING THE AGES OF THOSE ADMITTED FROM APRIL 1st, 1930, TO MARCH 31st, 1931.

Age.	Male.	Female.	Total.
Under 15 years	4	3	7
15 to 20 ,,	15	25	40
21 ,, 25 ,,	29	31	60
26 ,, 30 ,,	16	19	35
31 ,, 35 ,,	14	10	24
36 ,, 40 ,,	16	8	24
41 ,, 45 ,,	11	6	17
46 ,, 50 ,,	9	1	10
51 ,, 55 ,,	6	4	10
56 ,, 60 ,,	6	1	7
61 ,, 65 ,,	1	1	2
66 ,, 70 ,,	1	....	1
Over 70 ,,	....	....	....
Totals	128	109	237

TABLE No. 9.—SHOWING ADMISSIONS, DISCHARGES, AND DEATHS FROM APRIL 1st, 1930, TO MARCH 31st, 1931.

Month.	Admissions.			Discharges.			Deaths.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1930.									
April	7	21	28	16	8	24	2	1	3
May	20	11	31	14	12	26	7	1	8
June	15	10	25	10	10	20	5	2	7
July	13	9	22	11	6	17	1	1	2
August	9	6	15	3	4	7	3	3	6
September	7	9	16	8	5	13	2	2	4
October	15	9	24	8	4	12	6	2	8
November	11	7	18	8	5	13	2	1	3
December	8	8	16	6	9	15	5	1	6
1931.									
January	7	5	12	2	3	5	....	1	1
February	10	7	17	8	6	14	....	3	3
March	6	7	13	10	4	14	2	2	4
Totals	128	109	237	104	76	180	35	20	55

TABLE No. 10.—SHOWING CLASSIFICATION OF 235 DISCHARGES DURING 1930–31.

Classification on Admission.	Results.					
	Apparently arrested.	Quiescent.	Improved.	Unimproved.	Died.	Total.
Incipient	5	7	4	1	....	17
Moderately advanced	2	53	7	5	6	73
Far advanced	....	33	15	32	47	127
Miscellaneous	....	....	15	1	2	18
Totals	7	93	41	39	55	235

TABLE No. 11.—AVERAGE LENGTH OF RESIDENCE OF 141 DISCHARGED PATIENTS.

Condition.	Male.	Female.
	Days.	Days.
Apparently arrested	219	361
Quiescent	489	433
Improved	336	296

TABLE No. 12.—SHOWING LONGEST AND SHORTEST PERIODS OF RESIDENCE IN 141 DISCHARGED PATIENTS.

Condition.	Longest Period.	Shortest Period.
	Days.	Days.
Apparently arrested	542	219
Quiescent	4,570	22
Improved	2,380	16

TABLE No. 13.—SHOWING CLASSIFICATION OF 18 CASES (MISCELLANEOUS) DISCHARGED.

Classification.	Male.	Female.	Total.
Asthma	1	....	1
Bronchitis	2	....	2
Bronchiectasis	2	3	5
Laryngitis, chronic	1	....	1
Lung abscess	....	1	1
Lung tumour	....	1	1
Miners' phthisis	2	....	2
Neuritis	....	1	1
Pleurisy	1	....	1
Spinal caries	1	....	1
T.B. *suspect*	1	1	2
Totals	11	7	18

TABLE No. 14.—SHOWING WORK COMPLETED BY PATIENTS IN OCCUPATIONAL THERAPY CLASSES DURING THE YEAR ENDED MARCH 31st, 1931.

Reed-work—

Trays, size 14 by 20	122
Trays, size 12 by 18	95
Trays, size 12 by 12	36
Pin-trays, small	46
Sandwich-trays	72
Doll-cradles	38
Flower-baskets	85
Sewing-baskets	48
Table-lamps	11
Flower-vases	43
Waste-paper baskets	6

Woodwork—	
Picture-frames	60
Cribbage-boards	24
Storks, pine-cone	128
Bead-work—	
Bead-bags	14
Necklaces	7
Watch-fobs	10
Wrist-bands	5
Hand-painted work—	
Handkerchiefs	400
Scarves	46
Cushion-tops	62
Table-centres	6
Table-runners	4
Hand-painted cards	300
Passe-partout work—Pictures framed	326

NOTE.—About 140 patients have taken part in the above work. A sale of work was held in December which netted $161 for the patients. Most of this work is shipped and sold throughout the Province, and many articles are sold from the show-case during the year.

TABLE No. 15.—WEATHER SUMMARY, BEGINNING APRIL 1ST, 1930, AND ENDING MARCH 31ST, 1931.

Month.	Max. Temp.	Min. Temp.	Ave. Temp.	Ave. Hum.	Rainfall.	Snowfall.	Sunshine.
1930.	Deg. F.	Deg. F.	Deg. F.	Deg. F.	Inches.	Inches.	Hours.
April	73	34	53.95	64.86	0.530	0.00	212.8
May	81	34	56.50	67.80	0.430	0.00	199.1
June	86	43	63.00	85.00	0.520	0.00	226.1
July	96	45	68.09	55.61	0.490	0.00	315.0
August	91	50	68.37	52.96	0.890	0.00	299.1
September	83	33	63.26	56.66	0.440	0.00	207.8
October	68	26	44.30	75.16	1.050	0.50	105.9
November	63	19	37.08	74.56	0.200	5.00	39.4
December	42	21	32.25	79.50	0.160	2.00	61.8
1931.							
January	51	19	34.83	81.40	0.330	1.75	41.6
February	54	15	31.74	79.50	0.260	1.00	56.1
March	65	18	41.565	65.90	0.634	0.50	138.0
Totals	853	357	584.935	838.91	5.934	10.75	1,902.7

DENTAL REPORT.

TRANQUILLE, B.C., March 31st, 1931.

The Medical Superintendent,
Tranquille Sanatorium, Tranquille, B.C.

SIR,—I have the honour to submit the following report and statement of work completed in the Dental Clinic of the institution during the year ended March 31st, 1931:—

Routine examinations have been carried out as usual for all patients, the full mouth X-ray examination proving of great assistance, and the necessary work. This work has been kept up to date during the entire year.

The patient's X-ray examination is made on admission and approximately one month is allowed to elapse before any work is attempted by the Clinic, excepting emergency work. This interval is used to allow the patient to become adjusted to the general routine of the institution. I have found that this is an admirable procedure with all types of patients.

When work is started, all evidences of haste are controlled as far as possible, with the control of pain being foremost, and the different operations are carried out slowly and appointments are limited to approximately once a week.

From the examinations of the patients of the institution during the past number of years, the conclusion as to the great prevalence of dental decay and various infections of the mouth is very easily arrived at. However, it has been my experience that the greater part of my work has to do with newly admitted patients. After a patient has had the necessary dental work done, the Clinic has very little more to do with him during his stay in the institution, whether it be for a period of months or years.

My conclusion, from this experience, is that under the supervision of the dietary department of the institution the diet of the patients is controlling, to a great extent, dental decay in the institution. It is a well-known fact that dental disease, the most prevalent disease in the world to-day, can be controlled by intelligent dietary measures. First, by building up a strong, healthy dentition during the early years of life, by the assimilation of the proper constituents of tooth structure; and, secondly, by maintaining this dentition in a healthy and efficient condition during the adult years of life by the proper diet.

I wish to thank the staff of the institution for the considerate assistance given to the Dental Clinic during the past year.

Following is a statement of work completed:—

Fillings	679
Extractions	464
Dentures	78
Repairs	10
Inlays	45
Bridges	19
Treatments	399
Root fillings	9
Prophylaxis	71
Special cases	2

I have, etc.,

G. J. CAMERON, D.D.S.

LABORATORY REPORT.

TRANQUILLE, B.C., March 31st, 1931.

The Medical Superintendent,
Tranquille Sanatorium, Tranquille, B.C.

SIR,—I have the honour to submit herewith the Tenth Annual Laboratory Report.

Since the opening of the Greaves Building last year, and the subsequent admission of 100 new patients, the technical work for year ended March, 1930, showed a decided increase. With the fewer admissions during the past twelve months, there has been a slight decline in the aggregate number of examinations.

Since the inception of the training-school for pupil nurses an added responsibility has been incurred, in that each nurse comes to the Laboratory for her technical training, entailing the services of a technician as instructor. Two lectures were delivered during the year to the patients and staff and one to the pupils of the local school. The senior technician also lectures to the undergraduate nurses on bacteriological methods in tuberculosis.

The Laboratory staff has also been employed in two educational exhibits—one at the Vancouver Exhibition and the other at the B.C. Hospitals Association Convention. Through these channels much beneficial publicity has been gained for the profession and the institution and the public has profited from the information disseminated.

I wish to avail myself of the opportunity to thank you for the appreciation and encouraging interest which you have evinced in the activities of this department, and also to thank the Assistant Technician for his faithful co-operation.

All of which is respectfully submitted.

GEORGE DARLING,
Labratory Technician.

GENERAL WORK DONE IN LABORATORY.

Material examined.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Total.
Sputum	174	203	161	172	147	135	180	132	160	126	146	157	1,893
Positive	77	73	69	65	65	67	56	71	62	59	76	78	818
Negative	97	130	92	107	82	68	124	61	98	67	70	79	1,075
Urinalysis	56	362	25	27	328	24	35	359	26	10	339	17	1,608
Albumin	7	29	2	1	20	3	1	27	1	.....	23	.....	114
T.B. in urine	2	12	2	1	10	2	2	8	1	.....	6	3	49
Positive	.....	.....	.....	.....	3	.....	.....	2	.....	.....	2	1	8
Negative	2	12	2	1	7	2	2	6	1	.....	4	2	41
Renal functional test	.....	.....	.....	1	.....	2	.....	2	.....	.....	.....	.....	5
Blood—													
Erythrocytes	38	17	38	21	16	19	28	14	20	10	10	12	243
Hemoglobin	38	17	38	21	16	20	28	14	20	10	10	12	244
Leukocytes	38	16	39	21	17	21	28	17	21	11	11	15	255
Differential	38	16	39	21	17	21	28	17	21	11	11	15	255
Kahn precipitin	38	23	29	22	13	24	14	16	33	7	14	19	252
Sedimentations	47	87	48	47	76	52	11	34	48	10	17	25	502
Blood-sugar	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Cebrospinal Fluid	1	1	2	1	.....	2	.....	.....	.....	.....	1	2	10
Autopsies	.....	1	.....	2	.....	1	.....	.....	1	1	.....	1	7
Guinea-pig inoculation	3	1	3	.....	1	.....	4	.....	2	1	3	.....	18
Guinea-pig autopsy	.....	1	1	2	.....	1	.....	.....	4	.....	3	1	13
Cultures	27	6	14	20	10	4	7	43	27	25	10	59	252
Bacteriological smears	27	6	14	24	16	8	12	48	30	18	6	63	272
Autogenous vaccine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Gastric analysis	.....	2	3	.....	1	6	.....	1	.....	1	.....	1	15
Pleural fluid	4	1	8	3	4	1	2	1	2	1	2	4	33
T.B. positive	3	.....	6	1	3	1	.....	.....	.....	1	2	1	18
T.B. negative	1	1	2	2	1	.....	2	1	2	.....	.....	3	15
Fæces	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	2
Agglutinations	.....	.....	.....	.....	.....	41	15	49	.....	3	3	5	116
Tissue sections	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Milk bacteriology	3	4	4	4	5	6	4	4	4	4	4	5	51
Milk chemistry	6	12	8	10	12	12	8	8	8	8	8	10	110
Water analysis	1	1	1	1	1	1	1	1	1	1	1	1	12

BURSAR'S REPORT.

TRANQUILLE, B.C., March 31st, 1931.

The Medical Superintendent,
Tranquille Sanatorium, Tranquille, B.C.

SIR,—I have the honour to submit herewith the Balance-sheet and the Profit and Loss Accounts covering the fiscal year ended March 31st, 1931.

The year which has just closed has been the busiest in the history of the institution. The number of days' treatment given during the year amounted to 118,558, which is considerably in excess of any other year, while the average daily patient population has been maintained at 325, a figure which has necessitated the constant use of our entire accommodation.

The gross *per capita* cost per patient per annum has been reduced to a new low figure of $1,052.67, while the net daily *per capita* cost to the Provincial Government is now lower than at any time since the Sanatorium revenue was depleted by the withdrawal of large numbers of military patients maintained by the Dominion Government.

To bring about this result, full advantage has been taken of the general lowering of market prices, and in accordance with prevailing conditions a policy of strict economy has been steadfastly pursued, and expenses have been kept down to the minimum consistent with efficiency.

It might be of interest to you to know that in reviewing other annual reports of similar institutions I note a marked difference in the cost of fuel, light, and water, an item which is very heavy in our expenditure.

Muskoka Sanatorium in Ontario, which is in a colder district than ours, shows an expenditure of $27,000, as against $44,000 for the same size institution. This item alone increases our *per capita* about 15 cents as compared to theirs.

I desire to express my appreciation of your cordial support in the performance of my duties, and of the active co-operation of the department heads and members of the office staff.

I have, etc.,
H. JEFFERIS,
Bursar.

TRANQUILLE SANATORIUM.

BALANCE-SHEET, MARCH 31ST, 1931.

Assets.

Land and improvements	$8,494.05
Buildings	615,122.05
Plant and equipment	139,481.67
Furnishings, linen, bedding, etc.	51,226.45
Inventory	15,660.59
Petty Cash Account	1,000.00
Accounts receivable	2,614.76
	$833,599.57
Cost of operating, 1930–31	298,573.95
	$1,132,173.52

Liabilities.

Government of British Columbia	$1,132,173.52

PROFIT AND LOSS ACCOUNT, MARCH 31ST, 1931.

Depreciation—		
Buildings	$32,374.85	
Plant and equipment	6,943.68	
Furnishings, etc.	2,551.34	
Salaries	157,319.27	
Office supplies	2,627.69	
Transportation	2,054.53	
Fuel, water, and light	43,130.67	
Maintenance supplies	15,898.79	
Provisions	96,758.11	
Medical and surgical	14,604.17	
Incidentals	5,101.46	
Bedding, linens, etc.	4,625.37	
By Revenue		$84,465.98
Donation, J. B. Kennedy Estate		950.00
Balance		298,573.95
	$383,989.93	$383,989.93

SUMMARY OF PROFIT AND LOSS ACCOUNT, 1930–31.

		Yearly *Per Capita.*
Salaries	$157,319.27	$484.06
Office supplies	2,627.69	8.09
Travelling and transportation	2,054.53	6.32
Fuel, water, and light	43,130.67	132.71
Maintenance and janitors' supplies	15,898.79	48.92
Furnishings (linens and beddings, etc.)	4,625.37	14.23
Provisions	96,758.11	297.72
Medical and surgical	14,604.17	44.93
Incidentals	5,101.46	15.69
	$342,120.06	$1,052.67
Less revenue	85,415.98	262.81
Net cost of operating	$256,704.08	$789.86
Depreciation (plant, building, and fixtures)	41,869.87	128.83
	$298,573.95	$918.69

Remarks.

Number of days' treatment given during year 1930–31	118,558
Number of patients in residence, March 31st, 1930	327
Daily average population for year ended March 31st, 1931	325
Gross maintenance *per capita* cost, 1 year	$1,052.67
Gross maintenance *per capita* cost, 1 day	2.88
Net maintenance *per capita* cost, 1 year	789.86
Net maintenance *per capita* cost, 1 day	2.16

FINANCIAL TABLES.

TABLE A.—SHOWING THE AVERAGE NUMBER OF PATIENTS IN RESIDENCE EACH YEAR, THE TOTAL AMOUNTS SPENT FOR MAINTENANCE, AND THE GROSS PER CAPITA COST.

Year.	Average Number in Residence.	Maintenance Expenses.	*Per Capita* Cost.
1921–22	190.04	$271,730.08	$1,429.85
1922–23	194.46	284,019.31	1,460.55
1923–24	207.15	312,065.72	1,506.46
1924–25	221.21	300,350.00	1,357.75
1925–26	224.00	293,980.72	1,312.44
1926–27	223.00	308,194.82	1,382.04
1927–28	216.00	294,674.82	1,364.24
1928–29	214.31	299,621.79	1,400.10
1929–30	293.00	347,939.58	1,187.51
1930–31	325.09	342,120.06	1,052.67

TABLE B.—SHOWING ANALYSIS OF GROSS PER CAPITA COST.

Year.	Salaries.	Office Supplies.	Travelling and Transportation.	Fuel, Light, Water, and Power.	Maintenance and Repairs.	Furniture and Fixtures.	Provisions.	Medical and Surgical Supplies.	Incidentals.	Total Gross.
1921–22	$439.59	$9.01	$20.56	$225.14	$138.43	$57.79	$421.96	$28.37	$72.06	$1,429.85
1922–23	482.22	8.09	11.32	232.81	133.03	66.89	472.17	13.07	28.46	1,460.55
1923–24	479.85	7.46	9.42	243.48	85.77	13.70	441.26	39.95	65.76	1,506.46
1924–25	467.52	6.01	11.93	211.11	70.55	25.78	288.86	26.17	33.05	1,357.75
1925–26	479.75	8.97	8.09	189.92	68.62	6.62	392.98	34.68	19.31	1,312.44
1926–27	501.57	9.51	14.81	173.22	65.85	33.96	426.23	39.32	12.36	1,382.04
1927–28	554.98	10.32	11.89	169.48	64.20	34.93	448.96	53.82	15.65	1,364.24
1928–29	603.51	9.67	12.60	190.78	82.77	24.66	421.89	42.95	11.27	1,400.10
1929–30	544.63	10.21	8.78	157.94	62.23	.92	338.82	50.34	13.64	1,187.51
1930–31	484.06	8.09	6.52	132.71	48.92	14.23	297.72	44.93	15.69	1,052.67

TABLE C.—SHOWING GROSS EXPENDITURES IN PROFIT AND LOSS ACCOUNTS ANALYSED UNDER ITS DIFFERENT HEADINGS.

Year.	Insurance.	Salaries.	Office Supplies.	Travelling and Transportation.	Fuel, Water, Light, and Power.	Janitors' Supplies and Maintenance.	Furnishings, Linen, etc.	Provisions.	Medical and Surgical Supplies.	Incidentals and Unforeseen.	Total.
1921–22	$3,222.69	$83,537.76	$1,713.14	$3,906.79	$42,785.73	$26,306.16	$10,982.78	$80,189.90	$5,391.16	$13,693.07	$271,730.08
1922–23	2,428.62	93,772.68	1,572.35	2,206.06	45,272.71	25,868.26	13,008.74	91,817.67	2,541.89	5,534.33	284,019.31
1923–24	24,819.26	99,400.17	1,545.66	1,952.17	50,436.74	17,767.20	2,837.67	91,407.31	8,276.71	13,662.83	312,065.72
1924–25	25,832.65	103,420.23	1,329.97	2,639.11	46,700.05	15,607.78	5,702.59	86,016.60	5,788.98	7,312.21	300,350.17
1925–26	23,189.10	107,464.34	2,008.04	1,811.63	42,541.98	15,368.15	1,481.87	88,020.94	7,770.12	4,324.35	293.980.72
1926–27	23,462.52	111,849.59	2,121.47	3,302.55	38,626.74	14,684.17	7,573.66	95,050.92	8,766.89	2,756.31	308,194.82
1927–28	.....	119,876.18	2,228.64	2,569.15	36,608.02	13,865.61	7,544.09	96,977.65	11,624.60	3,380.88	294,674.82
1928–29	.....	129,152.07	2,066.48	2,695.88	40,827.30	17,713.15	5,278.18	90,284.91	9,191.17	2,412.65	299,621.79
1929–30	.....	159,576.74	2,990.38	2,572.81	46,278.46	18,235.77	268.57	99,273.19	14,749.34	3,994.32	347,939.58
1930–31	.....	157,319.27	2,627.69	2,054.53	43,130.67	15,898.79	4,625.37	96,758.11	14,604.17	5,101.46	342,120.06

TABLE D.—SHOWING SUMMARY OF OPERATIONS WITH REFERENCE TO PER CAPITA COST.

Year.	Number of Patients treated.	Average Population.	Total Patient-days.	Revenue from Maintenance of Patients.	Revenue from Donations.	Total Maintenance Expenses.	Gross Yearly *Per Capita.*	Net Yearly *Per Capita.*	Gross Daily *Per Capita.*	Net Daily *Per Capita.*
1921–22	389	190.04	69,365	$173,295.98	$8,200.00	$271,730.08	$1,429.85	$474.81	$3.91	$1.30
1922–23	372	194.46	70,978	145,701.68	4,200.00	284,019.31	1,460.55	689.69	4.00	1.89
1923–24	425	207.15	75,819	107,428.18	70,500.00	312,065.72	1,506.46	647.53	4.11	1.77
1924–25	407	221.21	80,753	98,311.08	2,000.00	300,350.17	1,357.75	904.29	3.71	2.47
1925–26	382	224.00	81,775	83,809.76	1,000.00	293,980.72	1,312.44	933.82	3.59	2.56
1926–27	368	223.00	81,422	63,641.92	2,750.00	308,194.82	1,382.04	1,084.31	3.79	2.96
1927–28	383	216.00	77,770	60,256.53	2,005.00	294,674.82	1,364.24	1,075.99	3.72	2.94
1928–29	434	214.31	78.225	56,974.75	.....	299,621.79	1,400.10	1,133.86	3.83	3.11
1929–30	550	293.00	107,174	79,995.41	1,500.00	347,939.58	1,187.51	909.37	3.25	2.49
1930–31	562	325.09	118,558	84,466.98	950.00	342,120.06	1,052.67	789.86	2.88	2.16

TABLE E.—SUMMARY OF LAUNDRY-WORK, APRIL 1ST, 1930, TO MARCH 31ST, 1931.

Month.	Personal.	Flat-work.	Total.	Value of Work done.
April	15,874	44,110	59,984	$3,335.18
May	15,208	46,147	61,355	3,241.18
June	17,202	41,952	59,154	3,423.24
July	15,225	45,210	60,435	3,280.04
August	14,620	45,245	59,865	3,171.49
September	15,832	45,980	61,812	3,352.94
October	15,777	46,417	62,194	3,297.13
November	14,667	43,047	57,714	3,033.97
December	17,498	47,228	64,726	3,480.62
January	15,958	45,482	61,440	3,197.19
February	15,371	42,281	57,652	3,100.81
March	18,265	48,161	66,426	3,656.81
Totals	191,497	541,260	732,757	$39,570.80

Flat-work, 541,260; personal, 191,497; total, 732,757.

SANATORIUM FARM REPORT.

TRANQUILLE, B.C., March 31st, 1931.

The Medical Superintendent,
Tranquille Sanatorium, Tranquille, B.C.

SIR,—I have the honour to submit herewith my report for the operations of the Tranquille Sanatorium Farm for the year ended March 31st, 1931.

The crops, with the exception of the meadow-hay, were up to the average. Owing to the low water in the lake the meadow did not get enough water on it, which caused the crop to be lighter. About 15 acres of land which has for several years been non-producing has been seeded to alfalfa, and I hope next year to break up another 10 acres of land which has been lying idle and seed to alfalfa in 1932.

A considerable amount of fencing has been done on our range this year—over 8 miles of barbed-wire fence put in to replace old fence which was in bad repair, and also new fences. Several of the water springs on the range have been equipped with troughs, thus making it easier for the cattle to get the water.

Our range herd is being gradually improved. We are disposing of the cows that are non-producing and are breeding to Hereford bulls entirely. Forty head of pure-bred Hereford heifers were obtained from Alberta this month, also six Hereford bulls. In time we hope to build up a pure-bred herd.

The swine have done well. The new piggery is away from the buildings. We are able to supply the Sanatorium with hams, bacon, and sausages. We are utilizing the old piggery for this work and a cold-storage room has been added to it.

The new calf-barn and isolation-shed for the dairy cattle are appreciated and the large implement-shed fills a long-felt want.

I have, etc.,

WM. JACKSON,
Farm Manager.

BURSAR'S REPORT, TRANQUILLE SANATORIUM FARM.

Balance-sheet, March 31st, 1931.

Assets.

Buildings and improvements		$86,846.50
Equipment, plant, and machinery		5,236.00
Land Account		70,405.88
Automobile Account		483.00
Accounts receivable		3,230.61
Dam Account		421.72
Petty cash		500.00
		$167,123.71
Inventory—		
Range and dairy cattle	$47,525.00	
Hogs	5,030.00	
Implements and machinery	2,541.20	
Tools	254.75	
Feed	5,826.60	
Produce	110.00	
Gasoline	46.00	
Coal	366.48	
		61,700.03
Gross operating loss		2,507.95
		$231,331.69

Liabilities.

Petty Cash Account	$500.00
Capital	230,831.69
	$231,331.69

Profit and Loss Account, March 31st, 1931.

Expenditure.

Salaries	$18,659.98
Office supplies	75.12
Travel and transportation	1,668.12
Fuel, light, and water	1,239.17
Maintenance	693.92
Feed	7,634.72
Provisions	4,169.50
Leases	819.41
Seeds	434.35
Blacksmith's supplies	28.23
Implements and harness	108.38
Drugs and veterinary	820.91
Incidentals	261.80
Boarding-house	468.68
Depreciation	4,987.18
	$42,069.47

Receipts.

Milk-sales	$25,388.30
Produce	2,187.23
Hogs	8,536.69
Cattle, beef, etc.	3,449.30
Deficit for year	2,507.95
	$42,069.47

SUMMARY OF FARM PRODUCTION FOR FISCAL YEAR 1930–31.

Alfalfa	425 tons.	Potatoes	27½ tons.
Meadow-hay	180 ,,	Beets	4½ ..
Green feed	350 ,,	Onions	2¼ ,,
Corn silage	465 ,,	Lettuce	208 lb.
Mangels	82 ,,	Apples	436 boxes.
Carrots	18 ,,	Pears	125 ,,

Milk produced from Dairy Herd.

Milk ..... 805,370 lb.

Sundries sold to Sanatorium.

Beef	51,400 lb.	Bacon	2,207 lb.
Pork	10,720 ,,	Sausage	310 ,,
Ham	534 ,,	Lard	430 ,,

NOTE.—The above figures for hams, bacon, etc., are for a period of less than three months, having started curing about the middle of January. It is anticipated that the farm will be in a position to supply all Sanatorium requirements in beef and pork products.

VICTORIA, B.C.:
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1932.