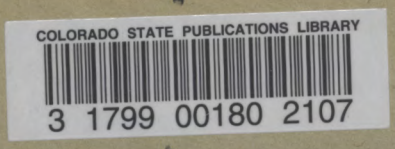

Annual Report of the Division Of Tuberculosis Hospitalization

Colo. State Dept. of Public Wel.

STATE OF COLORADO

Division of Tuberculosis Hospitalization

ANNUAL REPORT

1953

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Denver 3, Colorado

STATE DEPARTMENT OF PUBLIC WELFARE

DAN THORNTON
Governor

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Attorney General

COLORADO STATE DEPARTMENT OF PUBLIC WELFARE DIVISION OF TUBERCULOSIS HOSPITALIZATION

Report for 1953

by

EDWARD N. CHAPMAN, M. D., *Director*

The year 1953 has been an outstanding year for the Division of Tuberculosis Hospitalization. The results as shown by the tables given with this report are the best to date and should make the people of this State justly proud of the care that they are giving to those unfortunate enough to be afflicted with tuberculosis who are unable to afford their own care.

Although Colorado does not have a state tuberculosis sanatorium, we are indeed fortunate to have excellent existing private facilities. These consist of six tuberculosis sanatoria plus four general hospitals with special facilities for the care of the tuberculous. Many of these institutions have national reputations. Our patients are admitted to these institutions at costs that are somewhat less than could be expected if Colorado maintained its own sanatorium, certainly lower, if the same standard of care was maintained in a state institution as that furnished in these private facilities.*

The medical care is provided by physicians and surgeons thoroughly qualified through training and experience in tuberculosis—eight of whom are members of the faculty of the Colorado University School of Medicine. Your Director wishes to take this opportunity to acknowledge his indebtedness for the wise counsel given to him throughout the year and for the services rendered to our patients, given without financial remuneration, at the Colorado General Hospital by Dr. James J. Waring, winner of the 1953 Trudeau medal for the most outstanding work in the field of tuberculosis in the United States; and to the four chest surgeons, Doctors Robert Brown, William Condon, Fred Harper and Hugh MacMillan.

The progress of each patient hospitalized by this Division is carefully followed by means of frequent reviews at each insti-

* Each institution has been licensed by the Colorado State Department of Public Health for the care of tuberculosis and has, in addition, been approved by the State Board of Public Welfare and your Director for the care of state patients.

tution, attended by the physician in charge of the patient's care, a chest surgeon, a medical social worker, frequently a rehabilitation worker and occupational therapist, and by the Director. If the patient is not making good progress, suggestions for a change in therapy or some surgical procedure are often made. All our patients have very adequate medical social work coverage. Diversional therapy is also available at each institution. Patients receiving a medical discharge have had, if desired, help in working out plans for their future.

Application is made for care through local welfare departments and acceptance is based on one year of residence in Colorado and the application of a means test based on medical indigency, i.e., individuals who are unable to pay for the cost of medical and hospital expenses in addition to meeting the cost of living for their families. The welfare departments have learned the importance of early hospitalization of active cases of tuberculosis both to safeguard the public health and to reduce the ultimate cost of care. Therefore a liberal interpretation of medical indigency is almost universally followed. Some patients in better economic circumstances pay part of the expense of their care. Five to ten percent of the total fall into this category of part-pay patients. About twenty percent of our patients have come to Colorado for their health.

A recent study of fifty consecutive admissions indicates that it takes on the average eighteen days from the day the applicant signs the application at his county welfare department to the time he enters an institution. This time could be shortened by several days if all the medical information requested on the medical form was furnished in every instance. Frequently we have to delay action on an application pending receipt of this information, especially a recent X-ray of the chest in case of negative sputum, and sometimes in children when a tuberculin test is not included. However, this time interval does not seem excessive. Those of us who have gone through the experience know that we have to make sure that proper arrangements have been made for our families and our business affairs. It takes a few days to accept the idea that one has tuberculosis. People are not machines that can be controlled by the click of a switch. The diagnosed case of tuberculosis, however, immediately becomes less dangerous as soon as his case is diagnosed. It is the unknown case of tuberculosis that is the most dangerous to those about him. Unfortunately, the management of a few general hospitals in Colorado still are not willing to provide temporary isolation. They demand immediate discharge of a patient as soon as the diagnosis of tuberculosis is made and before any plans can be made for hospitalization elsewhere. This seems inhumane and dangerous to public health.

Table I

TOTAL NUMBER OF CASES GIVEN CARE FOR TUBERCULOSIS

1946	338
1947	343
1948	379
1949	413
1950	442
1951	479
1952	501
1953	541

A total of 541 cases was given care in 1953. This represents an eight percent gain over 1952. This is not an indication that tuberculosis is on the increase in Colorado, but rather a recognition that with increasing medical and hospital costs fewer people can stand the expense of lengthy hospitalization unassisted. A recent study of the average length of hospitalization under our program of care was as follows:

All pulmonary cases	16.0 months
Far advanced	20.3 months
Moderately advanced	13.2 months
Minimal	8.0 months
Primary	7.5 months

The tendency now is to shorten this stay somewhat, and it may be found that some cases can be discharged to their homes to continue on the anti-tuberculous drugs under out-patient supervision after a study, under therapy, of three to six months of their case in the sanatorium has been made. A pilot study has been undertaken this past year in collaboration with Dr. Hilbert Mark and the Denver Tuberculosis Clinic on home care of certain selected cases of tuberculosis where the home situation was good. The results of this study will be evaluated in mid-1954, and based upon these results the plan will be extended or abandoned. In travels about the country, I find that most public health authorities and some tuberculosis experts lack enthusiasm for home care for the patient with active tuberculosis. They still regard home care as a poor substitute for sanatorium care, certainly for positive sputum cases. The knowledge the patient should acquire about tuberculosis and how to protect those about him can usually be better learned in an institution than at home. Also if vocational rehabilitation is necessary, a better start can often be made while the patient is in an institution than could be made under home surroundings. Furthermore, can patients at home be relied upon to remember to take their medication regularly? This is all important.

Of the cases hospitalized in 1953, 40 percent came from Denver County. In addition, 21 percent of cases receiving out-patient care and all those on home care were from Denver. Of those placed under care in 1953 there were 52.5 percent in the far advanced stage of the disease on entrance, 35.5 percent were moderately advanced, and 12 percent were minimal cases. The improvement over the figure of 66 percent far advanced and only 21 percent moderately advanced in 1952 is probably an indication of better case finding. Of the cases admitted in 1953 there were 64 who had previously been under care under our program. Of these 33, or 52 percent, had previously left against medical advice. Sixteen, or 6.4 percent of admissions, previously had been discharged as inactive or arrested cases at some time since 1944. Thirteen, or 5.3 percent, of admissions for 1953 represented relapses in cases thus discharged within the past four years. This does not seem unduly high when one considers that many of our patients have to return to conditions that are inadequate as regards housing and nutrition. Most county welfare departments are cooperating to the best of their ability in providing, at least for a time, extra money where necessary for a high protein diet for patients discharged from our program in order to give added protection against relapse.

Two hundred-seventy cases were terminated during the year. At the year end, 280 patients were under care, of whom 52 were out-patients, including home care cases.

TABLE OF DISCHARGE STATUS

Discharged	Pulmonary	Renal	Bone	Peritonitis	Glandular	Meningeal	Total	Percent
Inactive ..	51	1	....	....	1	....	53	20
Arrested ..	83	3	3	1	2	3	95	35
Active	12	....	....	....	....	....	12	4.5
Died							23	8.5
Left against advice							46	17
Transferred to Out-Patient Department							27	10
Transferred to Home Care							2	.7
Non-tuberculous							3	1.0
Disciplinary							7	2.6
No longer in need of assistance							2	.7

A word of explanation regarding disciplinary discharges should be made. There were seven such cases in 1953. Five were for the abuse of alcohol. One was for an attack on another patient and the other for repeatedly leaving an institution without medical permission. Four of the cases given a disciplinary discharge were within a few weeks of medical discharge and would have fulfilled the criteria for arrested disease. No attempt was made by this Division to rehospitalize these four cases. The three other cases were still active or questionably active. One was rehospitalized by us at another institution following psychiatric evalu-

ation and another was hospitalized at the Denver General Hospital by the Denver Health Department. The third was not brought under hospital care but followed in the Denver Tuberculosis Clinic. The activity of the disease in this case was open to some question.

Table II

PERCENTAGE OF CASES TERMINATED AS INACTIVE OR ARRESTED

1946	9.8%
1947	18.4%
1948	36.0%
1949	30.0%
1950	52.0%
1951	40.4%
1952	44.7%
1953	55.0%*

* 65% if cases discharged to out-patient included.

Table II shows the percentage of cases discharged with their tuberculosis inactive or arrested in each year since 1946. The criteria for classification were changed a few years ago by the National Tuberculosis Association and these new criteria were used for the data since 1951 in the table. Prior years are therefore not strictly comparable since they show the figures for "arrested" and "apparently arrested." Under N.T.A. regulations it is now necessary to discharge any case showing X-ray evidence of cavity even on planigrams as "active," even though the individual may have been stable by X-ray for years and have a negative sputum. Some of the cases discharged as active now fall into this group. The remarkable improvement shown in the number of cases discharged as inactive and arrested in the past eight years is chiefly a reflection of the effects of drug therapy. At present, practically every patient received isonicotinic acid hydrazide in combination with either streptomycin or paraminosalycilic acid or both. Pneumoperitoneum is somewhat less frequently used than formerly, though all our out-patients, except those in the pilot "home care" study and those that have had extra-pulmonary tuberculosis, such as bone, renal, etc., still receive it. It is a valuable procedure in keeping the patients under continuous medical supervision. Fewer thoracoplasties have been done this past year and more lung resections, including lobectomies.

Table III

DEATHS AS A PERCENTAGE OF TOTAL DISCHARGES

1946	28.0%
1947	26.0%
1948	23.0%
1949	22.0%
1950	14.5%
1951	17.4%
1952	15.2%*
1953	8.5%**

* This figure would be 11.7% if non-tuberculosis deaths were excluded in 1952.
** This figure would be 6.3% if non-tuberculosis deaths were excluded in 1953.

Table III shows a very gratifying decline in deaths. Due to anti-microbial therapy and to a lesser extent to surgery, a patient can be almost assured in these days that his tuberculosis can be stopped if he will cooperate in his treatment. The cases that still die or get worse are chiefly those who are uncooperative.

Table IV

PERCENTAGE OF TOTAL DISCHARGES LEAVING AGAINST MEDICAL ADVICE

1946	27.5%
1947	17.0%
1948	18.0%
1949	22.4%
1950	16.5%
1951	23.0%
1952	19.2%
1953	17.0%

Table IV shows the percentage of patients leaving against medical advice. Though still too high, it is well below the national average for sanatoria and is an indication, we believe, that patients feel satisfied with their care and surroundings. Our patients' needs are covered by medical social service which aids in reducing personal problems to a minimum and in helping the individual to a better understanding of his disease and its treatment. Miss Gertrude Loos and Mrs. Dorothy Adams of our staff have been especially helpful in this regard. I should also like to acknowledge the help given our patients by Mr. Russell Haase of the Colorado Division of Vocational Training in arranging for vocational rehabilitation when necessary.

Beds for the tuberculous have been available in approved institutions at all times during the year. There are a few patients,

such as the psychotics or the severe alcoholics, that cannot be handled under our care plan. Indeed, no institution except those equipped with locked wards can effectively handle such cases. Colorado has no compulsory hospitalization for tuberculosis. Denver has such a law, but thus far the City has not had the facilities with which it can be implemented.

Interesting analyses of our results and follow-up studies of our patients who received medical discharges in 1952 have been made by Mr. Weaver Satchell of the Colorado Tuberculosis Association. The results of these studies are gratifying to those of us who have been attempting to provide ever better care for state patients. Also it has been gratifying to find that, after careful study during the past year of our methods and results, the state of Arizona has under consideration the adoption of a similar plan to supplement the beds in their state sanatorium.

That the control of tuberculosis in Colorado, in which our Program has an important part, must be fairly effective is shown by the fact that in 1945 there were 26 states with a lower death rate from this disease than in Colorado. In 1952 (latest figures available) there were only 15 states with a lower death rate. Our death rate in 1953 is now 10 percent below the national average, according to preliminary figures now available. This notable achievement has been the result of the cooperative effort on the part of all state and private agencies interested in the control of tuberculosis working closely together.

The total net cost of care in 1953 under the Division of Tuberculosis Hospitalization was $610,367.81, which cost was divided equally between the state and the counties from which the patients originated.

Edward N. Chapman, M. D., Director

Division of Tuberculosis Hospitalization

Colorado State Department of Public Welfare

SUMMARY OF TUBERCULOSIS ASSISTANCE

Year Ending December 24, 1953

PART I—APPLICATIONS

Pending December 24, 1952		9
New applications, never previously hospitalized	7	
Applications for readmission	....	
Applications for reopening	2	
Received during 1953		291
New applications, never previously hospitalized	215	
Applications for readmission	24	
Applications to reopen case	52	
Total		300
Disposed of during 1953		288
Placed under care		249
New applications, never previously hospitalized	181	
Applications for readmission	22	
Applications to reopen case	46	
Approved for Home Care		9
New applications	8	
Applications for readmission	1	
Not placed under care		30
Applications withdrawn by county	8	
Patient died before approval of hospitalization	3	
Disapproved	12	
Refused hospitalization	7	
Pending December 24, 1953		12

PART II—CASES UNDER CARE

HOSPITALIZATION

Cases under care in Sanatoria December 24, 1952		249
Placed under care during the year		249
New cases—never before hospitalized	181	
Readmissions—previously hospitalized	22	
Reopened cases	46	
Total		498
Cases terminated during the year		270
Discharged	160	

	Pulmonary	Renal	Bone	Peritonitis	Glandular	Meningeal	Total
Inactive	51	1	....	....	1	....	53
Arrested	83	3	3	1	2	3	95
Active	12	....	....	....	....	....	12

Died	23	
Left against advice	46	
Transferred to Out-Patient Department	27	
Transferred to Home Care	2	
Non-tuberculous	3	
Disciplinary	7	
No longer in need of assistance	2	
Cases under care December 24, 1953		228
In Sanatoria	228	

CASES UNDER CARE—HOME CARE

Cases under Home Care as of October 24, 1953		....
Added during the two months in operation		11
Placed directly in Home Care	9	
New, never previously hospitalized	8	
Readmission—previously under care	1	
Transferred from Sanatoria	2	
Cases under care December 24, 1953		11

SUMMARY OF OUT-PATIENT DEPARTMENT

Cases in Out-Patient Department December 24, 1952		34
Cases transferred to Out-Patient Department during year		27
Placed directly in Out-Patient Department		....
Total		61
Cases in Out-Patient Department terminated during the year		20
Discharged	14	
Readmitted to Sanatoria	6	
Cases in Out-Patient Department December 24, 1953		41

TUBERCULOUS PATIENTS RECEIVING CARE IN SANATORIA AND OUT-PATIENT DEPARTMENTS, COLORADO STATE DEPARTMENT OF PUBLIC WELFARE, BY COUNTIES, 1953

County	January 1, 1953		Placed during 1953			Total 1953		
	Sanatoria	Out patient	Sanatoria	Out-patient	Home Care	Sanatoria	Out-patient	Home Care
Total	249	34	249[1]	27	11	498	61	11
Adams	5	....	3	....	....	8	....	....
Alamosa	2	1	....	1	....	2	2	....
Arapahoe	4	....	6	....	....	10	....	....
Archuleta	2	....	....	....	....	2	....	....
Bent	1	....	2	....	....	3	....	....
Boulder	5	2	9	....	....	14	2	....
Chaffee	....	....	1	....	....	1	....	....
Cheyenne	1	....	....	....	....	1	....	....
Clear Creek	....	....	1	....	....	1	....	....
Conejos	1	....	1	....	....	2	....	....
Costilla	2	....	....	....	....	2	....	....
Crowley	....	1	....	....	....	....	1	....
Delta	1	....	2	....	....	3	....	....
Denver	97	4	103	9	11	200	13	11
Elbert	....	1	....	....	....	....	1	....
El Paso	17	1	12	1	....	29	2	....
Fremont	1	....	1	....	....	2	....	....
Garfield	2	....	2	....	....	4	....	....
Gilpin	1	....	....	....	....	1	....	....
Huerfano	2	3	5	2	....	7	5	....
Jefferson	4	....	7	....	....	11	....	....
Lake	3	....	1	....	....	4	....	....
La Plata	1	....	3	....	....	4	....	....
Larimer	8	2	2	1	....	10	3	....
Las Animas	6	3	8	....	....	14	3	....
Lincoln	....	....	1	....	....	1	....	....
Logan	....	....	1	....	....	1	....	....
Mesa	6	....	10	....	....	16	....	....
Montezuma	....	....	1	....	....	1	....	....
Montrose	2	....	3	....	....	5	....	....
Morgan	1	....	1	....	....	2	....	....
Otero	9	5	12	2	....	21	7	....
Prowers	5	3	4	4	....	9	7	....
Pueblo	30	2	27	6	....	57	8	....
Rio Blanco	2	....	2	....	....	4	....	....
Rio Grande	5	1	1	....	....	6	1	....
Routt	....	1	1	....	....	1	1	....
Saguache	1	....	2	....	....	3	....	....
San Juan	....	....	1	....	....	1	....	....
Sedgwick	1	....	1	....	....	2	....	....
Washington	....	....	2	....	....	2	....	....
Weld	20	4	10	1	....	30	5	....
Yuma	1	....	....	....	....	1	....	....

[1] 2 cases are included who were discharged and readmitted during the year.

TUBERCULOUS PERSONS PLACED UNDER CARE
COLORADO STATE DEPARTMENT OF PUBLIC WELFARE
BY AGE AND STAGE, 1953

AGE	TOTAL CASES	PULMONARY				NON-PULMONARY								
		Total Pulmonary	Minimal	Moderately Advanced	Far Advanced	Silico	Miliary	Primary	Pulmonary plus other TB complications	Glandular	Bone	Meningeal	Renal	Peritonitis
Total	249	235	25	75	108	1	2	14	10	4	2	3	4	1
0- 9	24	20	3	1	....	....	....	14	2	1	....	3	....	....
10-19	13	11	2	3	6	....	....	....	....	1	1	....	....	....
20-29	53	51	8	23	17	....	1	....	2	1	....	....	....	1
30-39	48	42	4	14	22	....	....	....	2	1	1	....	4	....
40-49	50	50	1	14	32	....	1	....	2	....	....	....	....	....
50-59	32	32	7	10	15	....	....	....	....	....	....	....	....	....
60-69	19	19	....	4	13	1	....	....	1	....	....	....	....	....
70-79	7	7	....	5	2	....	....	....	....	....	....	....	....	....
80 and over	3	3	....	1	1	....	....	....	1	....	....	....	....	....

OCCUPATION OF PATIENTS HOSPITALIZED IN 1953

Total	100.00%
Housewives	26.51%
None	22.09%
Unskilled	15.26%
Food handlers and service	11.24%
Semi-skilled	9.64%
Office and sales people	5.22%
Professional	4.82%
Agriculture	4.02%
Skilled	1.20%

SURGICAL AND SPECIAL DIAGNOSTIC PROCEDURES PERFORMED ON TUBERCULOUS PATIENTS, COLORADO STATE DEPARTMENT OF PUBLIC WELFARE, 1953

PROCEDURE	NUMBER	PROCEDURE	NUMBER
Bronchoscopy	85	Sacroiliac Fusion	1
Lobectomy	20	Transplant Posterior Tibial	1
Thoracoplasty	16	Hysterectomy	1
Lung Resection	5	Cysts from Neck	1
Phrenic Crush	5	I. and D. of Abscess	1
Cystoscopy	4	Sequestrectomy	1
Delivery	3	Diagnostic D. & C.	1
Lymph node excision	3	Excision of Breast Tumor	1
Appendectomy	2	Esophagoscopy	1
Sigmoidoscopy	2	Removal Limopa Neck	1
Pneumonectomy	2	Thyroidectomy	1
Drainage of abscess	2	Rib Resection & Drainage	1
Thoracotomy	2	Revision of Stump of Leg	1
Biopsy—Skin of face	1	Modified Schede	1
Biopsy—Inguinal Node	1	Gastroscopy	1
Biopsy—Tendon—Arthrodesis of foot	1	Closure of Colestomy	1
Spinal fusion	1		

EXPENDITURES
DIVISION OF TUBERCULOSIS HOSPITALIZATION
COLORADO STATE DEPARTMENT OF PUBLIC WELFARE
1953

Total amount expended for patients in sanatoria		$611,040.08
Amount extended for Out-Patient Department	$4,697.93	
Amount expended for transportation	989.91	
Amount expended for burials	300.00	
Amount expended for Home Care	383.00	6,370.84
Total gross amount expended		$617,410.92
Patient days	86,229	
Cost per person per day	$ 7.16	
Partial reimbursement by patients and relatives		7,043.11
Total net amount expended		$610,367.81