The State Care of the Tuberculous in Colorado through the Use of Existing Facilities*

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Brief History

Colorado has been a Mecca for many years for health seekers, especially those with tuberculosis, and though many attempts had been made by the Colorado Tuberculosis Association to provide some care for the indigent tuberculosis sufferer in our midst, these efforts had met with no success until 1937.

FINALLY, in 1936, an Initiated Act was voted by the people providing $50,000 a year to be spent for the indigent tuberculous. The Act was drawn up by the Colorado Tuberculosis Association and the spending of this money was placed under the Colorado State Department of Welfare for administration.

The Plan and How It Works

The law provided for a full-time director; the position was placed under Civil Service and the qualifications for the position provided that the director should be a physician with at least five years' experience in chest diseases, chiefly tuberculosis. The Director is given the full responsibility for the functioning of the Division and is directly responsible to the Colorado State Board of Public Welfare and reports to the board every month at their regular monthly meeting regarding the progress of his division.

Individuals afflicted with tuberculosis who are no longer able to pay for their care may apply to the County Welfare Department of the county in which they reside for aid. They sign an application requesting this aid. The law provides that:

(1) They must have one year of state residence unless they are under one year of age. The original law stated that three years of residency was necessary.

(2) They must be medically indigent. The County Welfare Department investigates the residency and need and signs an agreement to pay 50 per cent of the total cost of care. The application is then sent to the office of the director of tuberculosis hospitalization at the state capitol with a brief medical form filled out by a physician. This includes a sputum report and, in case of children, a report of the tuberculin test. Recent chest x-ray films are also required. The case, after study, is then approved or denied; and if approved it is sent to one of 11 different institutions by the director. These are described later in the paper.

*Given before the Arizona Trudeau Society at the Hotel Pioneer at Tucson, Arizona, December 6, 1953.

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In general, a location nearest the patient's home and also his religious affiliation are considered when placing the individual. Difficult diagnostic problems and cases that are considered candidates for surgery who have already had prolonged drug therapy are sent to Colorado General Hospital.

This whole process from application to the time that the patient enters the hospital or sanatorium now takes an average of 18 days. Emergencies are hospitalized within 12 hours by the counties pending state acceptance. Fifty per cent of the bill is reimbursed by the state and the Division of Tuberculosis Hospitalization supervises the care that the patient receives by means of frequent reviews with the staffs of the institutions in which the patients are hospitalized. These reviews range in frequency from once a week for cases at the Colorado General Hospital to once in two months for two of the smaller institutions, one of which is the farthest removed from headquarters in Denver. Reviews are made by a team composed of the director, one of the chest surgical consultants (who is also one of the four surgeons responsible for our chest surgery at Colorado General Hospital), a medical social worker (attached to our Division, except in the case of institutions that have their own medical social worker), usually an occupational therapy worker and, frequently, a rehabilitation consultant. I cannot overemphasize the importance of this periodic review. Before these reviews were started there was a great deal of variation between the type of care received by patients in different institutions. Also, those in some institutions felt lost or neglected.

What Hospitals and Sanatoria Are Used?

The institution must be licensed by the State Department of Public Health for the care of tuberculosis and that Department has set up certain, rather comprehensive rules and regulations with which institutions must comply before they are eligible for licensing. Furthermore, they must be approved by the Colorado State Board of Public Welfare on the recommendation of the Director of the Division of Tuberculosis Hospitalization for the care of our State patients. No beds are under contract. All institutions, except four, receive the same basic rate per day which is $6.50 at the present time for nursing care ($6.60 if both medical social and occupational therapy service is provided). In addition to this basic rate x-ray films, drugs and laboratory procedures are paid for according to a list of charges which have been approved by the Colorado State Board of Public Welfare and these payments are uniform for all institutions. Drugs are paid for at cost to the institution plus 10 per cent for overhead. The charges for specialized services, like physiotherapy following surgery, EKG, etc., are, as a rule, about 50 per cent of the usual charges made to private patients. This applies to special x-ray studies like gastrointestinal series, planigrams, etc. The physician at the institution who is in charge of the day-to-day care must be one who has had special training in tuberculosis work and be acceptable to both the institution and the director of the Division of Tuberculosis Hospitalization. Usually the di-
rector chooses between two or three physicians nominated for the position by the institution and the patient is placed under his continued care. This is something the patients like very much in contrast to the frequent changing of doctors as is the case in so many state and veterans' hospitals. Payment is made to him of $15 per month per case. Two institutions giving ambulant care are paid $4.50 a day ($4.60 if medical social and occupational therapy services are also given) and they are paid in addition, according to the schedule of approved charges mentioned above for other procedures.

A guide booklet giving uniform rules and regulations, and accepted by all the institutions we use, has been worked out and published by the Colorado State Tuberculosis Association and a copy is given each patient on admission. This is valuable in providing for uniformity of rules and regulations and exercise gradations between institutions so that transfer of patients can be made with a minimum of confusion.

An institution has the right to refuse hospitalization or to discharge any patient for violation of rules and regulations. We usually ask that the patient be given a second chance and that is usually granted except in cases of flagrant violation. Actually, acceptance of our cases usually does not present much, if any, problem. A social history of every state patient is sent the physician by our Social Service Department before the patient arrives. In this way the doctor and the institution is forewarned in the case of problems. Almost every case, even convicts on parole, ex-convicts, alcoholics and borderline psychotics are accepted and given a trial, not only in one, but several institutions before we throw up our hands and regard the case as unmanageable. Few individuals, therefore, fall into this hopeless category and this only after patient trial and some degree of treatment has been achieved. We reserve the right to remove the patient from an institution at any time, and it is understood that before discharge of the patient from an institution consultation will be had with the director of the Division of Tuberculosis Hospitalization.

**Ancillary Services Given Patients**

I have already mentioned that the medical condition of every patient is reviewed once in two months—in many instances once a month—with the staff of the institution in which the patient is placed. These conferences are usually stimulating to all concerned and everyone interested in the progress of the patient has a chance to make suggestions that may be helpful. There is no attempt on our part to "tell" the staff how the case should be handled. It is more a meeting of minds and an attempt to secure uniformity of care between institutions. I find that the staffs of the institutions welcome these reviews at regular intervals and patients are given the justified feeling that there is an interest on the part of many in their progress. All receive occupational therapy, a chance for vocational rehabilitation if, in medical opinion, it seems advisable for the individual not to return to his former occupation. Also, and this is most
important—he has medical social consultation either furnished by a qualified medical social worker on the staff of the sanatorium or, if the hospital or sanatorium does not have such a worker, by one of the medical social consultants on my staff.

We have reaped a number of benefits from this service. Doctors in the sanatoria have recognized that the social worker is a person who will listen patiently to the problems and complaints of the patients. They are excellent "trouble-shooters." The doctors have learned, too, that in the day-by-day contact of the social worker with the patient she comes to know each as an individual and will share her knowledge and understanding of the individual with other professional members of the staff. Social workers now functioning with our patients have become able to evaluate the information brought to them by the patients. They can distinguish between the ordinary "gripes" which arise out of a confining and isolated situation and the real problems which have a direct bearing on medical treatment and should be brought to the attention of the doctor in charge of the case. Social and financial problems of the patient she can take direct action upon with the agencies which can be of constructive help. This relieves the patient's mind which, in turn, helps to hasten recovery. We have no desire to "mollycoddle" our patients. Our aim is to help the patient to help himself. I can definitely state that the efforts of our social workers have helped to change the attitude and behavior of a good many of our patients.

**Surgical and Diagnostic Problems**

Cases are transferred to the Colorado General Hospital in Denver when, in the opinion of the conference, surgery is advisable or if some complicating condition needing special study is present. Two of our institutions are wings of general hospitals, well-equipped to carry out most diagnostic procedures including planigrams but not complete pulmonary function studies. Therefore, most of our cases for chest surgery go to the Colorado General Hospital for final evaluation. This Hospital is affiliated with the University of Colorado School of Medicine. Here pulmonary function studies are done. In 1947 the legislature appropriated funds for a special ward, exclusively for the use of tuberculosis cases, chiefly those on the state program. This is the only state-owned facility we have and it has a total of 26 beds. All chest surgery is performed at this institution with the exception of emergencies and a few chest cases when the ward is full and it seems inadvisable and uneconomic to postpone surgery. Also, almost all fusions for tuberculosis of the bones and joints are done at Glockner-Penrose Hospital in Colorado Springs where we have had access to unusual facilities and surgical interest and skill in this very specialized field which did not seem to be available elsewhere.

Upon completion of surgery and the immediate postoperative period the patient is transferred back to the sanatorium from where he came, for from six to nine months of bedrest, drug therapy and final ambulation before discharge.
Ambulant Centers

We have one institution where ambulant care only is provided—Sunnyrest Sanatorium in Colorado Springs. Patients are transferred here from the other facilities in Colorado Springs and La Junta and sometimes Denver for final ambulation—usually a three or four months' process. These cases are sputum negative and are undergoing a prescribed exercise schedule. A cooking school and facilities for learning to type are available at Sunnyrest; also, a bookkeeping course is given. A somewhat similar facility is open to us in Denver at Craig Colony for male patients only. Sunnyrest is a valuable adjunct to our program. Our patients really get a physical workout there and are usually able to resume their former occupation soon after their discharge. Also, it has been valuable to place patients here who have lost their drive or ambition to "get going" after prolonged hospital care. When they are placed in this group of ambulant patients, most of whom are anxious to get back into the work-a-day-world, these cautious or neurotic individuals soon become imbued with the same spirit of once more resuming their place in the world. We have an outpatient department to which cases of pneumoperitoneum in the institutions can be discharged in order to continue this treatment and drug therapy. If the patient lives in or near the city in which he is hospitalized he continues under the care of the same physican. All services and procedures are paid for at the same rates that prevail in the institution. Refills are done at the physician's office or at the sanatorium. If the patient lives at a distance he receives his refills from a physician skilled in this procedure who also has experience in tuberculosis and lives nearest the patient's home. If there are several in the locality, the patient is given his choice.

Recently we have embarked, in cooperation with Dr. Hilbert Mark, Director of Tuberculosis Control, Denver, on a pilot study of home care covering a small group of patients living in Denver who fall into one of several categories.

(1) Maximum benefit from prolonged hospitalization with sputum still positive.

(2) Cases that cannot successfully be handled in the sanatorium for disciplinary reasons.

(3) Elderly persons with positive sputum but having a sluggish type of disease who it is believed will have difficulty in adjusting to life away from home.

In every instance the home situation is cleared with the Public Health Department and the agreement of the patient to continue supervision of his home by the Public Health Nurse is secured. The case is also cleared as to medical indigency by the Welfare Department. Treatment is under supervision of the Denver Tuberculosis Clinic and an all-inclusive rate of $30 a month is paid from State and County funds through the Division of Tuberculosis Hospitalization. It is my opinion that every individual with tuberculosis is benefited by a few months, at least, in a sanatorium.
where he is taught something about the disease and how to protect himself and others.

What Are The Costs?

The present annual cost of operating the Division of Tuberculosis Hospitalization is approximately $600,000, of which amount the County Welfare Departments contribute approximately half. About 500 patients were given care last year. Our daily average case load is now approximately 250 under hospitalization and 40 to 50 out-patients or on home care in Denver. The total per day cost last month was $7.48 per patient. (True costs would probably run about $8.50 per day, since all services are not now paid, as is explained later.) Per day costs for tuberculosis care in states which appear to be giving comparable care in state institutions recently visited by me seem to run 20 to 30 per cent higher than do our costs. This is not surprising since most privately run institutions always seem to be somewhat more efficiently operated.

What Are The Results?

For the first 11 months of 1953 our discharges have been as follows:

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& \text{per cent} \\
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*\text{discharged as inactive or arrested} & 57 \\
*\text{discharged on home care} & 0.5 \\
\text{discharged as active (NTA 1950 classification)**} & 5 \\
\text{discharged as dead} & 9 \\
\text{discharged as leaving against medical advice} & 18 \\
*\text{discharged to the out-patient department with disease arrested} & 10.5 \\
\text{discharged as non-tuberculous} & 0.5 \\
\text{disciplinary discharges} & 0.5 \\
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*Together total 66 per cent, or over two thirds total cases terminated.
**Chiefly cases with negative sputum but with x-ray evidence (possibly only on tomograms) of cavity.

These figures will compare favorably with those of state sanatoria where good care is provided. It must be remembered that last year (latest figures available) our new admissions were 66 per cent in the far-advanced class, 21 per cent in the moderately advanced category and 13 per cent minimal in extent. Last year only 4 per cent of admissions represented cases discharged from our program in the two previous years as inactive or arrested. It must be remembered that these are all welfare cases and go back, in many instances, to inadequate homes and inadequate nutrition. Therefore, this relapse rate does not seem unduly high.

What Are The Disadvantages Of Colorado's Unique System Of Care?

(1) We have more difficulty in achieving a smooth continuity and transfer of information when patients are transferred from the sanatoria to the Colorado General Hospital for surgery than if all our patients were under one roof.

(2) Due to transfers of some patients from hospitals or sanatoria to
ambulant centers or public health clinics in the larger cities following discharge, plans for rehabilitation sometimes get confused or delayed.

(3) There is some variation between the efficiency of the County Welfare Departments in processing cases and a difference in the standards set up for medical indigency. I would state here that only two or three of our County Welfare Departments among the 63 in the state are not now employing a liberal interpretation of medical indigency.

(4) Considerable time is spent by the director and his staff in travel between institutions. These institutions are scattered over an area of about 200 miles. This time which costs money and energy would not be consumed if all patients were under one roof.

(5) The records of patients are not quite as readily available or, in some instances, as adequate as those usually found in a good State institution.

(6) The Colorado plan is not popular with the National Tuberculosis Association and (to a lesser degree) with the Colorado State Tuberculosis Association. It sounds more complicated than it is in actual operation. Some think it wrong to be different. I believe, we are the only state without a state sanatorium or a system of county institutions for the care of the needy tuberculous.

(7) The director has a difficult public relations job dealing with 11 different institutions. He has to make many important decisions single-handed every day and has almost unlimited power as to policy. It is true that he is responsible to the Colorado State Board of Public Welfare but there is only one physician on the board and he is able to give only limited time to the problems of this division. If the director plays politics or favorites great harm can be done since much depends upon a condition of mutual confidence between the patients and the institutions and our division. The director alone approves all the bills on all the patients though there is a check at the county level when copies reach the auditing offices of the local Welfare Departments. If there is a conflict between the vital needs of the patients and the outcries of the taxpayers we usually try to resolve the problem in favor of the patients.

(8) If and when Colorado passes a compulsory hospitalization law to take the most recalcitrant persons with positive sputum out of circulation there is no institution with locked doors and barred windows in which to place him. Quite possibly none of the sanatoria we now use would be interested in furnishing such accommodations. Also, there are a few cases each year such as alcoholics, psychotic and behavior problems that cannot be handled with our present setup. There is a good tuberculosis ward at the State Hospital for the Insane at Pueblo for the psychotic or alcoholic patient but commitment must be arranged. Commitment laws are archaic in Colorado and County Health or Welfare Departments are loathe to press for commitment. This is a valid criticism and involves two to four patients each year. They usually come from Denver and have to be taken care of by that city in their own tuberculosis ward at the Denver General Hospital.
Advantages Of The Plan

(1) Patients can be hospitalized near home.
(2) Existing facilities are utilized. It is advantageous to the institutions to have us fill their empty beds. Our state program has had no waiting list for four years.
(3) The institutions are smaller for the most part than would be a state sanatorium—more homelike and they are able to serve more tasteful food.
(4) Over half of the institutions have a religious background. This seems to lead to fewer disciplinary problems and greater peace of mind among patients hospitalized in them, especially if they are of their own faith.
(5) If the patient does not adjust well to one institution, he can be tried in another. Almost always a proper adjustment can finally be made.
(6) Disciplinary problems can be moved farther and farther from home but at the same time kept under care.
(7) The patients like being the responsibility of one physician for their day-to-day care. Most of the physicians in charge of our cases are men with years of experience in tuberculosis. Most patients do not seem to like changes in physicians.
(8) Our patients like being hospitalized with private patients. This boosts their morale. No discrimination is permitted in the sanatoria between private and state patients, or is there segregation of race or color. This was a hard nut to crack, but it has been at last successfully cracked except possibly in the case of one institution.
(9) We have been successful in raising standards of medical and nursing care in some institutions where this has been necessary. This benefits private patients as well as our state cases.
(10) Costs of care appear to be less by 20 to 30 per cent than costs in states giving comparable care in state or county-run institutions.
(11) Our rate of discharges against medical advice (about 18 per cent of total discharges including deaths) is considerably below the national average—an indication that patients like their care.
(12) I have found that the top flight physicians and surgeons of the state are willing to serve our patients on a part-time basis at reasonable fees and, in some instances, at no fee at all. Chest surgeons contribute their operative services as part of their teaching at the medical school. They are paid for services at all conferences, however, though this represents only a small total remuneration.
(13) Our system of care is as far removed from state medicine as it is possible to place it, using, as we do, existing facilities and part-time private physicians. I am the only full-time medical man on the program. It is realized that the care of tuberculosis has come to be recognized for the majority of patients as one that must be socialized because of the economic and public health problems involved.

In the past seven years the death rate from all forms of tuberculosis
in my state has dropped much more rapidly than for the country as a whole. In 1945, according to National Tuberculosis Association statistics, there were 26 states in this country that had lower death rates from tuberculosis than did Colorado. In 1952 we had improved to the point where only 15 states had a lower death rate from this disease than did Colorado. I do not, for a minute, wish to imply that our Division was entirely responsible for this marked improvement. It has been the result of cooperative effort on the part of all state and private agencies interested in the control of tuberculosis.

SUMMARY

Colorado has been successful in treating state cases of tuberculosis in private sanatoria or wards of general hospitals, including isolation wards, set aside for this purpose, instead of maintaining state facilities. The type of care is under close supervision with frequent conferences between the state Division of Tuberculosis Hospitalization and the staffs of the institutions. The costs of care are somewhat less than might be expected if the state maintained its own facilities. Cases are transferred for surgery to a central institution which is connected with the Colorado School of Medicine.

The advantages and disadvantages of the program are enumerated. The advantages seem to considerably outweigh the disadvantages. The results compare favorably with those obtained from the use of state sanatoria.

RESUMEN

El Estado de Colorado ha tenido éxito tratando los casos del Estado, de tuberculosis alojándolos en sanatorios privados, salas de hospitales generales, incluso en las salas de aislamiento adecuadas para ese fin en lugar de mantener servicios del Estado. La forma de tratamiento es estrechadamente vigilada habiendo frecuentes conferencias entre el Departamento de Hospitalización de Tuberculosos y el personal de las instituciones.

Los costos son algo más bajos de lo que podría esperarse si el Estado mantuviese sus propios establecimientos. Los casos son enviados para los servicios de cirugía cuando lo requieren, a una institución central que está en relación con la Escuela de Medicina de Colorado.

Se enumeran las ventajas y las desventajas de este proceder.

Las ventajas parecen sobrepasar considerablemente a las desventajas. Los resultados pueden compararse favorablemente con los obtenidos en los sanatorios del Estado.