Tuberculosis in Prisons

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HISTORY

The records of many state prisons have repeatedly reported the high incidence of tuberculosis. In some of these states today, little or nothing is done to detect or scientifically treat tuberculous inmates. There is meager medical data available in American literature and less in the foreign. Surprisingly, however, an excellent article on "Tuberculosis in Penal Institutions" was incorporated in the Congressional Record in 1904. It had many valuable suggestions such as "A compulsory law compelling the examination of every admission to any penal institution for the purpose of early detection of the disease; the construction in every state of a special hospital or sanatorium, favorably located and properly equipped for the treatment of tuberculous subjects, and the transfer of all such to this institution from the jails, penitentiaries, reformatories and prisons; provisions for out-door employment for all apparently cured cases, and the feasibility of a provision by the Federal Government for an inquiry into the status of tuberculosis in penal institutions of the United States for the purpose of gaining statistical information of value."1

Twenty-five years later, in 1929, every state and federal prison was visited by a physician for the National Society of Penal Information. From the available statistics "about 1.1 per cent of the inmates of penal institutions were known to be affected with tuberculosis. Were physical examinations and methods more complete and searching, a larger number of cases would doubtless be recognized." The method of caring for tuberculous patients varied from separate hospital facilities to the hospitalization of only the most pronounced cases and leaving the others in their cells with the general population. Some of the tuberculosis hospitals had their greatest value in providing for the segregation of the infected inmates from the general prison population.2

The Commissioner of English Prisons, after thirty-six years of experience, wrote in 1936, "No systematic investigation into the medical aspects of crime or of prison medical administration in early times is practicable, for apparently no history of English prisons or of their administration exists."3

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Commenting on the subject of prison hospitals in 1939, the Medical Section of the American Prison Association noted that “of the 251 federal and state prisons there are at least 119 that have very inadequate medical service and show a gross neglect of the physical and mental care of their wards. In less than a dozen state prisons is adequate medical and surgical care being given to the inmates. In most cases, prisoners stand a chance of release from prison in a more deplorable state than when they were committed to incarceration.”

Today, 1944, based on communication with the chief executives of forty-eight states, and the federal government, there is considerable variance in detection and treatment of tuberculous inmates and the parole attitude toward them.

WHY TREAT TUBERCULOUS PRISONERS?

The communities to which the inmates return expect reformed and healthy citizens. Approximately 10 per cent of the total Illinois prison population leaves annually, and 95 per cent is destined to be released, according to recent figures from the State Department of Public Safety.

Those convicted have a right to reasonable care, and this should include sickness and injuries, and inhabitation in at least average sanitation. They should not become infected with tuberculosis because of this commitment, nor should institutional employees become needlessly exposed to this disease.

A. LOCAL ADMINISTRATION

I. HOSPITAL

Building:

Prior to 1939, tuberculous patients were placed in a separate section of the General Hospital and treatment consisted of rest, food, and cod liver oil.

A central, modern tuberculosis hospital was opened October 3, 1939, at Pontiac, and a tuberculosis physician engaged. This was done on the recommendation of the Chicago Institute of Medicine, for the treatment of the tuberculous incarcerated males from the five State of Illinois penal institutions. The State Reformatory for Women, Dwight, hospitalizes its own tuberculous patients and uses medical consultation. The Vandalia State Farm, with its misdemeanor offenders, follows a similar program and is prevented by statute from transferring inmates to an Illinois penitentiary.

The hospital is a two-story, fire-proof, eighty bed capacity building with a large proportion of windows. The unit is of ward type with single rooms for post-operative and seriously ill patients.
Colored patients are kept on one side and whites on the other. In general, the positive sputum patients are placed on the second floor and the negative sputum patients on the first. A special yard adjacent to the hospital has been provided for up-patients. When the weather is inclement, cure is taken in large solaria adjoining the main wards (See Fig. 1).

X-ray:

By December 14, 1939, a modern 100 milliamperage diagnostic x-ray machine with stereoscopic and Bucky attachments was installed. Prior to this, x-ray examination within the institution was not available. Since December 8, 1941, this work has been done by inmates, as the registered technician is on military leave. The quality of the finished x-ray films has received the highest praise from a Mobile Army Examination Unit. When speed has been required, as many as eighty-five exposures of 14" x 17" films have been taken in one hour. To date, 6820 x-ray and 1251 fluoroscopic examinations have been made. All x-ray films are interpreted in detail by the physician and written reports are made. The same procedure is carried out in the fluoroscopic work (See Fig. 2).

Laboratory:

Sputa examinations are made monthly by the State Department of Public Health. At times, it becomes necessary to have sputa collections certified by the guard. All patients with converted sputa,

Figure 1: Central Tuberculosis Hospital (Pontiac Branch)
and diagnostic cases, have gastric lavage examinations. Some studies are made locally for the purposes of quicker diagnoses, teaching, etc. Tissue sections are studied by the Illinois Research Hospital Department of Pathology.

Laboratory procedures, exclusive of tissue study, should be performed by registered technicians where the patients are hospitalized.

Laundry:

Linen and blankets are autoclaved before being sent to the main laundry. Mattresses and pillows are similarly sterilized prior to being used by other patients.

Cells from which patients are received are cleaned and all linen and blankets sterilized.

Barber Care:

Barber care is furnished at the bedside through the institution barber department. The equipment is sterilized in compound creosolis before re-use on another patient.

The inmate personnel have a small barber shop within the hospital. Separate equipment is used and sterilized daily with formaldehyde fumes.

Figure 2: 100 Milliamperage Diagnostic Unit.
Radio:
Loud speakers are placed throughout the hospital but are silenced during the afternoon rest hours and from 9:00 p.m. until 9:00 a.m. Programs are selected and distributed from a central radio room. The use of bedside earphones would be more restful.

Church:
Patients with three hours sitting time and full bathroom privileges are permitted to attend the institutional weekly church services. For other patients, the services are conducted in the large wards. The institution is staffed with resident Catholic and Protestant chaplains, and permits visits by other ministers.

Movies:
Educational movies are shown at the hospital on a voluntary basis by the local Tuberculosis Association and the nearby county sanatorium. Patients with sufficient up-privileges are permitted to attend the weekly institutional movies.

Library:
Books, prior to being discarded by the institution library, are sporadically received. Considerable good could be accomplished by improvement of this situation.

Visiting:
Bed and limited up-privileged patients are permitted visitors away from the other patients but under the surveillance of an officer. The visitors wear gowns. Exercise patients go to the institutional visiting room.
We have encouraged inspection tours of the hospital by lay and medical groups. This has not been resented by the patients.

Clothes:
Inmate personnel wear white clothes on duty. Showers and change of clothing are required before returning to cells.
Officers, however, wear their uniforms home, in spite of suggestions for the institution to provide special hospital wearing apparel.

Personnel Changes:
The frequent change of officers and inmate personnel causes inefficiency and exposes more individuals to tuberculosis with its possible litigation.

Insane Patients:
Non-violent patients with active tuberculosis can be cared for
locally if special mental care is not needed. Violently insane pa-
tients and other psychotics requiring specialized attention should
be treated in the mental division of the department, and chest
consultation service employed.

Medical Check-ups of Personnel:

The physician, registered nurse and guards receive tri-monthly
chest roentgenograms. The inmate personnel have monthly weigh-
ing and blood sedimentation rate determinations, and chest x-rays
are made every three months.

Reports:

Monthly reports of each hospital patient, including admissions
and discharges, are made to the Department of Public Safety. The
"Diagnostic Standards and Classification of Tuberculosis" of the
National Tuberculosis Association are used. All treatments, import-
ant events and personnel changes are recorded.

Annual reports with recommendations are made.

Nursing, Nutrition, and Discipline:

Because of their importance, these subjects are considered sepa-
rately.

II. NURSING

The nursing staff consists of one part-time female registered
nurse with special training in tuberculosis, and inmate nurses.
The registered nurse is responsible directly to the physician.

A guard accompanies the registered nurse, at the suggestion of
the warden. To us, the precaution seems superfluous. The patients
and inmate personnel have an attitude of respect and appreciation
for good nursing care.

The inmate nurses are assigned to the hospital by the place-
ment officer on a voluntary basis. Nurses with long sentences are
not permitted to work on the evening and night shifts. The local
prison officials believe there is less risk of escape with such a plan.
After assignment, the man is placed in the diet kitchen within
the hospital. This is to familiarize him with hospital care of dishes,
food, etc. He is next moved to day ward work under supervision.
If he shows average intelligence, willingness to work and is re-
liable, he rotates first to the evening shift and then to the night
shift.

The inmates are attracted to hospital work because of better
and more food, access to daily showers, frequent clothing change,
more recreation privileges, and fewer hours in the cellhouse. We
believe extra good time should be given the nurses because of the
additional risk assumed in the constant exposure to infectious disease.

The removal of a nurse from service because of laziness, sulky attitude, etc., should be a part of his prison record and considered in his future assignments. The immediate placement in other desirable prison employment is demoralizing. The inmate should, however, be permitted to ask and receive a transfer to other employment if a justifiable explanation is given.

By merit and tenure of service a “head nurse” is chosen by the physician and registered nurse and is directly responsible to them. He has quarters in the administrative portion of the hospital and is called, as indicated, by the evening and night shifts. Several tuberculous patients have assisted with nursing as part of their tolerance exercise and ultimately were retained as regular inmate nurses.

Personal feelings enter into the handling of uncooperative patients, e.g., a bed patient who walks to the bathroom may later be denied bedside care, at the inmate nurse’s discretion. Such matters are often unknown to the physician or registered nurse, as inmates have a silent code.

A recreation room is set aside for the use of the inmate personnel. A walled-off yard for exercise patients is also used by them. The large institutional play yards with their football, baseball, and basketball quarters are available. The regulation of recreation hours and the return to the cellhouse shortly after duty has improved the efficiency of hospital management.

Classes conducted for inmate nurses by the physician and registered nurse include clinical signs, treatment and nursing procedures. In spite of the lack of trained nurses, much good work has been accomplished. No cross infections have occurred either in surgery or treatments; decubital areas have happened rarely and only on debilitated and moribund patients. Oxygen has been administered in acute dyspnea from spontaneous pneumothorax, massive hemorrhage, etc., while the call for the physician was being placed.

At least one full-time nurse in charge of each shift is highly desirable. The need has been recognized by the Department of Public Safety, and recent legislation has provided for such employment. The present scarcity of female and male registered nurses has not permitted the approved changes.

III. NUTRITION

Institutional feeding is usually a problem. This is true in penitentiaries and especially in a penal hospital treating a chronic disease, where the grapevine system reaches perfection. The pa-
tients strongly believe good food is purchased, but that its preparation, serving, and variety are poor.

Menus, carefully prepared by trained personnel, with thought as to balanced diet as well as economy, were received for several years from a nearby sanatorium, but not followed. Special diets are a farce, regardless of the fact that diet lists are supplied to assist the kitchen. Extra nourishments have lacked fruits, malted milk and the like. Much of the mental upset of seriously ill patients is the result of their not receiving the prescribed diets. The correction of the situation is not within the authority of the physician; however, it is his responsibility to repeatedly report it. Improvements are made sporadically and often temporarily. The officer-cooks and stewards are not well trained, and they dislike preparing food which should be individualized to cases.

Permission has been received from the Director to engage a male dietitian. There are, however, only three male registered dietitians in this country. The solution appears to be in the engagement of a female dietitian or the "training of cooks in hospital menu planning who would be willing to cooperate in this matter." An offer to do the latter has been received from the Division of Home Economics and Nutrition of the Illinois Department of Public Welfare.

Figure 3: Central Hospital Kitchen (Note Food Conveyors)
Food is prepared in a central kitchen adjoining the General and Tuberculosis Hospitals and is served at the bedside from heated food conveyors. Originally, all meals were eaten during the eight-hour day shift. Gradually this has been spread over twelve hours. The regular diet is supplemented with forty-eight ounces of pasteurized milk and the daily requirement of vitamins A and D. The meals, in spite of the above criticism, are quite well tolerated, as evidenced by weight gains in practically all patients except the seriously ill (See Fig. 3).

Patients are asked regarding the quantity of food desired. This has decreased the garbage about fifty per cent. During the past four years the garbage has been disposed of through incineration. Prior to this it was sent to a piggery.

The inmate personnel eat in a small dining room within the hospital and are not permitted in the central kitchen except to obtain and return food conveyors. Separate dishes are used for patients and personnel. Dishes from patients are sterilized following their use, while those from the personnel are hand washed.

In most of the prisons of this country the diet for tuberculous patients is increased by the addition of milk and eggs. In the old English prisons, the diet consisted of bread, potatoes, meat, cheese, ale and wine.
IV. TREATMENT

The treatment is essentially the same as in most of the modern sanatoria. All patients are re-x-rayed every three months, have monthly sputum examinations and blood sedimentation rate determinations, and weekly weights, general condition permitting. Pneumothorax patients are masked and fluoroscoped before each refill and x-rayed monthly. Exercise patients have monthly roentgenograms and similar out-patients studies are gradually spaced, but never longer than six months.

Bed Rest:

Absolute bed rest is the most difficult therapy to administer. Enforced rest would appear to be absolute, but there are many flaws. The employment of more registered nurses and better officers should improve the situation (See Fig. 4).

Collapse Therapy:

All forms of collapse treatment are used. The patients have been most cooperative in the acceptance of these procedures. No pressure is used in persuading the patient's judgment. In addition to the consent of the patient, written permission is obtained from the nearest of kin. Two patients have refused this type of treatment: one with unilateral pneumothorax did not wish bilateral pneumothorax, another desired pneumothorax in preference to

Figure 5: Operating Room with Gas Anesthesia Apparatus.
phrenic nerve paralysis. It is not unusual to receive requests from the patients for some form of surgical intervention. Forty-three per cent of all inmates hospitalized at Pontiac with active pulmonary phthisis have had collapse therapy.

Due to the lack of a competent anesthetist, all operative work was done under local anesthesia until eight months ago. We now use intravenous and the various gas anesthetics. Positive pressure is also available since we have been fortunate in obtaining the services of a well trained commuting anesthetist. Surgical assistance, for the most part, has been from the inmate nursing staff. Occasionally, physicians interested in chest diseases have rendered voluntary help. There have been no cross infections, serious accidents or surgical deaths. Black silk technique is used (See Fig. 5).

Of the patients having collapse procedures, thirty-eight per cent have had sputum converted to negative.

_Treatment Statistics_, October 3, 1939, to May 23, 1944:

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<td>Phrenicotomies</td>
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<td>Monaldi Drainages</td>
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<tr>
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</tr>
</tbody>
</table>

**V. DISCIPLINE**

Discipline in any hospital is important and the ability to enforce it without being offensive is, at times, quite trying. These patients have previously been behavior problems while apparently well. In addition, their average education is not beyond grade school.
The necessity for treating one as an invalid, due to insidious and painless tuberculosis, is often difficult to convey.

Prisoners in the institution are under the watch of guards. The same procedure is used in the hospital. Each floor is under the supervision of officers twenty-four hours daily. Compliance with rules and privileges depends upon the strictness of the officers. During the first year, discipline was a major problem, but during the second year it became of little concern. With the resignation of an officer-in-charge who had many years of valuable penitentiary hospital experience, and the frequent placement of new officers, it has become more difficult to maintain discipline. In addition to the commotion usually experienced as the result of administration changes, there has been attraction of the more qualified personnel to better paying fields, including nearby war plants. As the officers are placed, transferred, or dismissed by the warden, their cooperation with the tuberculosis program varies directly with the attitude of the warden toward the same program.

Treatments, visiting and up-privileges, except bathroom privileges, are carried out in the regular shift between 8:00 a.m. and 4:00 p.m. This relieves the officers on the other two shifts of many details which might be misinterpreted. Educational talks and written articles have assisted the patients and officers in a better understanding of the dangers of improper treatment of this disease.

New patients, on admission, come to the physician’s office for the purpose of examination, to receive an explanation of their disease, probable future treatment, and to learn of hospital conduct. An important point has been the stressing that all patients will be considered as patients and not as prisoners unless their conduct calls for it. The same procedure applies to the inmate help. An unruly or uncooperative patient may be changed to the better by his fellow patients if the physician will speak logically but loud enough for the others to hear and later reason with the offender. Practically every problem-patient has voluntarily apologized for hasty talk or action. A true feeling of forgiveness should prevail and past infractions forgotten, for the most part, in future dealings with the patient. A physician should have a sense of humor, even though at times it becomes necessary to deal sternly. Promises should be fulfilled.

Smoking, being out of bed without permission, sexual irregularities and other breaches are reportable. The first offense results in a conference between the patient and the physician with an explanation of the reasons why the patient must, for his own welfare, follow a certain routine. Placing an inmate on his honor gives him a feeling personal interest is being shown and kindness used. Contrary to popular belief, most of the inmates are polite,
considerate and optimistic. They wish to become well and to be discharged from the penitentiary. In their minds, tuberculosis is the most dreaded of the common diseases.

When conduct is repeatedly bad, a comment to this effect in the physician's report to the parole board seems justified. Likewise, a complimentary remark of good conduct is indicated. The patients should know that reference to their cooperation may be at the parole board's perusal when their case is considered. Repeated offenders are dealt with more sternly depending upon the extent of their disease. Discontinuation of up-privileges and movies, or, if necessary, isolation in a single room, serving of low caloric diet, withholding mail and the employment of a bedside commode are quite effective. Patient cliques are disbanded by separating the leaders.

Either the judgment of the physician or the inmate must be dominant. The use of solitary confinement has, therefore, been used. For exemplary reasons, apparently well patients were sent to solitary for repeated offenses and major infractions, such as fighting, insolence and threats to officers. As we eventually believed other and more humane methods to be just as effective to correct behavior problems, we discontinued the procedure of withholding food and solitary confinement. Solitary confinement is the placing of a prisoner in a darkened cell with limited food and bedding. Deadlock would appear to serve the purpose where strict immediate discipline is necessary. This is confinement to a lighted cell where there are barred doors, regular meals and bunks, but no writing or incoming mail privileges. Patients are visited daily by the physician or nurse while in solitary or deadlock. In general, no sudden weight losses have been experienced by the use of the latter procedure and, in most instances, patients have shown improvement, as the possibility of breaking rest treatment has been lessened.

In a few more serious breaches of discipline, the institution officials discontinue visiting privileges for some months and demote the individuals to lower classification grades with a loss of good time.

The present procedure in enforcing discipline is for the officer to report the offense to the disciplinarian, who, in turn, consults the physician regarding the patient's disease. This tends to relieve the physician of the stigma of being an enforcement officer.

Employment in the prison tuberculosis hospital of tuberculous civilians in arrested status would appear to have at least two advantages: the sedentary work affords an excellent opportunity for post-sanatorium patients to acclimate to normal life, and to pass on their sanatorium training to the inmates.
B. CONTROL PROGRAMS ELSEWHERE

I. OTHER ILLINOIS STATE PENITENTIARIES

This group includes the major portion of the inmate population. X-ray apparatus is lacking in one penal branch, and inadequate at two other centers. Chest films are often misinterpreted. No modern systematic detection of the possible tuberculous has been made. Sick lines are held early in the morning when tuberculous patients have their lower temperatures. Eventually, some patients are x-rayed and hospitalized.

Active cases of tuberculosis are usually permitted too many privileges and their transfers to the central tuberculosis hospital are too delayed. Apparently, avoidable disease progression has occurred because of improper rest, prolonged waiting and unsuitable method of transfer.

The employment of a mobile photo-roentgenographic unit, central interpretation of x-rays, standardization of treatment, freer use of consultation, and quicker and more closely supervised transfers are definitely indicated.

II. STATES

The problem is recognized by all states except fourteen. The latter, geographically, are four Eastern, three Central and seven Western units. The inmate population of these fourteen constitutes approximately sixteen and two-thirds per cent of the total state penal population.

Fifteen states routinely x-ray the chests of all inmates or of positive tuberculin reactors. In three states, tuberculin testing is a preliminary diagnostic procedure. Two use the Mantoux and one the Patch Test. One state routinely fluoroscopes and follows with chest plates of patients showing pathology. Twenty-five states have separate hospitalization sections of various descriptions. The first central penal tuberculosis hospital was established in New York, January 22, 1918. However, only one of their nine branches routinely employs chest x-ray examinations.

With few exceptions, the medical and surgical work is done by general prison physicians. Modern collapse therapy is seldom used. Patients, in general, may expect better care in those states referring the tuberculous to the various non-penal sanatoria. There are a few exceptions: a Southern state has a penal unit adjacent to the state sanatorium and the regular sanatorium staff treats these patients; and another commonwealth transfers patients to the Medical College Hospital for thoracoplasties and other major collapse treatments.
The medical section of the federal penal system with its six penitentiaries is the responsibility of the United States Public Health Service. "Although the x-ray examination is the most effective diagnostic procedure, it is not routinely used because of the expense. It is ordered only when history, complaint or physical findings are suggestive of pulmonary disease."\textsuperscript{12}

These statements are interesting in view of others in the same report, namely: "Because of crowded conditions in penal institutions unusual care must be exercised in detecting active cases, not only for the purpose of treating the afflicted individual but also for the purpose of protection of the inmate population at large. The disease is noted for its insidious onset and tendency to advance without subjective or objective symptoms."

"A special sanatorium is not available for the segregation and care of tuberculous prisoners, but all cases in need of prolonged hospital care are transferred to the Medical Center for Federal Prisoners, Springfield, Missouri."\textsuperscript{6}

IV. OTHER NATIONS

\textit{Italy}: Italy provides a special sanatorium on the Island of Pianosa for its convicted. It has one-hundred twenty beds with provisions for three-hundred sixteen beds.\textsuperscript{13,14}

\textit{Canada}: The Dominion of Canada has an inmate population of over ten thousand in the reformatories, gaols, prisons and penitentiaries. There is no case finding or control program. They do not appear to have x-ray units in any of the major branches.\textsuperscript{15}

C. PAROLE

The attitude and decisions of the Parole Board are an integral part of the control of tuberculosis. We have had splendid cooperation with our medical recommendations of cases studied by the Illinois Parole Group.

Until quite recently, it has been the policy in Illinois to retain the tuberculous inmates requiring treatment. Patients having served maximum sentence must, by law, be released. Arrangements, however, are usually made to continue with non-penal hospitalization upon release of such patients. The discharge of all other patients is at the discretion of the Parole Board.

Those with essentially hopeless tuberculosis and a very brief prognosis have extra consideration. They quite often, but not necessarily, obtain a medical parole. The relatives of these patients, however, must furnish proof of approved hospitalization. For obvious reasons, such patients and relatives prefer the exitus to occur outside of the penitentiary.
Patients believe being in the tuberculosis hospital retards their chance of parole. This can prevent an ill patient from reporting to the morning sick line, with its subsequent possible hospitalization. This is also an indication for routine x-ray examination of all inmates.

There is considerable variation in policy throughout the nation on this subject. Most of the states have no set procedure. States in which it is the practice to commute the sentence, or parole or pardon the inmate are usually those in which the problem is thought to be of minor concern or where it is of major importance but adequate hospitalization facilities are lacking. One small New England state with few inmates transfers the tuberculous to another state penal center. Several states, however, have had bad experiences with the paroled sick and, therefore, seldom grant earlier releases. This policy is usually followed where hospitalization is readily available. There are striking exceptions. In one state, with an excellent control program, the Parole Board is without jurisdiction to release a tuberculous patient if the attending physician is of the opinion the patient's condition would endanger public health. The law of that commonwealth is as follows:

"An inmate of a public charitable institution or a prisoner in a penal institution who is afflicted with syphilis, gonorrhea or pulmonary tuberculosis shall forthwith be placed under medical treatment, and if, in the opinion of the attending physician, it is necessary, he shall be isolated until danger of contagion has passed or the physician determines his isolation unnecessary. If at the expiration of his sentence he is afflicted with syphilis, gonorrhea or pulmonary tuberculosis in its infectious or contagious symptoms, or if, in the opinion of such physician as the authorities may consult, his discharge would be dangerous to public health, he shall be placed under medical treatment and cared for as provided in the institution where he has been confined, until, in the opinion of the attending physician, the said symptoms have disappeared and his discharge will not endanger the public health."16

In a few states, jail inmates with tuberculosis are transferred to the state penitentiary for treatment. Hospitalization and follow-up care is made a condition of parole in some states. Tuberculous parolees of another state on relapsing are returned to the institution and given further treatment.

In Illinois there is apparently no distinction for parole based on sex. In some of the other states, women inmates appear to receive sick parolees more readily.

The immediate medical recommendations for parolees are fulfilled. This applies to their need for future treatment, approval of the non-penal hospital, mode of transfer, and necessity of an attendant. Thereafter, we have no contact with the patients even though they are under parole for three years. Future medical
arrangements are apparently settled between the parolee and the parole agent. As long as the paroled patient is accountable to the Department of Public Safety, it would seem to be the latter's responsibility to place him under the supervision of the tuberculosis division of the Department.

D. STATISTICS

Tuberculin Test:

Full dose second strength purified protein derivative tuberculin was given 3,113 inmates with 76 per cent positive reactors. When considered by race, 85 per cent of the colored and 73 per cent of the white reacted positively. A thousand records were selected, based on length of incarceration, and divided into two groups. Of the 500 in prison less than three months, 51 per cent had positive

Figure 6

Figure 6: Seven Rib Thoracoplasty (Local Anesthesia).—Figure 7: Acute Tuberculous Pleurisy and Peritonitis. (Found on Tuberculin-X-ray survey. Did not report to sick line).
tuberculins; of the 500 retained over eighteen months, 89 per cent were tuberculin positive. Two-hundred thirteen officers were similarly examined and 81 per cent gave positive readings (See Fig. 7).

**Incidence:**

The positive reactors of 3,113 tuberculin tested inmates had 14” x 17” x-ray examinations of the chest. Seventy-two or 2.3 per cent had significant chest opacities. Slight thickenings of the pleura were noted, but are not a part of this report. Twenty-eight (26 pulmonary, 2 pleural), or 0.89 per cent active cases of tuberculosis were diagnosed. This is a morbidity rate of 899 per 100,000, or **seven times greater** than for the State of Illinois (See Fig. 8).

*Figure 8*

**TUBERCULOSIS MORBIDITY RATE PER 100,000**

<table>
<thead>
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<th>Location</th>
<th>Rate</th>
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<td>114</td>
</tr>
<tr>
<td>East St. Louis</td>
<td>116</td>
</tr>
<tr>
<td>Chicago</td>
<td>167.5</td>
</tr>
<tr>
<td>Illinois Penal Institution, Pontiac Branch</td>
<td>899</td>
</tr>
</tbody>
</table>

None of the 213 officers had active pulmonary tuberculosis, although ten had findings ranging from suspicious to apparently cured far advanced pulmonary tuberculosis.

**Admissions:**

Two-hundred thirteen patients, 41 per cent white and 59 per cent colored, have been admitted. The average percentage of white and colored in the general inmate population is 70 per cent and 30 per cent respectively.

The annual entrances varied as follows:

<table>
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<th>Location</th>
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<th>1942-1943</th>
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<td>11</td>
<td>11</td>
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<td>Menard</td>
<td>14</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Pontiac</td>
<td>29</td>
<td>21</td>
<td>13</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Totals</td>
<td>61</td>
<td>42</td>
<td>29</td>
<td>32</td>
<td>57</td>
</tr>
</tbody>
</table>

*Includes 8 re-admissions.
Analysis of the Pontiac admissions is of interest. Approximately 52 per cent (46) came from the General Hospital sick line. The other 48 per cent were the positive tuberculin x-ray (37) and Army x-ray (6) groups. Eight deaths occurred in the patients referred from the sick line and one from the other groups.

**Diagnoses:**

<table>
<thead>
<tr>
<th>Observation Cases—No Active Pulmonary Tuberculosis Found</th>
<th>23</th>
<th>10.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Pulmonary Tuberculosis: Minimal</td>
<td>42</td>
<td>19.7</td>
</tr>
<tr>
<td>Mod. Advanced</td>
<td>40</td>
<td>18.77</td>
</tr>
<tr>
<td>Far Advanced</td>
<td>74</td>
<td>34.78</td>
</tr>
<tr>
<td>Pleurisy with Effusion, Probably Tuberculous</td>
<td>8</td>
<td>3.755</td>
</tr>
<tr>
<td>Lymphadenitis, Probably Tuberculous</td>
<td>7</td>
<td>3.286</td>
</tr>
<tr>
<td>Osteomyelitis, Probably Tuberculous</td>
<td>8</td>
<td>3.755</td>
</tr>
<tr>
<td>Miliary Tuberculosis, Probably</td>
<td>1</td>
<td>.468</td>
</tr>
<tr>
<td>Fibrosis, Type Undetermined</td>
<td>2</td>
<td>.939</td>
</tr>
<tr>
<td>Pneumonitis, Type Undetermined</td>
<td>2</td>
<td>.939</td>
</tr>
<tr>
<td>Bronchiectasis</td>
<td>1</td>
<td>.468</td>
</tr>
<tr>
<td>Emphysema and Bronchial Asthma</td>
<td>1</td>
<td>.468</td>
</tr>
<tr>
<td>Osteomalacia</td>
<td>1</td>
<td>.468</td>
</tr>
<tr>
<td>Arthritis</td>
<td>1</td>
<td>.468</td>
</tr>
<tr>
<td>Lymphogranuloma Perineal</td>
<td>1</td>
<td>.468</td>
</tr>
<tr>
<td>Bullet in Chest</td>
<td>1</td>
<td>.468</td>
</tr>
</tbody>
</table>

**Discharges:**

<table>
<thead>
<tr>
<th>By Reason of Death</th>
<th>31</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Cellhouses, Active Pulmonary Tuberculosis not Found</td>
<td>19</td>
</tr>
<tr>
<td>To Cellhouses on Out-Patient Status, Arrested Cases</td>
<td>75</td>
</tr>
<tr>
<td>To Outside Sanatoria</td>
<td>31</td>
</tr>
<tr>
<td>Released by Expiration of Sentence</td>
<td>10</td>
</tr>
<tr>
<td>Returned to Psychiatric Division</td>
<td>3</td>
</tr>
<tr>
<td>Administrative Transfer to other Branches</td>
<td>2</td>
</tr>
<tr>
<td>To Joliet for Abdominal Surgery</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total** 172

**Death Rate:**

A review of the death certificates from Menard, Joliet and Pontiac for the past eight years shows tuberculosis (pulmonary and non-pulmonary) accounted for 115, or 22.6 per cent of all deaths. If the deaths caused by non-tuberculous involvements of the lungs are included, the per cent increases to 31.6. This notation is made as x-ray facilities were not always available during this period and autopsies were not performed except in coroner's cases. There-
fore, a number of patients probably died of tuberculosis but were not so diagnosed.

For the past four and one half years there were 62 deaths from tuberculosis within the institutions, or 13.7 per year with a yearly total census of approximately ten thousand. This is a death rate from tuberculosis of 137 per 100,000. As many were paroled with tuberculosis in serious general condition, it is fair to assume a good share of these also succumbed to this disease. A death rate, therefore, of approximately 200 per 100,000 would be a reasonable estimate. This is nearly five times greater than the average death rate for Illinois (See Fig. 9).

**Figure 9**

**TUBERCULOSIS MORTALITY RATE PER 100,000**

<table>
<thead>
<tr>
<th>Illinois</th>
<th>41.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>East St. Louis</td>
<td>45.9</td>
</tr>
<tr>
<td>Chicago</td>
<td>55.2</td>
</tr>
<tr>
<td>Illinois Penal Institutions, actual</td>
<td>137</td>
</tr>
</tbody>
</table>

From October 3, 1939, to June 1, 1944, thirty-one deaths occurred in the Tuberculosis Hospital. They are allocated as follows:

<table>
<thead>
<tr>
<th>From</th>
<th>10-3-39 to 6-30-40</th>
<th>7-1-40 to 6-30-41</th>
<th>7-1-42 to 6-30-42</th>
<th>7-1-43 to 6-1-44</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joliet</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Menard</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pontiac</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>4</td>
<td>14</td>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

The deaths are further classified by diagnoses:

- Far Advanced Pulmonary Tuberculosis 25
- Pulmonary Tuberculosis, Probable 1
- Miliary Tuberculosis, Probable 1
- Bilateral Pleural Effusion 1
- Osteomyelitis 1
- Pneumonia and Senility 1
- Osteomalacia 1
Of these, 19, or 60 per cent were colored and 12, or 40 per cent were white.

The average length of hospitalization prior to death was 288 days. Classified as to institution from which patients were received: Joliet 202 days, Menard 432 days, Pontiac 106 days.

Census Table:

Deaths in Hospital .............................................. 31  14.5%
Present Census ...................................................  43  20.5%
Out-Patient Status (Pontiac Branch) ..........................  25  11.5%
Paroled, Discharged and/or Transferred ....................... 113  53.5%

Total Patients Admitted.........................................  212 100.0%

DISCUSSION

The survey committee of the Institute of Medicine of Chicago, in their report in 1937, stated:

"There are certain factors which make the problem simpler in prisons than it is in civil communities. In the first place, the economic and social factors are completely under control. The housing conditions, the hours of work, the length and type of recreation, the amount of sleep, and the diet can all be precisely regulated. In the second place, definite and effective steps can be taken to find the early case, and isolation and treatment can be strictly enforced. Most of the factors which handicap the work among the population at large are here eliminated."

They suggested the following program for the prisons of Illinois:

1. Each incoming prisoner is to have a tuberculin skin test.
2. All who have positive reactions are to have x-rays.
3. Each incoming prisoner is to be questioned concerning family history of tuberculosis, previous attacks of the disease, and a history of pleurisy with effusion and cervical adenitis.
4. All those with positive x-rays are to be sub-classified into two groups: (a) Those with active lesions; (b) those with inactive or suspicious lesions.
5. All those with active lesions are to be sent to the prison tuberculosis hospital for isolation and treatment.
6. All those with inactive or suspicious lesions are to be segregated in a portion of a cellhouse close to the tuberculosis hospital where they can be partially isolated and under the close supervision of the tuberculosis specialist.
7. All those with family histories of tuberculosis or with histories of pleurisy with effusion or glands in the neck are to be kept on record and x-rayed each six months.
8. All those with negative tuberculin tests are to have the test repeated each year. This will be a test of the effectiveness of the program. Unless there are prisoners or employees with active tuberculosis which has been unrecognized, a prisoner who enters with a negative test should remain negative. A high incidence of conversions
in any prison or any portion of a prison should be an indication for
an intensive investigation of that sector."

"While the foregoing system would locate the incoming cases of tu-
berculosis, it would not help in finding those already in the institutions
or those which develop after admission. It is certain that there are
many such cases and, therefore, an essential part of a tuberculosis pro-
gram must be an active case-finding system among the prisoners and
employees. This could be best started by x-raying everyone."

"At the present time there are less than 100 recognized cases of tu-
berculosis in all the institutions. Dr. Rector found that the recognized
incidence in prisons throughout the country was 1.1 per cent. A con-
servative estimate of the actual incidence is 2 per cent."

"If this system of case-finding were inaugurated, the only remaining
problem would be the early diagnosis of the cases developing during
the prison term. These should be few; and a careful follow-up of pris-
oners with family or past histories of the disease and a liberal use of
the x-ray in investigating prisoners with suspicious symptoms should
be sufficient."

The survey committee recommended a central tuberculosis hos-
pital at Pontiac for the problems of isolation and treatment and
that "the physician in charge of the tuberculosis hospital and the
case-finding work in all the prisons should be one with special
experience and training in the modern treatment of tuberculosis."
They thought: "A constant high standard of work could best be
assured were he to be chosen and supervised by the faculty of
the medical school of the state university." Regarding surgery of
pulmonary tuberculosis, the committee believed: "A consultant
should be appointed to do this work who might well be the thoracic
surgeon of the state university."

The building of sanatoria or special sections for treating a pre-
ventable, communicable disease in a restricted and detained group
appears to be folly unless modern means of detecting the path-
ology in the entire population are repeatedly used.

Over a span of years, it would be more lucrative to employ case-
finding methods and isolate active cases even though modern
therapy is not available. It would be better to use detection, isola-
tion and treatment.

SUMMARY AND CONCLUSION

Inmates have a right to reasonable medical care and sanitation.
Ninety-five per cent of all inmates in Illinois are eventually re-
leased.

Tuberculosis is a major health problem in many state penal
institutions. There is a national trend toward its recognition and
correction. Few states, however, have adequate control programs.
There is a need for separate sections or hospitals to treat this
disease.
The eradication and treatment should be relatively easy and simple with administrative and medical cooperation.

All personnel (guards, attendants, inmates, etc.) of the Tuberculosis Hospital should be immediately responsible to the executive physician, and indirectly to the lay administrators. The retention and removal of all hospital employees should be at the discretion of the executive physician.

At times, it is necessary to have sputum collections, temperatures, etc., certified.

At least one registered nurse should be on duty during each shift. Inmate personnel need supervision but give good service and are deserving of extra good time.

The planning, preparation and serving of food should be under the guidance of qualified personnel.

More efficient guards would lessen breaches of discipline; therefore, higher ratings for hospital guards should be considered.

Humane methods of enforcing discipline are indicated and successful.

Treatment and public health measures should be the same as in modern non-penal sanatoria.

Special psychotics should be treated in the mental division.

Forty-three per cent of our patients had collapse therapy, and in 38 per cent of these sputa were converted.

Ultra-violet light has been very beneficial in tuberculous adenitis and peritonitis.

Employees and inmates of the penal institutions should be tuberculin tested and positive reactors x-rayed. Thereafter, at least yearly examinations (tuberculin and/or x-ray) should be made.

Parole board decisions are important. If adequate care is pro-

Figure 10: Sketch of Photo-roentgen Unit, bus type, ordered since presentation of paper.
vided, inmates should be treated in prison. If treatment is inadequate, sick parole should be considered. Non-penal hospitalization and/or follow-up care should be a condition of parole.

At the Pontiac Branch, 76 per cent of the inmates and 81 per cent of the officers are positive reactors and the morbidity rate of inmates for tuberculosis is 899 per 100,000. More deaths occurred in referrals from the sick lines than from the tuberculin x-ray group.

In the Illinois State Penitentiaries, the known mortality rate of inmates from tuberculosis is 137 per 100,000; the estimated mortality rate is 200 per 100,000.

Out-patients should be under central medical supervision regardless of the locale of their incarceration.

The Department should use a mobile photo-roentgenographic unit (See Fig. 10), central interpretation of x-rays, and standardize treatments and methods of transferring patients.

There is need for a national committee of physicians to study the problem of tuberculosis in prisons.

RESUMEN Y CONCLUSION

Los reclusos en penitenciarias tienen derecho a recibir atención médica e higiénica razonables. El 95 por ciento de los presos en Illinois obtienen finalmente la libertad.

La tuberculosis es un problema sanitario de mayor importancia en muchas instituciones penales de los Estados. Existe una tendencia nacional hacia el reconocimiento y corrección de este problema; pero pocos Estados cuentan con adecuados programas de control. Se necesitan secciones separadas u hospitales para tratar esta enfermedad.

La erradicación y el tratamiento serían relativamente fáciles y sencillos con la necesaria cooperación administrativa y médica.

Todo el personal del Hospital para Tuberculoses (los guardias, sirvientes, presos, etc.) debe depender directamente del médico ejecutivo, y sólo indirectamente de los administradores legos. La retención y remoción de todos los empleados del hospital debe estar a la discreción del médico ejecutivo.

Es necesario a veces certificar las colecciones de esputo, las temperaturas, etc.

Por lo menos una enfermera graduada debe estar de servicio durante cada turno. Los reclusos empleados necesitan supervigilancia pero dan buen servicio y merecen diversión extra.
El planear, preparar y servir los alimentos debe estar bajo la dirección de un personal competente.

Las infracciones de disciplina disminuirían con guardias más eficientes; por consiguiente, se deben considerar requisitos más rígidos en la selección de guardias para el hospital.

Debe emplearse métodos humanitarios para hacer observar la disciplina, y ellos dan buen éxito.

El tratamiento y las medidas de higiene pública deben ser las mismas que en sanatorios modernos no penales.

Pacientes con psicosis deben ser tratados en la división de enfermedades mentales.

El 43 por ciento de nuestros pacientes recibieron colapsoterapia, y en el 38 por ciento se obtuvo la conversión del esputo.

La luz ultravioleta ha sido muy beneficiosa en adenitis y peritonitis tuberculosas. La radioterapia en la adenitis daría resultados más satisfactorios.

Tanto los empleados de las instituciones penales como los presos deben ser probados con tuberculina, y se debe tomar radiografías de los reactores positivos. Debe repetirse los exámenes (tuberculina y/o radiografía) por lo menos una vez al año.

Las decisiones de la Junta de Libertad Condicional son importantes. Los presos deben ser tratados en la penitenciaria si obtienen allí atención adecuada, pero si el tratamiento es inadecuado debe considerarse darles libertad condicional por enfermedad. Hospitalización en una institución no penal o tratamiento subsecuente, o ambos, deben ser requisitos para obtener la libertad condicional.

En la Sección de Pontiac el 76 por ciento de los presos y el 81 por ciento de los oficiales son reactores positivos, y entre los presos la morbilidad por tuberculosis es del 899 por 100,000. Hubo más defunciones entre los que fueron referidos por sentirse enfermos que en el grupo descubierto por medio de la tuberculina y la radiografía.

En las Penitenciarías del Estado en Illinois la conocida mortalidad por tuberculosis entre los presos es del 137 por 100,000; la mortalidad estimada es del 200 por 100,000.

Los pacientes externos deben estar bajo superintendencia médica central, no importa cual sea el lugar de su encarcelación.

El Departamento debe usar un aparato foto-roentgenográfico móvil, instituir la interpretación central de las radiografías y establecer uniformidad en los tratamientos y en los métodos de trasladar a los pacientes.

Se necesita un comité nacional de médicos para estudiar el problema de la tuberculosis en las penitenciarías.
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