

Documenting Disease: Ontario's Bureaucracy Battles Tuberculosis

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Résumé

En évaluant les dossiers archivistiques, il est non seulement important de comprendre leur contenu, mais aussi leur forme ainsi que leur fonction. Alors que le contenu révèle habituellement ce qui est arrivé, une analyse de la forme et de la fonction peut révéler que les documents eux-mêmes ont eu un effet déterminant sur le cours de l'histoire elle-même. Jusqu'au milieu du présent siècle, la tuberculose était responsable de nombreux décès au Canada. En Ontario, la Division de la prévention de la tuberculose du Ministère de la santé a mis sur pied un vaste programme de quête d'informations qui a contribué à l'éradication de la maladie. Deux systèmes de gestion de documents représentèrent une arme utile dans la lutte contre la tuberculose: les registres locaux d'enregistrement des cas de tuberculose et les enquêtes radiographiques. Les deux systèmes de collecte des données ont servi à identifier et à repérer les personnes atteintes de la tuberculose et ainsi à contenir et à éliminer cette maladie. Les décisions bureaucratiques du gouvernement ont joué un rôle dans l'éradication de la tuberculose au même titre que l'administration d'antibiotiques par la communauté médicale.

Abstract

In appraising archival records, it is important to understand not only their content, but also their form and function. While content will usually narrate what happened historically, an analysis of form and function may reveal that the records had a determining effect upon the course of history itself. Up until the middle of this century, tuberculosis was a disease that claimed numerous lives in Canada. In Ontario, the Department of Health's Division of TB Prevention dealt with the problem by launching a paper assault and virtually documenting it to death. Two record-keeping systems were particularly useful weapons in the war on TB: the local TB case registers and the mass X-ray surveys. Both information-gathering systems served to seek out and

identify people with TB in order that the disease could be contained and eliminated. The government's bureaucratic role was as important to the decline of TB in Ontario as were the antibiotics administered by the medical community.

Part of the archival function is to understand record-keeping systems and documentary flows, not just for the purposes of illuminating how the records in a repository fit together, but more importantly to comprehend the societal context of the creation and use of those records. It is the archivist's responsibility to understand not only what the informational content of the records means, but what their very existence and form say about the topic. Words aid understanding, but so, too, do form and process. The history of tuberculosis in Ontario provides an excellent example of how records can be used not simply as information, but also as evidence of the key role of documentation in structuring that history itself.

The history of tuberculosis has generally been written as a narrative account of heroic medical measures taken to combat the disease.¹ And indeed, the twentieth-century decline in TB was astounding: in 1900 the death rate in Ontario from tuberculosis, or consumption as it was formerly known, was 160/100,000; by 1980 it had fallen to 0.6/100,000.² Similar statistics were seen in the rest of Canada and in industrialized countries in general. The virtual eradication of tuberculosis is indeed one of the Western world's medical miracles. Yet what is missing from these accounts is the part played by bureaucrats and their information-gathering techniques.

Tuberculosis is caused by a germ which affects primarily the lungs, but can also affect the skeletal system, kidneys, lymph nodes, and other organs. It has long been known that unsanitary living conditions coincided with prevalence of the disease, and thus efforts were made in the nineteenth and early twentieth centuries to improve the urban environment, especially in demanding better quality foods and fresh air. Once Germany's Robert Koch discovered the tubercule bacillus and the infectious nature of TB was recognized, the focus of TB control shifted from improving socio-economic conditions to finding a medical solution to the problem. A breakthrough was realized in 1924 when the BCG vaccine was developed in France, but in Ontario it was only after World War II, with the introduction of antibiotics, that rapid advances were made. The introduction of streptomycin into Canada in 1947 marked the beginning of an antibiotic revolution, and from then on it was only a matter of time before TB all but disappeared in the face of an onslaught of wonder drugs.

Yet despite the effectiveness of antibiotics, the eradication of an infectious disease does not simply depend on finding a medical cure and then applying it to the sick; it also depends on eradicating environmental circumstances that foster the disease, and stopping the spread of the disease by identifying carriers. All three methods in conjunction are important. It was not only physicians and medical scientists who were involved in the battle against TB, but government bureaucrats as well. In Ontario, the government mounted a paper war, and indeed, as the records show, the disease was virtually documented to death. The medical and scientific records--notes, experiments, microscope slides, case files--of Koch and others tell one story, but the records of the Ontario Department of Health tell another: seeking out information and getting records under control was part of its strategy for controlling TB. For the bureaucrats, the deployment of documentation represented a full-scale attack on the disease.

Documentation as Act and as Fact

In her examination of the changing attitudes towards TB in Canada, Katherine McCuaig has convincingly argued that medical facts based on advances in science and technology are neither objective nor valueless, but rather depend to a large extent on changing societal attitudes. She says that "scientific knowledge, technological advances, and the attitudes in society in general are bound together inextricably."³ I would argue that part of that attitudinal shift is expressed in terms of the political will of societal leaders. In the case of TB in Ontario, the political will was motivated in the mid-1930s, and the method by which the TB situation was handled entailed not simply throwing money at the problem, but also overwhelming it with paperwork.

Medicine, like many professions, survives by its documentation. Where once medical records were kept as much as an *aide-mémoire* (and to ensure people paid their bills), increasingly they became a strategy for fighting illness itself.⁴ Statistics were compiled and analyzed; case histories could be compared; and, in the case of TB, a virtual map of the disease could be made. For Ontario's Department of Health, the act of documentation became synonymous with the fact of combatting TB. Archival educator Luciana Duranti, in interpreting Stanley Raffel's 1979 work, *Matters of Fact*, notes the effect of modern bureaucracy on the production of records:

As Stanley Raffel puts it, with the rise of bureaucracy, the real world came "to be shaped by the very idea of recording it ... It is not that records record things but that the very idea of recording determines in advance how things will have to appear." Consequently, the world started to be seen as a series of witnessable and extractable facts which, transported into the record, became identical with the record. This evolution was determined by the circumstance that a bureaucrat, as user of the record, wants to achieve in his/her use of the record the reality of the fact without participating in it. Therefore, bureaucracy first divides the world into facts, then requires the recording of them, and finally transforms each record into a fact, into something which can be treated as self-sufficient, ready for use.⁵

The ability to break down the problem into bits and to create a reality comprehensible to bureaucratic methods allowed the government authorities to gain control and regulate the players in the TB drama, to collect and analyze data, and to implement policies and programmes to solve the problem. Each step of the way required its own documentary activity--records that became facts in themselves.

Duranti goes on to explain the criteria by which bureaucracies assess records as facts. The first is by ensuring record-writers are reliable; the second is by ensuring records are complete: "Any manual, directive, or circular related to record-making emphasizes, not that records should be truthful, but that they should be complete. Completeness is the bureaucrat's way to the real."⁶ Reports prepared by Ontario's Department of Health on creating and maintaining TB case registers and organizing mass X-ray surveys emphasized nothing if not completeness in their careful instructions on proper completion and processing of forms. Case finding, as this activity was labelled, formed the keystone of the Department's TB policy. If infected people and their contacts could be found, then the disease could be contained: infected

persons could be confined to sanatoria and given treatment; contacts could be tested and treated accordingly. Such case finding necessarily required a massive paper trail to keep track of who had been tested and who had not. Indeed, by the early 1940s, the Department was mounting its full-scale administrative assault by searching every nook and cranny of the province for potential TB carriers. The records created are interesting not only for their evidential and informational value today, but more importantly because it was this paperwork, explicitly recognized by the Department, that comprised its main weapon in the war on TB. It was the full-scale attack of paper--record-making and record-keeping--that routed the enemy. The Department's two initiatives of creating case registers and organizing mass X-ray surveys will be examined in more detail below, but first some background information about TB in Ontario is necessary for establishing the context in which the Department of Health worked.

The Beginnings of TB Control

Once the infectious nature of TB was recognized, the cure consisted of isolation of TB sufferers and plenty of fresh air. Thus, TB sanatoria were created, often in the country away from urban congestion, where patients could spend hours reclining in the open air. The first sanatorium established in North America was founded in 1884 in Saranac Lake, New York.⁷ The second on the continent was established in Ontario. On 23 April 1896, the National Sanitarium Association was incorporated and the following year it opened the Muskoka Cottage Sanatorium near Gravenhurst. In 1902, another facility opened on the site--the Muskoka Free Hospital for Consumptives--the first free TB hospital in the world. The longest-serving sanatorium was located in Toronto: originally called the Toronto Free Hospital for Consumptive Poor when it opened in September 1904, this facility is now known as West Park Hospital.⁸ By mid-century, a handful of sanatoria had been established around the province by municipal health associations.⁹

Apart from the sanatoria, a host of local anti-TB associations were operating, some founded as early as the turn of the century. The Canadian Association for the Prevention of Consumption and Other Forms of Tuberculosis (later renamed the Canadian Tuberculosis Association) was established in 1900 and began its Christmas Seals campaign to raise money in 1927. The provincial counterpart, the Ontario Tuberculosis Association, was not established until 1945.¹⁰ Nevertheless, by the time the Department of Health made TB a priority in 1935, a whole network of voluntary organizations and sanatoria was already well-developed.

Yet the provincial health authorities had not been idle. The Ontario Department of Health was established in 1924, but prior to that, health matters were regulated by the Provincial Board of Health which had been established as a permanent body in 1882. From the beginning, the Board expressed its concerns over the prevalence of tuberculosis, and it was P.H. Bryce, Secretary of the Board, who seemed to take the most active interest. His crusade included making public lectures and publishing papers warning about the infectiousness of TB and pointing out that environmental conditions exacerbated the problem.¹¹ The Board reported annually the number of deaths from TB, and made efforts to promote better health through public education. Films were sometimes used, such as one entertaining propaganda flick entitled "Her

Own Fault" concerning two young female factory workers: one slovenly creature who eats poorly, sleeps little, and spends her free time dancing in crowded ill-ventilated dance halls ends up in a TB sanatorium; the other is a model of purity and good health who relaxes in the countryside, eats well, and wins a handsome husband in the end.¹² The moral could not be more obvious.

In 1923 a travelling Diagnostic Chest Clinic was set up under the Board's Division of Preventable Diseases. The clinic surveyed school and pre-school children in the Dundas and West Flamboro areas in an effort to collect data on the extent of TB amongst children, and to stimulate some interest on the part of physicians and the general public in TB prevention.¹³ The travelling clinic continued to make its rounds amongst many segments of the population--miners, children in industrial schools, psychiatric nurses and patients, etc.--rooting out the sick and publicizing the campaign. The strategy seemed to be working, for in 1927 the Department reported that "The public appear to be losing their fear of the stigma of tuberculosis."¹⁴

Nearly forty years after the National Sanitarium Association had launched the opening salvo, the Ontario government consolidated its diffuse war efforts into one comprehensive army when in 1935, the Division of Tuberculosis Prevention was established as a separate unit within the Department of Health under the zealous directorship of George Clair Brink, who held the position until 1959. Brink noted that despite all past efforts, TB was still a major health problem in that,

- (a) Tuberculosis still ranks as the second highest cause of death in persons between 15 and 39 years of age, being exceeded only by accidents.
- (b) More than 85% of the patients admitted to sanatoria with pulmonary tuberculosis have moderately advanced or far advanced disease.
- (c) The economic loss to the Province of Ontario because of morbidity and premature death, caused by tuberculosis, is difficult to estimate, but the direct cost amounts to approximately three and one-half million dollars per year.¹⁵

What the Division of Tuberculosis Prevention did was to coordinate the efforts of public and private bodies,¹⁶ and by 1948 it was involved in a great number of activities. It operated five Departmental chest clinics headquartered in Ottawa, Belleville, North Bay, Toronto, and Timmins. It operated mass survey X-ray equipment, reviewed medical records of all patients in sanatoria, prepared financial reports for sanatoria and compiled statistics, paid maintenance charges of TB patients, organized pneumothorax refill centres, and interpreted chest films sent in by physicians and hospitals. It supervised chest clinics conducted under local auspices, assisted the federal government in surveying the native population of the province, and supervised the tuberculin and X-ray testing of sanatoria and hospital staff, as well as student teachers.¹⁷ It is clear that the Department of Health's role was quite vast in providing advice, coordination, professional medical advice and services, and money.

The Division of Tuberculosis Prevention was aptly named since it was the preventive aspects that most inspired the activities of the unit. Brink "recognized early that the chief factor which could be modified in this effort was the spread of infection by diseased persons." He explained his point of view more fully:

Tuberculosis prevention in Ontario has been based first on the fact that without infection by the tubercule bacillus tuberculous disease could not develop. Further, tuberculosis could not be controlled unless means were established to search for the unknown infectious case. Good housing and adequate nutrition making for a higher standard of living undoubtedly were factors playing a part in the diminishing morbidity and mortality.

Finding the active case is, however, still the power that pulls the entire anti-tuberculosis programme. It forms the basis on which success or failure of the programme depends. Without diagnosis treatment and segregation are impossible.¹⁸

This case-finding activity, with its documentation, was the key to the successful outcome of the war on TB.

TB Case Registers

The Division's coordinating efforts included providing direction to local boards of health about establishing a tuberculosis case register. Some local boards of health had already created their own registers, but Brink and his Division believed that a standardized system would assist in the campaign against TB. "The primary function of a case register," the Division wrote in a report, "is to provide a central, simple, complete and easily accessible record of all the vital facts concerning tuberculous patients and their contacts from the beginning to the end of their observation. The essential information should be readily available and kept up to date so that at any time a cumulative report on each case is at hand when required."¹⁹ Here, expressed explicitly, is the bureaucratic imperative to divide the world into facts and to turn those facts into useable records.

We are fortunate in having for this programme what today we would call "metadata." In 1945, the Division of Tuberculosis Prevention printed a report called *The Organization and Maintenance of a Tuberculosis Case Register*. The Division took it upon itself to recommend to local boards of health how they should go about organizing this administrative weapon. The function of the register was to record and keep track of each and every case of TB. In its guidelines, the Division not only instructed local authorities about what to record (i.e., the content), but also dictated the format, recording methodology, and paperflow. It is a superb portrait of a manual record-keeping system--both its hardware (forms and storage equipment), and its software (content and information gathering and organization).

The system was to consist of several components. First, there was the 5" x 8" basic index card, one for each known case of TB under care of private physicians, clinics, sanatoria, mental hospitals, and other custodial facilities, and those under no care at all (**figures 1 and 2**). Details were given as to how to write the patient's name--i.e., last name first in block letters, followed by given name in regular type, including, for married women, the husband's name in parenthesis: e.g., DOE, Mrs. Mary Ann (John). Other data to be filled in were similarly dictated. Ten spaces on the top and bottom of the card were designated for keeping the file visually up to date by using a marginal signalling system whereby moveable tabs of different colours (each colour clearly defined in the report) were attached to either the top or bottom of the card,

depending on the type of storage equipment used. These coloured tabs provided quick, visual clues to information about the form of TB, clinical status, laboratory findings, types of supervision, and so forth, for each patient. The back of the basic index card was used to record information about medical examinations such as the date of the exam, the extent of the disease, activity (i.e., active, inactive, cured), laboratory reports, by whom examined, and date of next examination. Many of these data fields required abbreviations and the guidelines were explicit on the codes to be used. The back of the card also provided space for names of contacts, and brief notes about whether they had been tuberculin tested. Names of contacts generated more cards to be inserted in the case register. Buff coloured cards were to be used for primary TB cases, while light green 5" x 8" cards were to be used for all contacts, both within the household and outside of it. In this way, contacts could be easily identified from the more serious known cases.

BASIC INDEX CARD											
(FRONT)											
PRIM	MIN	PULMONARY		DE	EXTRA	ACT	LAB	SAN	SUPER	NAME	
MOD.	ADV.	ADV.	EFF.	PUL.	REPORT				VIS.		
NAME:			Surname			Given Names			(Husband's Given Name)		
ADDRESS: 1.		Municipality			Date Rec. Est.						
2.		3.									
OCCUPATION				YEAR OF BIRTH		SEX	S. M. W. SEP. DIV.				
PRESENT EMPLOYER				Firm		Address		Duration			
PREVIOUS EMPLOYER				Firm		Address		Duration			
FAMILY PHYSICIAN				Name		Address		Duration			
EXPOS. TO TBC.				Name		Address		Date Rec. Est.			
ORIGINAL DIAGNOSIS				BY WHOM		DATE					
NOW REPORTED BY				DIAGNOSIS		DATE					
SANATORIUM		1. DATE REC'D.		AD. TO		DATE		DATE DISC.			
		2. DATE									
STATUS ON DISCHARGE											
MUNICIPAL AFTER CARE: 1. BEGUN				2. DISCONT'D							
PNEUMOTHORAX: 1. BEGUN				2. DISCONT'D							
3. BY WHOM GIVEN											
TRANSFERRED TO DISCHARGE FILE: DATE				REASON:		MOVED		REV. DIAG.			
						FOLLOW-UP UNNECESSARY		DEATH			
PRIM	MIN	PULMONARY		DE	EXTRA	ACT	LAB	SAN	SUPER	NAME	
MOD.	ADV.	ADV.	EFF.	PUL.	REPORT				VIS.		

EXHIBIT No. 1

Figure 1

The basic index card was the key component of the TB case register being used to track down every known carrier of tuberculosis. (The Organization and Maintenance of a Tuberculosis Case Register, RG 10-97-0-25, Toronto, 1945, pp. 4, 7.)

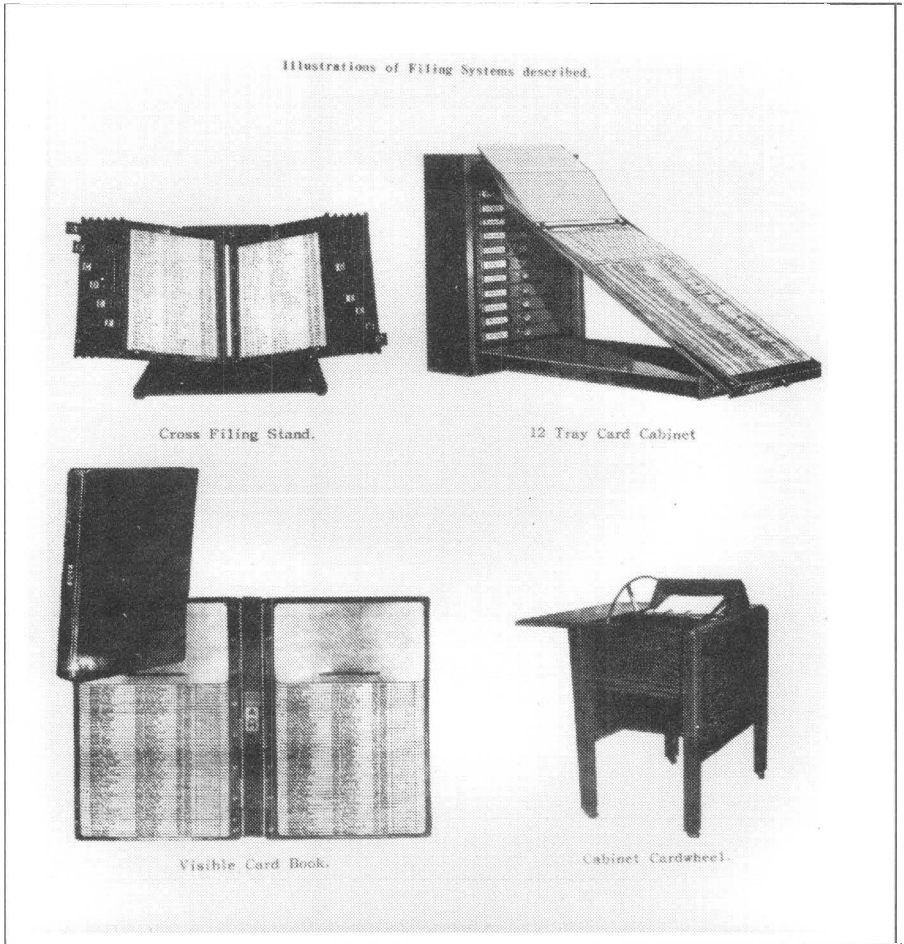


Figure 3

The Division of Tuberculosis Prevention was just as interested in the equipment used to store and retrieve case information as it was in the information itself. (The Organization and Maintenance of a Tuberculosis Case Register, RG 10-97-0-25, Toronto, 1945, p. 39.)

Apart from the basic index card system with its buff and green coloured cards, the Division recommended separate discharge and death registers be kept as well--cards pulled out of one system as patients either were cured or died. Keeping up more than one system (and it seems some local authorities may have maintained even more than the three suggested), of course necessitated a cross-reference index. Once again the Division made recommendations as to the format of that system. Cross-referencing could take the form of a standard blind or vertical file, using 3" x 5" index cards, or it could utilize 1/4" strips of paper filed in special metal trays. Yet another

component of the system was to comprise re-examination reminder cards arranged according to the date when the re-examination was due. An all-in-one form letter/envelope was specially designed to notify people of upcoming appointments.

The form and content of the registers was not insignificant to the Division. Without such standardization it would be difficult to collect the myriad statistics that were tabulated and proudly published each year. Furthermore, in prescribing format and content, the provincial health authorities could ensure, to the best of their abilities, that all known cases were being managed in an efficient and comprehensive manner. Any deficiencies were attributable to human error or incompetence, not to faulty systems design.

If the equipment used to record and store the data was important, so too was the data-gathering process, and, not unexpectedly, a complex system of procedures and their attendant forms was devised to ensure information was collected and transmitted to the correct authorities in a timely manner. The Division required physicians and superintendents of general and mental hospitals to use a specific form, Form #6, in order to notify the local Medical Officer of Health (LMOH) in the municipality where the case resided of any new case found. This was a signal to the LMOH to create one of those buff-coloured 5" x 8" cards for his TB register. The LMOH would forward a similar form, Form # 7, to notify the Division. The two forms were nearly identical, and where today we would simply photocopy the form, technology required writing out the same information twice. Once the case had been identified, a public health nurse or investigator was dispatched with another form to visit the patient. The nurses' form, "Initial TB case and contact report to the Medical Officer of Health," was completed and forwarded to the provincial Medical Officer of Health (MOH). The nurse established her own set of files consisting of a family folder along with a yellow case record sheet and blue record forms for each contact. Laboratories where sputum samples were sent were required to forward positive results to the LMOH, and this information would be recorded on the basic index card.

Reports for TB cases that were being followed at clinics, or were found by the Division's travelling chest clinics, were to be forwarded to the LMOHs who would create index cards for their registers. Sanatoria were similarly to report to the health authorities, and their involvement meant additional paperwork. Upon admission of a patient, the superintendent was to send a letter to the clerk of the appropriate municipality in order to establish the legal residence of the patient. This action was important because while the provincial government supported indigents, municipalities were to provide post-sanatorium care. A report was to be forwarded to the family physician as well as to the LMOH, who would create a card for the case register. One month before discharge from the sanatorium, another form was to be sent from the superintendent to the LMOH regarding necessary post-sanatorium care and requesting the LMOH notify him in return whether satisfactory arrangements had been made for returning the patient to his or her home. Patients who left the sanatorium against the superintendent's advice were tracked carefully: a form was sent to the LMOH as well as to the family physician and to the Director of the Division of Tuberculosis Prevention. It was crucial for careful surveillance to be maintained on all TB cases.

Deaths of TB cases brought the Registrar General of Ontario, who notified the Division which in turn notified the LMOH, into the process. Cases and contacts who moved from one municipality to another could be tracked because the LMOH was required to send such information to the LMOH in the destination municipality and to the Division as well. With the number of TB cases in the province at mid-century, one imagines the postal service was kept exceedingly busy by the constant paperchase between provincial and local health authorities, sanatoria, clinics, hospitals, physicians, municipal clerks, and the Registrar General.

The government report outlining the whole process is a remarkable find. It explains the various components of the system (personnel, forms, cards, and office storage equipment), the methodology of data collection, and the paperflow. It is, indeed, metadata, putting documentary content into context. Furthermore, it provides a glimpse of a record-keeping system in the days before computers and photocopiers. It also says much about the philosophy of the Division of Tuberculosis Prevention: paperwork, if organized properly, could serve as a crucial weapon in the war on TB.

Mass X-ray Surveys

Of course the case register depended on seeking out and finding new cases of TB, and one of the ways that was done was through mass X-ray surveys of the population. The purpose of the mass X-rays was to root out cases from amongst the general population, for without identification of those inflicted with TB, treatment and eradication could not proceed. For a number of years, certain segments of the population had been targeted for X-ray testing: civil servants, student teachers, hospital workers, miners, new immigrants, school children, mental patients, juvenile offenders, convicts, and, with money from the federal government, Treaty Indians. What completed this virtual TB census were the mass community X-ray surveys conducted in local communities or districts—a minesweeping approach to finding cases of TB.

A study conducted by the Division in 1945 on how to improve TB control concluded that (a) the entire population should be surveyed, (b) permanent, periodic chest clinics should be established wherever possible, (c) the Division should help existing clinics improve and increase their activities, and (d) all X-rays taken in mass X-rays and chest clinics should be free.²⁰ Accordingly, the Division published a detailed instructional report, in conjunction with the Ontario Tuberculosis Association, on how to organize and publicize a community mass X-ray survey.²¹ The community surveys were administered under local authorities, but derived assistance from the Division and the Ontario Tuberculosis Association. The report reads like a military strategy book, enumerating all troops required, where they should be stationed, what their roles and responsibilities are to be, and what the expected outcome will look like. It anticipates civilian resistance, physical obstacles, and casualties.

A strong central operational committee was to be established, and auxiliary support secured from local voluntary agencies (such as service clubs, church groups, women's clubs, the Red Cross, etc.). Various committees needed to be marshalled in order to conduct certain functions. A publicity committee was required to broadcast

propaganda (in the words of the Division) through the press, radio, window displays, and addresses to church and civic groups. "The problem is one of convincing the general population of the community that everyone should take advantage of the offer of a free chest X-ray."²² The publicity committee was first to spread the message that TB eradication lay in finding all cases, and then encourage the citizens to keep their X-ray appointments. A survey in Timmins the previous year had utilized the press effectively in publicizing their event (figures 4 and 5). Timmins was the first locality in Ontario to conduct such a mass community survey, and no doubt was receptive given its large mining population--a population the provincial government had begun testing in the 1920s.²³ The canvassing committee was equally important for these were the people who went door to door making X-ray appointments. If the schools were to be included, then a school survey committee was recommended as parental authorization had to be secured, and arrangements made with school teachers and principals. The committee on survey operations was left to organize personnel and material.



Figure 4

The mayor of Timmins was the first patient to be X-rayed in the mass community X-ray survey conducted there in 1944. (Scrapbook re Mass X-ray Survey, RG 10-145-2-2, Timmins, 1944.)

erably voluntary), volunteer supervisors were required to direct people through the clinic and to answer questions, and volunteer secretaries were required to assist the registrar and to help in the X-ray room.

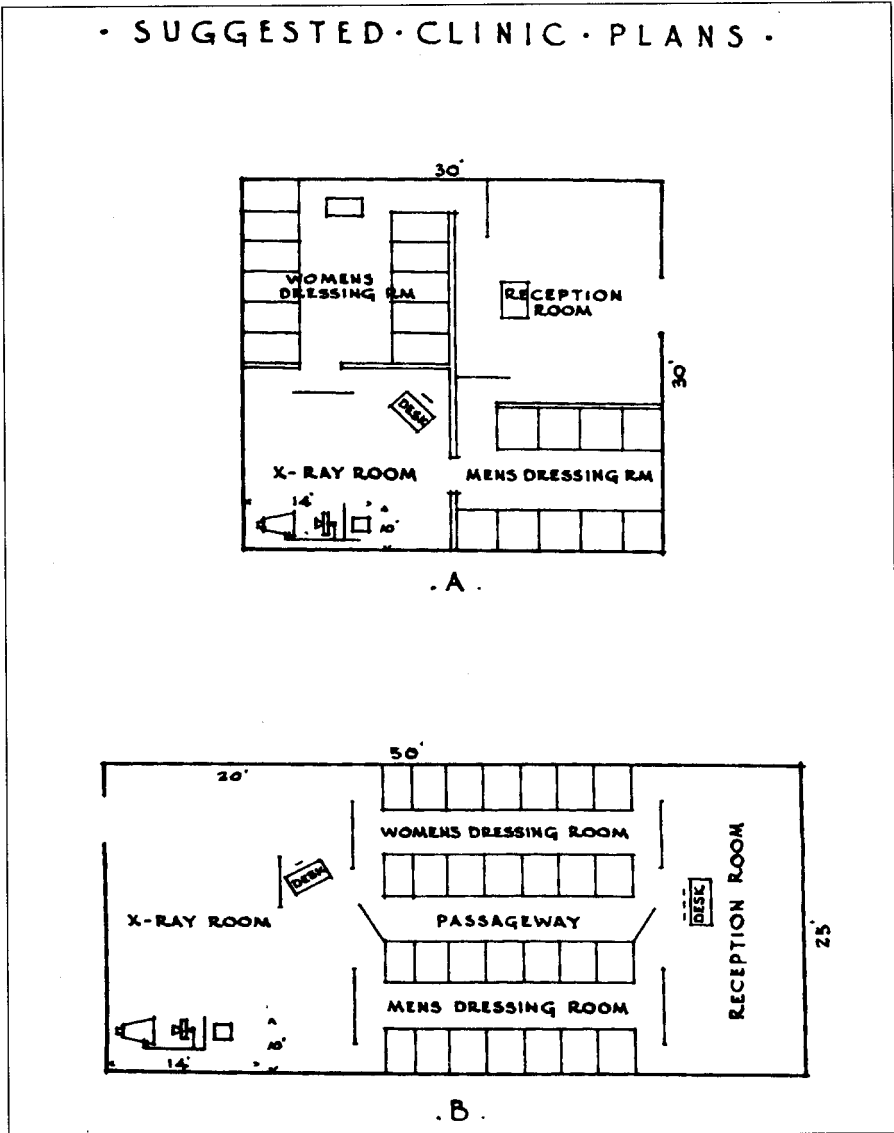


Figure 6

Organizing the flow of people through the mass X-ray survey clinics was a crucial part of field operations. (Organization of Community Mass X-ray Surveys, RG 10-97-0-25, Toronto, 1945, p. 16.)


The paperflow before and during the operation was important for arranging X-ray appointments and recording results. Canvassers would complete a canvass card at each house, recording names and preferred times of examination. Later, a secretary would sort all canvass cards by sex and schedule appointments, sending out appointment cards three days in advance. Experience had shown that such scheduling was not a simple task:

The experience of other community surveys has shown that appointments made for women from 9:00 AM to 10:00 AM, 1:15 PM to 2:00 PM and 5:00 PM to 6:00 PM are unsatisfactory as many are busy at those times with household duties. It is advised that these hours be set aside for the examination of students and people in business. Where possible, housewives should be given daytime appointments leaving the evening hours for those who find it impossible to attend during the day.²⁴

The Division anticipated that eighty X-rays could be taken per hour, yet recommended one hundred be scheduled on the assumption that twenty per cent would fail to keep their appointments. Once the appointment cards had been recorded and mailed, the canvass cards were to be re-sorted and filed alphabetically. At the end of each day during the survey (which could last for a week or more), cards of those not appearing for their scheduled appointments were pulled and stored in a separate file for follow-up.

The other component of the record-keeping system was the X-ray itself, stored in its film envelope. Upon entering the clinic, each person was registered by the registrar who filled in the top portion of the film envelope. This would be given to the individual who would be directed to the appropriate change room, and once disrobed to the waist (women were given thin paper chest covers), was directed to line up at the X-ray room where he or she handed the film envelope to a clerk. The clerk would enter the individual's name on a project sheet, number the film envelope, and pass the envelope to a second clerk who in turn gave the individual a slip of paper with the project number on it. The individual would hand the slip of paper to the X-ray technician, and in this way would ensure that the correct X-ray was attributed to the proper individual. Such a procedure ensured the swift movement of people and paperwork through the system. Indeed, the whole system represented a strategic approach to handling a community problem that depended upon thoughtful organization, careful tactical manoeuvres, and records to facilitate operations and document results.

By 1963, community mass X-ray surveys had become a media event, and a publicity kit was put together to aid in the stage management (**figure 7**). Included was a schedule of work to be done at peak times. Radio and television flashes and interviews were recommended, as were newspaper ads, articles and editorials, and the staging of special events such as interviewing VIPs, and holding a fair or a kick-off dinner. Gimmicks such as postage stamp cancellations, milk bottle collars, laundry parcel inserts, restaurant napkin imprints, and window displays were suggested. The kit even included sample newspaper stories (with fictitious names in parentheses) that could be copied or imitated.²⁵



**CHESTS
NEED CHECKING
TOO!**

HAD YOUR TB. TEST?

**CHECK WITH THIS NEWSPAPER
WHEN THE FREE CLINIC
WILL BE IN YOUR AREA**

**LET'S MAKE IT 100% ---
GET A TUBERCULIN TEST**

REMEMBER
THE HEAF TUBERCULIN TEST IS USELESS — UNLESS YOU
RETURN TO HAVE IT READ
UNDER THE AUSPICES OF THE
NORTHUMBERLAND · DURHAM TUBERCULOSIS
AND HEALTH ASSOCIATION

Figure 7

Mass X-ray survey clinics continued to operate well into the 1960s, and local newspaper advertisements were used to publicize the event. For the Division of Tuberculosis Prevention, case-finding activity was the only way to combat the spread of TB. (Community Tuberculosis Survey Publicity Programme, RG 10-97-0-26, Toronto, c. 1963.)

Like the case register, the community mass X-ray surveys were engineered from beginning to end, the ultimate aim being a smoothly operating system. The media reports, canvass cards, and appointment notices served to keep the system well oiled in order to produce the massive numbers of X-rays necessary to feed into the case-finding technique that served to drive the local TB case registers.

Steady Decline

The Division of Tuberculosis Prevention's contribution to the Department of Health's published annual report was always the most bulky of the various divisions, with few words supplementing numerous tables, graphs, and charts. These reports represented the condensed version of the fact-gathering activity and mirrored the political importance of the war. Each year, the falling death rate was assiduously reported and mapped with great pride (**figure 8**).²⁶ Of course a falling death rate meant a gradual shift in perspective and, inevitably, administrative reorganization. In 1965-66, when the entire Department of Health was reorganized, C.H. Rorabek was put in charge of the renamed Tuberculosis Prevention Service, which was made subordinate to the Public Health Division. Interestingly, the tuberculosis section of the Department's annual report became much more terse—only a single page compared to the usual thirty or forty pages it had occupied during Brink's tenure. Just as Brink presided over the construction of the war machinery, Rorabek presided over its dismantling. Research was curtailed and sanatoria reined in. By 1975, the Tuberculosis Prevention Service had been renamed the Chest Disease Service and broadened out to deal with both TB and silicosis in miners. Finally, in 1982, eighteen of the twenty-three provincial chest clinics were shut down, while the other five, all in Northern Ontario, were transferred to the Ministry of Labour.²⁷

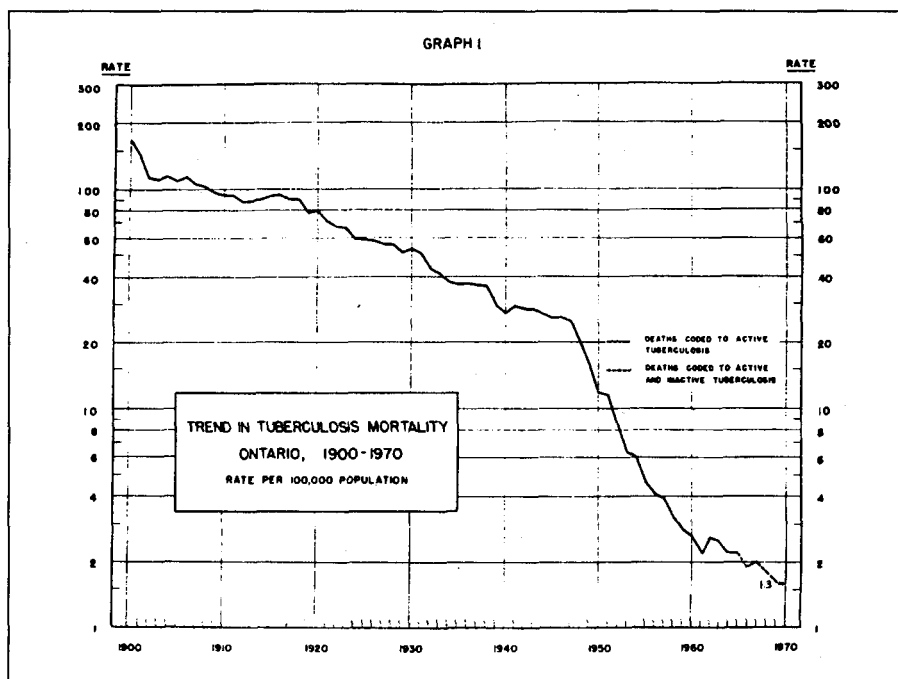


Figure 8

The dramatic decline in the tuberculosis mortality rate was proudly mapped every year by Ontario's Department of Health. (Tuberculosis Prevention Service, Annual Report, RG 10-97-0-4, 1970.)

The pitched battle against TB had lasted nearly fifty years, and certainly the Department of Health believed its organizational and administrative efforts played a key role in eradicating the disease. In 1961 a Divisional report prepared for an international conference on TB noted that

The great decrease in the infection rates has been brought about by, over a period of many years,

(a) Effective tuberculosis control.

(b) The high standard of living.

and, in more recent years, by

(c) Antimicrobial treatment.²⁸

Clearly, for the Department, the significance of medicine took a backseat to bureaucratic control.

Tuberculosis could not have been eradicated without the advent of antibiotics. Yet medical technology was assisted by a bureaucratic system that served to circumscribe the disease in the first place. Medical victories are not simply the product of science, but also of political will. In the sphere of public health policy, the government of Ontario combatted TB by virtually documenting it to death. Interestingly, despite the Department's administrative advances and the great strides made in medical science, TB has reappeared in Ontario and the incidence is on the rise. Bacteria and viruses have shown themselves to be indomitable foes. The 1990s have witnessed terrifying bacterial assaults such as outbreaks of the notorious flesh-eating disease that can consume human flesh in a matter of hours. And hospitals are now experiencing rampant outbreaks of diseases once controlled by antibiotics as viruses mutate and become resistant. Whether TB or any other disease can be brought under control will surely depend not only on developing new and better drugs, but also on how governments respond to the crisis. The initial response of Ontario's Department of Health was to take an active approach in the way bureaucrats have learned to deal with reality: by finding facts and turning them into useable records. The card systems devised for case finding activities, the mass X-ray surveys, and all the attendant processes for creating and maintaining those facts proved effective weaponry in Ontario's war against tuberculosis.

Notes

- 1 See for example, Godfrey L. Gale, *The Changing Years: the Story of Toronto Hospital and the Fight Against Tuberculosis* (Toronto, 1979), and George J. Wherrett, *The Miracle of Empty Beds: A History of Tuberculosis in Canada* (Toronto, 1977).
- 2 Ontario Department of Health, *Thirteenth Annual Report of the Department of Health For the Year 1937* (Toronto, 1938); Ontario Ministry of Health, *Annual Report 1980/81* (Toronto, 1981). Information from the printed annual reports has been taken from the section contributed by the Division of Tuberculosis Prevention and its successors. The Division also printed and bound copies of its own section separately, and these can be found in Archives of Ontario, Records of the Ontario Ministry of Health, RG 10, Series 97 (Chest Disease Service - Printed Reports). The full printed annual reports of the Department can be found in the Archives of Ontario Library, and may also be available in some government documents libraries.
- 3 Katherine McCuaig, "Tuberculosis: the Changing Concepts of the Disease in Canada, 1900-1950," in Charles G. Roland, ed., *Health, Disease and Medicine: Essays in Canadian History* (Toronto, 1984), p. 305.

- 4 See Barbara L. Craig's articles on the subject of hospital records entitled "Hospital Records and Record-Keeping, c. 1850 - c. 1950," Parts I and II *Archivaria* 29 (Winter 1989-90) and *Archivaria* 30 (Summer 1990) respectively.
- 5 Luciana Duranti, "Diplomatics: New Uses for an Old Science (Part II)," *Archivaria* 29 (Winter 1989-90), pp. 10-11.
- 6 *Ibid.*, p. 11.
- 7 Wherrett, *The Miracle of Empty Beds*, p. 39.
- 8 Gale, *The Changing Years*, pp. 5-13. The papers of the National Sanitarium Association are available at the Archives of Ontario [hereafter AO]. Despite its name, the Association's activities were limited to Ontario.
- 9 Other sanatoria, not under the auspices of the NSA, were opened as follows:
- | | |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1906 | Mountain Sanatorium, Hamilton (run by the Hamilton Health Association) |
| 1908 | Royal Ottawa Sanatorium, Ottawa (Ottawa Anti-Tuberculosis Association) |
| 1909 | Queen Alexandra Sanatorium, later Beck Memorial Sanatorium, London (London Health Association) |
| 1912 | Niagara Peninsula Sanatorium, St. Catharines; originally established as St. Catharines Consumptive Sanatorium; name changed in 1930 (Niagara Peninsula Sanatorium Association) |
| 1912 | Imperial Order Daughters of the Empire Preventorium, Toronto; 1938 became a convalescent hospital for children; 1947 became a sanatorium for children |
| 1913 | Essex County Sanatorium, Windsor (I.O.D.E., Border Chapter) |
| 1915 | Brant Sanatorium, Brantford (Brant Anti-Tuberculosis Association) |
| 1916 | Freeport Sanatorium, Kitchener (Waterloo County Health Association) |
| 1918 | Mowat Sanatorium, Kingston (Kingston Anti-Tuberculosis Association); closed 1925 |
| 1925 | Kingston Sanatorium, Kingston (Kingston General Hospital); closed 1948 |
| 1932 | St. Mary's on the Lake Sanatorium, Haileybury (Sisters of Misericorde) |
| 1935 | Fort William Sanatorium, Fort William (Fort William Sanatorium Association) |
| 1937 | St. Lawrence Sanatorium, Cornwall (Counties of Dundas, Stormont & Glengarry) |
| 1939 | Ontario Hospital, Woodstock; separate building of the provincial psychiatric hospital used for treating tuberculous mental patients (Provincial Government) |
| 1947 | Daughters of the Empire Sanatorium for Children, Toronto (I.O.D.E.) |
| 1948 | Ongwanada Sanatorium, Kingston (East Central Counties Health Association) |
- Taken from Division of Tuberculosis Prevention, Ontario Department of Health, RG 10-97-0-26, Outline of Tuberculosis Control Programme in Ontario (June 1950), pp. 1-2.
- 10 In fact, the Ontario Association for the Prevention of Consumption and Other Forms of Tuberculosis was founded in 1900 prior to its national counterpart; however, when the national body was created, the provincial group felt that the ground was amply covered, and not wishing to compete, it ceased to meet. By 1945, the time was ripe for a provincial body once again, and the Ontario Tuberculosis Association was formed. See Wherrett, *The Miracle of Empty Beds*, pp. 18 and 26.
- 11 Indeed, in 1895, Bryce even made a study of climate in three inland regions of Canada--Ontario and Quebec, the Prairies, and the Rocky Mountains, and concluded the following:
 "It seems, therefore, that in the progress of the movement, which this Board has for years so persistently advocated, for the establishment of homes or sanatoria for the proper supervision and treatment of consumptives there can be no good reason to doubt, but that, if any such institutions be properly conducted, their location, whether in Muskoka, or Calgary, or Kamloops, will have as happy results from the standpoint of cures as any sanatoria situated in similar climates in other countries."
Fourteenth Annual Report of the Provincial Board of Health of Ontario, being for the year 1895 (Toronto, 1896), p. 20.
- 12 AO, C-308-0-0-23 REF, "Her Own Fault," Ontario Motion Picture Bureau, 1922 [video copy]; Miscellaneous Sound and Moving Image Collection.
- 13 Ontario Department of Health, *Forty-third Annual Report of the Provincial Board of Health For the Year 1924* (Toronto, 1925).
- 14 Ontario Department of Health, *Third Annual Report of the Department of Health For the Year 1927* (Toronto, 1928), p. 36.
- 15 Ontario Department of Health, *Fifteenth Annual Report of the Department of Health For the Year 1939* (Toronto, 1940), p. 107.
- 16 The Division's first annual report in 1935 set out its objectives as follows:
- (1) coordinate various efforts in tuberculosis prevention
 - (2) assist local medical officers of health and local boards of health in TB control

- (3) coordinate with sanatoria, hospitals, and chest clinics
- (4) control activities of the travelling clinics for diseases of the lungs
- (5) study various phases of the TB problem

Taken from Ontario Department of Health, *Eleventh Annual Report of the Department of Health For the Year 1935* (Toronto, 1936), p. 72.

- 17 Ontario Department of Health, *Twenty-fourth Annual Report of the Department of Health For the Year 1948* (Toronto, 1949), pp. 2-4.
- 18 C.G. Brink, *Across the Years: Tuberculosis in Ontario* (s.l., c. 1965), pp. i and 21.
- 19 Ontario Department of Health, Division of Tuberculosis Prevention, RG 10-97-0-25, *The Organization and Maintenance of a Tuberculosis Case Register* (Toronto, 1945), p. 1. The rest of the description of the case register system is taken from this report.
- 20 Ontario Department of Health, *Twenty-first Annual Report of the Department of Health For the Year 1945* (Toronto, 1946).
- 21 Ontario Department of Health, Division of Tuberculosis Prevention, RG 10-97-0-25, *Organization of Community Mass X-ray Surveys* (Toronto, 1945).
- 22 *Ibid.*, p. 5.
- 23 AO, RG 10-145-2-2, Scrapbook re Mass X-ray Surveys, (Timmins, 1944).
- 24 *Organization of Mass Community X-ray Surveys*, pp. 17-18.
- 25 Ontario Department of Health, Tuberculosis Prevention Branch, RG 10-97-0-26, Mass Survey Section, *Community Tuberculosis Survey Publicity Programme* (Toronto, c. 1963). The Division of Tuberculosis Prevention did not leave all the surveying to the communities. It continued to target certain segments of the population. In 1948, it began X-raying patients admitted to general hospitals, and by 1956, all hospitals had routine admission chest X-ray programmes. The year 1948 also saw the screening of immigrants before they arrived in Ontario: the Division equipped one immigrant centre in London and one in Glasgow with X-ray machines and insisted that prospective immigrants be tested before they made their way to the province. And, it seemed, whenever a new group of people was designated for any purpose, they were sought out and tested. Thus in 1955, for example, people working on the St. Lawrence Seaway Project were subjected to X-rays, and in 1956, Hungarian refugees were similarly inspected. See the Ontario Department of Health's annual reports for the years 1955 and 1956; Brink, *Across the Years*, p. 15; RG 10-97-0-25, "Papers presented at Conference of Medical Officers of Health," 10 January 1949.
- 26 Other statistical reports were prepared each year such as the *Report of Mass X-ray Surveys* and the *Statistical Report of Sanatoria*. These reports can be found in RG 10-97, the former for years 1944-1964, the latter covering the years 1941-1968.
- 27 See the Department of Health's annual reports for the years 1966 and 1969. A 1967 task force reported to the Deputy Minister that TB sanatoria should be closed gradually as the number of patients had declined markedly, and that chest clinics should be taken out of the hands of voluntary agencies and run solely by the government. Only the National Sanitarium Association's Gage Institute was not taken over by the province. Ontario Department of Health, *Forty-third Annual Report of the Department of Health For the Year 1967* (Toronto, 1968); Ontario Ministry of Health, *Annual Report 1974/75* (Toronto, 1975); Ontario Ministry of Health, *Annual Report 1982-83* (Toronto, 1983).
- 28 Ontario Department of Health, Division of Tuberculosis Prevention, RG 10-97-0-26, *Tuberculosis in Ontario: Pattern of Decline*. Prepared for the XVth International Tuberculosis Conference, 10-14 September 1961 (Toronto, 1961), p. 13.