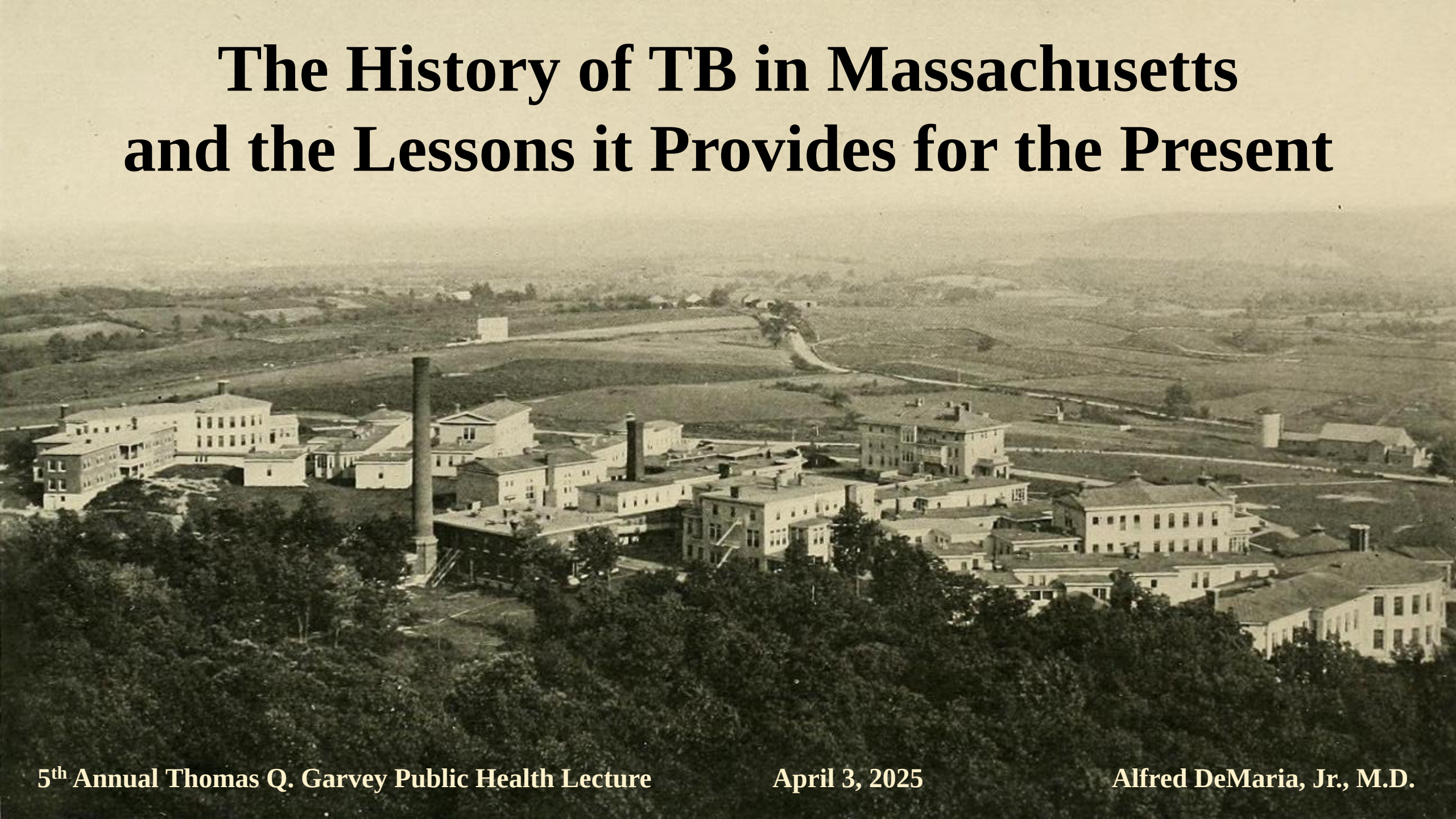
Thomas Quincy Garvey, IV, J.D., M.D.

The History of TB in Massachusetts and the Lessons it Provides for the Present



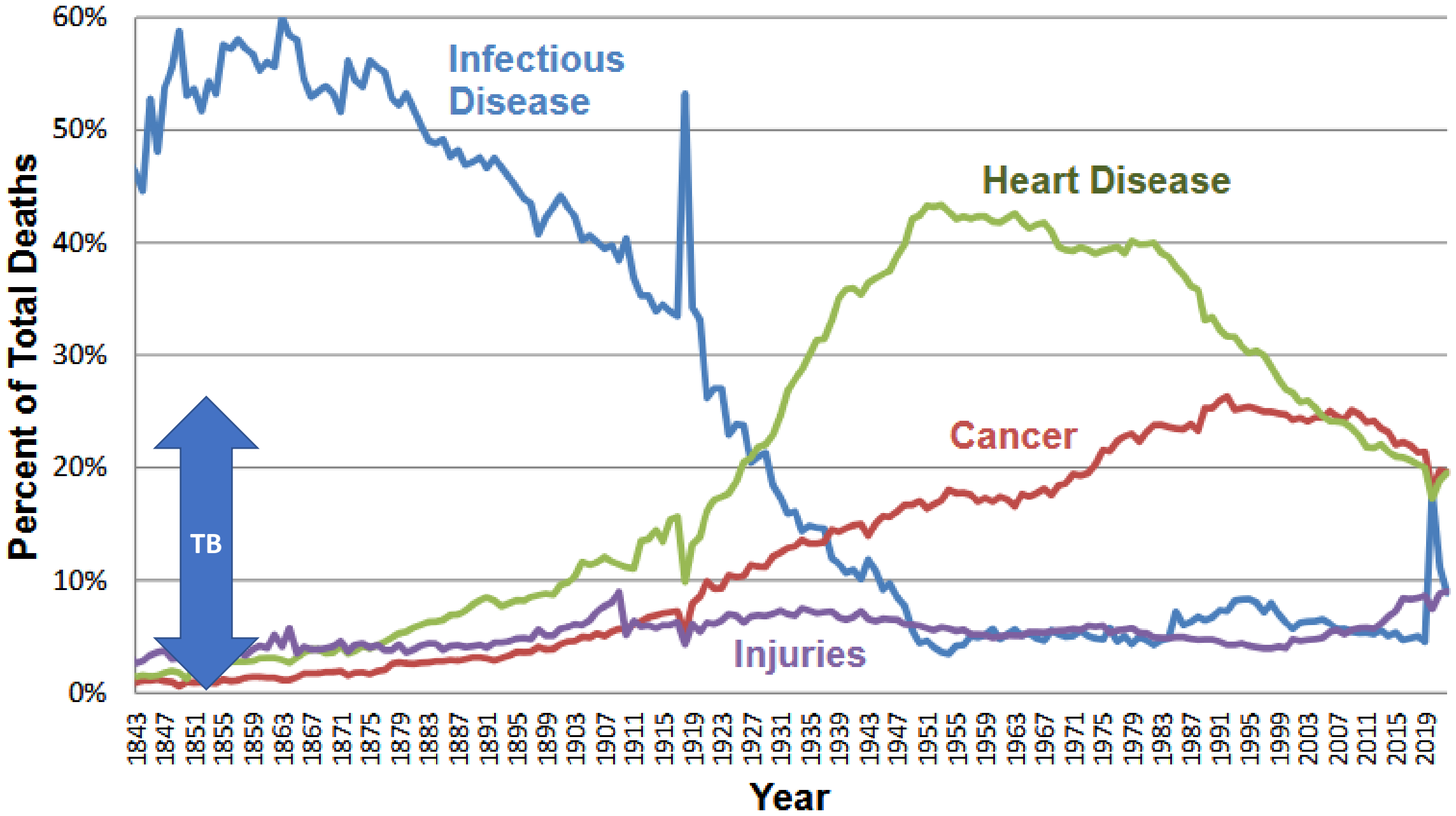
5th Annual Thomas Q. Garvey Public Health Lecture

April 3, 2025

Alfred DeMaria, Jr., M.D.

Disclosures

- I am not an historian
- I am an ID generalist
- No relevant financial disclosures


Percent of Total Deaths
60%
50%
40%
30%
20%
10%
0%
Infectious Disease
Heart Disease
Cancer
Injuries
TB
1843
1847
1851
1855
1859
1863
1867
1871
1875
1879
1883
1887
1891
1895
1899
1903
1907
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1927
1931
1935
1939
1943
1947
1951
1955
1959
1963
1967
1971
1975
1979
1983
1987
1991
1995
1999
2003
2007
2011
2015
2019
Year

ARTICLE II.

TOPOGRAPHICAL DISTRIBUTION AND LOCAL ORIGIN OF CONSUMPTION IN MASSACHUSETTS.

BY HENRY I. BOWDITCH, M.D.
OF BOSTON.

READ AT THE ANNUAL MEETING, MAY 28, 1862.*

MR. PRESIDENT AND GENTLEMEN:

AT this dark, but, as I deem it, most glorious epoch in the history of the Republic, and while hosts of armed patriots from all the loyal States are gradually and firmly encircling, as with a wall of fire, the traitors to our country's peace, we—as one small corps of that grand army, whose

"duty is to save"—*

have again met, on this our annual festival, for fraternal interchange of thought on topics connected

* At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

Resolved, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Addresses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar addresses."

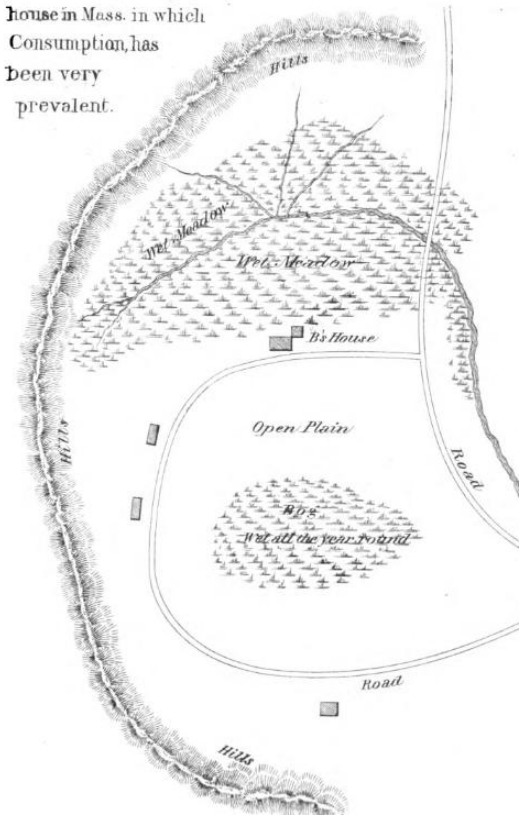
Resolved, "That the Committee on Publication be directed to print a statement to that effect at the commencement of each Annual Address which may hereafter be published."

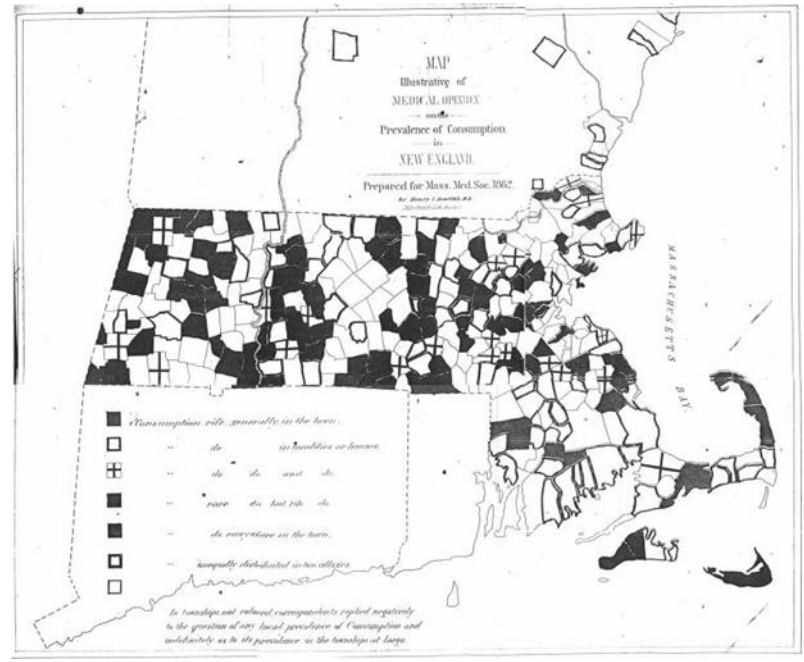
The two following propositions contain the essential points of this address:—

First. A residence on or near a damp soil, whether that dampness be inherent in the soil itself, or caused by percolation from adjacent ponds, rivers, meadows, marshes or springy soils, is one of the primal causes of consumption in Massachusetts, probably in New England, and possibly in other portions of the globe.

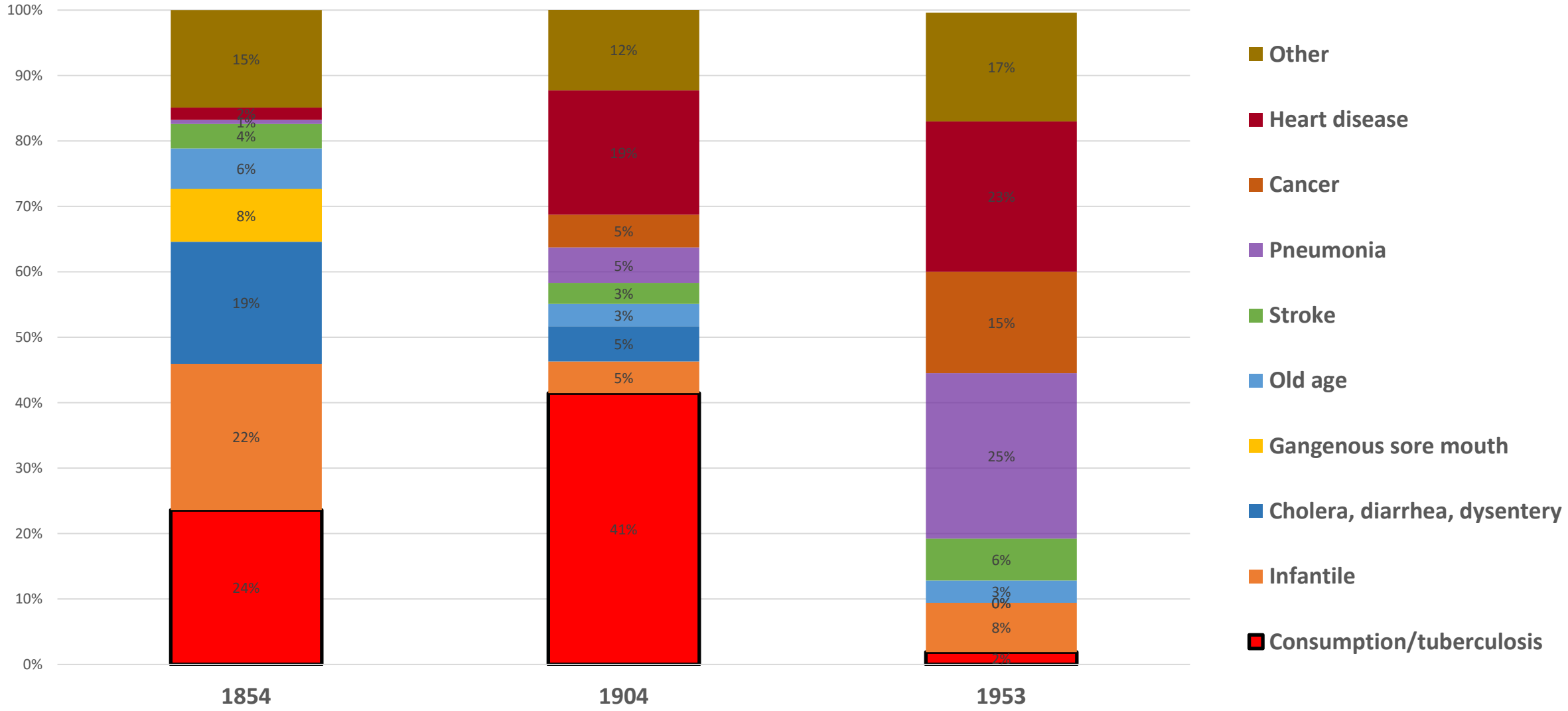
Second. Consumption can be checked in its career, and possibly, nay probably, prevented in some instances, by attention to this law.

DIAGRAM showing position of a house in Mass. in which Consumption has been very prevalent.





Reported Cause of Death Among Patients at Tewksbury Hospital in Three Representative Years



Causes of Death in Children (N=3,175) at Tewksbury Hospital, 1854 through 1905, Among all Deaths Recorded (N=13,352)

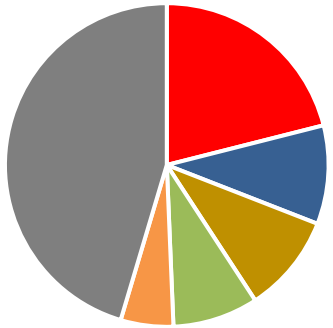
Age Less Than 1 Year (N=2,346)

Debility Syphilis Diarrhea Malnutrition Tuberculosis Other

Age 1 to 4 Years (N=577)

Malnutrition Tuberculosis Diarrhea Pneumonia Debility Other

Age 5 to 14 Years (N=152)

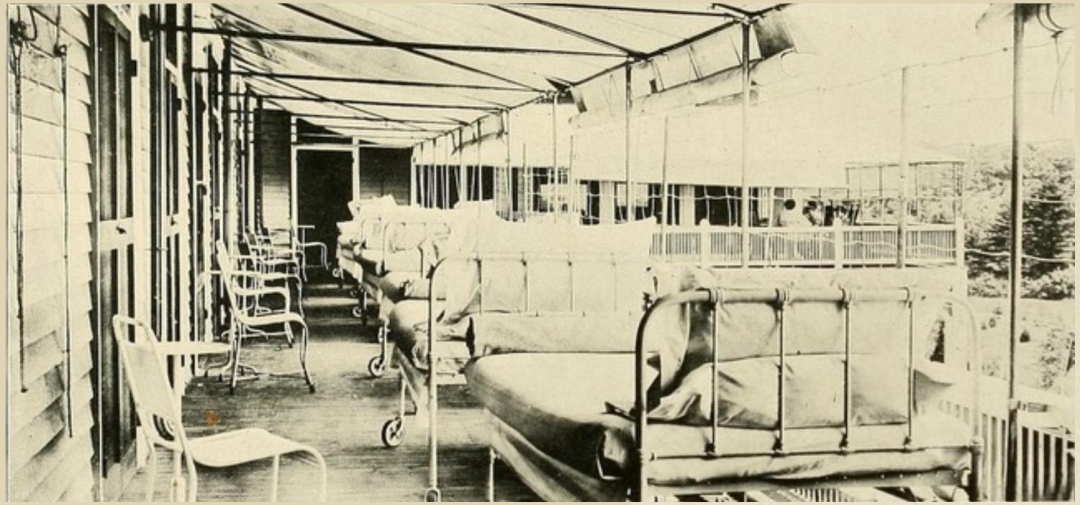


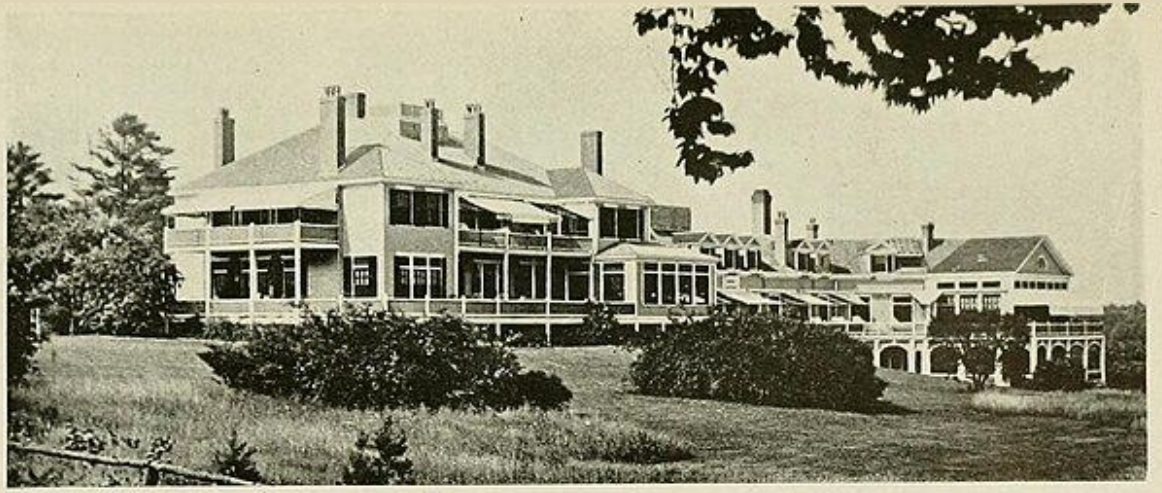
Tuberculosis Pneumonia Epilepsy Diarrhea Strep Infection Other

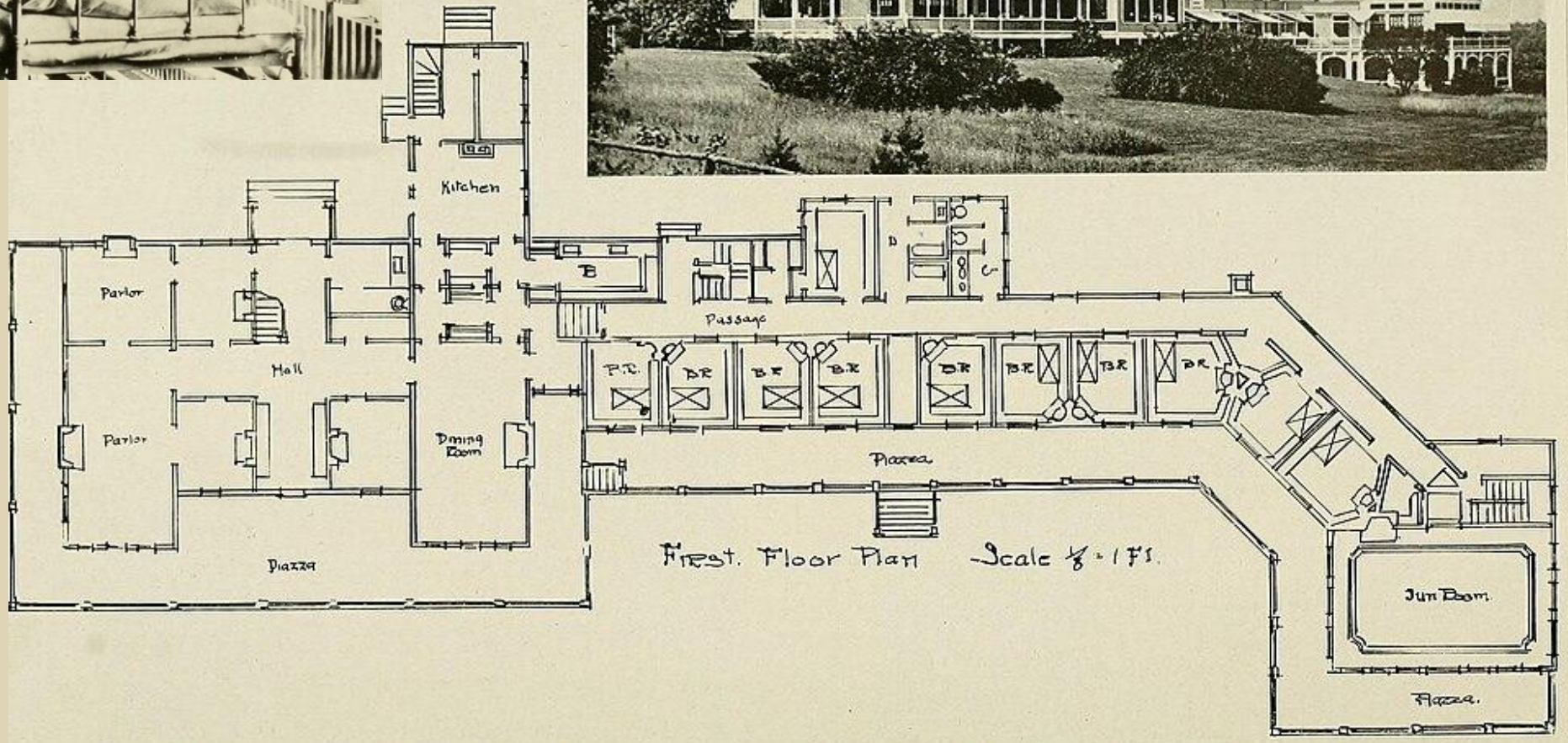
Age 15 to 17 Years (N=250)

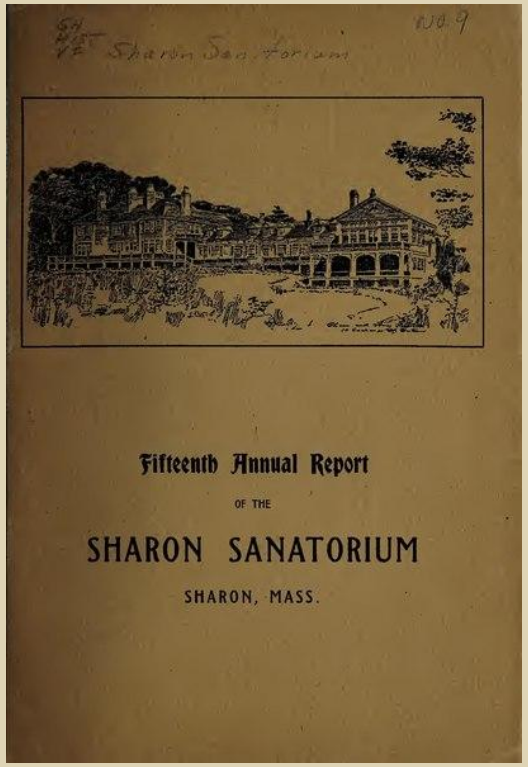
Tuberculosis Epilepsy Pneumonia Diarrhea Strep Infection Other

The Brehmer Sanatorium at Goerbersdorf.

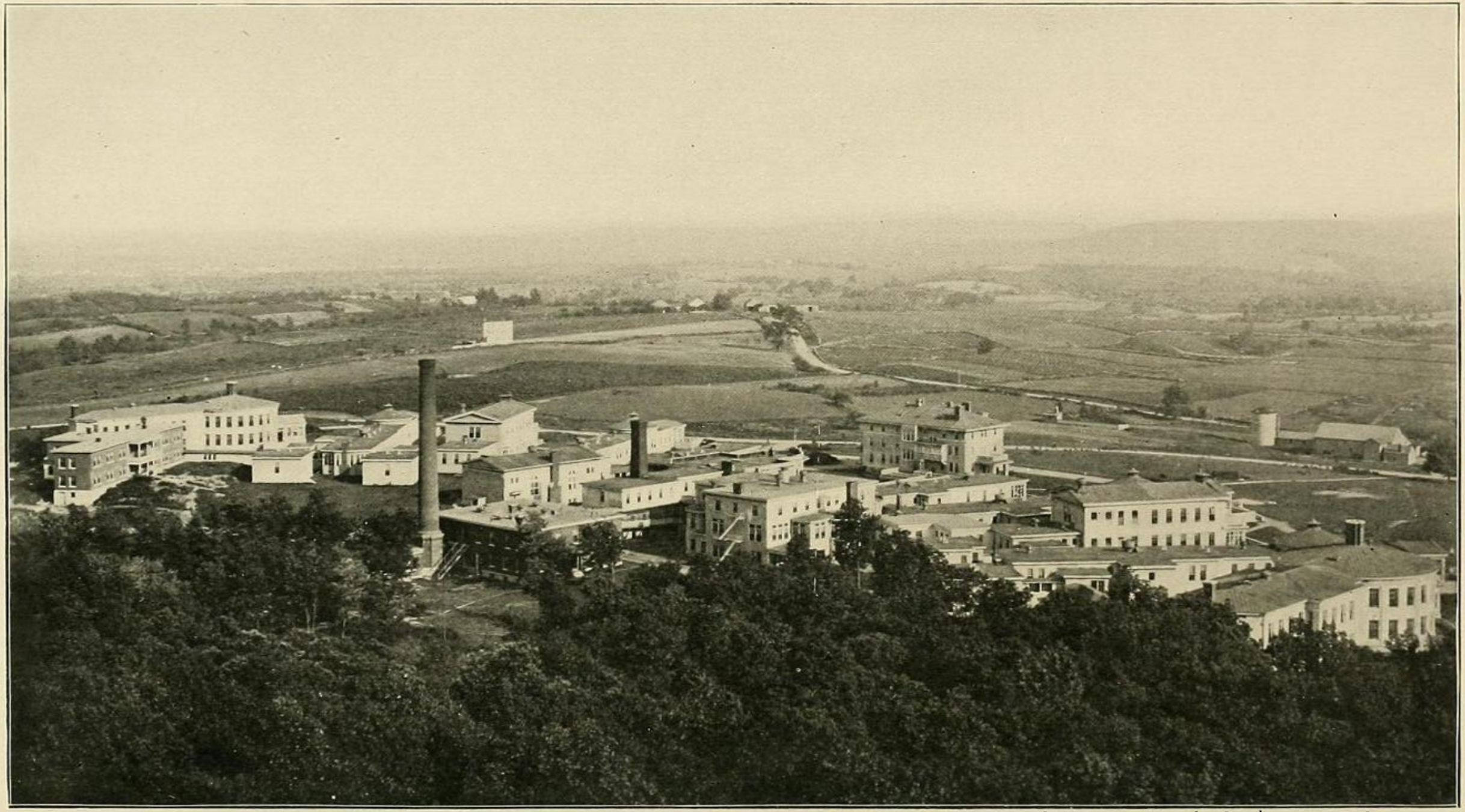






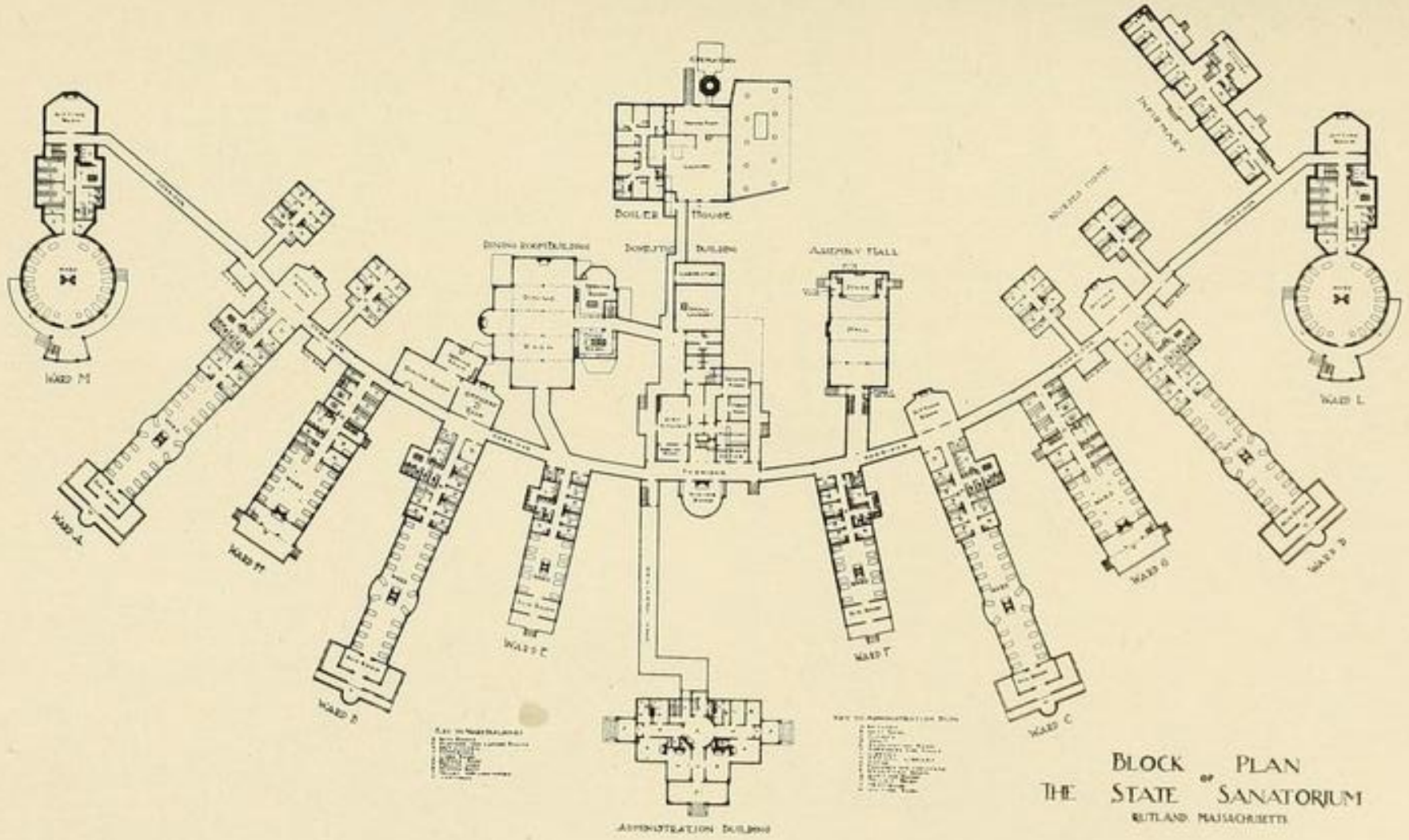


No. 34.—Sharon Sanatorium, Sharon, Mass. Designed by Dr. Vincent Y. Bowditch. Capacity, 23 Patients. Estimated Cost, $40,000.



STATE SANATORIUM AT RUTLAND.

Massachusetts. Committee for the 6th International Congress on Tuberculosis, Washington, 1908.



Massachusetts. Committee for the 6th International Congress on Tuberculosis, Washington, 1908.

First Annual Report Massachusetts Hospital for Consumptives and Tubercular Patients

“It was deemed necessary that the place selected should have an altitude of at least one thousand feet above the sea should be situated on a southerly slope, and protected by wood lands on the north; that it should have a dry soil ; be capable of good drainage; be so situated that not less than two hundred acres of land could be secured; and should have an unlimited supply of pure water, to be obtained either from the public water supply of the locality or by a complete system of its own. A further requirement was that the location should possess reasonably convenient means of communication by railroad,….”

MASSACHUSETTS STATE SANATORIUM

Ward "G"

Interior of a men's ward (For 30 patients)

All the pavilions for patients are one-story buildings except two wards "G" and "H" which are two-story

Each of the wards for patients extends toward the south and terminates in a solarium and piazza where the patients take the treatment

Taking the treatment

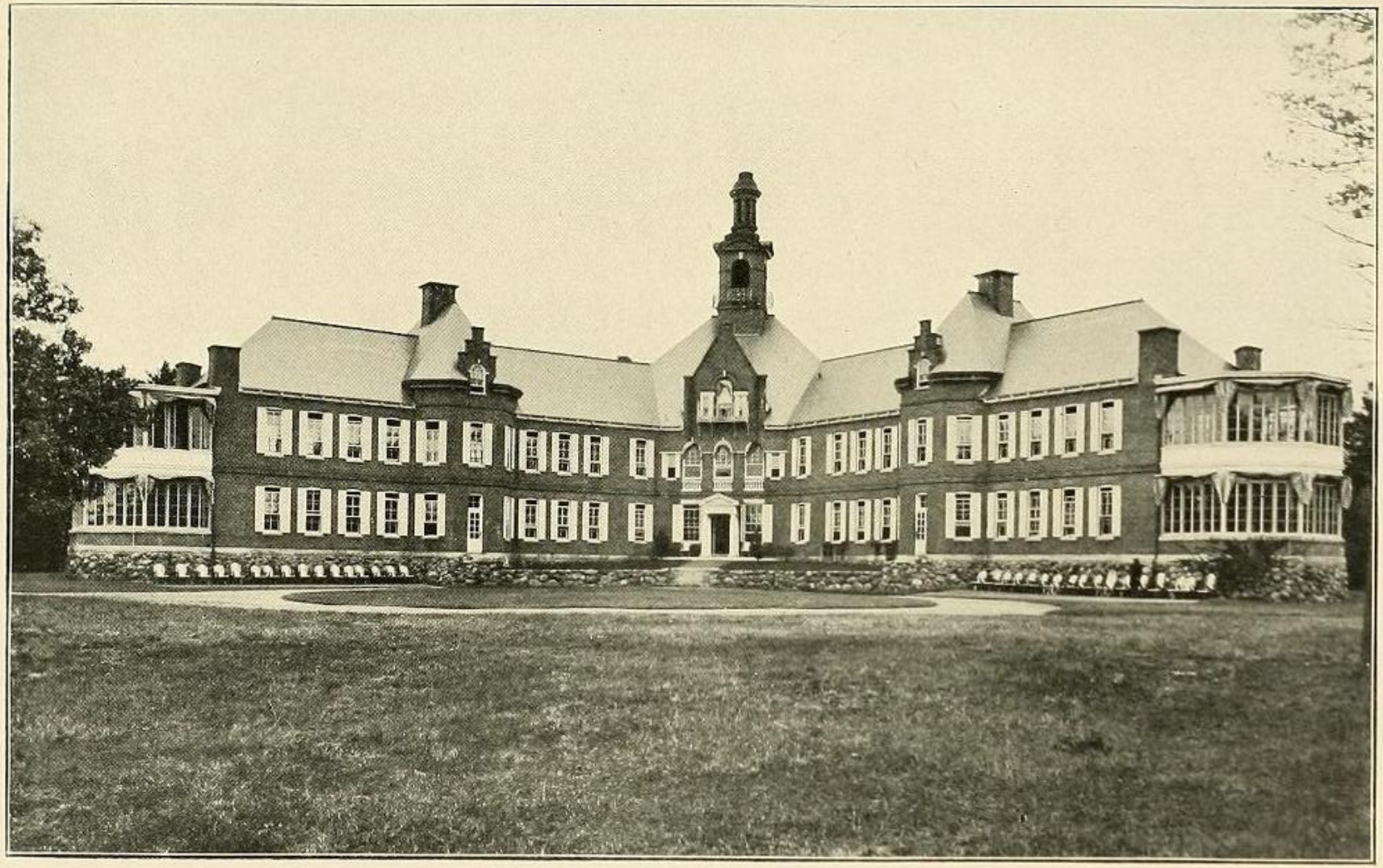
Taking the treatment

Results at Rutland State Sanitorium for the First Three Years

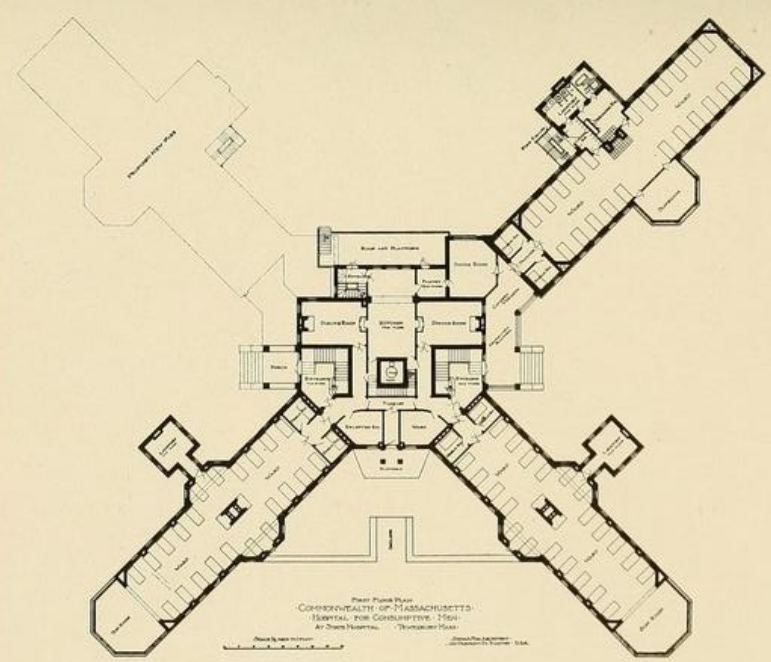
Comparison of Percentages in the First, Second and Third Years.

	1898-99.	1899-1900.	1900-1901.
Number of "arrested" cases, . . .	30.97	39.7	42.23
Number of all classes of "improved" cases,	46.10	52.4	53.79
Number of "not improved" cases, . .	21.23	7.9	3.98

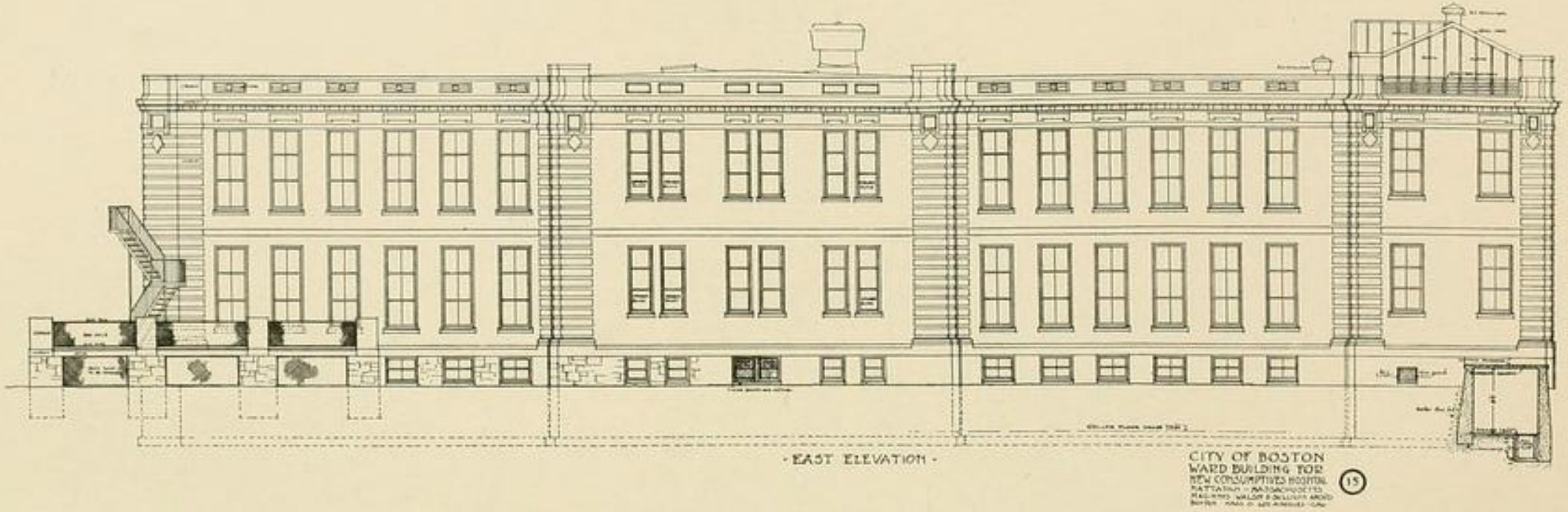
Tewksbury Hospital
Bancroft Male Tuberculosis Hospital
Opened in September 1900
Camp (below) added in 1904



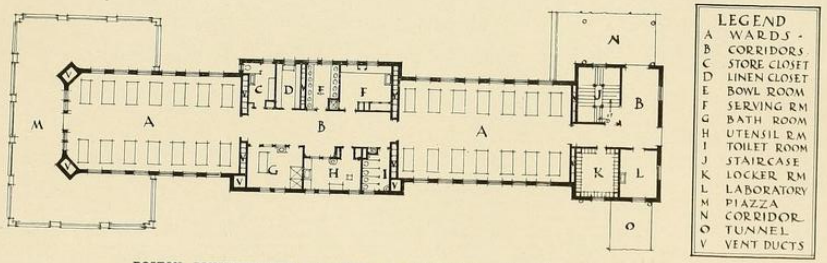
STATE HOSPITAL AT TEWKSBURY.—Hospital for Consumptives.



Massachusetts. Committee for the 6th International Congress on Tuberculosis, Washington, 1908.



BOSTON CONSUMPTIVES' HOSPITAL AT MATTAPAN. — Elevation Plan of Ward Building.



BOSTON CONSUMPTIVES' HOSPITAL AT MATTAPAN.—Floor Plan of Ward Building.

1902

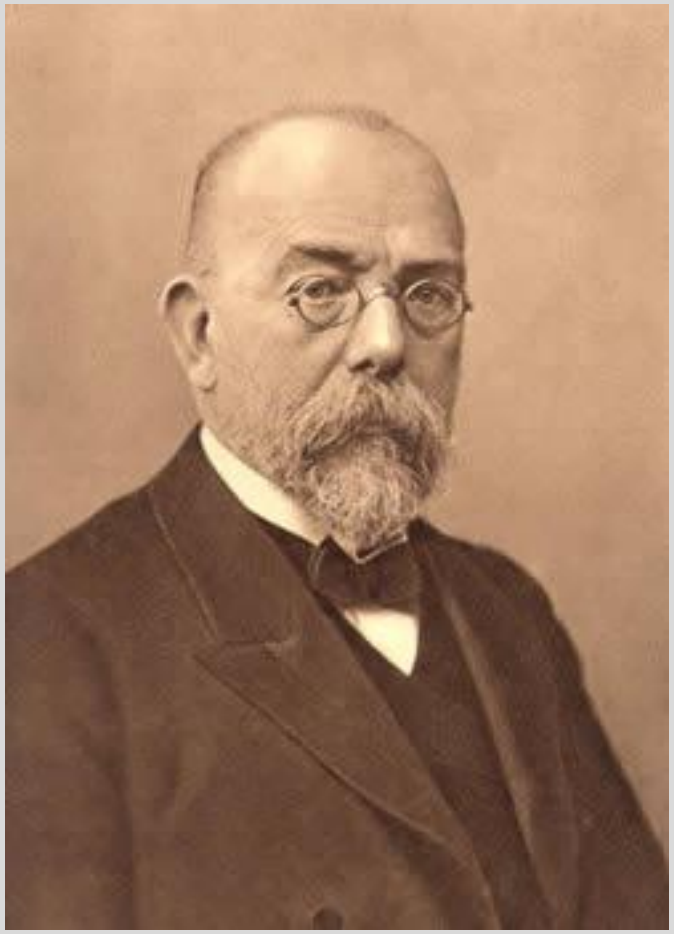
Massachusetts. Committee for the 6th International Congress on Tuberculosis, Washington, 1908.

Free Home for Consumptives

428 QUINCY STREET, DORCHESTER, MASS.

Free Home for poor Consumptives of every age, stage, nationality, creed and color; no pay patients admitted.
Its charity extends to all sections of the world as many of the Countries', States', Cities' and
Towns' born citizens number among its former and present inmates'

The Cause of Tuberculosis



On March 24, 1882, Robert Koch announced the tuberculosis bacillus to be the cause of tuberculosis (consumption)

Die Berliner Klinische Wochenschrift erscheint jeden Montag in der Stärke von wenigstens 1½ Bogen gr. 4. Preis vierteljährlich 6 Mark. Bestellungen nehmen alle Buchhandlungen und Post-Anstalten an.

Einsendungen wolle man portofrei an die Redaction (W. Königgrätzerstrasse 125.) oder an die Verlagsbuchhandlung von August Hirschwald in Berlin (N.W. Unter den Linden 68.) adressiren.

BERLINER

KLINISCHE WOCHENSCHRIFT.

Organ für practische Aerzte.

Mit Berücksichtigung der preussischen Medicinalverwaltung und Medicinalgesetzgebung

nach amtlichen Mittheilungen.

Redacteur: Professor Dr. C. A. Ewald. Verlag von August Hirschwald in Berlin.

Montag, den 10. April 1882. № 15. Neunzehnter Jahrgang.

I. Die Aetiologie der Tuberculose.

(Nach einem in der physiologischen Gesellschaft zu Berlin am 24. März cr. gehaltenen Vortrage.)

Von

Dr. **Robert Koch,**

Regierungsrath im Kaiserl. Gesundheitsamt.

Die von Villemin gemachte Entdeckung, dass die Tuberculose auf Thiere übertragbar ist, hat bekanntlich vielfache Bestätigung, aber auch anscheinend wohlbegründeten Widerspruch gefunden, so dass es bis vor wenigen Jahren unentschieden bleiben musste, ob die Tuberculose eine Infectionskrankheit sei oder nicht. Seitdem haben aber die zuerst von Cohnheim und Salomonsen, später von Baumgarten ausgeführten Impfungen in die vordere Augenkammer, ferner die Inhalationsversuche von Tappeiner und Anderen die Uebertragbarkeit der Tuberculose gegen jeden Zweifel sicher gestellt und es muss ihr in Zukunft ein Platz unter den Infectionskrankheiten angewiesen werden.

Wenn die Zahl der Opfer, welche eine Krankheit fordert, als Massstab für ihre Bedeutung zu gelten hat, dann müssen alle Krankheiten, namentlich aber die gefürchtetsten Infectionskrankheiten, Pest, Cholera u. s. w. weit hinter der Tuberculose zurückstehen. Die Statistik lehrt, dass $^1/_7$ aller Menschen an Tuberculose stirbt und dass, wenn nur die mittleren productiven Altersklassen in Betracht kommen, die Tuberculose ein Drittel derselben und oft mehr dahinrafft. Die öffentliche Gesundheitspflege hat also Grund genug, ihre Aufmerksamkeit einer so mörderischen Krankheit zu widmen, ganz abgesehen davon, dass noch andere Verhältnisse, von denen nur die Beziehungen der Tuberculose zur Perlsucht erwähnt werden sollen, das Interesse der Gesundheitspflege in Anspruch nehmen.

Da es nun zu den Aufgaben des Gesundheitsamtes gehört, die Infectionskrankheiten vom Standpunkte der Gesundheitspflege aus, also in erster Linie in Bezug auf ihre Aetiologie, zum Gegenstand von Ermittelungsarbeiten zu machen, so erschien es als eine dringende Pflicht, vor Allem über die Tuberculose eingehende Untersuchungen anzustellen.

Das Wesen der Tuberculose zu ergründen, ist schon wiederholt versucht, aber bis jetzt ohne Erfolg. Die zum Nachweis der pathogenen Microorganismen so vielfach bewährten Färbungsmethoden haben dieser Krankheit gegenüber im Stich gelassen und die zum Zwecke der Isolirung und Züchtung des Tuberkel-Virus angestellten Versuche konnten bis jetzt nicht als gelungen angesehen werden, so dass Cohnheim in der soeben erschienenen neuesten Auflage seiner Vorlesungen über allgemeine Pathologie „den directen Nachweis des tuberculösen Virus als ein bis heute noch ungelöstes Problem“ bezeichnen musste.

Bei meinen Untersuchungen über die Tuberculose habe ich mich anfangs auch der bekannten Methoden bedient, ohne damit eine Aufklärung über das Wesen der Krankheit zu erlangen. Aber durch einige gelegentliche Beobachtungen wurde ich dann veranlasst, diese Methoden zu verlassen und andere Wege einzuschlagen, die schliesslich auch zu positiven Resultaten führten.

Das Ziel der Untersuchung musste zunächst auf den Nachweis von irgend welchen, dem Körper fremdartigen, parasitischen Gebilden gerichtet sein, die möglicherweise als Krankheitsursache gedeutet werden konnten. Dieser Nachweis gelang auch in der That durch ein bestimmtes Färbungsverfahren, mit Hülfe dessen in allen tuberculös veränderten Organen characteristische, bis dahin nicht bekannte Bacterien zu finden waren. Es würde zu weit führen, den Weg, auf welchem ich zu diesem neuen Verfahren gelangte, zu schildern und ich will deswegen sofort zur Beschreibung desselben übergehen.

Die Untersuchungsobjecte werden in der bekannten, für Untersuchungen auf pathogene Bacterien üblichen Weise, vorbereitet und entweder auf dem Deckglas ausgebreitet, getrocknet und erhitzt, oder nach Erhärtung in Alkohol in Schnitte zerlegt. Die Deckgläschen oder Schnitte gelangen in eine Farblösung von folgender Zusammensetzung. 200 Ccm. destillirten Wassers werden mit 1 Ccm. einer concentrirten alcoholischen Methylenblau-Lösung vermischt, umgeschüttelt und erhalten dann unter wiederholtem Schütteln noch einen Zusatz von 0,2 Ccm. einer 10%igen Kalilauge. Diese Mischung darf selbst nach tagelangem Stehen keinen Niederschlag geben. Die zu färbenden Objecte bleiben in derselben 20 bis 24 Stunden. Durch Erwärmen der Farblösung auf 40° C. im Wasserbade kann diese Zeit auf $^1/_2$ bis 1 Stunde abgekürzt werden. Die Deckgläschen werden hierauf mit einer concentrirten wässrigen Lösung von Vesuvin, welche vor jedesmaligem Gebrauche zu filtriren ist, übergossen und nach ein bis zwei Minuten mit destillirtem Wasser abgespült. Wenn die Deckgläschen aus dem Methylenblau kommen, sieht die ihnen anhaftende Schicht dunkelblau aus und ist stark

1882

Time Between Announcement of a Major Advance and Implementation of a “Public” Response in Massachusetts

Publication	Public Response	Time to Implementation
1798 Jenner publishes on vaccination	1800 Vaccination takes place in Boston	2 years
	1809 Law requiring vaccination passed	11 years
1892-93 Von Behring publishes on diphtheria antiserum	1894 Massachusetts opens biologics laboratory to make antiserum for distribution	1-2 years
1882 Koch announces the infectious etiology of tuberculosis	1898 Massachusetts opens the Massachusetts Hospital for Consumptives and Tubercular Patients	16 years
	1907 Tuberculosis reportable	25 years

“In spite of a growing belief among advanced thinkers that tuberculosis was communicable, it took the world by surprise when the announcement was definitely made that the tubercle bacillus was the effective cause. The incontrovertible fact had little immediate effect in relation to treatment. It was difficult for the existing generation to interpret its bearings.”

R. W. Philip, International Congress on Tuberculosis at Washington, D. C., 1908.

PARTS OF HEALTHY & TUBERCULOUS UDDERS
HEALTHY UDDER
TUBERCULOUS UDDER

INFECTIOUSNESS OF MILK

RESULT OF INVESTIGATIONS MADE FOR THE TRUSTEES OF THE MASSACHUSETTS SOCIETY FOR PROMOTING AGRICULTURE

BOSTON
Published by the Society
1895

AN ACT TO RESTRICT THE USE OF TUBERCULIN. *Chap.*276

Be it enacted, etc., as follows:

Section fourteen of chapter four hundred and ninety-six of the acts of the year eighteen hundred and ninety-five is hereby amended by striking out in the first and second lines, the words "eighteen hundred and ninety-six", and inserting in place thereof the words: — eighteen hundred and ninety-seven, — so that the section as amended will read as follows: — *Section 14.* Until June first eighteen hundred and ninety-seven the use of tuberculin as a diagnostic agent for the detection of the disease known as tuberculosis in domestic animals shall be restricted to cattle brought into the Commonwealth from any point without its limits, and to all cattle held in quarantine at Brighton, Watertown and Somerville: *provided, however*, that tuberculin may be used as such diagnostic agent on any animal or animals in any other portion of the state upon the consent in writing of the owner or person in possession thereof, and upon any animals condemned as tuberculous upon physical examination by a competent veterinarian. *Approved April 13, 1896.*

1895, 496, § 14, amended.

Use of tuberculin restricted.

Proviso.

AN ACT TO RESTRICT THE USE OF TUBERCULIN. *Chap.*165

Be it enacted, etc., as follows:

Section fourteen of chapter four hundred and ninety-six of the acts of the year eighteen hundred and ninety-five, as amended by chapter two hundred and seventy-six of the acts of the year eighteen hundred and ninety-six, is hereby amended by striking out in the first and second lines, the words "until June first eighteen hundred and ninety-seven", and by striking out in the sixth and seventh lines, the words "held in quarantine", — so as to read as follows: — *Section 14.* The use of tuberculin as a diagnostic agent for the detection of the disease known as tuberculosis in domestic animals shall be restricted to cattle brought into the Commonwealth from any point without its limits, and to all cattle at Brighton, Watertown and Somerville: *provided, however*, that tuberculin may be used as such diagnostic agent on any animal or animals in any other portion of the state upon the consent in writing of the owner or person in possession thereof, and upon any animals condemned as tuberculous upon physical examination by a competent veterinarian.

Approved March 17, 1897.

1895, 496, § 14, etc., amended.

Use of tuberculin restricted.

Proviso.

Report of the Committee Appointed by the Suffolk District Medical Society to Investigate the Progress of the Crusade against Tuberculosis in the City of Boston

Boston Med Surg J 1905;153:683-689

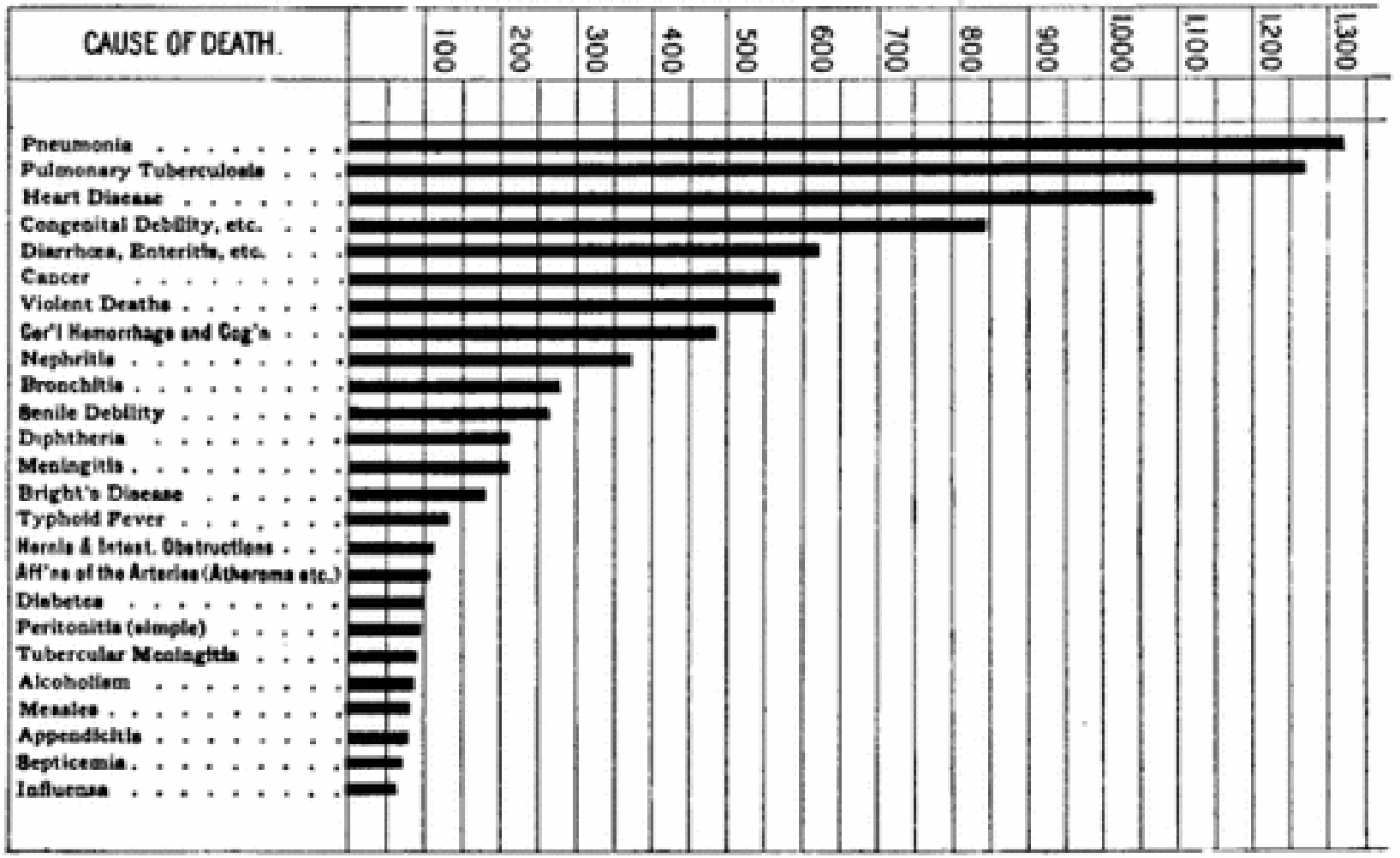
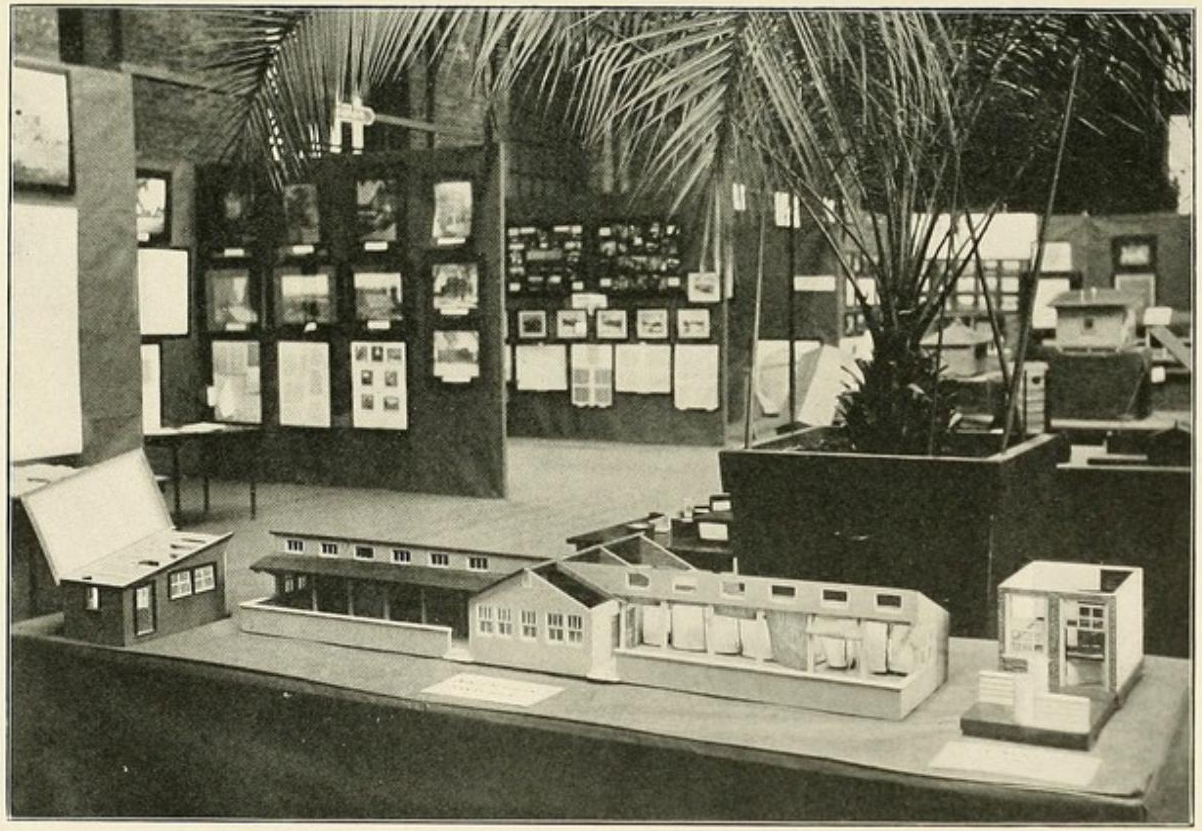


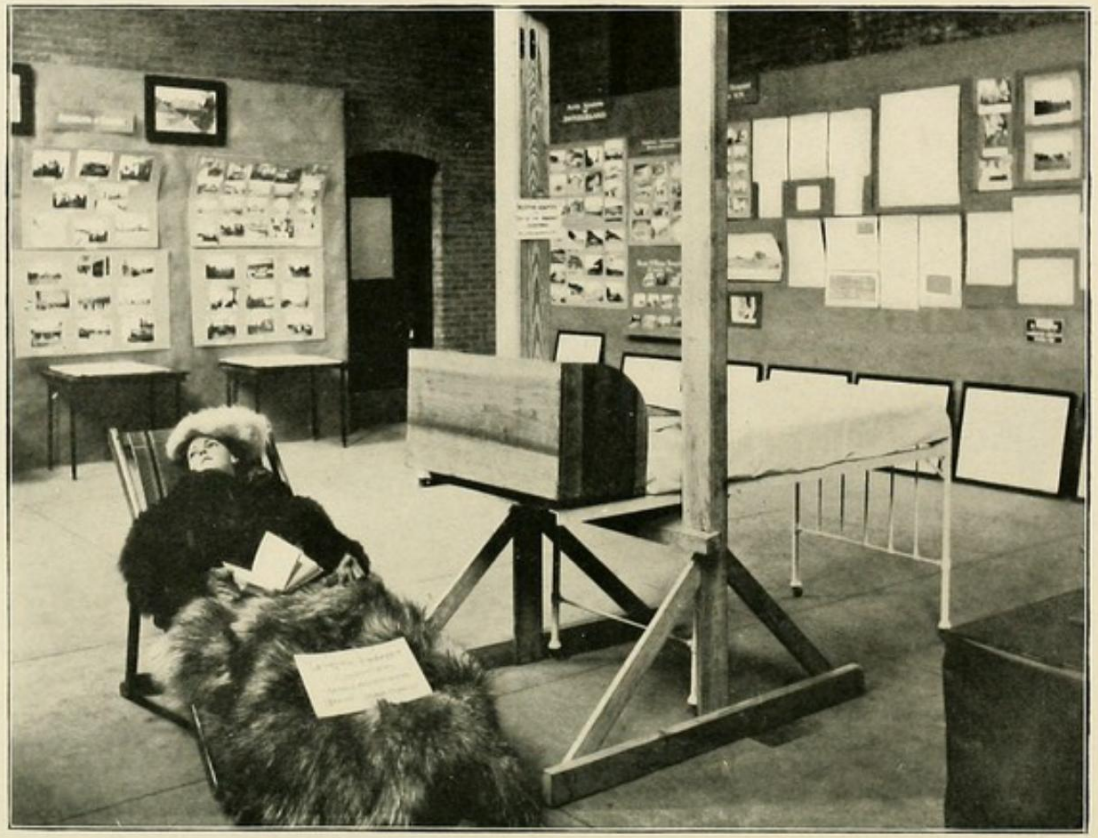
CHART 1. — Comparative view of twenty-five of the principal causes of death in Boston during the year 1904. (From the Annual Report of the Boston Health Department.)

Mobilization Against Tuberculosis in Massachusetts

- Massachusetts Medical Society Districts form Associations for the Relief and Control of Tuberculosis
  - Boston, Cambridge, Springfield and Worcester in 1905
  - 1906-07 associations in other cities
- TB exhibition in Horticultural Hall, 12/05-1/06, 26,000 attend
- Governor's Commission 1906
  1. Reporting of cases and perfecting registration system
  2. Thorough application of disinfections, no spitting
  3. Formation of anti-TB associations at the local level
  4. Hospitals for advanced cases
- Ch.165, Acts of 1906, prohibition of expectoration; creation of three hospitals
- Day camps for TB cases in the community
  - Massachusetts Federation of Women’s Clubs



TUBERCULOSIS EXHIBIT OF THE BOSTON ASSOCIATION.



TUBERCULOSIS EXHIBIT OF THE BOSTON ASSOCIATION.

Massachusetts. Committee for the 6th International Congress on Tuberculosis, Washington, 1908.

North Reading State Sanitorium

Study and Prevention of Tuberculosis by Thomas Spees Carrington, 1911

Activities of the Associations for the Relief and Control of Tuberculosis

1. Education
2. Co-operating with town or city authorities to carry out laws and ordinances
3. Promoting legislation
4. Registration of cases
5. Maintenance of clinics, day-camps and classes
6. Home supervision through visiting nurses or voluntary visitors
7. Relief in the homes
8. Systematic examination of members of the families of consumptives
9. Furnishing funds for the treatment of the consumptives in institutions or in proper surroundings
10. Seeking suitable employment for consumptive workingmen

1911 Legislation

- **“Subsidy Act”- State subsidy to cities and towns for building hospitals**
- **“Tuberculosis Dispensary Act”- Each city and town of 10,000 or more population must provide a TB dispensary for the needy with TB**
- **“Tuberculosis Hospital Act”- Each city and town must provide isolation hospital capacity**

WHAT SPECIAL INSTRUCTIONS REGARDING TUBERCULOSIS SHOULD BE GIVEN INSTITUTION NURSES AND OTHER EMPLOYEES?

ARE NURSES CARING FOR CASES OF TUBERCULOSIS IN DANGER OF CONTRACTING THE DISEASE?*

BY JOHN H. NICHOLS, M.D.,
Superintendent State Hospital, Tewksbury, Mass.

The conditions favorable to its spread are filth, foul air, overwork, lack of proper and sufficient food, lack of sufficient exercise and irregular habits, The great enemies of tuberculosis, or safe-guards against it, are cleanliness, fresh air, sunlight, moderate exercise, regular habits of eating, sleeping and bathing, and especially out-of-door life.

THE TREATMENT OF TUBERCULOSIS IN PUBLIC INSTITUTIONS.*

BY WILDER TILESTON, M.D.,
Assistant Visiting Physician, Long Island Hospital.

THE treatment of tuberculosis in public institutions is a broad subject, and the time allotted me is brief, so I shall have to restrict myself to a few general remarks, omitting many details. It may be considered from three points of view, that of diet, of hygiene and of medicinal treatment.

The diet should be nourishing and varied. In food value it should equal, or even exceed, that of a healthy working person, that is to say, about 3,000 calories. This large amount of food is necessary to offset the increased breaking down of the body tissues, which is constantly taking place in phthisis, and to make up for past losses. Care must be taken, however, not to upset the digestion by overfeeding, and the amount of food which can be taken with advantage will vary according to the individual. In order to get in a maximum amount of nourishment, it is best to increase the number of meals to five or six daily. These are to consist of the usual three meals, with additional light meals in the middle of the

Address.

THE SEGREGATION OF CONSUMPTIVES.

THE ANNUAL DISCOURSE DELIVERED BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 12, 1907.

BY J. F. ALLEYNE ADAMS, M.D., PITTSFIELD, MASS.

Since pulmonary tuberculosis is known to be actively infectious, through a specific germ, it is perfectly evident that the isolation of all infected persons would, in a few years, stamp it out. It is the leprosy of our time; and, as leprosy is kept under control by the segregation of lepers, so may consumption be eradicated by the segregation of consumptives.

Symposium.

FOURTH MASSACHUSETTS CONFERENCE ON TUBERCULOSIS.

INTRODUCTORY REMARKS ON OPEN-AIR ROOMS.*

BY JOSEPH LEE,
Member Boston School Committee.

WHAT is most important in this matter of open-air rooms is a general recognition that treatment rather than diagnosis is the important thing. All rooms should be fresh-air rooms. All children need to breathe. It is not important whether they breathe because they are sick or because they are well. They are air-breathers in either case.

Massachusetts Anti-Tuberculosis League

FIRST ANNUAL CONFERENCE, APRIL 1, 1915.

I.

THE ORIGIN AND AIMS OF THE MASSACHUSETTS ANTI-TUBERCULOSIS LEAGUE.*

BY VINCENT Y. BOWDITCH, M.D., BOSTON,
President.

In the case of tuberculosis, moreover, the fact of the long duration of the disease adds greatly to the difficulty of dealing with it in all its phases. With the acute infectious diseases, it is comparatively easy to seize upon a dangerous case and confine it closely for a comparatively short space of time. Not so with the consumptive, dragging out long months and years in the course of the disease: a fact which changes the moral aspect, as it were, of the question of dealing with such cases. For the welfare of our state, however, we are justified in demanding enlarged powers for our boards of health, by which sterner measures not inconsistent with kindness and regard for the feelings of others may be used for the enforced isolation of the incorrigible consumptive who persists, by careless and dirty habits, in making himself a source of danger to others. Lest there should be fear in the minds of some as to the justice of such summary procedures, it should be stated that amendments to existing laws have already been proposed by which the rights of patients will be amply protected before measures necessary for the public welfare shall be adopted.

CONSUMPTIVES' HOSPITAL BULLETIN No. 1

CONSUMPTION

IS CAUSED
by the POISON present in the Consumptive's SPIT

The Poisonous SPIT DRIES and goes as DUST into other people's Lungs

DON'T SPREAD the DISEASE. Don't let others spread it.

DON'T be a CARELESS SPITTER

CONSUMPTIVES' HOSPITAL BULLETIN No. 2

SPITTING ON THE FLOORS

IS A MISDEMEANOR
and is PUNISHABLE BY LAW

Spitting is a DANGEROUS PRACTICE. Disease is spread in that way

Protect yourselves and others from Disease by reporting the CARELESS SPITTER.

CONSUMPTIVES' HOSPITAL BULLETIN No. 3

Don't Spit on the Sidewalks, where people may get the Poisonous Spit on their clothing.

Don't Spit on the floors of

TROLLEY OR RAILWAY CARS

IT MAKES THE DUST OF THE CARS DANGEROUS.

SPIT INTO SPITTOONS, or into places provided for spitting

CONSUMPTIVES' HOSPITAL BULLETIN No. 4

CONSUMPTION

and other Diseases are
SPREAD BY CARELESS SPITTING.

The SPIT of Consumptives is POISONOUS because it is full of GERMS

The POISONOUS SPIT dries and goes as DUST into other people's LUNGS

If you breathe the dust from Poisonous Spit YOU are LIABLE to GET DISEASE.

CONSUMPTIVES' HOSPITAL BULLETIN No. 5

PEOPLE WHO SPIT

on the FLOORS of their Homes SPREAD DISEASE.

CONSUMPTION especially is spread in that way

Workmen who spit on the floors of their Workshops spread disease

TOBACCO SPIT is just as DANGEROUS as any OTHER SPIT

CONSUMPTIVES' HOSPITAL BULLETIN No. 6

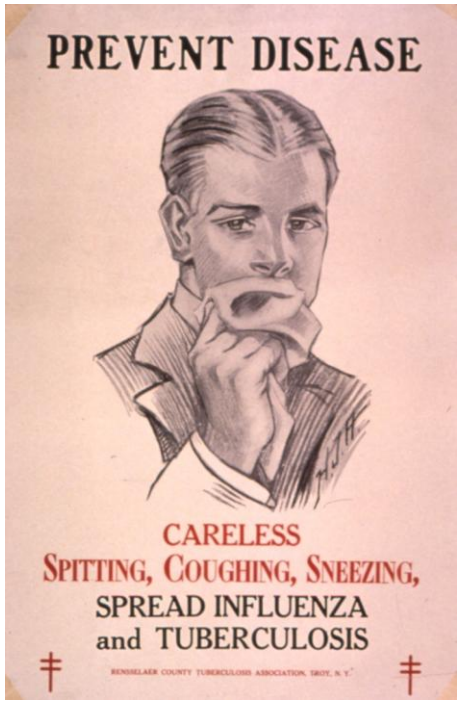
Don't Spit on the floors of your Rooms or Hallways.

Don't Spit on the floors of Public Places—the Spit may be POISONOUS.

Don't Spit on the floors of a Shop or Store. Dried Spit in the form of dust is DANGEROUS.

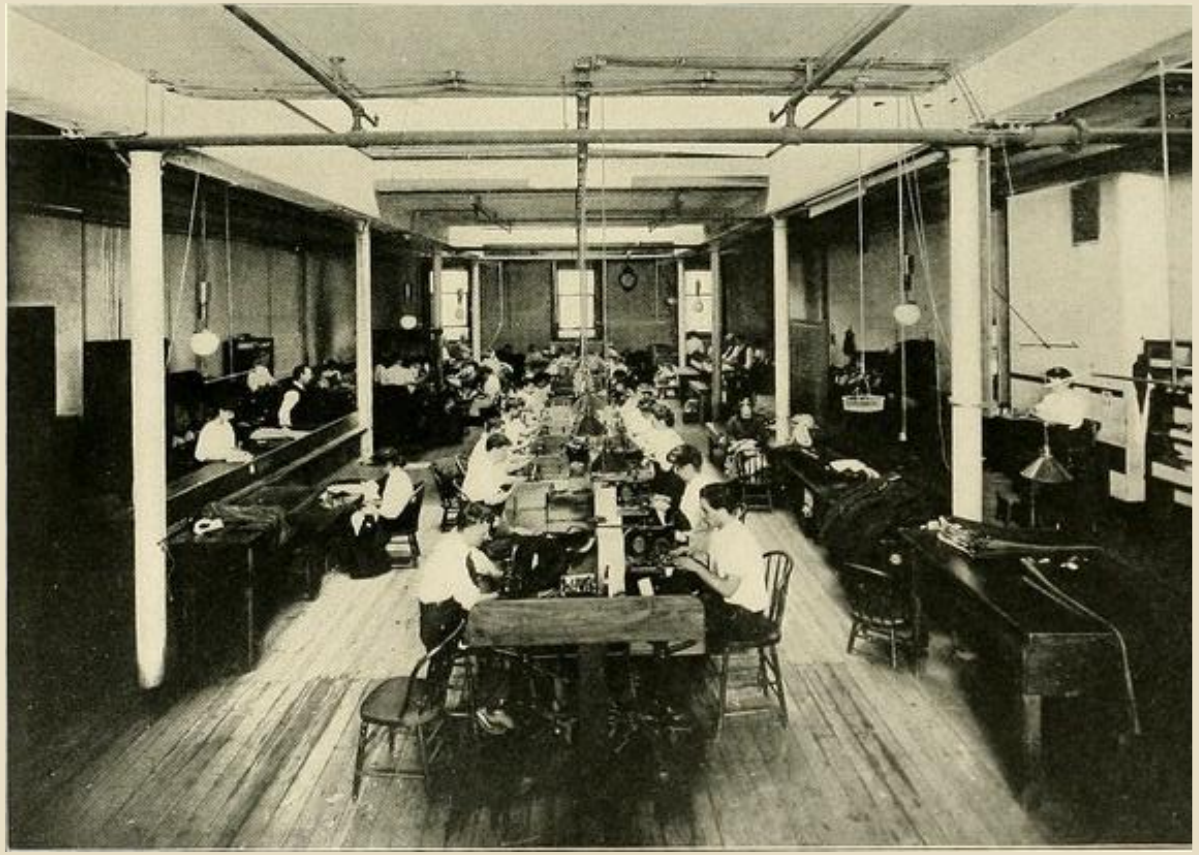
SPIT INTO SPITTOONS

BULLETINS POSTED BY THE BOSTON CONSUMPTIVES' HOSPITAL.



Typical Workplace

Ideal Workplace



Massachusetts. Committee for the 6th International Congress on Tuberculosis, Washington, 1908.

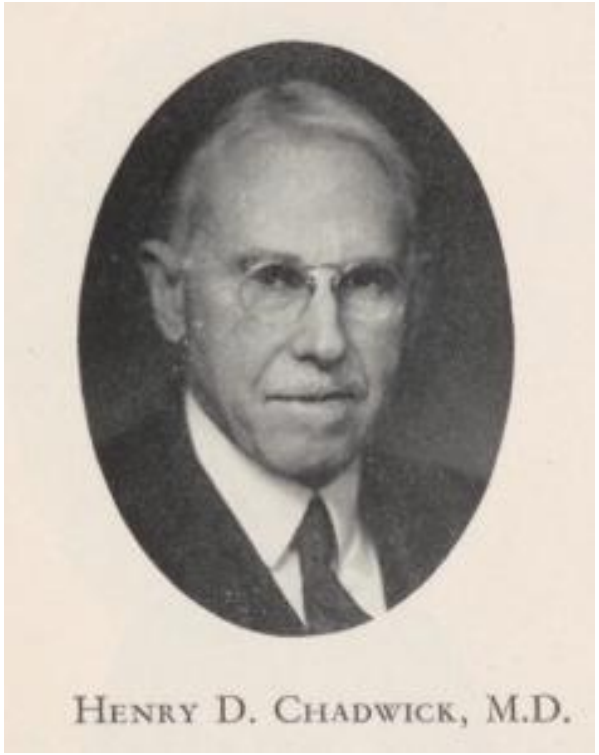
THE FRAMINGHAM HEALTH AND TUBERCULOSIS DEMONSTRATION COMMUNITY PREVENTION, CONTROL, AND TREATMENT OF DISEASES, AS CARRIED OUT AT FRAMINGHAM, MASSACHUSETTS, 1916-1923

FRESH AIR AND GOOD FOOD, REST AND PLAY, FOR THE UNDER-NOURISHED CHILDREN.

PRENDERGAST PREVENTORIUM FOR CHILDREN

1000 HARVARD STREET, MATTAPAN, MASS.

Henry D. Chadwick, MD



- Graduates from Harvard Medical School ,1895
- Enters practice in Waltham
- Treated for TB at Trudeau Sanatorium in Saranac Lake, NY, 1898-1900
- First Superintendent of the Vermont State Sanatorium for Incipient Tuberculosis, Pittsford, VT, 1905-1908
- First Superintendent of Westfield State Sanatorium, 1908-1929
- Controller of tuberculosis for Detroit, 1929-1933
- President, American Sanatorium Association, 1930
- Massachusetts Commissioner of Public Health, 1933-1938
- President, National Tuberculosis Association, 1939-1940
- President, Massachusetts Tuberculosis League, 1940s
- President Emeritus, Massachusetts Tuberculosis and Health League, 1945-1969

THE INCIDENCE OF TUBERCULOUS INFECTION IN SCHOOL CHILDREN.

By HENRY D. CHADWICK, M.D., and DAVID ZACKS, M.D.,

Massachusetts Department of Public Health,

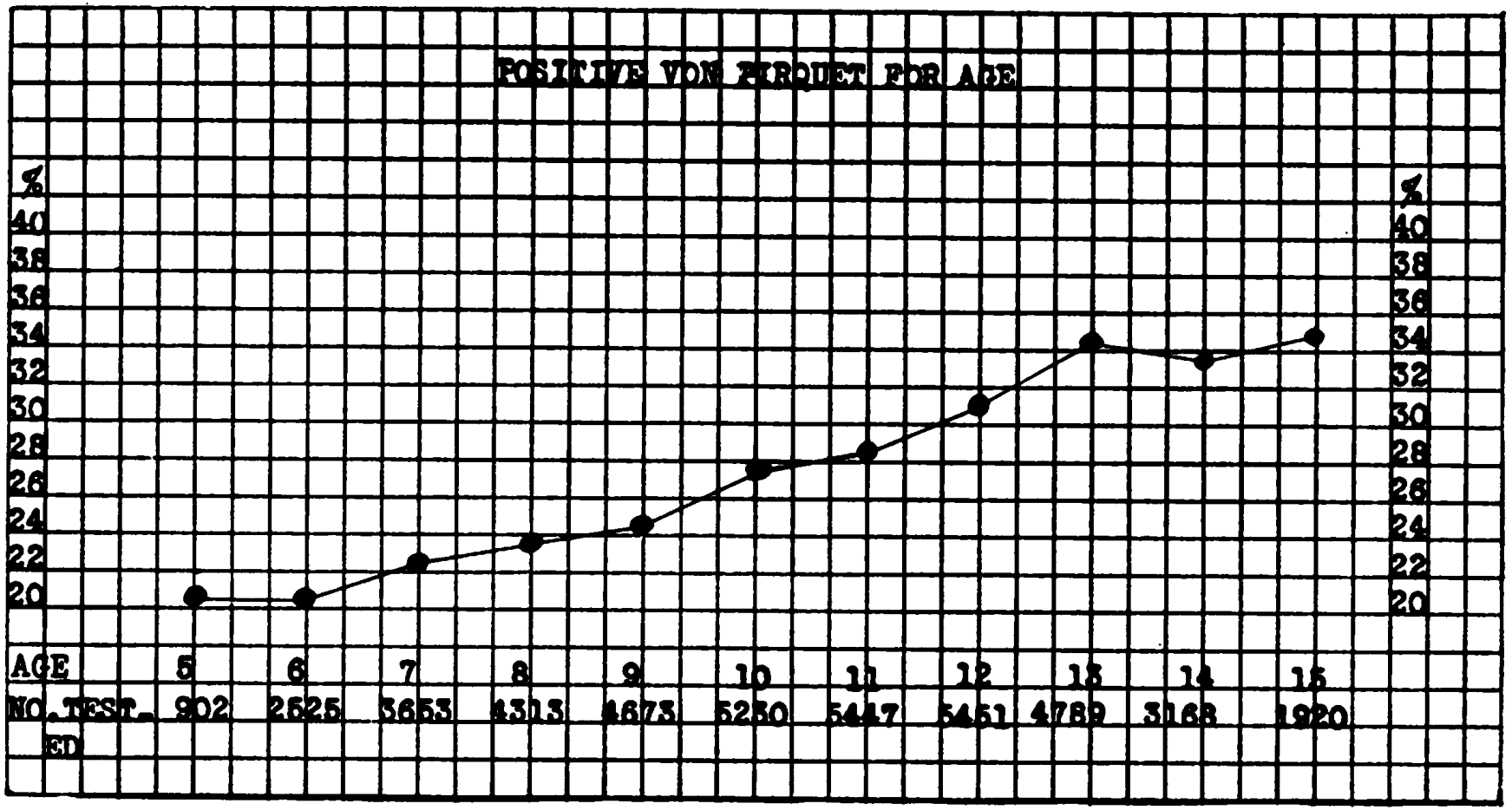
BOSTON, MASS.

The Department of Public Health of Massachusetts began in 1924 a ten-year program for the examination of the school children of the state. The purpose of this work was to find the children who had the primary or juvenile form of tuberculosis, and by treatment and supervision increase their resistance to such an extent that the secondary or pulmonary form would not develop in later years. This study is based on 42,071 children examined and given the Von Pirquet tuberculin test during a period of three years.

The Relation of Positive Von Pirquet Test for Age.

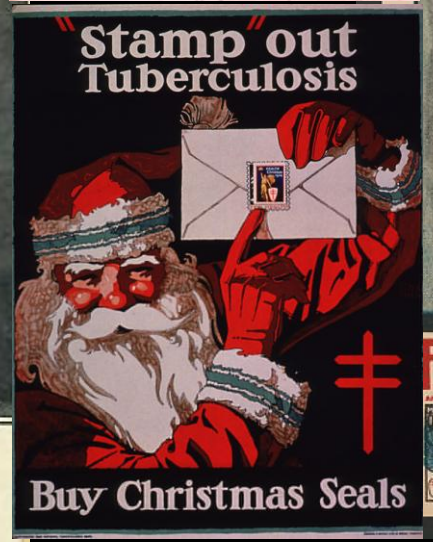
Age	5	6	7	8	9	10	11	12	13	14	15
Number examined .	902	2525	3653	4313	4673	5230	5447	5451	4789	3168	1920
Number positive . .	188	511	814	1031	1143	1463	1559	1660	1649	1057	666
Per cent	20.8	20.2	22.2	23.9	24.4	27.9	28.6	30.4	34.4	33.3	34.6

GRAPH NO. I.

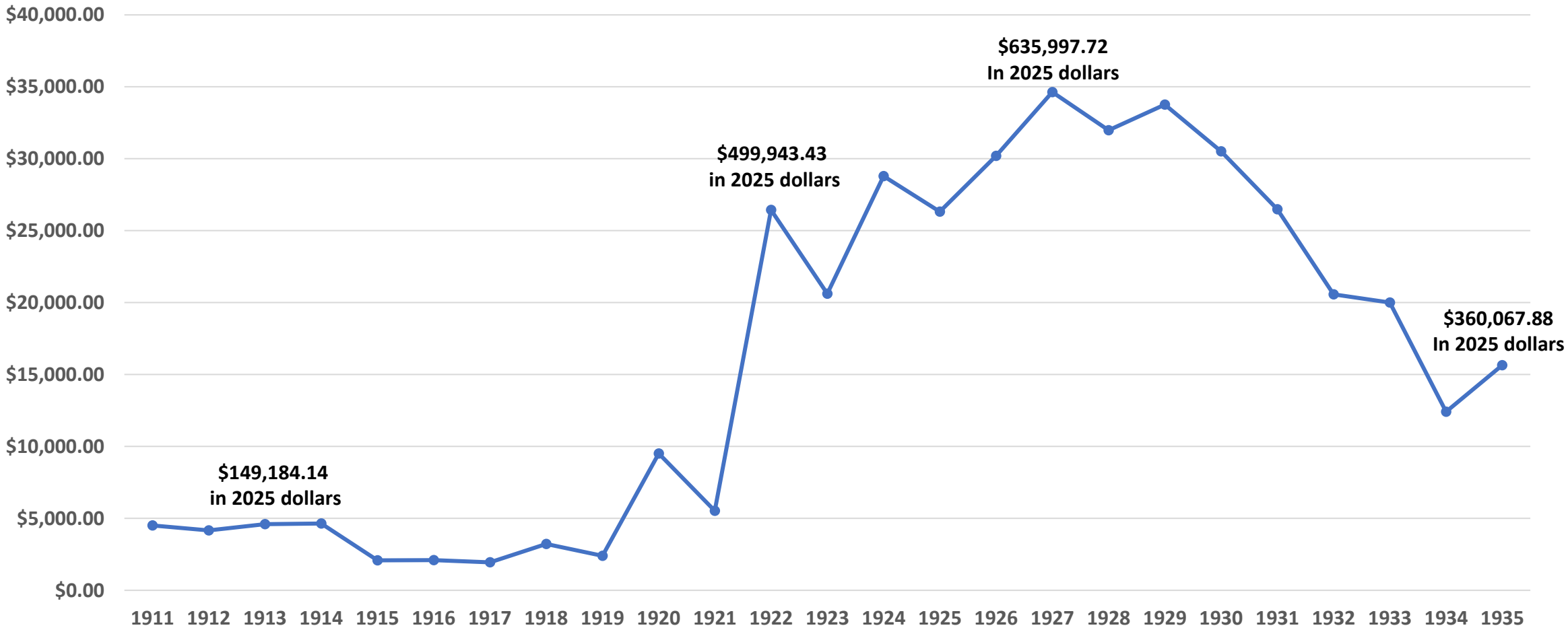


Chadwick HD, Zacks D. Trans Am Climatol Clin Assoc. 1928;44:196-205.

Mayor and Mrs. Curley Buy Christmas Seals From the Children of the Prendergast Preventorium.



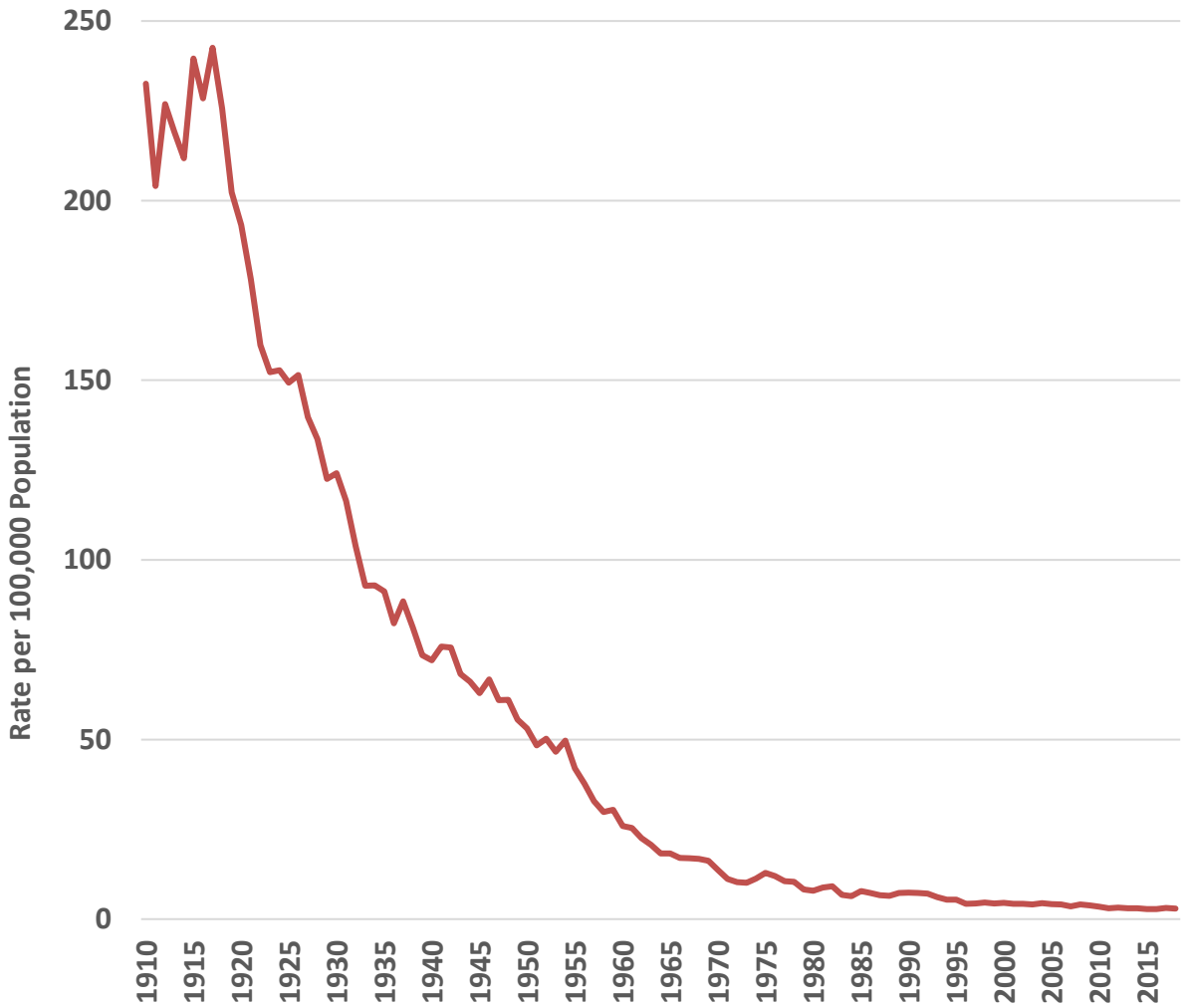
Boston Tuberculosis Association Net Income from Sale of Christmas Seals



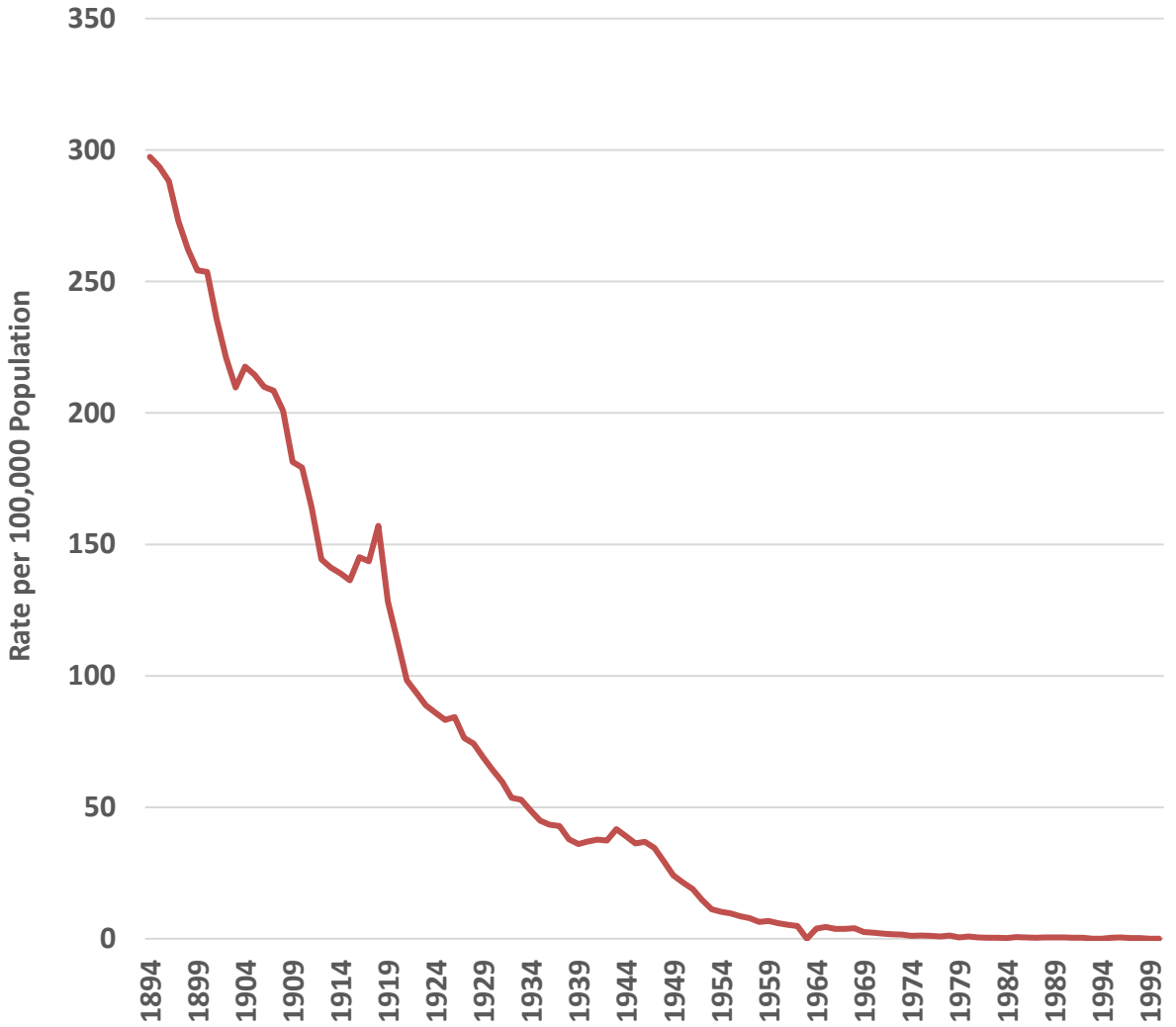
Advances in Tuberculosis Diagnosis, Treatment and Control

- **1882 - *Mycobacterium tuberculosis* identified by Koch**
- **1895 - Röentgen discovers x-rays**
- **1907 - Mantoux develops the tuberculin skin test**
- **1921 - Bacillus Calmette–Guérin (BCG) vaccine**
- **1946-48 - Streptomycin effective for treatment of TB**
- **1952 – Triple therapy introduced**

Tuberculosis Incidence in Massachusetts, per 100,000, 1910-2018



Rate of Tuberculosis Deaths in Massachusetts, per 100,000, 1894-2000

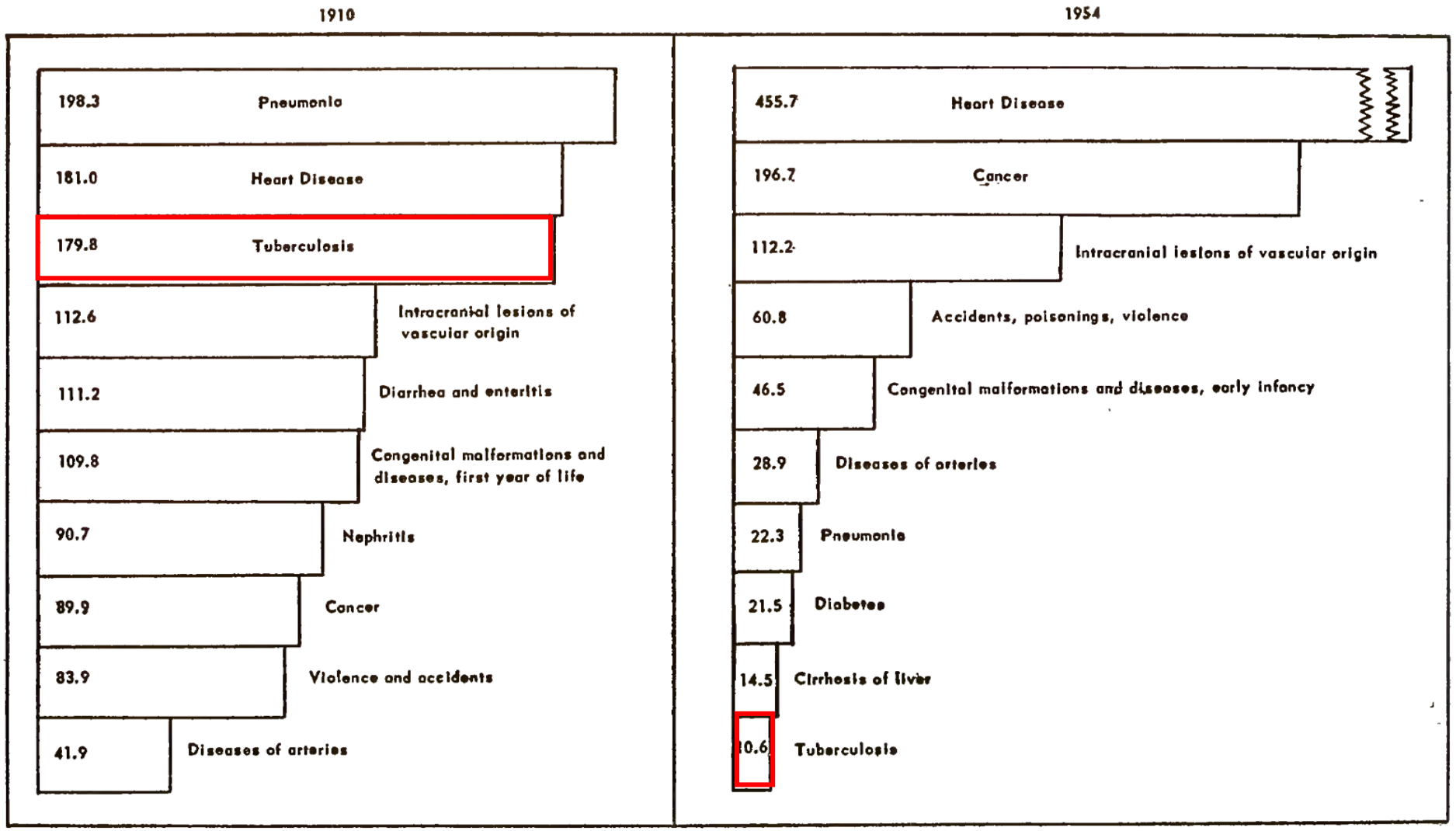



MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
CHEST X-RAY SERVICE
YOU HAVE PURCHASED THIS EQUIPMENT
WITH CHRISTMAS SEALS
THROUGH YOUR TUBERCULOSIS ASSOCIATION
S1220

TEN LEADING CAUSES OF DEATH IN MASSACHUSETTS

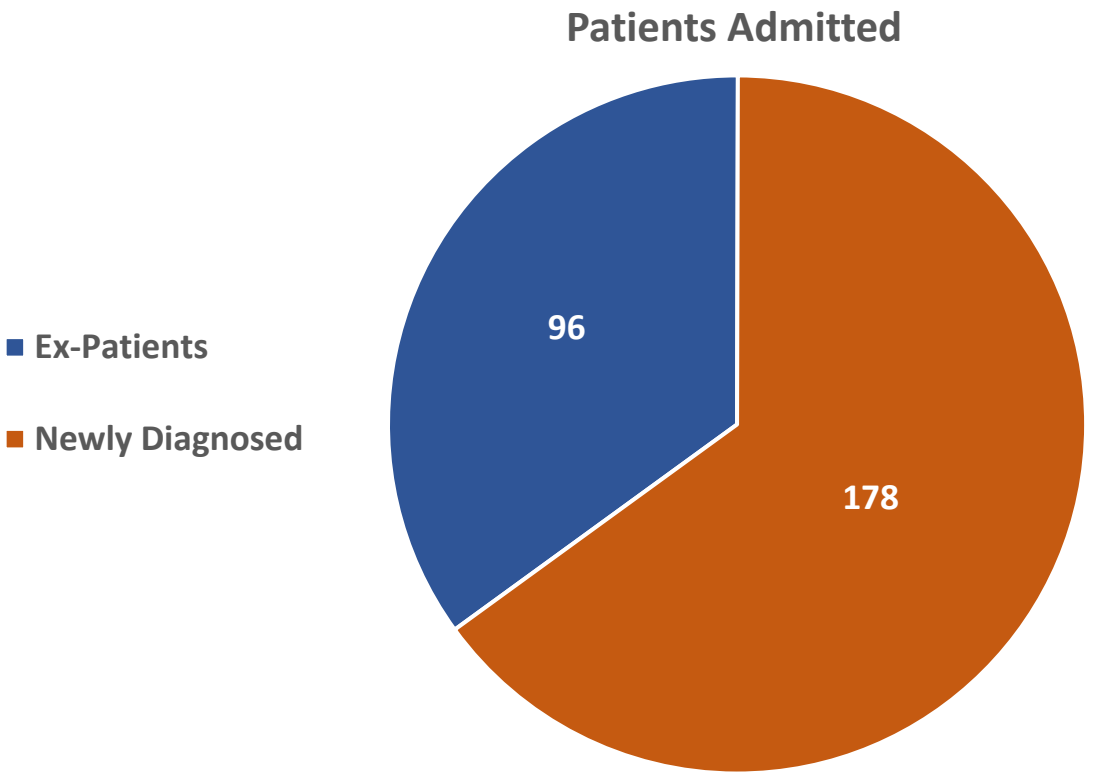
1910 and 1954

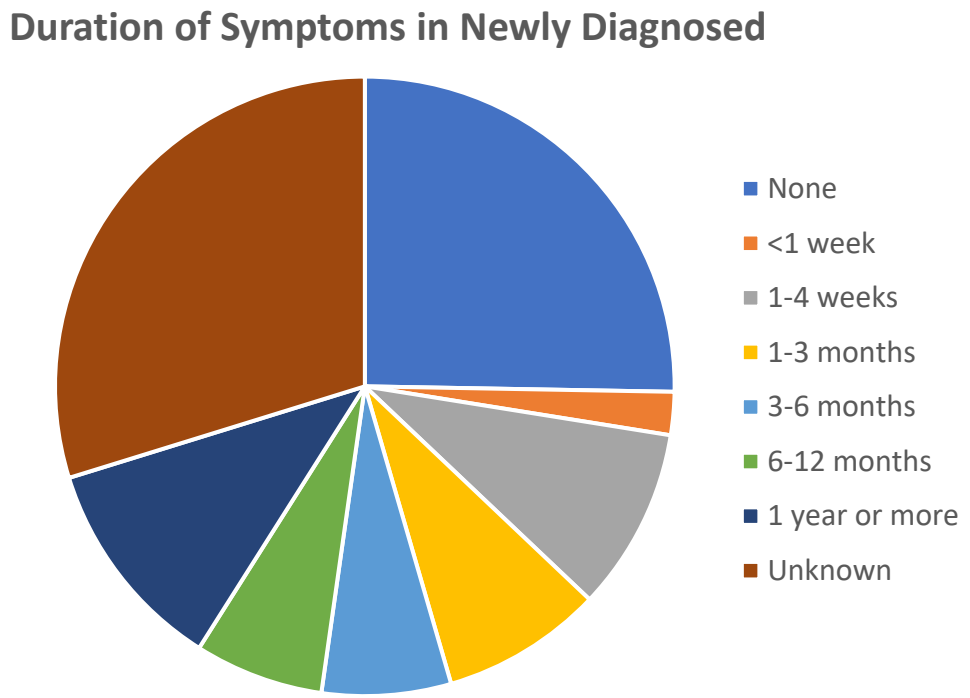
Death Rates per 100,000



Admissions to Five Massachusetts Sanitoriums in 1964

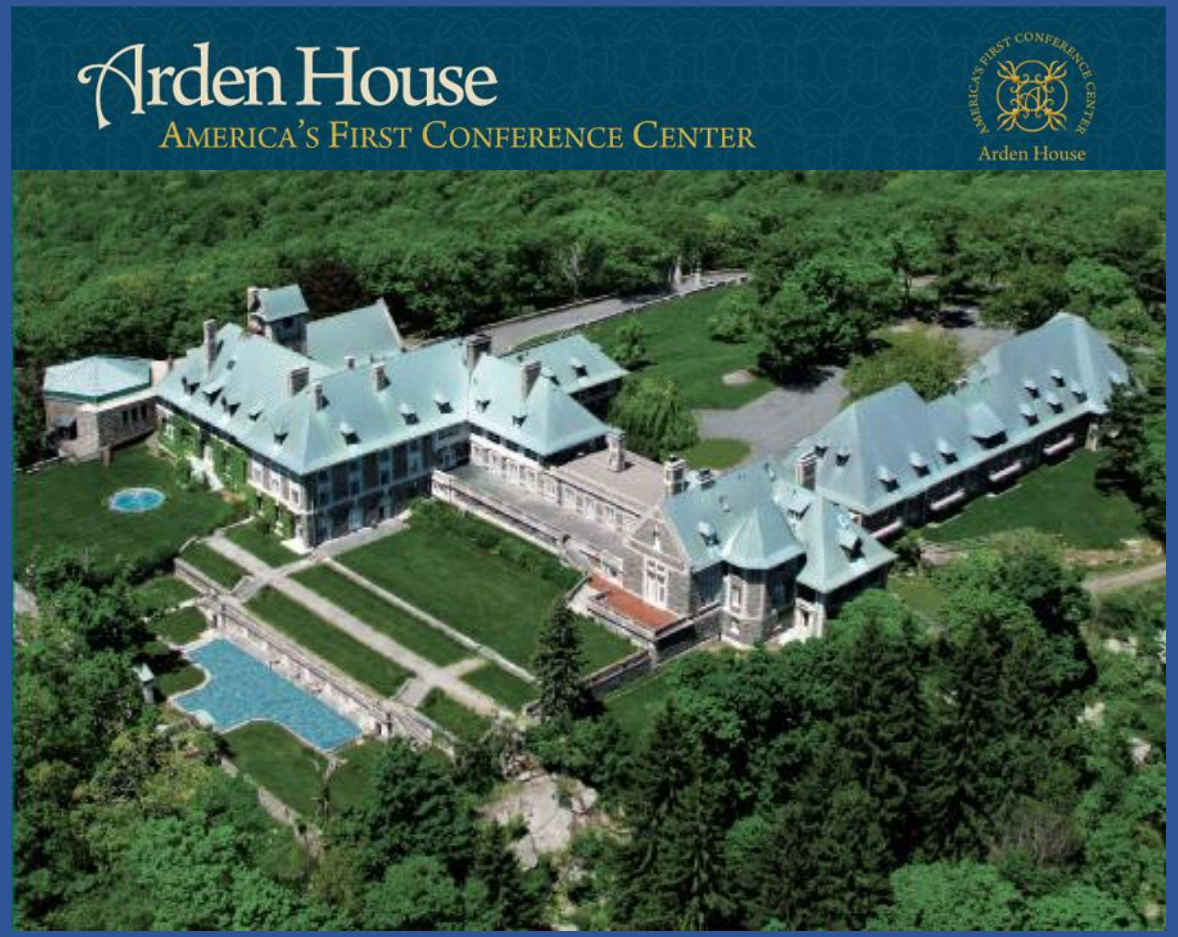
Ganem BT, Public Health Reports 1966, 81: 363-368





Massachusetts Tuberculosis Patient Days and Cost

Year	Patient Days	Cost per diem
1958	616,863	$18.94
1963	301,250	$20.50
1969	121,768	$37.85
1970	103,313	$54.37
1975	26,111	$158.60
1989	3,172	$428.00



The ARDEN HOUSE CONFERENCE on TUBERCULOSIS

Sponsored by THE NATIONAL TUBERCULOSIS ASSOCIATION and THE U.S. PUBLIC HEALTH SERVICE, TUBERCULOSIS PROGRAM

This publication presents

THE CONFERENCE RECOMMENDATIONS

A SUMMARY OF THE DELIBERATIONS

BACKGROUND MATERIAL PREPARED FOR CONFEREES

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

Tuberculosis Program

The Arden House Conference on Tuberculosis, 1959, Recommendations

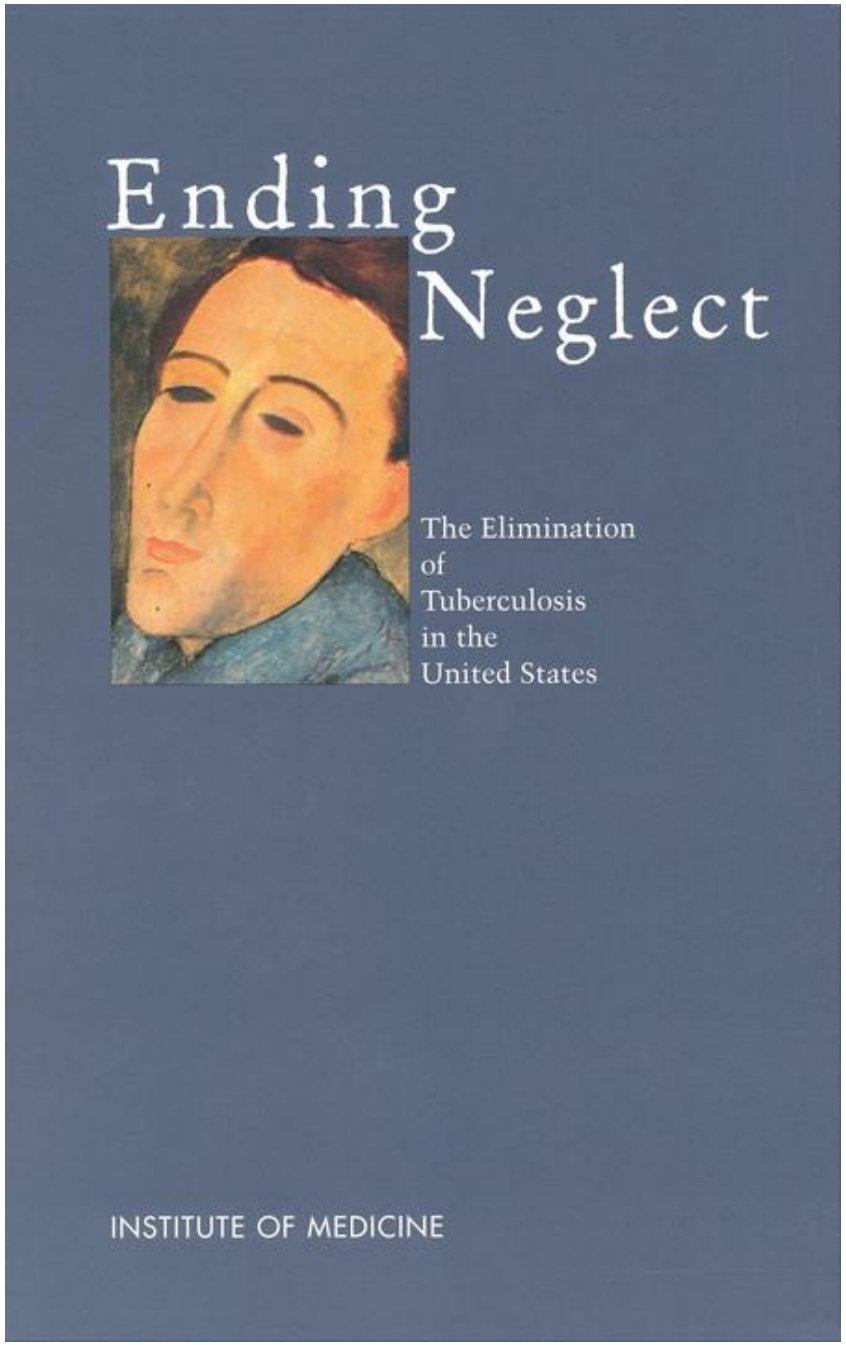
Goal : To sterilize that important part of the reservoir of tubercle bacilli that presently exists throughout the country in persons currently suffering from active tuberculous disease , whether presently known or unknown to public health authorities, and in selected persons who previously have had active disease and were inadequately treated.

The Arden House Conference on Tuberculosis, 1959, Recommendations

1. **Assumption by State and local public health authorities of their responsibility for insuring adequate treatment and rehabilitation of all patients with tuberculosis**
2. **Concentration of the tuberculosis control program on those segments of the population with the greatest tuberculosis problem**
3. **Establishment of intermediate goals, en route to the elimination of tuberculosis , together with corresponding suggested program priorities and performance standards**
4. **Periodic evaluation on a statewide basis of tuberculosis detection programs, with adjustment of such programs accordingly**
5. **Periodic review by the U.S. Public Health Service of reporting practices within the various States**
6. **Systematic local investigation of tuberculosis cases first reported by death certificate**
7. **Provision of laboratory services conveniently available to all physicians diagnosing and treating tuberculosis patients**
8. **Use of BCG according to the recommendations**

The Arden House Conference on Tuberculosis, 1959, Recommendations (Continued)

9. **Intensification of research with regard to the social , psychological, and cultural factors that affect:**
   a) **acceptance of case detection and treatment, together with continuation of treatment**
   b) **differential susceptibility of the individual to tuberculosis**
   c) **nature and results of treatment program**
10. **Intensification of research for a simple and accurate tuberculin test**
11. **Recognition of the importance and potential significance of the current isoniazid prophylaxis field study**



Ending Neglect, IOM, 2000
Recommendations

1.Maintaining control of tuberculosis while adapting to a declining incidence of disease and changing systems of health care financing and management

2. Increased efforts related to targeted tuberculin skin testing and treatment of latent infection.

3. Developing the tools needed for the ultimate elimination of tuberculosis, new diagnostic tests, particularly for diagnosis of infection, new treatments, and an effective vaccine.

4. Increasing U.S. engagement in global efforts

5. Mobilizing support for elimination and regularly measuring progress toward that goal

National “TB” Associations

ALA

National Association for the Study and Prevention of Tuberculosis (1904–1918)

National Tuberculosis Association (1918–1968)

National Tuberculosis and Respiratory Disease Association (1968–1973)

American Lung Association (since 1973)

ATS

American Sanatorium Association (1905-1938)

American Trudeau Society (1938-1960)

American Thoracic Society (since 1960)

Modern Goals for Tuberculosis Control

- Find cases
- Treat cases effectively to cure
- Identify contacts
- Identify TB infection
- Treat TB infection
- Reduce the likelihood of transmission

Current Infrastructure in Massachusetts

- 17 dedicated state-supported TB clinics
  - Billing mechanisms
- In-patient TB treatment unit at the Lemuel Shattuck Hospital
  - Now integrated into hospital population
- Mycobacteria Laboratory at the State Public Health Laboratory
- Nurse case management required by regulation
- Community health workers
  - DOT and communications

Dedicated TB Clinical Services

Challenges

- ❖Limited resources, funding
- ❖Marginalized populations
- ❖Fear
- ❖Stigma
- ❖Lack of social supports
- ❖Expertise limited to few
- ❖Directly observed therapy
- ❖Complicated treatment
- ❖Drug resistance
- ❖Drug shortages
- ❖Diagnostic complexities
- ❖Reagent and test shortages
- ❖Lingering pandemic effects
- ❖Mass deportation
- ❖Misinformation
- ❖Disinformation
- ❖Foreign aid funding losses
- ❖Domestic funding losses

Context: 1905 Versus 2025 in U.S.

1905	2025
TB ubiquitous (~250/100,000)	TB “rare” (~3/100,000)
Active disease arrestable	Curable
Everyone perceived themselves to be at risk (“them and us”)	TB happens to someone else (“them”)
Everyone understood the extent of the problem	Public unaware of TB unless they have personal experience or awareness temporarily raised by media
Public health investment, but problem larger than resources	Resources limited

Tuberculosis control and tuberculosis management has always been difficult.

Potential Responses to Challenges?

- Recruit champions
- Develop effective messaging
- Leverage screening related to biologics for education
- Shift TB care to primary care
- Increase patient navigation
- Take advantage of changing technology
- Leverage current advances in treatment

Stop TB Partnership

hosted by UNOPS

THE GLOBAL PLAN TO END TB

2023–2030


PUBLIC HEALTH MUSEUM
IN MASSACHUSETTS
http://www.publichealthmuseum.org/