

**PUBLIC HEALTH METHODS
AND THEIR APPLICATION
IN PORTLAND**

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Public Health Methods and Their Application in Portland by Various

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**PUBLIC HEALTH METHODS
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Public Health Methods

AND THEIR APPLICATION IN PORTLAND

This report, prepared by the Public Health Bureau of the City Club and approved by the board of governors, has not been officially adopted by the Club before being published, but is presented in this form for the consideration of City Club members.

BOARD OF GOVERNORS

A PRELIMINARY STUDY BY THE PUBLIC HEALTH BUREAU
OF THE
CITY CLUB OF PORTLAND
PORTLAND, OREGON, FEBRUARY, 1922

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PREFACE

TO THE BOARD OF GOVERNORS OF THE CITY CLUB—

Gentlemen:

We have the honor to transmit herewith a study of the public health methods in practice in the City of Portland.

The purpose of this report is to present to you salient features in regard to the public health of the city, and to suggest lines of further research which, we believe, will be of interest to the City Club and will afford it an opportunity to be of service to the community, by placing before the public facts and suggestions for the improvement of conditions which are in need of adjustment.

This report is, necessarily, only a survey, but the facts contained have been obtained through reliable, official sources, including the offices of the City Attorney, the City Engineer, the City Harbor Master, the State Health Officer, Oregon Tuberculosis Association, U. S. Geological Survey, U. S. Weather Bureau, the Public Library, the offices of various organizations concerned in public health work, and through personal investigation by members of the committee.

It is our desire, in presenting this report, to express our appreciation for the aid given by various City Club members, and City Club friends, in the collection of the data and in the compilation of the report.

Respectfully submitted,

PUBLIC HEALTH BUREAU OF THE CITY CLUB.

N. E. WAYSON, M. D., *Chairman*
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E. EARL FEIKE
T. H. SHERRARD
L. HOWARD SMITH, M. D.
FREDERICK D. STRICKER, M. D.

Portland, Oregon, February 15, 1922.

TABLE OF CONTENTS

INTRODUCTION—

I. BUREAU OF HEALTH

1. ORGANIZATION AND ADMINISTRATION	Page 9
2. EPIDEMIOLOGICAL ACTIVITIES	Page 11
3. FOOD INSPECTION	Page 16
MILK	Page 17
RESTAURANTS	Page 19
MEAT	Page 21

II. SANITARY ENGINEERING

1. WATER SUPPLY	Page 24
2. SEWAGE DISPOSAL	Page 28
3. GARBAGE COLLECTION AND DISPOSAL	Page 30
4. HOUSING	Page 31
5. PORT INSPECTION	Page 31
6. INDUSTRIAL HYGIENE	Page 32

III. PUBLIC HEALTH AND SOCIAL SERVICE

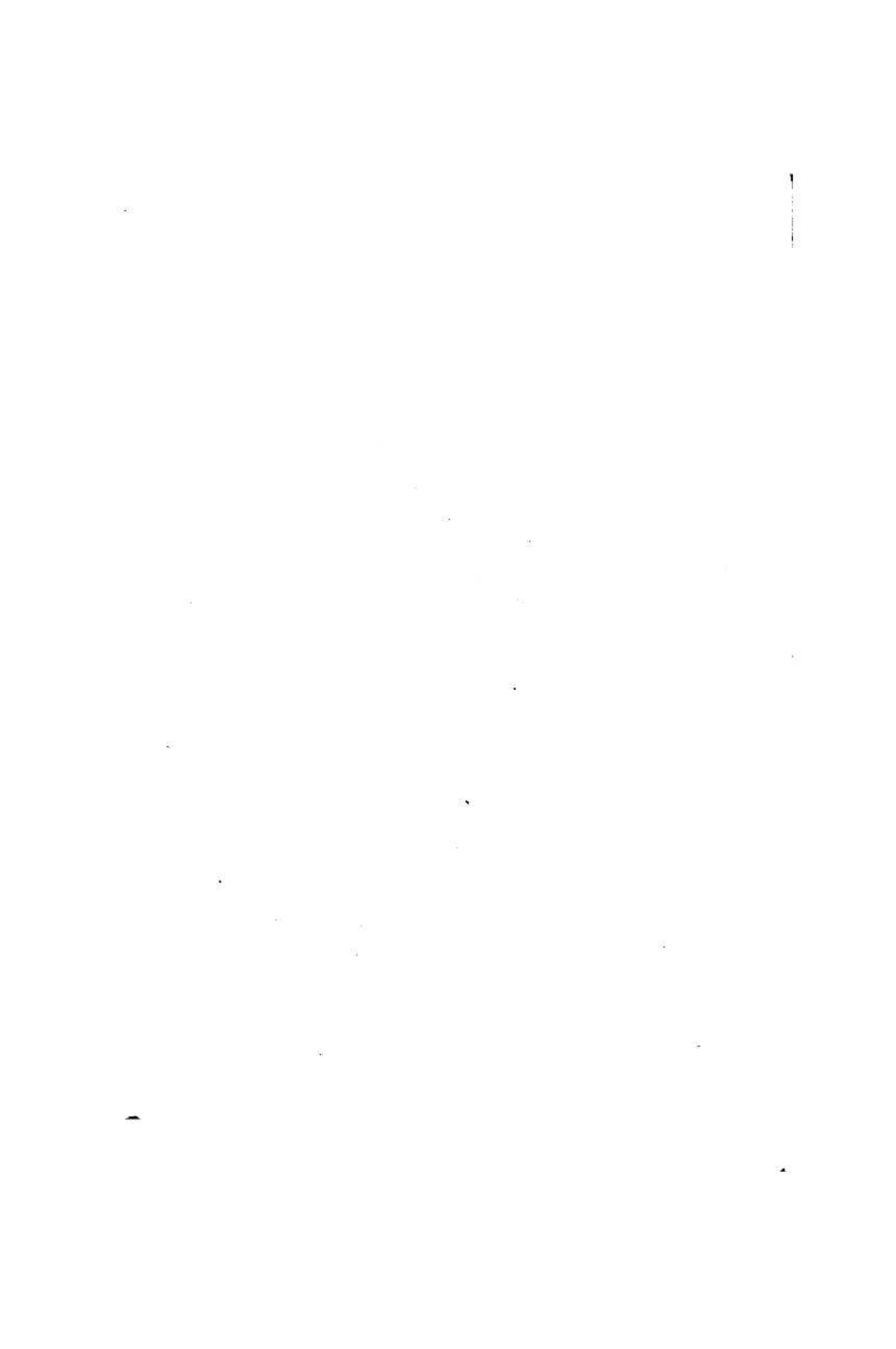
1. MATERNAL AND INFANT WELFARE	Page 33
2. SCHOOL INSPECTION	Page 34
3. ANTI-TUBERCULOSIS ACTIVITIES	Page 34
4. OUT-PATIENT CLINICS AND VENEREAL DISEASES ..	Page 35

IV. RECOMMENDATIONS

Page 36

APPENDIX

1. WELFARE ORGANIZATIONS	Page 37
2. PERSONNEL OF BUREAU OF HEALTH	Page 39
3. MILK AND MEAT REPORTS	Page 40



Public Health Methods

AND THEIR APPLICATION IN PORTLAND

INTRODUCTION

Public Health Methods are the methods used to preserve the health and prolong the life of the individual as related to the mass of the population. Aiding in the development of these methods and the accomplishment of these purposes, have been the modern means of disease-prevention revealed by the sciences of biology, chemistry, physics and political economy in combination with the applied science of engineering.

All health agencies which function efficiently are guided by the laws of these sciences, and their facilities for operation must include the personnel and equipment necessary to investigate and to execute these laws.

Area and Population of Portland.

The geographical location of a city, its size, topography and climate, as well as the origin, mental condition, age and number of its inhabitants, are natural factors which affect the application of general scientific laws.

Portland covers an area of 66.59 square miles and in this respect is the eighth city of the United States, while in respect to population it is twenty-fourth, with a population of 258,288, according to the census of 1920. These facts naturally have a decided bearing upon the administration of public health agencies and greatly affect the city's particular needs.

It is manifest that a community with an average population of 3880 per square mile has fewer disease problems and difficulties than overcrowded cities with an equal population in a few blocks. The family with the walls of the house and one hundred feet of lawn space between it and the next family does not need the same supervision to protect it from a contagious disease affecting the second family as is needed when they are separated by a single nine inch wall and a few feet of corridor used in common by both. The child who is obliged to use a common corridor as a play ground is more prone to contract a dangerous disease from his playmates, than he who can play in ten thousand square feet of open space without coming in contact with another human being.

Topography and Climate Important Health Factors.

People who live in a city with a topography like that of the residential district of Portland, with rolling heights and elevated plateaus, have a health advantage over those who must live in the relative confinement of low-lying streets, and flat environs. In other words, the free circulation of clean air,

THE CITY CLUB OF PORTLAND

the rapid run off of surface waters, and the daily fluctuation of the temperature favored by these heights projecting above the heated streets and buildings, enable the individual to recuperate from the wear and tear effected by his daily occupation. This daily resuscitation aids in building up his resistance to disease.

The meteorological conditions of any locality play an important role in the health of its population. The following report is taken from the Annual Meteorological Summary of the U. S. Weather Bureau of Portland.

Portland is the westernmost large city in the United States. It is built along the Willamette River, near where this stream unites with the Columbia. While it is about 60 miles in a direct line from the ocean, and about 100 miles from the mouth of the Columbia River, the business district of the city is mostly less than 50 feet above mean sea level, and there is a noticeable tide in the Portland harbor, amounting at times to more than 3 feet. Council Crest, within the city limits, has an elevation slightly in excess of 1000 feet. The Coast range lies to the west, the Willamette Valley extends southward, rolling hills are across the Columbia River to the north, and the ground rises eastward to the Cascade Mountains. The mountains are cut through by the Columbia River.

Portland is in the latitude of southern France and northern Italy. Its climate is equable, being relatively free from extremes of temperature, high winds and destructive storms.

While the normal annual temperature is about the same as that at Atlantic City, N. J., 52.4°, the July temperature compares closely with that at Winnipeg, Man., and the January temperature is about the same as that found at Roswell, N. Mex. In a normal year there are 31 days when the temperature falls to freezing or lower, and 5 days when it reaches or exceeds 90°. In summer there is an average range of 21° between the warmest and coolest hours of the day; in winter the average range is 11°.

The average date of the last killing frost in spring is March 19th and of the first killing frost in fall is November 20th.

The relative humidity in summer averages 83 per cent at 5:00 a. m. and 48 per cent at 5:00 p. m.; in winter the average is 86 per cent at 5:00 a. m. and 77 per cent at 5:00 p. m.

The normal annual rainfall is 45.13 inches, which is about the same as that at New York City. December is the wettest month, with 7.34 inches, and July the driest with 0.54 inch. The average year has 158 days with 0.01 inch or more rain, and 57 days with 0.25 inch or more. The average annual snowfall is 15 inches. The snow usually falls in small amounts and melts quickly. In an average winter there are about 5 days when snow remains on the ground long enough to be measured at the hour of the evening observation.

The normal duration of sunshine for the year is 2,053 hours. The average for the three summer months is 874 hours, or 9 hours and 30 minutes a day. For the same period New York has 8 hours and 35 minutes and San Diego, Cal., has 9 hours and 21 minutes.

The average wind velocity is 6 miles an hour as compared with 7 miles at Seattle, Wash., and 16 miles at Chicago, Ill. Winds from the southeast, south and southwest are moist, and in winter are mild; in summer southwest winds are cool. Northwest winds are generally cool and moderately dry. Winds from the north, northeast and east are dry; in winter they are cold and in summer warm; this is particularly true of east winds.

Tornadoes are unknown. Thunder is heard about three or four times a year, and a light hail falls about as often, seldom doing damage. Ice storms sometimes cause damage to overhead wires. Dense fog occurs on an average of 24 times a year, being most frequent in autumn.

PUBLIC HEALTH METHODS

The human stock in Portland is not unique in comparison with other western cities. The average age of the people is less than that of many of the eastern cities. Seventy-six per cent of the people are less than 45 years of age, and should therefore exhibit a lower death rate unless greater hazards to health are present. Economic conditions often seriously affect the health of recent immigrants, since these people are usually suffering from the conditions which have impelled them to emigrate from their native countries. In 1920 the population of Portland contained 18.2 per cent foreign-born, 16.2 per cent native-born of foreign parents and 10.7 per cent native-born of mixed parentage; thus, 45.1 per cent of the people of the city are but one generation removed from the racial, economic and environmental conditions of their native countries. These factors tend to modify the methods used by health agencies in the prevention of disease.

Department of Health is Official Agency.

In cities of the size of Portland, the central agency for public health activities is the Department of Health. This department is frequently organized as a board of officers, several of whom have special or technical training in medical or sanitary procedure, but it may be a division or bureau of a larger unit as it is in this city. In most countries and states, there are provisions by which the health agencies of both the state government and the federal government may assist the city.

The department or bureau of health is that which is legalized and empowered by the public to regulate sanitary procedures through enactment of rules and by their execution. To this authorized agency is delegated police powers which enable it to enforce these rules.

The powers of the local health department are strengthened through the structure of our state and federal government. The state health department is so constituted that it may aid the city in times of stress or definite inadequacy of local machinery, especially if the situation threatens the health of residents of the state outside of the city. The federal government will aid the state and city authorities upon request of the state officers, or it will assume charge if necessary for the protection of other states. The federal government further aids the local agency through supervision of the sanitation of foreign and interstate common carriers and the inspection of traveling citizens and immigrants.

In addition to the constituted authorities, there are numerous voluntary agencies which, though lacking in power are of great aid in public health work. They originate, usually, in a high type of philanthropy and accomplish their ends through that most powerful of all public health procedures, the education of the public.

The efficiency of the Bureau of Health is dependent upon its legal foundation, its organization and its facilities for operation. These features are controlled by public opinion, as reflected through the city budget, and by the contribution of services and financial aid through volunteer agencies. The