

REPORT OF THE BUREAU OF TRANSMISSIBLE DISEASES OF THE DEPARTMENT OF HEALTH

1924-1925

To deal with the communicable diseases that are most prevalent in Porto Rico, the Department of Health has established several bureaus, since last year, namely: Bureau of Tuberculosis, Bureau of Venereal Diseases, Bureau of Uncinariasis, Bureau of Plague Prevention and recently the Bureau of Malaria. All the work of prevention and control carried out during the year in regard to these diseases has given splendid results.

Other transmissible diseases needing to be considered separately are the following: Typhoid fever, Diphtheria, Infantile Tetanus, Measles, Leprosy and Whooping Cough.

TYPHOID FEVER

Epidemic outbreaks of typhoid fever have been registered during the year in Ponce, Caguas, Barros and Comerío. The first cases in Ponce were reported on September 16, 1924, by the district medical officer. The total number of cases registered was 295. The Department of Health established an Emergency Hospital where almost all of these patients were isolated. Vaccination was thoroughly carried out, chiefly throughout the infected zones. Repeated examinations of samples of water from the city water supply were made at the Biological Laboratory and in all instances they were found contaminated. A chlorine plant was immediately installed by the Sanitary Engineer at the tanks of the aqueduct for the proper treatment of the water. A careful inspection of milk stations, bakeries, groceries, market places, street peddlers, etc., was carried out. The outbreak was very soon checked and on November 16th the emergency hospital was closed.

A second outbreak was registered in May of 1925 in a suburb of Ponce, caused by the contamination of artesian wells which supplied water to the inhabitants of the district. Fifty cases were registered during this second epidemic.

The infection in the municipality of Barros covered only the rural zone. After a study of the epidemic it was found that the disease was due to direct contact with carriers, and that probably

the first cases registered were imported from other localities. The fact that the number of patients was small made it possible for this Department to hospitalize them all. The field personnel of the Bureau of Transmissible Diseases took charge of the work of disinfection and immunization and of the educational campaign among the inhabitants.

The outbreak at Caguas was of minor importance. In Comerío the outbreak was due also to the contamination of the water supply of one district in the rural zone. The same measures as in Ponce were taken by the Bureau of Transmissible Diseases. The number of cases recorded was forty-one and eight deaths were registered.

The following chart shows the towns of the Island where the number of deaths from typhoid fever was higher during the present year:

Town	Deaths
Ponce-----	58
Arecibo-----	19
San Juan-----	12
Barros-----	10
Comerío-----	8
Isabela-----	8
Mayagüez-----	7
Caguas-----	7
Aguadilla-----	5
San Sebastián-----	5
Villalba-----	4
Cayey-----	3

DIPHTHERIA

Three hundred and seventy cases of diphtheria were reported during the year and the disease was responsible for one hundred and one deaths. Of course it may be ascertained that not all the cases were reported, for these figures being correct, the fatality of this particular cause of death, or the ratio between mortality and morbidity, would be 27.29 per cent, almost three deaths for every ten cases, which is quite improbable.

The highest number of cases was registered in San Juan, being one hundred and eight with seven deaths. It is worth mentioning that the number of cases in the city dropped from 326 during the year 1923-1924 to one hundred and forty-eight this year, making a decrease of fifty-five per cent, which may be attributed to the work

of immunization which is being carried on by the Department of Health. The work of immunization against diphtheria by means of the Toxin Anti-toxin mixture, of which a detailed account was given in last year's report, has been continued this year with highly satisfactory results.

Although the number of tests given is lower than that of last year, the number of schools and other institutions visited is greater. Five thousand five hundred and thirty-seven tests were given during the year with 1,227 positive reactions, or an average of about 23 per cent, the figures for last year being 7,951 tests given, of which there were 1,943 positive reactions with an average of 25 per cent. During the vacation period the work was continued at the dispensaries of the Department of Health where over 500 tests were given with an average of 33 per cent of positive reactions. It was decided to visit this year only those schools that were not visited last year with the exception of the Charity Schools in charge of the Department of Health and Luchetti School where for special reasons the test was given for the second time to the pupils who had been immunized the year before, with the following results:

	Girls' Charity School	Boys' Charity School	Luchetti School
Number of pupils giving a positive reaction, immunized last year.....	54	53	281
Tests given this year.....	54	53	281
Positive reactions.....	11	8	36
immunized for the second time.....	14	8	28

The following chart shows the work carried out during the year by the Division for the Prevention of Diphtheria:

Schick Test

Establishments	Number of tests	Positive	Percentage	Vaccinated
<i>Public Schools</i>				
Rosendo Matienzo Cintrón	738	138	18.85	127
Tomás Carrión Maduro	195	24	12.30	23
Ruiz Belvis	449	31	6.90	31
Luis Muñoz Rivera	650	136	20.92	128
Rafael María de Labra	563	154	27.35	153
Rafael Cordero	50	8	16.00	8
Luchetti	688	192	27.91	134
Laureano Vega	156	64	41.02	52
Monte Flores	78	13	16.66	13
Barrio Obreiro	475	59	12.42	56
Barrio Sanoco	105	18	17.14	17
Ranchoes	64	5	7.81	5
Tras Talleres	161	17	10.56	17
Totals	4372	859	19.65	764
<i>Private Schools</i>				
Blanche Kellogg Institute	56	15	26.78	16
Robinson Orphanage	89	19	27.54	19
Immaculate Conception College	218	82	37.61	80
Lutheran School	30	8	26.66	8
Methodist School	81	23	27.88	23
Presbyterian School	49	18	36.73	17
Totals	506	165	32.61	162
<i>Other Establishments</i>				
Girls' Charity School	55	12	21.82	12
Boys' Charity School	53	8	15.09	8
Dispensaries Department of Health (A) Santurce	227	80	35.24	74
(B) Barrio Obreiro	146	27	18.49	26
(C) San Juan	126	58	46.03	51
Day Nursery	30	14	46.66	14
Public-Health Nurses	22	4	18.18	3
Totals	659	203	30.80	188
<i>Recapitulation</i>				
Public Schools	4372	859	19.65	764
Private Schools	506	165	32.61	162
Other establishments	659	203	30.80	188
Totals	5537	1227	22.16	1114

SCHICK TEST

Table Showing the Number of Tests Classified by Age Groups Under and Over 16 Years

Establishments	Under 10 years of age			10 years and over		
	No. of tests	Positive	Percent	No. of tests	Positive	Percent
<i>Public Schools</i>						
R. Matienzo Cintrón.....	204	46	22.06	534	93	17.42
T. Carrión Maduro.....	163	23	14.11	32	1	3.12
Ruiz Belvis.....	211	25	11.85	238	6	2.52
Muñoz Rivera.....	208	59	28.37	442	77	17.42
Rafael M. de Labra.....	.....	.....	.....	563	154	27.55
Rafael Cordero.....	46	8	17.39	4	.....	.....
Luchetti.....	310	95	27.94	348	97	27.87
Lauriano Vega.....	104	50	48.08	52	14	26.92
Monteliores.....	26	9	34.62	52	4	7.69
Barrio Obrero.....	296	46	15.54	179	13	7.26
Sunoco.....	94	18	19.15	11	.....	.....
Ranchones.....	17	4	23.53	47	1	2.13
Tras Talleres.....	120	16	13.33	41	1	2.44
Totals.....	1829	398	21.21	2543	461	18.13
<i>Private Schools</i>						
Blanche Kellogg Institute.....	.....	.....	.....	56	15	26.79
Robinson Orphanage.....	22	9	40.90	47	10	21.28
Immaculate Conception College.....	128	56	43.75	90	26	28.89
Lutheran School.....	30	8	26.67	.....	.....	.....
Methodist School.....	81	23	28.40	3	.....	.....
Presbyterian School.....	43	18	41.86	6	.....	.....
Totals.....	301	114	37.50	202	51	25.25
<i>Other Establishments</i>						
Girls' Charity School.....	14	2	14.29	41	10	24.39
Boys' Charity School.....	7	1	14.29	46	7	15.22
<i>Dispensaries of the Dept. of Health</i>						
Santurce.....	227	80	35.24	.....	.....	.....
Barrio Obrero.....	116	27	11.46	.....	.....	.....
San Juan.....	126	58	46.08	.....	.....	.....
Day Nursery.....	30	14	46.67	.....	.....	.....
Public Health Nurses.....	.....	.....	.....	22	4	18.18
Totals.....	550	182	33.09	109	21	19.26
Grand total.....	2683	694	25.83	2854	533	18.75

INFANTILE TETANUS

Four hundred and ninety-one deaths were registered during the year caused by infantile tetanus as against 503 the year 1923-1924. The following chart shows the number of deaths from infantile tetanus in those municipalities where ten or more deaths were recorded:

Town	Number of deaths	Rate per 100,000 population
Rincón.....	22	242
Moca.....	37	219
San Germán.....	44	178
Aguada.....	20	146
Cabo Rojo.....	27	113
Vega Baja.....	14	81
Fajardo.....	10	66
Yabucoa.....	13	62
Aguadilla.....	15	58
San Sebastián.....	11	46
Arecibo.....	20	41
Caguas.....	15	37
Ponce.....	21	27
San Juan.....	23	25

MEASLES

Some epidemic outbreaks of measles, of great intensity, have also occurred this year in several towns of the Island. As this disease is so easily spread, affecting a great number of persons at the same time, the proper care of every patient is very difficult and hospitalization impossible, thus the fatality of the disease itself and its sequelae is high particularly among the poorer classes. During the year 620 deaths were registered as against nine from the same cause the year before. Those towns where ten deaths or more were registered are listed below.

Town	Number of Deaths	Rate per 100,000 Population
Cayey.....	55	206
Naguabo.....	27	163
Vega Alta.....	17	156
Naranjito.....	17	150
Rincón.....	13	143
Caguas.....	58	143
Arecibo.....	66	135
Vega Baja.....	21	121
Aguadilla.....	31	120
Río Piedras.....	27	101
San Lorenzo.....	20	99
San Juan.....	82	92
Bayamón.....	23	87
Hatillo.....	10	63
Lares.....	15	56
Mayagüez.....	22	50
Ponce.....	14	18

LEPROSY

Six new patients were admitted this year to the Leper Colony at Cabras Island and two to the Quarantine Hospital. The general movement of patients during the year is shown below:

	Leper colony	Quarantine Hospital	Total
Inmates on June 30, 1924	35	4	39
Admitted during the year	6	2	8
Total	41	6	47
Patients discharged			
Deaths	2		2
Remarkably improved		3	3
Inmates on June 30, 1925	39	3	42

These patients are classified as follows:

SEX

Male	14
Female	28

COLOR

White	22
Colored	20

AGE

Adults	37
Children	5

FORMER RESIDENCE

San Juan	10
Patillas	8
Naguabo	5
Ponce	3
Aguadilla	2
Caguas	2
Guayama	2
Trujillo Alto	2
Río Grande	2
Coamo	1
Añasco	1
Manatí	1
Vieques	1
Republic of Colombia	1
Virgin Islands	1

The three patients discharged from the Quarantine Hospital, according to law, were sent to their respective homes, with no external manifestations of the disease and after repeated negative

examinations were obtained from the naso-pharyngeal exudates. These patients live in their homes isolated from the rest of the family and have to comply with certain rules prescribed by the Commissioner of Health. At intervals of every six weeks they are thoroughly examined at the Quarantine Hospital and at the Biological Laboratory. Up to the present time their condition is satisfactory.

No change has been made as to treatment. The weekly intravenous injections of the ethyl-esters of chalmougra oil have been applied as usual. In some of the patients, however, it has been necessary to stop treatment temporarily on account of strong febrile reactions. Four thousand and thirty-two c.c. of the ethyl-esters of chalmougra oil were used during the year. The intra-venous administration of the ethyl-esters has been standardized thus: Adults, 3 c.c. weekly; children below twelve years of age, 1 c.c. This intravenous method is to-day routinary in Porto Rico as the intra-muscular method has been entirely discarded.

In spite of the efforts of the Department to have the new leprosarium now under construction in Trujillo Alto finished in order to transfer the inmates from the old Leper Colony at Cabras Island, still the new hospital has not been delivered by the contractors. Although the buildings and dependencies are practically completed, the sewerage system which is still under construction has hindered us from transferring the patients. The necessary appropriation has been included in the budget for this fiscal year and it is expected that the new hospital will be opened at the beginning of the year 1926.

WHOOPING COUGH

An epidemic outbreak of whooping cough was registered during the year in Barceloneta, 245 cases having been reported and only one death registered from this disease. Outbreaks of less importance were registered throughout the Island, as appears from the morbidity statistics, although, in fact, the number of cases registered and not reported must have been much larger, for the total number of deaths caused by whooping cough in the Island during this year is 131 as against 33 the year before.

VACCINATIONS

The Bureau of Transmissible Diseases has specially trained personnel for the work of immunization against communicable diseases

and this personnel has been very active during the year as may be seen by the number of vaccinations effected:

Vaccinations against smallpox	44, 041
Vaccinations against typhoid fever.....	9, 730
Vaccinations against diphtheria.....	3, 903
Anti-Rabic treatments	9

QUARANTINE HOSPITAL

During the past year many changes have taken place in the Quarantine Hospital and we have been successful in transforming this place, once so unpopular because of its inadequate equipment and unpleasant surroundings, into an attractive and inviting institution.

The Quarantine Hospital faces the Bay of San Juan. Several pavilions provide accommodations for the forty patients and beautiful gardens surround the institution. There are also private wards, a clinic, an operating room and the administration building where the offices and nurses' quarters are located.

Improvements are being made continually in this most important hospital and due to the activity of the staff and their unstinted interest in the work, there is reason to believe that the Quarantine hospital is a credit to the Department of Health.

A total of 198 patients suffering from transmissible diseases was treated in this hospital during the fiscal year 1924-1925 as may be seen by the following chart:

Patients remaining on June 30, 1924	17
Admitted during the year.....	181
Total.....	198

PATIENTS DISCHARGED

Cured	150
Deaths	11
Transferred.....	6
Immunized against rabies.....	2
Improved.....	9
Not improved.....	5
Total.....	183
Remaining on June 30, 1925.....	15

DIAGNOSIS OF THE CASES TREATED

Typhoid fever-----	29
Diphtheria-----	27
Measles-----	62
Leprosy (for study and observation)-----	12
Tuberculosis (for study)-----	7
Whooping cough-----	6
Malaria-----	3
Syphilis-----	5
Chicken pox-----	9
Frambesia-----	1
Septicemia-----	2
Influenza-----	5
Persons bitten by suspicious mad dogs-----	3
Mycetoma-----	1
Meningitis-----	1
Herpes-----	1
Other communicable diseases-----	24
Total-----	198

