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THE DIVISION OF DISTRIBUTION OF BIOLOGICAL  
PRODUCTS.

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HENRY W. PEIRSON, *Chief.*

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The Division of Distribution of Biological Products, Department of Health of the State of Pennsylvania, during the year 1913 distributed free to the indigent of the State four distinct products, as follows:—

*First.* Diphtheria Antitoxin, now furnished through 667 Distributors, nearly all druggists, located at convenient points in each county throughout the entire State except in the cities of Philadelphia and Pittsburgh. This distribution began November 4th, 1905, when 473 Distributors were appointed. The locations of these distributing points may be ascertained from the map on the opposite page.

*Second.* Tetanus Antitoxin, now furnished to the poor of the State through sixty-eight distributors at different points in nearly every county, but not in the cities of Philadelphia and Pittsburg. The distribution of this product was begun in 1910 in anticipation of the dangers of the approaching Fourth of July. In 1913, as also in 1912 and 1911, the Distributors were again similarly prepared to meet the dangers of exuberant patriotism, and arrangements were continued to make the Antitoxin easily attainable for those who might be injured at other times. In this connection it may be well to state that the reason for the small number of Tetanus Antitoxin distributing stations as compared with the number of Diphtheria Antitoxin stations is because Tetanus Antitoxin if given within forty-eight hours after injury, is effective, and the Tetanus Stations are so located that from nearly every locality in the State, one or more stations may be reached within twenty-four hours.

*Third.* Tubercle Bacilli Products so called, namely, Tubercle Bacilli Extract and Suspension of Dead Tubercle Bacilli. The distribution of these products began June 29th, 1909, when only the Dilutions from No. 1 to No. 10 of both Extract and Suspension were available. The Extract is now put up in Dilutions from No. 1 to No. 20, and the Suspension in Dilutions from No. 1 to No. 16, as defined on page 742, below. They are furnished by the Department upon requisition of the Physicians in charge of the Tuberculosis Dispensaries and have been used quite extensively during the past year in the treatment of patients at the Pennsylvania State Sanatoria for tuberculosis at Mont Alto and Cresson. The Department of Health undertook the preparation of these products in its own laboratories in

June, 1912, and for the remainder of that year this was the source of supply, except for a few syringes occasionally furnished by H. M. Alexander & Co. During 1913 the laboratories have supplied all the tubercle bacilli products used.

*Fourth.* Vaccine and Vaccine supplies, transferred from the General Office to this Division, January 27th, 1909. They are now furnished upon requisitions of the County Medical Inspectors of the Department of Health for the poor of townships not of the first class, to the various tuberculosis dispensaries of the Department, to poor charitable institutions when asked for during a local or general epidemic of smallpox, and as may be otherwise ordered by the Commissioner of Health.

DIPHThERIA ANTITOXIN.

METHOD OF DISTRIBUTION.

Antitoxin in curative and immunizing doses may be secured by physicians practising in this Commonwealth upon their declaring in writing that no charge of any kind is to be made for the Antitoxin, and that the person or persons for whom it is obtained are indigent in the sense that they cannot procure the necessities of life and at the same time purchase antitoxin, and also that the physician will send to the Department of Health a full clinical report as specified by the Commissioner of Health.

After appointment the Distributor is furnished with an initial supply of serum, consisting of five packages of 1,000 units and five packages of 5,000 units, together with the blank forms, stamped envelopes, etc., necessary for its distribution.

In token of his authority to act in behalf of the Department of Health, each Distributor of Diphtheria Antitoxin receives upon appointment a Commission in the following form:—

COMMISSION.

COMMONWEALTH OF PENNSYLVANIA.

DEPARTMENT OF HEALTH.

Division of Distribution of Biological Products.

Know all men by these presents, that.....  
residing at.....in the county of.....  
State of Pennsylvania, ha..., this.....day of.....  
been duly appointed Distributor of Diphtheria Antitoxin, at.....  
.....County, Pennsylvania, under the  
rules of the Department of Health.

(SEAL.)

.....  
Commissioner of Health.

Detailed information regarding distribution may be found in the letter of instructions, Form B. P. 516, below, and in the various forms which follow.

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Form B. P. 516.

COMMONWEALTH OF PENNSYLVANIA.  
DEPARTMENT OF HEALTH.  
DIVISION OF DISTRIBUTION OF BIOLOGICAL PRODUCTS.

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INSTRUCTIONS TO DISTRIBUTORS REGARDING THE DISTRIBUTION  
AND USE OF DIPHTHERIA ANTITOXIN.

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In the distribution of Diphtheria Antitoxin there are **THREE** printed forms which **MUST** be filled out.

**FIRST IN IMPORTANCE**, FORM B. P. 517, is known as the Application and Receipt. It is in a small book containing 100 numbered pages—50 white and 50 blue—the white to be signed by the physician and forwarded to the Department after the amounts of Antitoxin secured by him are properly filled out in the spaces reserved for this purpose; the blue, on which the carbon copy is taken, remains in the book for the Distributor's own record. A space is specifically provided in the lower left hand corner of this FORM B. P. 517 for a statement of Distributors' stock of Antitoxin on hand, the filling out of which space will prevent the distributor from ever allowing his stock of Antitoxin to become **ENTIRELY** exhausted, as a careful examination is made of each FORM B. P. 517 immediately upon its receipt and if stock is found to be low, additional supply is at once forwarded. This avoids the expense of telegraph and telephone messages to the Department for additional stock.

A physician having a case of Diphtheria among the poor should immediately **APPLY** to the nearest Distributor, **SIGN** a **RECEIPT**, Form B. P. 517, and secure all the Antitoxin he needs for the treatment of the case. He agrees, as you will see by the Application and Receipt, to return to the Distributor all unused Antitoxin **WITHIN TEN DAYS** after securing same.

Our experience teaches us that the Distributor should require physicians to sign for the Antitoxin **BEFORE** securing same, if at all possible, because when they send for it they often fail to come in and receipt for same for several days and sometimes never sign for it at all.

**SECOND**, FORM B. P. 519—is the little slip found wrapped around the outside of the box of Antitoxin. It is to be filled out by the physician, with the patient's name and address, date of use, physician's signature and address, distributor's name and address, and **MUST** when returned to the Distributor be forwarded by him to the Department of Health together with the above mentioned Application and Receipt, Form B. P. 517, in the printed stamped envelopes furnished to the Distributor.

**THIRD**, FORM B. P. 518—is the Clinical Report and is found inside the box of Antitoxin. The Physician fills this out, signs and returns it to the Department at the termination of the case. The Distributor has **NOTHING WHATEVER TO DO WITH THIS FORM**.

**SPECIAL NOTICE**:—INSTRUCTIONS relative to sale of Antitoxin belonging to the State supply **ONLY** in case of emergency. It sometimes happens the private supply of the Distributor becomes exhausted at a time when a call may come from a person well able to pay for same. In such cases the Distributor is allowed to take Antitoxin from his State supply with the distinct understanding that it

MUST BE IMMEDIATELY REPLACED BY PURCHASE from Messrs. H. M. Alexander & Co., at their market price, and in communicating with them in regard thereto the Distributor should not fail to make clear the exact number of either 1000, or 5000 unit packages of STATE goods being replaced. In this connection I would state that the same record is required by the Department for goods that are sold and taken from the State supply as is made for indigent cases, the only difference being that the word "SOLD" must be written across the face of all these records for identification here.

Our distributing agents, Messrs. H. M. Alexander & Co., Marietta, Pa., have been instructed to forward you an INITIAL supply of five packages of 1000 units and five packages of 5000 units of Antitoxin, and Distributors should bear in mind that an additional supply will be furnished immediately upon notification that this stock is NEARLY exhausted, which notice can be made by simply filling up the space in the lower left hand corner of FORM B. P. 517 specially provided for a statement of stock on hand.

Should an epidemic of Diphtheria break out in your locality, when a large quantity of Antitoxin might be needed at once, you are authorized to telegraph, C. O. D., (Using the enclosed code) or to telephone, reversing charges to this office for the necessary additional supply.

SAMUEL G. DIXON, M. D.,

Commissioner of Health.

Form B. P. 517.

COMMONWEALTH OF PENNSYLVANIA.

DEPARTMENT OF HEALTH.

APPLICATION AND RECEIPT FOR DIPHTHERIA ANTITOXIN.

.....19....

I hereby acknowledge the receipt of the following named amounts of Diphtheria Antitoxin, for use in the family of.....

.....packages containing 1,000 units, Laboratory Nos.,.....

.....packages containing 3,000 units. Laboratory Nos.,.....

.....packages containing 5,000 units. Laboratory Nos.,.....

from.....Distributor, Address, .....

in the name of the Department of Health. I hereby certify that the persons mentioned for whom this Antitoxin is furnished for the treatment of diphtheria are indigent in the sense that they cannot procure the necessities of life and at the same time purchase Antitoxin. I agree to make no charge for it directly or indirectly, and if unused, to return to the Distributor within ten days; also to mail to the Department of Health, immediately upon termination, a clinical report for each case, on the blanks furnished for this purpose.

We have in stock at this time: .....

.....packages of 1,000 units. (Physician's Signature.)

.....packages of 3,000 units. ....

.....packages of 5,000 units. (Address.)

.....

(Distributor's Signature.)

.....

(Full Address.)

In signing this receipt the physician, by means of the inlaid carbon paper, also signs the blue stub bearing the same number. The blue stub is for the Distributor's personal record of Antitoxin issued by him and the Form B. P. 517 printed upon it is identical with that on the white slip. The white slip is forwarded to the Department by the Distributor with Form B. P. 519 given below.

Each package of this Antitoxin has wrapped about it a narrow slip of paper on which is printed a form useful for identification, as follows:—

## Form B. P. 519.

COMMONWEALTH OF  
PENNSYLVANIA,  
DEPARTMENT OF HEALTH.

|  |                                |                     |
|--|--------------------------------|---------------------|
| Diphtheria Antitoxin.                  | Diphtheria Antitoxin, .....    | Units               |
| ..... Units                            | Manufacturer, .....            | Laboratory No. .... |
| Manufacturer.                          | Patient, .....                 | Address .....       |
| .....                                  | Date of use, .....             | .....               |
| Laboratory No.                         | Physician's signature, .....   | .....               |
| Date within which the unopened vial or | Address, .....                 | .....               |
| attached slip must be returned to      | Distributor's signature, ..... | .....               |
| Distributor .....                      | Address, .....                 | .....               |
| .....                                  |                                |                     |

This slip when returned to Distributor must be forwarded to the Department of Health, together with the application for the same.

SAMUEL G. DIXON, Commissioner.

## Form B. P. 518.

COMMONWEALTH OF PENNSYLVANIA,  
DEPARTMENT OF HEALTH.

CLINICAL REPORT OF DIPHTHERIA TREATED WITH ANTITOXIN.

*Use a separate blank for each case and forward immediately upon termination of the same to the Department of Health, Harrisburg, Pa.*

Patient's name, ..... Address, ..... County, ..... Pa.  
Age, ..... Sex, ..... Color, ..... Date of first visit, .....  
Month Day. Year.

Was treatment immunizing or curative? .....

*If the treatment was immunizing, answer only the following questions:*

Date of treatment, ..... No. of units used, .....

How long had patient been exposed to the disease? .....

Did patient subsequently contract the disease? (Yes or No.)? .....

*If the treatment was curative, answer the following questions:*

Date of onset of the disease, .....

Month Day Year.

SPECIFY EACH TREATMENT.

.....units used within.....hours of onset.

.....units used within.....hours after first treatment.

.....units used within.....hours after second treatment.

.....units used within.....hours after third treatment.

.....units used within.....hours after fourth treatment.

.....units used within.....hours after fifth treatment.

.....units used within.....hours after sixth treatment.

.....units used within.....hours after seventh treatment.

.....units used within.....hours after eighth treatment.

.....units used within .....hours after ninth treatment.

State whether disease was *Post-nasal, Tonsillar, Pharyngeal, Laryngeal.*

(Specify by crossing out names of regions unaffected.)

State complications, if any, .....

State termination (Recovery or Death), .....

Number of persons in household, .... Number affected, ....Number immunized, ....

What was the probable source of infection? .....

Remarks, .....

.....

Distributor's Name, .....Signature, .....M. D.

Address, ..... Address .....

These three Forms, B. P. 517, 518 and 519, when properly filled out, make a complete record of each case of distribution and use of Diphtheria Antitoxin issued by the Department of Health.

DIPHTHERIA ANTITOXIN—1905-1913.

The establishment of stations for the distribution of Diphtheria Antitoxin among the indigent in the State of Pennsylvania and the naming of Distributors began November 4th, 1905, when 473 Distributors, mostly duly registered druggists, were appointed at convenient places. Some Antitoxin was distributed, however, in October, 1905, before any distributors were appointed. In 1906, this number was increased to 511; in 1907, to 529; in 1908, to 569; in 1909, to 650; in 1910, to 656; in 1911, to 662; and in 1912, to 667. No additions were made to these in 1913.

From the date of the very beginning of the distribution of Diphtheria Antitoxin to the indigent throughout the State of Pennsylvania by the Department of Health, in October, 1905, up to and including December 31st, 1913, fifty-five thousand four hundred and seventy (55,470) cases of diphtheria were treated for cure, four thousand five hundred and forty-three (4,543) of which, or 8.19% resulted fatally.

The following statement shows the total number treated, the number cured, the number of deaths and the percentage of deaths for each year, from 1905 to 1913, inclusive.

STATEMENT SHOWING RESULTS OF CURATIVE TREATMENT OF  
DIPHTHERIA BY ANTITOXIN—1905-1913.

| Years.        | Total Treated. | Number Cured. | Number Deaths. | Percentage of Deaths. |
|---------------|----------------|---------------|----------------|-----------------------|
| 1905, .....   | 293            | 255           | 38             | 12.97                 |
| 1906, .....   | 3,529          | 3,136         | 393            | 11.14                 |
| 1907, .....   | 5,271          | 4,895         | 376            | 7.13                  |
| 1908, .....   | 6,336          | 5,794         | 542            | 8.55                  |
| 1909, .....   | 5,365          | 4,949         | 416            | 7.75                  |
| 1910, .....   | 6,524          | 5,965         | 559            | 8.57                  |
| 1911, .....   | 7,793          | 7,283         | 510            | 6.54                  |
| 1912, .....   | 9,919          | 9,156         | 763            | 7.69                  |
| 1913, .....   | 10,440         | 9,494         | 946            | 9.06                  |
| Totals, ..... | 55,470         | 50,927        | 4,543          | 8.19                  |

In addition to the number mentioned above that were treated for cure, forty-five thousand five hundred and fifty-six (45,556) persons, mostly little children, who were exposed to the disease were immunized, and of this number so immunized, only seven hundred and one (701) contracted the disease.

The following statement will show the total number immunized, the number not developing and the number developing diphtheria for each year from 1905 to 1913, inclusive.

STATEMENT SHOWING RESULTS OF TREATMENT WITH DIPHTHERIA  
ANTITOXIN FOR IMMUNIZATION—1905-1913.

| Years.        | Number Treated. | Number Not developing. | Number Developing. |
|---------------|-----------------|------------------------|--------------------|
| 1905, .....   | 155             | 150                    | 5                  |
| 1906, .....   | 2,334           | 2,257                  | 77                 |
| 1907, .....   | 3,799           | 3,765                  | 34                 |
| 1908, .....   | 3,965           | 3,920                  | 45                 |
| 1909, .....   | 4,847           | 4,738                  | 109                |
| 1910, .....   | 5,194           | 5,107                  | 87                 |
| 1911, .....   | 6,906           | 6,781                  | 125                |
| 1912, .....   | 8,581           | 8,487                  | 94                 |
| 1913, .....   | 9,775           | 9,650                  | 125                |
| Totals, ..... | 45,556          | 44,855                 | 701                |

The total number of packages of Diphtheria Antitoxin *supplied* to Distributors up to and including December 31st, 1913, was seventy-two thousand four hundred and fifty-six (72,456) of one thousand (1,000) units; seventy-three thousand three hundred and eighty-two (73,382) of three thousand (3,000) units and forty-eight thousand three hundred and seventy-three (48,373) of five thousand (5,000) units; while the total number of packages actually *used* was fifty-one thousand seven hundred and thirteen (51,713) of one thousand (1,000) units; sixty-one thousand and seventy-two (61,072) of three thousand (3,000) units; and forty thousand and seventy-five (40,075) of five thousand (5,000) units; making a grand total of one hundred ninety-four thousand two hundred and eleven (194,211) packages of Diphtheria Antitoxin *supplied* to Distributors and of one hundred fifty-two thousand eight hundred and sixty (152,860) packages actually *used*; the difference, or forty-one thousand three hundred and fifty-one (41,351) packages of 1,000, 3,000 and 5,000 units of Antitoxin, being the stock in the hands of the 667 Distributors throughout the State.

The entire cost of the one hundred and ninety-four thousand two hundred and eleven (194,211) packages of Antitoxin so supplied for the eight years and three months, was \$201,222.40, as in the following statement by years:

| Years.      | No. of Packages. | Units                       | Cost.              |
|-------------|------------------|-----------------------------|--------------------|
| 1905, ..... | 5,967            | 1,000 & 3,000, .....        | \$7,251 80         |
| 1906, ..... | 12,108           | 1,000 & 3,000, .....        | 16,192 32          |
| 1907, ..... | 14,154           | 1,000 & 3,000, .....        | 17,387 13          |
| 1908, ..... | 18,210           | 1,000, 3,000 & 5,000, ..... | 14,056 40          |
| 1909, ..... | 22,318           | 1,000, 3,000 & 5,000, ..... | 16,565 52          |
| 1910, ..... | 24,264           | 1,000, 3,000 & 5,000, ..... | 22,232 18          |
| 1911, ..... | 30,158           | 1,000, 3,000 & 5,000, ..... | 27,983 01          |
| 1912, ..... | 31,667           | 1,000, 3,000 & 5,000, ..... | 35,723 76          |
| 1913, ..... | 35,365           | 1,000, 3,000 & 5,000, ..... | 43,830 28          |
|             | <hr/> 194,211    |                             | <hr/> \$201,222 40 |

Therefore, the total number of persons who were actually treated for cure together with those immunized, with the one hundred and ninety-four thousand two hundred and eleven (194,211) packages of Diphtheria Antitoxin distributed by the Department of Health in eight years and three months was one hundred and one thousand and twenty-six (101,026) mostly little children; and the total cost for the Antitoxin used in treating these cases was \$201,222.40, or a per capita cost of \$1.99, surely a moderate sum for the results obtained.

The following statement giving the number of syringes of Diphtheria Antitoxin *supplied* to Distributors during the last three months of 1905, and during each month of the years 1906 to 1913, shows a steadily increasing demand for the use of this life saving agent for the treatment of diphtheria among the poor:—

NUMBER OF SYRINGES OF ANTITOXIN SUPPLIED TO DISTRIBUTORS BY MONTHS FROM OCTOBER 1, 1905, TO DECEMBER 31, 1913.

| Years.      | Units.                  | Jan.                  | Feb.                  | Mar.                  | April.                | May.                  | June.                 | July.                 | Aug.                | Sept.                   | Oct.                    | Nov.                    | Dec.                    | Totals.                   |
|-------------|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|-------------------------|-------------------------|-------------------------|-------------------------|---------------------------|
| 1905, ..... | 1,000<br>3,000          | .....                 | .....                 | .....                 | .....                 | .....                 | .....                 | .....                 | .....               | .....                   | 64<br>59                | 2,517<br>2,458          | 377<br>462              | 2,958<br>3,009            |
| 1906, ..... | 1,000<br>3,000          | 314<br>503            | 256<br>394            | 289<br>455            | 285<br>476            | 148<br>295            | 118<br>243            | 156<br>314            | 1,143<br>336        | 564<br>768              | 1,016<br>1,408          | 824<br>1,271            | 525<br>1,007            | 4,638<br>7,470            |
| 1907, ..... | 1,000<br>3,000          | 400<br>809            | 269<br>547            | 327<br>648            | 316<br>641            | 282<br>468            | 221<br>433            | 363<br>585            | 526<br>824          | 347<br>702              | 648<br>784              | 670<br>1,237            | 804<br>1,237            | 5,173<br>8,981            |
| 1908, ..... | 1,000<br>3,000<br>5,000 | 467<br>807<br>.....   | 401<br>861<br>.....   | 380<br>734<br>.....   | 503<br>762<br>.....   | 437<br>541<br>.....   | 515<br>811<br>.....   | 448<br>605<br>.....   | 590<br>614<br>50    | 484<br>920<br>5         | 917<br>1,504<br>20      | 725<br>1,534<br>20      | 826<br>1,619<br>20      | 6,793<br>11,302<br>115    |
| 1909, ..... | 1,000<br>3,000<br>5,000 | 586<br>1,171<br>13    | 979<br>887<br>28      | 681<br>1,127<br>13    | 517<br>770<br>15      | 717<br>972<br>0       | 766<br>821<br>38      | 376<br>865<br>8       | 373<br>817<br>18    | 446<br>844<br>13        | 1,189<br>1,774<br>78    | 1,238<br>1,712<br>115   | 832<br>1,461<br>73      | 8,680<br>13,221<br>417    |
| 1910, ..... | 1,000<br>3,000<br>5,000 | 524<br>1,275<br>50    | 632<br>1,127<br>79    | 906<br>985<br>77      | 153<br>877<br>67      | 789<br>1,028<br>193   | 270<br>682<br>179     | 370<br>616<br>146     | 586<br>816<br>397   | 743<br>993<br>396       | 1,079<br>1,455<br>516   | 1,067<br>1,412<br>593   | 1,489<br>1,150<br>547   | 8,608<br>12,416<br>3,240  |
| 1911, ..... | 1,000<br>3,000<br>5,000 | 804<br>1,016<br>526   | 967<br>895<br>314     | 602<br>938<br>382     | 433<br>718<br>279     | 837<br>744<br>348     | 518<br>676<br>327     | 395<br>635<br>253     | 702<br>840<br>303   | 1,389<br>1,191<br>594   | 1,783<br>1,916<br>1,232 | 1,629<br>1,506<br>1,142 | 1,173<br>1,139<br>953   | 11,232<br>12,214<br>6,652 |
| 1912, ..... | 1,000<br>3,000<br>5,000 | 1,157<br>1,217<br>910 | 634<br>596<br>580     | 626<br>804<br>432     | 585<br>460<br>437     | 491<br>588<br>332     | 394<br>490<br>358     | 499<br>527<br>460     | 715<br>97<br>959    | 1,000<br>0<br>1,802     | 2,132<br>11<br>3,379    | 2,001<br>4<br>2,845     | 1,541<br>16<br>2,558    | 11,775<br>4,760<br>15,132 |
| 1913, ..... | 1,000<br>3,000<br>5,000 | 1,284<br>1<br>2,222   | 981<br>.....<br>1,799 | 789<br>.....<br>1,513 | 920<br>.....<br>1,598 | 778<br>.....<br>1,554 | 886<br>.....<br>1,282 | 392<br>.....<br>1,117 | 1,052<br>3<br>1,517 | 1,192<br>.....<br>2,418 | 1,433<br>2<br>2,531     | 1,380<br>8<br>2,352     | 1,452<br>.....<br>2,914 | 12,539<br>9<br>22,817     |

## SUMMARY OF SYRINGES SUPPLIED.

|             | 1,000<br>Units. | 3,000<br>Units. | 5,000<br>Units. |
|-------------|-----------------|-----------------|-----------------|
| 1905, ..... | 2,958           | 3,009           | 0               |
| 1906, ..... | 4,638           | 7,470           | 0               |
| 1907, ..... | 5,173           | 8,981           | 0               |
| 1908, ..... | 6,793           | 11,302          | 115             |
| 1909, ..... | 8,680           | 13,221          | 417             |
| 1910, ..... | 8,608           | 12,416          | 3,240           |
| 1911, ..... | 11,292          | 12,214          | 6,652           |
| 1912, ..... | 11,775          | 4,760           | 15,132          |
| 1913, ..... | 12,539          | 9               | 22,817          |
|             | 72,456          | 73,382          | 48,373          |

The following statement giving the number of syringes of Diphtheria Antitoxin actually *dispensed* by Distributors during the three months of 1905 and during each month of the years 1906 to 1913, also shows a steadily increasing use of Diphtheria Antitoxin for the treatment of Diphtheria among the poor.

NUMBER OF SYRINGES OF ANTITOXIN DISPENSED BY DISTRIBUTORS BY MONTHS FROM DECEMBER 1, 1905, TO DECEMBER 31, 1913.

| Years.      | Units. | Jan.  | Feb.  | Mar.  | April. | May.  | June. | July. | Aug.  | Sept. | Oct.  | Nov.  | Dec.  | Totals. |
|-------------|--------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| 1905, ..... | 1,000  | ..... | ..... | ..... | .....  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 327     |
| .....       | 3,000  | ..... | ..... | ..... | .....  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 619     |
| 1906, ..... | 1,000  | 210   | 225   | 231   | 190    | 157   | 117   | 106   | 174   | 434   | 701   | 681   | 499   | 3,725   |
| .....       | 3,000  | 474   | 372   | 404   | 337    | 291   | 233   | 221   | 320   | 657   | 1,129 | 1,135 | 991   | 6,564   |
| 1907, ..... | 1,000  | 328   | 301   | 277   | 264    | 230   | 190   | 267   | 429   | 327   | 502   | 527   | 573   | 4,214   |
| .....       | 3,000  | 758   | 572   | 625   | 522    | 497   | 363   | 491   | 620   | 671   | 1,058 | 1,111 | 1,021 | 8,809   |
| 1908, ..... | 1,000  | 427   | 403   | 189   | 127    | 257   | 193   | 230   | 213   | 497   | 603   | 579   | 609   | 4,328   |
| .....       | 3,000  | 806   | 822   | 439   | 369    | 527   | 488   | 344   | 367   | 847   | 1,234 | 1,346 | 1,251 | 8,840   |
| .....       | 5,000  | ..... | ..... | ..... | .....  | ..... | ..... | ..... | ..... | 18    | 14    | 17    | 12    | 61      |
| 1909, ..... | 1,000  | 501   | 681   | 360   | 396    | 325   | 188   | 326   | 280   | 371   | 1,178 | 628   | 724   | 5,958   |
| .....       | 3,000  | 1,051 | 860   | 793   | 576    | 682   | 532   | 661   | 667   | 858   | 1,641 | 1,322 | 1,443 | 11,086  |
| .....       | 5,000  | 4     | 16    | 15    | 21     | 1     | 14    | 7     | 14    | 28    | 29    | 55    | 80    | 281     |
| 1910, ..... | 1,000  | 518   | 458   | 421   | 421    | 309   | 297   | 308   | 382   | 631   | 838   | 881   | 773   | 6,237   |
| .....       | 3,000  | 984   | 994   | 873   | 856    | 686   | 632   | 588   | 689   | 842   | 1,136 | 1,258 | 963   | 10,601  |
| .....       | 5,000  | 62    | 47    | 72    | 72     | 46    | 149   | 142   | 295   | 376   | 502   | 546   | 491   | 2,803   |
| 1911, ..... | 1,000  | 624   | 514   | 641   | 456    | 365   | 380   | 323   | 480   | 904   | 1,376 | 1,164 | 953   | 8,180   |
| .....       | 3,000  | 805   | 738   | 846   | 552    | 501   | 514   | 590   | 606   | 1,041 | 1,399 | 1,428 | 980   | 10,000  |
| .....       | 5,000  | 497   | 324   | 399   | 294    | 259   | 292   | 211   | 311   | 524   | 1,039 | 987   | 909   | 6,076   |
| 1912, ..... | 1,000  | 629   | 562   | 558   | 447    | 383   | 305   | 440   | 492   | 903   | 1,466 | 1,480 | 1,027 | 8,692   |
| .....       | 3,000  | 708   | 554   | 580   | 468    | 392   | 402   | 385   | 418   | 338   | 274   | 254   | 168   | 4,881   |
| .....       | 5,000  | 524   | 545   | 529   | 390    | 390   | 325   | 351   | 583   | 1,255 | 2,400 | 2,162 | 1,796 | 11,339  |
| 1913, ..... | 1,000  | 1,079 | 827   | 667   | 671    | 600   | 584   | 538   | 656   | 990   | 1,131 | 1,185 | 1,037 | 10,054  |
| .....       | 3,000  | 1,119 | 52    | 18    | 25     | 16    | 10    | 16    | 5     | 8     | 1     | 5     | 2     | 272     |
| .....       | 5,000  | 1,886 | 1,524 | 1,428 | 1,367  | 1,322 | 1,140 | 1,092 | 1,341 | 1,858 | 2,202 | 2,222 | 2,133 | 19,515  |

## SUMMARY OF SYRINGES DISTRIBUTED.

|             | 1,000<br>Units. | 3,000<br>Units. | 5,000<br>Units. | Number of<br>distributors. |
|-------------|-----------------|-----------------|-----------------|----------------------------|
| 1905, ..... | 327             | 619             | 0               | 473                        |
| 1906, ..... | 3,725           | 6,564           | 0               | 511                        |
| 1907, ..... | 4,214           | 8,309           | 0               | 529                        |
| 1908, ..... | 4,326           | 8,840           | 61              | 569                        |
| 1909, ..... | 5,953           | 11,086          | 284             | 650                        |
| 1910, ..... | 6,237           | 10,501          | 2,800           | 656                        |
| 1911, ..... | 8,180           | 10,000          | 6,076           | 662                        |
| 1912, ..... | 8,692           | 4,881           | 11,339          | 667                        |
| 1913, ..... | 10,054          | 272             | 19,515          | 667                        |
|             | 51,713          | 61,072          | 40,075          | .....                      |

## STATEMENT.

SHOWING THE RESULTS OF TREATMENT OF DIPHTHERIA WITH ANTITOXIN ACCORDING TO PERIOD OF INITIAL TREATMENT AFTER ONSET, FOR THE YEARS 1905-1913.

|                 |                     | First<br>day. | Second<br>day. | Third<br>day. | Fourth<br>day. | Fifth<br>day. | Sixth<br>day &<br>later. | Total. |
|-----------------|---------------------|---------------|----------------|---------------|----------------|---------------|--------------------------|--------|
| 1905, .....     | Cases treated, .... | 186           | 56             | 26            | 13             | 4             | 8                        | 293    |
|                 | Deaths, .....       | 18            | 9              | 3             | 3              | 2             | 3                        | 38     |
|                 | Percentage, .....   | 9.68          | 16.07          | 11.54         | 23.08          | 50.00         | 37.50                    | 12.97  |
| 1906, .....     | Cases treated, .... | 2,105         | 902            | 302           | 107            | 52            | 61                       | 3,529  |
|                 | Deaths, .....       | 185           | 84             | 66            | 24             | 15            | 19                       | 393    |
|                 | Percentage, .....   | 8.79          | 9.31           | 21.85         | 22.43          | 28.85         | 31.15                    | 11.14  |
| 1907, .....     | Cases treated, .... | 3,463         | 1,139          | 403           | 136            | 63            | 67                       | 5,271  |
|                 | Deaths, .....       | 159           | 100            | 55            | 32             | 11            | 19                       | 376    |
|                 | Percentage, .....   | 4.59          | 8.78           | 13.65         | 23.53          | 17.46         | 28.36                    | 7.13   |
| 1908, .....     | Cases treated, .... | 3,979         | 1,464          | 540           | 162            | 103           | 88                       | 6,336  |
|                 | Deaths, .....       | 260           | 116            | 78            | 37             | 29            | 22                       | 542    |
|                 | Percentage, .....   | 6.53          | 7.92           | 14.44         | 22.83          | 28.15         | 25.00                    | 8.55   |
| 1909, .....     | Cases treated, .... | 3,299         | 1,266          | 456           | 186            | 77            | 81                       | 5,365  |
|                 | Deaths, .....       | 124           | 128            | 75            | 38             | 24            | 27                       | 416    |
|                 | Percentage, .....   | 3.76          | 10.11          | 16.45         | 20.43          | 31.17         | 33.33                    | 7.75   |
| 1910, .....     | Cases treated, .... | 4,155         | 1,437          | 560           | 196            | 84            | 92                       | 6,524  |
|                 | Deaths, .....       | 233           | 131            | 94            | 44             | 23            | 29                       | 559    |
|                 | Percentage, .....   | 5.73          | 9.12           | 16.78         | 22.45          | 27.38         | 31.52                    | 8.57   |
| 1911, .....     | Cases treated, .... | 4,847         | 1,789          | 665           | 238            | 119           | 135                      | 7,793  |
|                 | Deaths, .....       | 151           | 145            | 93            | 62             | 26            | 33                       | 510    |
|                 | Percentage, .....   | 3.11          | 8.11           | 13.98         | 26.05          | 21.84         | 24.44                    | 6.54   |
| 1912, .....     | Cases treated, .... | 6,246         | 2,238          | 828           | 299            | 139           | 169                      | 9,919  |
|                 | Deaths, .....       | 331           | 188            | 101           | 61             | 30            | 52                       | 763    |
|                 | Percentage, .....   | 5.30          | 8.40           | 12.20         | 20.40          | 21.58         | 30.77                    | 7.69   |
| 1913, .....     | Cases treated, .... | 6,572         | 2,336          | 924           | 310            | 142           | 156                      | 10,440 |
|                 | Deaths, .....       | 444           | 222            | 139           | 54             | 35            | 52                       | 946    |
|                 | Percentage, .....   | 6.76          | 9.50           | 15.04         | 17.42          | 24.65         | 33.33                    | 9.06   |
| Grand totals, . | Cases treated, .... | 34,852        | 12,627         | 4,704         | 1,647          | 783           | 857                      | 55,470 |
|                 | Deaths, .....       | 1,910         | 1,123          | 704           | 355            | 195           | 256                      | 4,543  |
|                 | Percentage, .....   | 5.48          | 8.89           | 14.97         | 21.56          | 24.90         | 29.87                    | 8.19   |

**SUMMARY OF THE RESULTS OBTAINED BY THE PENNSYLVANIA DEPARTMENT OF HEALTH WITH THE USE OF DIPHTHERIA ANTITOXIN.**

1905.

|  |            |
|--|------------|
| Number of cases cured during October, November and December, 1905, | 255        |
| Number of deaths, .....  | 38         |
| Total number treated, .....  | 293        |
| Percentage of deaths, .....  | 12.97      |
| Number immunized, .....  | 155        |
| Number immunized and later contracting the disease, .....          | 5          |
| Total cost (Including "Initial Supply" costing \$6,199.73), .....  | \$7,251 80 |

1906.

|   |             |
|---|-------------|
| Number of cases cured during January 1st to December 31st, 1906, .... | 3,136       |
| Number of deaths, .....   | 393         |
| Total number treated, .....   | 3,529       |
| Percentage of deaths, .....   | 11.14       |
| Number immunized, .....   | 2,334       |
| Number immunized and later contracting the disease, .....             | 77          |
| Total cost, .....   | \$16,192 32 |

1907.

|  |             |
|--|-------------|
| Number of cases cured from January 1st to December 31st, 1907, ..... | 4,895       |
| Number of deaths, .....  | 376         |
| Total number treated, .....  | 5,271       |
| Percentage of deaths, .....  | 7.13        |
| Number immunized, .....  | 3,799       |
| Number immunized and later contracting the disease, .....            | 34          |
| Total cost, .....  | \$17,387 13 |

1908.

|  |             |
|--|-------------|
| Number of cases cured from January 1st to December 31st, 1908, ..... | 5,794       |
| Number of deaths, .....  | 542         |
| Total number treated, .....  | 6,336       |
| Percentage of deaths, .....  | 8.55        |
| Number immunized, .....  | 3,965       |
| Number immunized and later contracting the disease, .....            | 45          |
| Total cost, .....  | \$14,056 40 |

1909.

|  |             |
|--|-------------|
| Number of cases cured from January 1st to December 31st, 1909, ..... | 4,949       |
| Number of deaths, .....  | 416         |
| Total number treated, .....  | 5,365       |
| Percentage of deaths, .....  | 7.75        |
| Number immunized, .....  | 4,847       |
| Number immunized and later contracting the disease, .....            | 109         |
| Total cost, .....  | \$16,565 52 |

1910.

|  |             |
|--|-------------|
| Number of cases cured from January 1st to December 31st, 1910, ..... | 5,965       |
| Number of deaths, .....  | 559         |
| Total number treated, .....  | 6,524       |
| Percentage of deaths, .....  | 8.57        |
| Number immunized, .....  | 5,194       |
| Number immunized and later contracting the disease, .....            | 87          |
| Total cost, .....  | \$22,232 18 |

1911.

|  |             |
|--|-------------|
| Number of cases cured from January 1st to December 31st, 1911, ..... | 7,283       |
| Number of deaths, .....  | 510         |
| Total number treated, .....  | 7,793       |
| Percentage of deaths, .....  | 6.54        |
| Number immunized, .....  | 6,906       |
| Number immunized and later contracting the disease, .....            | 125         |
| Total cost, .....  | \$27,983 01 |