

ANNUAL REPORT
OF THE
State Board of Health
OF MARYLAND
FOR THE
YEAR ENDING DECEMBER 31, 1915



Baltimore:
KING BROTHERS
State Printers
413 E. Lexington Street
1918

State Department of Health of Maryland, 1915.

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Report of the Bureau of Vital Statistics.

FREDERIC V. BEITLER, Chief

POPULATION, BIRTHS AND DEATHS.

The efforts of Boards of Health and sanitarians are directed toward increasing the birth rate, diminishing the death rate and increasing the duration of life. As a basis upon which to direct their efforts in the State of Maryland, the tables contained within this report have been devised. All the earlier tables will be maintained and others added from time to time.

All Vital Statisticians use the Census figures of the population. The figures for census years, of course, are most valuable. In inter-census years, the population is computed by the arithmetic method.

The returned mortality in Maryland probably now constitutes 100 per cent. of the total deaths. Birth registration constitutes about 98 per cent. of the total births. Maryland statistics show in this respect the deficiency existing in the majority of the American States in the registration of births.

The deaths registered in Maryland during 1915 were, for *Rural Maryland, 12,023; in Baltimore City, 9,327; making a total for the State of 21,350.

The births reported in 1915 were, for Rural Maryland, 18,659; for Baltimore City, 13,708; making a total for the State of 32,367, giving an apparent increase in the population of the State of 11,017.

The figures for Maryland during 1914 were: births 30,652, deaths 21,383, an increase of 9,269 births over deaths. The 1915 figures show an increase of 1,715 births over those registered during 1914.

Population of Maryland—1915.

The figures for the population for the inter-census years are estimated by the arithmetic method as advised by the American Public Health Association, and are corrected as of July 1st of each year. The yearly increment is given along with the figures

* The term Rural Maryland which is used in this report distinguishes that part of the State outside of the corporate limits of Baltimore City from the city proper. We are aware that the term is somewhat misleading, but has been used in this report for a number of years for that purpose.

for each division of the population, so that persons wishing the use of figures for this State for any inter-census year may do so without having to estimate them.

The population of Maryland is given in Table 1 for the male, female, white and colored population of Baltimore City, Rural Maryland and the State of Maryland.

The estimated population, white and colored, for the counties appears in Table 1-A. The estimated population by ages, without distinction of sex or color, appears in Table 19-A.

TABLE I.

ESTIMATED POPULATION IN MARYLAND FOR THE YEAR 1915.

Maryland.		<i>Population.</i>	<i>Yearly Increment.</i>		
Total population.....		1,351,940	+10,866.0		
White		1,120,769	+11,161.0		
Colored		231,171	—295.0		
Male		673,207	+5,564.5		
Female		678,733	+5,301.5		
Baltimore City.					
Total population.....		584,608	+5,015.5		
White		496,683	+4,472.8		
Colored		87,925	+542.7		
Rural Maryland.					
Total population.....		767,332	+5,850.5		
White		624,086	+6,688.2		
Colored		143,246	—837.7		
		<i>White</i>	<i>Yearly</i>	<i>Colored</i>	<i>Yearly</i>
Maryland.	<i>Population.</i>	<i>Increment.</i>	<i>Population.</i>	<i>Increment.</i>	
Males	558,583	+5,666.1	114,624	—101.6	
Females	562,186	+5,494.9	116,547	—193.4	
Baltimore City.					
Males	239,928	+2,133.6	41,408	+389.5	
Females	256,755	+2,339.2	46,517	+153.2	
Rural Maryland.					
Males	318,655	+3,532.5	73,216	—491.1	
Females	305,431	+3,155.7	70,030	—346.6	

TABLE I-A.
ESTIMATED POPULATION FOR THE YEAR 1915.

County.	White.		Colored.		Total.	
	Popula- tion.	Incre- ment.	Popula- tion.	Incre- ment.	Popula- tion.	Incre- ment.
Allegany	65,573	+898.6	1,435	-15.9	67,008	+882.7
Anne Arundel.....	26,008	+117.5	13,510	-124.2	39,518	-6.7
Baltimore	125,877	+3,099.7	13,135	+99.6	139,012	+3,199.3
Calvert	5,384	+20.1	4,995	-9.8	10,379	+10.3
Caroline	15,702	+244.9	5,079	+55.7	20,781	+300.6
Carroll	32,029	+20.7	1,945	-13.2	33,974	+7.5
Cecil	20,201	-43.0	3,082	-48.4	23,283	-91.4
Charles	7,707	-20.3	8,006	-108.9	15,713	-129.2
Dorchester	19,654	+78.1	9,388	-6.5	29,042	+71.6
Frederick	47,993	+138.4	5,077	-62.2	53,070	+76.2
Garrett	21,276	+245.4	97	-1.9	21,373	+243.5
Harford	23,080	+44.4	4,725	-75.1	27,805	-30.7
Howard	12,344	+2.3	3,441	-64.0	15,785	-61.7
Kent	10,506	-55.5	5,486	-129.7	15,992	-185.2
Montgomery	24,140	+248.4	8,813	-82.5	32,953	+165.9
Prince George's.....	28,194	+681.8	11,249	-49.0	39,443	+632.8
Queen Anne's.....	10,512	-98.0	5,522	-56.4	16,034	-154.4
Somerset	17,290	+59.8	9,446	-6.0	26,736	+53.8
St. Mary's.....	10,148	+81.0	6,802	-96.4	16,950	-15.4
Talbot	12,823	-3.4	6,416	-69.7	19,239	-73.1
Washington	50,057	+491.6	1,924	-37.6	51,981	+454.0
Wicomico	22,340	+352.5	6,565	+48.8	28,905	+401.3
Worcester	15,248	+83.2	7,108	+15.6	22,356	+98.8
Total Counties.....	624,086	+6,688.2	143,246	-837.7	767,332	+5,850.5
Baltimore City.....	496,683	+4,472.8	87,925	+542.7	584,608	+5,015.5
Total Maryland.....	1,120,769	+11,161.0	231,171	-295.0	1,351,940	+10,866.0

Births in Maryland.

The number of births recorded in the State of Maryland during 1915 was 32,367, of which 18,659 were reported from Rural Maryland, and 13,708 from Baltimore City.

The number of white births reported was 26,126. The number of colored births reported was 6,241.

The total number of male births, 16,541; of female births, 15,826.

Table II gives the birth rates per thousand of population for Baltimore City, Rural Maryland and the State of Maryland, for the years 1905 to 1915, inclusive. The birth rate for Baltimore City was 23.45 for the year 1915, for Rural Maryland 24.32, and for the entire State 23.94. The increase in the year 1912 for both Rural Maryland and Baltimore City was due to the new registration law which went into effect on July 1st of that year.

TABLE II.

BIRTH RATES, MARYLAND, 1905-1915.

	<i>Birth Rates, Rural Maryland</i>	<i>Birth Rates, Baltimore City</i>	<i>Birth Rates, Maryland</i>
1905.....	13.15	16.75	14.70
1906.....	13.72	16.87	15.08
1907.....	12.97	16.09	14.31
1908.....	14.07	16.70	15.20
1909.....	14.80	15.86	15.26
1910.....	14.51	17.62	15.85
1911.....	14.20	16.44	15.17
1912.....	17.64	20.01	18.67
1913.....	20.96	21.83	21.34
1914.....	23.66	21.80	22.86
1915.....	24.32	23.45	23.94

In Table III and III-A, the births, deaths and increase are given by counties for the whole population, and separately for white and colored races; also the birth rate, death rate and rate of increase per 1,000 of the population (as estimated from the United States Census figures for 1910).

TABLE III.
BIRTH RATES, DEATH RATES AND RATE OF INCREASE, 1915.

Counties.	White.			Colored.			Total.		
	Births per 1,000.	Deaths per 1,000.	Inc. or Dec. per 1,000.	Births per 1,000.	Deaths per 1,000.	Inc. or Dec. per 1,000.	Births per 1,000.	Deaths per 1,000.	Inc. or Dec. per 1,000.
Allegany	26.44	11.79	+14.65	34.15	34.15	0.00	26.61	12.27	+14.34
Anne Arundel.....	29.26	14.03	+15.23	30.57	27.76	+2.81	29.71	18.73	+10.98
Baltimore	21.03	17.24	+3.79	16.98	40.35	-23.37	20.65	19.42	+1.23
Calvert	17.64	10.22	+7.42	30.23	19.62	+10.61	23.70	14.74	+8.96
Caroline	23.18	11.72	+11.46	27.17	19.69	+7.48	24.16	13.67	+10.49
Carroll	23.23	16.33	+6.90	24.68	22.11	+2.57	23.31	16.66	+6.65
Cecil	21.29	15.44	+5.85	16.55	19.79	-3.24	20.66	16.02	+4.64
Charles	26.08	12.72	+13.36	35.72	21.11	+14.61	30.99	16.99	+14.00
Dorchester	26.31	13.74	+12.57	37.18	24.71	+12.47	29.82	17.29	+12.53
Frederick	23.69	13.61	+10.08	29.35	25.01	+4.34	24.23	14.70	+9.53
Garrett	25.85	10.72	+15.13	0.00	0.00	0.00	25.73	10.67	+15.06
Harford	18.15	12.44	+5.71	16.72	21.80	-5.08	17.91	14.03	+3.88
Howard	19.04	10.21	+8.83	31.10	21.21	+9.89	21.67	12.61	+9.06
Kent	19.32	12.28	+7.04	23.88	26.43	-2.55	20.89	17.13	+3.76
Montgomery	20.17	11.64	+8.53	25.53	17.59	+7.94	21.61	13.23	+8.38
Prince George's.....	21.92	10.53	+11.39	30.67	20.09	+10.58	24.41	13.26	+11.15
Queen Anne's.....	24.54	13.60	+10.94	26.26	23.54	+2.72	25.13	17.03	+8.10
Somerset	24.00	13.53	+10.47	30.28	17.57	+12.71	26.22	14.97	+11.25
St. Mary's.....	25.13	11.23	+13.90	31.90	22.93	+8.97	27.85	15.93	+11.92
Talbot	22.85	13.65	+9.20	23.38	21.66	+1.72	23.03	16.32	+6.71
Washington	29.45	13.94	+15.51	19.23	27.55	-8.32	29.07	14.45	+14.62
Wicomico	21.89	12.76	+9.13	31.68	21.17	+10.51	24.11	14.67	+9.44
Worcester	22.23	14.30	+7.93	29.12	19.13	+9.99	24.42	15.83	+8.59
Total	23.50	13.81	+9.69	27.88	23.77	+4.11	24.32	15.67	+8.65
Baltimore City.....	23.08	14.39	+8.69	25.56	24.77	+0.79	23.45	15.95	+7.50
Maryland	23.31	14.07	+9.24	27.00	24.15	+2.85	23.94	15.79	+8.15

TABLE III-A.
BIRTHS, DEATHS AND INCREASE OF POPULATION, 1915.

Counties.	White.			Colored.			Total.		
	Births.	Deaths.	Inc. or Dec.	Births.	Deaths.	Inc. or Dec.	Births.	Deaths.	Inc. or Dec.
Allegany	1,734	773	+961	49	49	0	1,783	822	+961
Anne Arundel	761	365	+396	413	375	+38	1,174	740	+434
Baltimore	2,647	2,170	+477	223	530	-307	2,870	2,700	+170
Calvert	95	55	+40	151	98	+53	246	153	+93
Caroline	364	184	+180	138	100	+38	502	284	+218
Carroll	744	523	+221	48	43	+5	792	566	+226
Cecil	430	312	+118	51	61	-10	481	373	+108
Charles	201	98	+103	286	169	+117	487	267	+220
Dorchester	517	270	+247	349	232	+117	866	502	+364
Frederick	1,137	653	+484	149	127	+22	1,286	780	+506
Garrett	550	228	+322	0	0	0	550	228	+322
Harford	419	287	+132	79	103	-24	498	390	+108
Howard	235	126	+109	107	73	+34	342	199	+143
Kent	203	129	+74	131	145	-14	334	274	+60
Montgomery	487	281	+206	225	155	+70	712	436	+276
Prince George's	618	297	+321	345	226	+119	963	523	+440
Queen Anne's	258	143	+115	145	130	+15	403	273	+130
Somerset	415	234	+181	286	166	+120	701	400	+301
St. Mary's	255	114	+141	217	156	+61	472	270	+202
Talbot	293	175	+118	150	139	+11	443	314	+129
Washington	1,474	698	+776	37	53	-16	1,511	751	+760
Wicomico	489	285	+204	208	139	+69	697	424	+273
Worcester	339	218	+121	207	136	+71	546	354	+192
Total	14,665	8,618	+6,047	3,994	3,405	+589	18,659	12,023	+6,636
Baltimore City	11,461	7,149	+4,312	2,247	2,178	+69	13,708	9,327	+4,381
Maryland	26,126	15,767	+10,359	6,241	5,583	+658	32,367	21,350	+11,017

By reference to the part of the table below dealing with birth rates, death rates and rates of increase per thousand, a comparison may be made of the efficiency of registration in the various counties of Maryland. The birth rate per 1,000 for Maryland probably lies between the figures 24 and 27. It can be assumed, therefore, that returns from any of the counties of Maryland, which are below 20 per 1,000, indicate defective returns, and a birth rate of 15 or less means very defective returns.

The death rate exceeds 15 per 1,000 in eleven counties. The lowest death rate is in Garrett County, 10.67 per 1,000. This county has almost entirely a white population, and its returns to this office are good. The death rate here given we believe is correct.

Table IV gives a summary of the births, birth rates, deaths, death rates, and excess of births over deaths per thousand among male, female, white and colored for the total population of Rural Maryland and of Baltimore City. The birth rates and death rates per 1,000 are calculated both in relation to the total population and to the four divisions of population, male, female, white and colored.

TABLE IV.
BIRTHS, DEATHS AND RATES—MARYLAND—1915.

SUMMARY.					
<i>Births.</i>	<i>Male.</i>	<i>Female.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>
Rural Maryland.....	9,513	9,146	14,665	3,994	18,659
Baltimore City.....	7,028	6,680	11,461	2,247	13,708
Maryland	16,541	15,826	26,126	6,241	32,367
<i>Deaths.</i>					
Rural Maryland.....	6,386	5,637	8,618	3,405	12,023
Baltimore City.....	4,835	4,492	7,149	2,178	9,327
Maryland	11,221	10,129	15,767	5,583	21,350
<i>Birth Rate (Computed on Total Populations).</i>					
Rural Maryland.....	12.40	11.92	19.11	5.21	24.32
Baltimore City.....	12.02	11.43	19.60	3.85	23.45
Maryland	12.23	11.71	19.32	4.62	23.94
<i>Death Rate (Computed on Total Populations).</i>					
Rural Maryland.....	8.32	7.35	11.23	4.44	15.67
Baltimore City.....	8.27	7.68	12.23	3.72	15.95
Maryland	8.30	7.49	11.66	4.13	15.79

<i>Difference Between Birth and Death Rates.</i>					
	<i>Male.</i>	<i>Female.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>
Rural Maryland.....	+4.08	+4.57	+7.88	+0.77	+8.65
Baltimore City.....	+3.75	+3.75	+7.37	+0.13	+7.50
Maryland	+3.93	+4.22	+7.66	+0.49	+8.15
<i>Birth Rate (Computed on Specific Groups of Population).</i>					
Rural Maryland.....	24.28	24.36	23.50	27.88	24.32
Baltimore City.....	24.98	22.03	23.08	25.56	23.45
Maryland	24.57	23.32	23.31	27.00	23.94
<i>Death Rate (Computed on Specific Groups of Population).</i>					
Rural Maryland.....	16.30	15.01	13.81	23.77	15.67
Baltimore City.....	17.19	14.81	14.39	24.77	15.95
Maryland	16.67	14.92	14.07	24.15	15.79
<i>Difference Between Birth and Death Rates.</i>					
Rural Maryland.....	+7.98	+9.35	+9.69	+4.11	+8.65
Baltimore City.....	+7.79	+7.22	+8.69	+0.79	+7.50
Maryland	+7.90	+8.40	+9.24	+2.85	+8.15

The succeeding tables (Tables V and VI) give births and still-births for Rural Maryland and Baltimore City.

For the State, there were registered in 1915, 32,367 living births and 2,777 still-births, a proportion of 8.58 per cent. of all births stillborn.

In Table V the male and female births are given by months, with the corresponding months of conception.

The greatest number of living births in Rural Maryland was recorded in August (1,707), the corresponding period of conception being the month of November.

During 1914 the maximum number of births in Rural Maryland occurred during the month of September (1,670).

The minimum number of births during 1915 in Rural Maryland occurred in November (1,357). During 1914, February furnished the minimum number of births.

The greatest number of male births in Rural Maryland occurred in March (866). The greatest number during 1914 occurred in September (837). The greatest number of female births in 1915 occurred in August (846). The greatest number in 1914 occurred in September (833). The male births exceeded

the female births in every month except April, July, September and October.

Table VI (still-births) shows practically no seasonal variation, the fluctuation being proportionate only to the number of total births.

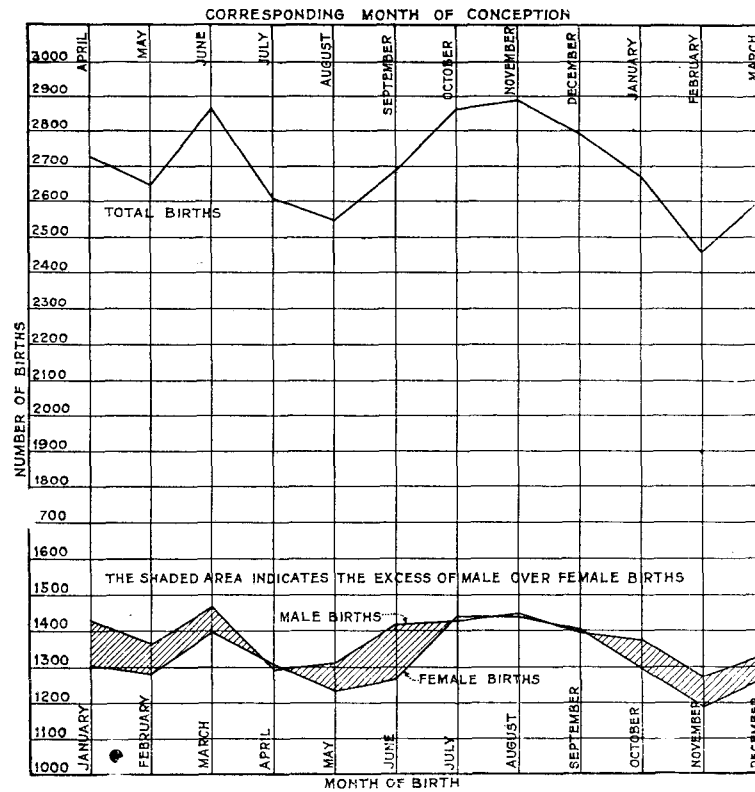


CHART 1—Births by months, Male, Female and Total Maryland—1915.

TABLE V.
BIRTHS, MALE AND FEMALE, BY MONTHS, MARYLAND, 1915.

Month of Birth	Corresponding Month of Conception.	Rural Maryland.			Baltimore City.			Maryland.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
January	April	827	782	1,609	601	522	1,123	1,428	1,304	2,732
February	May	777	740	1,517	587	542	1,129	1,364	1,282	2,646
March	June	866	778	1,644	600	621	1,221	1,466	1,399	2,865
April	July	790	798	1,588	508	510	1,018	1,298	1,308	2,606
May	August	763	730	1,493	549	505	1,054	1,298	1,235	2,547
June	September	796	748	1,544	620	523	1,143	1,416	1,271	2,687
July	October	784	809	1,593	641	628	1,269	1,425	1,437	2,862
August	November	861	846	1,707	589	592	1,181	1,450	1,438	2,888
September	December	815	816	1,631	583	584	1,167	1,398	1,400	2,798
October	January	763	773	1,536	616	522	1,138	1,379	1,295	2,674
November	February	731	626	1,357	542	561	1,103	1,273	1,187	2,460
December	March	740	700	1,440	592	570	1,162	1,332	1,270	2,602
Total		9,513	9,146	18,659	7,028	6,080	13,708	16,541	15,826	32,367

TABLE VI.
STILL-BIRTHS—MARYLAND, 1915.
RURAL MARYLAND.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
White.	Male	39	41	49	45	34	50	30	30	42	42	40	494
	Female	37	28	21	24	26	27	18	34	28	16	30	315
	Unknown	35	28	33	20	23	32	34	32	33	22	29	342
	Total	124	95	93	94	81	109	82	96	103	80	99	1,151
Colored.	Male	19	16	27	23	16	17	18	17	23	18	22	236
	Female	20	19	22	18	12	19	16	14	11	15	13	192
	Unknown	3	3	7	10	5	5	3	5	4	4	7	59
	Total	42	38	56	48	33	41	37	36	38	37	42	487
Color Unknown.	Male	..	..	..	..	..	..	..	..	..	..	..	...
	Female	..	..	..	..	..	..	..	..	..	..	..	...
	Unknown	..	..	..	..	..	1	..	..	..	..	..	1
	Total	..	..	..	..	..	1	..	..	..	..	..	1
Total Rural Maryland.....													
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	166	133	151	141	133	114	151	119	132	141	117	141	1,639

TABLE VI—Continued.

BALTIMORE CITY.

		BALTIMORE CITY.											
		Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec. Total.
White.	Male	26	28	38	47	32	36	37	23	29	34	29	30 389
	Female	19	22	16	19	22	22	15	25	19	19	28	22 248
	Unknown	14	8	12	12	12	8	11	17	14	7	8	8 131
	Total	59	58	66	78	66	66	63	65	62	60	65	60 768
Colored.	Male	18	15	18	13	16	16	18	15	14	20	14	19 196
	Female	12	17	19	11	5	15	10	11	10	12	12	16 150
	Unknown	..	..	..	1	1	3	2	3	2	4	3	1 20
	Total	30	32	37	25	22	34	30	29	26	36	29	36 366
Color Unknown.	Male	..	..	..	..	..	..	..	..	..	..	..	..
	Female	..	..	..	..	..	..	..	1	..	..	..	1
	Unknown	..	2	..	..	1	..	..	..	..	..	..	3
	Total	..	2	..	..	1	..	..	1	..	..	..	4
Total Baltimore City.....		89	92	103	103	89	100	93	95	88	96	94	96 1,138

TABLE VI—Continued.

MARYLAND.														
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	
White.	{ Male	78	67	79	96	77	70	87	53	59	76	71	70	883
	{ Female	56	50	37	43	48	48	42	43	53	47	44	52	563
	{ Unknown	49	36	45	32	35	29	43	51	46	40	30	37	473
	{ Total	183	153	161	171	160	147	172	147	158	163	145	159	1,919
Colored.	{ Male	37	31	45	33	39	32	35	33	31	43	32	41	432
	{ Female	32	36	41	29	18	27	29	27	24	23	27	29	342
	{ Unknown	3	3	7	11	4	8	7	6	7	8	7	8	79
	{ Total	72	70	93	73	61	67	71	66	62	74	66	78	853
Color Unknown.	{ Male	..	..	..	..	..	..	..	..	..	..	..	..	...
	{ Female	..	..	..	..	..	..	1	..	..	..	..	..	1
	{ Unknown	..	2	..	..	1	..	1	..	..	..	..	..	4
	{ Total	..	2	..	..	1	..	1	1	..	..	..	..	5
Total Maryland.....														
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	
	255	225	254	244	222	214	244	214	220	237	211	237	2,777	
327 illegitimate stillbirths; 39 cases of twins; 1 case of triplets.														

327 illegitimate stillbirths; 39 cases of twins; 1 case of triplets.

The succeeding table (Table VII) gives illegitimate births by counties. These figures include probably all of the returns of white illegitimates and a large number of the colored illegitimates; but, owing to the peculiar marital relations of the colored race, it is difficult to establish a standard of legitimacy for children born of colored parents. Ecclesiastical marriages are not performed for a large proportion of colored persons who are living as man and wife. In 1914, among the whites in Rural Maryland, there were 18.71 illegitimates per 1,000 white births and in 1915, 18.14. In the colored population, Rural Maryland in 1914, there were 182.15 illegitimates per 1,000 colored births and in 1915, 184.53 per 1,000 births.

TABLE VII.

ILLEGITIMATE BIRTHS—MARYLAND—1915.

Counties	Number.			Total Births.	Illegitimate Births per 1,000 of Births.
	White.	Colored.	Total.		
Allegany	42	9	51	1,783	28.60
Anne Arundel.....	6	64	70	1,174	59.63
Baltimore	26	25	51	2,870	17.77
Calvert	2	30	32	246	130.08
Caroline	9	38	47	502	93.63
Carroll	16	12	28	792	35.35
Cecil	14	16	30	481	62.37
Charles	4	45	49	487	100.62
Dorchester	19	74	93	866	107.39
Frederick	20	41	61	1,286	47.43
Garrett	18	..	18	550	32.73
Harford	6	17	23	498	46.18
Howard	1	19	20	342	58.48
Kent	2	38	40	334	119.76
Montgomery	2	39	41	712	57.58
Prince George's.....	5	39	44	963	45.69
Queen Anne's.....	3	30	33	403	81.89
Somerset	8	46	54	701	77.03
St. Mary's.....	2	33	35	472	74.15
Talbot	3	39	42	443	94.81
Washington	44	8	52	1,511	34.41
Wicomico	8	35	43	697	61.69
Worcester	6	40	46	546	84.25
Total Counties....	266	737	1,003	18,659	53.75
Baltimore City.....	356	558	914	13,708	66.68
Total Maryland...	622	1,295	1,917	32,367	59.23

TABLE VIII.

PERCENTAGE OF NATIVE AND FOREIGN BORN PARENTS OF CHILDREN BORN IN MARYLAND DURING 1915.

County.	Parent Nativity.					
	Native.			Foreign.		
	Both Maryland.	One Maryland.	Neither Maryland.	Total Natives.	Both Foreign.	Total Foreign.
Allegany	44.59	28.44	17.11	90.14	5.55	95.69
Anne Arundel	66.18	10.14	4.51	80.83	14.57	95.40
Baltimore	65.09	15.02	5.37	85.48	8.19	93.67
Calvert	97.15	2.44	0.41	100.00	0.00	100.00
Caroline	62.55	25.10	7.97	95.62	2.59	98.21
Carroll	85.10	9.72	3.41	98.23	1.01	99.24
Cecil	64.45	22.45	6.24	93.14	4.99	98.13
Charles	88.09	8.21	1.64	97.94	1.44	99.38
Dorchester	87.99	7.85	2.08	97.92	1.04	98.96
Frederick	78.77	14.93	5.52	99.22	0.31	99.53
Garrett	50.55	29.27	13.45	93.27	5.27	98.54
Harford	75.30	15.86	5.62	96.78	1.00	97.78
Howard	78.95	13.45	4.97	97.37	1.75	99.12
Kent	79.34	14.97	3.59	97.90	0.80	98.70
Montgomery	66.57	15.73	14.61	96.91	1.40	98.31
Prince George's	56.59	17.65	20.04	94.28	2.60	96.88
Queen Anne's	87.10	10.42	1.99	99.51	0.25	99.76
Somerset	84.45	11.55	2.85	98.85	0.00	98.85
St. Mary's	89.62	6.36	0.85	96.83	2.12	98.95
Talbot	81.26	11.74	4.06	97.06	0.90	97.96
Washington	57.11	25.28	15.16	97.55	1.32	98.87
Wicomico	77.76	18.36	2.87	98.99	0.43	99.42
Worcester	68.86	20.70	7.33	96.89	2.38	99.27
Total Counties	69.11	16.72	7.90	93.73	3.72	97.45
Baltimore City	50.90	14.04	7.22	72.16	20.86	93.02
Total Maryland	61.40	15.59	7.61	84.60	10.98	95.58

In the preceding table (Table VIII) the nationality of parents of children born in Maryland during 1915 is returned in six columns. In the sub-columns the native and foreign-born parents are considered separately. In the column headed "Neither Maryland," the American-born parents are included, both born in the United States, but neither a native of Maryland. The foreign column is in three sub-divisions, in the first of which are included parents, both of whom are of foreign birth; and second, father foreign; and third, mother foreign. By reference to this column it will be seen that the largest proportion of native parents occurred in Calvert County, 100 per cent. The greatest proportion of foreign parents was in Anne Arundel County, 19 per cent. Baltimore County was next in order with 14.47 per cent. In two counties the proportion of native-born parents exceeded 99 per cent., Frederick and Queen Anne's. In Calvert County 97.15 per cent. of the parents of children born in 1915 were both natives of Maryland, and over 80 per cent. of the parents of children born in Carroll, Charles, Dorchester, Queen Anne's, Somerset, St. Mary's and Talbot counties were both natives of this State. In Rural Maryland at large there were 93.73 per cent. of the parents native of the United States, and 6.19 per cent. foreign-born. The highest percentage of both parents foreign was in Anne Arundel County, 14.57 per cent., and the highest percentage of mothers foreign was in Baltimore County, 1.99 per cent. In Baltimore County 4.29 per cent. of the fathers were foreign-born.

FECUNDITY.

Under the title of "Fecundity" is included a review of the fecundity rates and the maximum fecundities by counties in the white and colored population. Along with these we place the tables showing maximum and minimum ages of parents, by counties and color, and the average age of parents.

TABLE IX.

TABLE OF FECUNDITY FOR WHITE AND COLORED MOTHERS BY AGE PERIODS—
RURAL MARYLAND—1915.

Ages of Mothers.	No. of Mothers.	White.						
		Total No. of Children Born.	Total No. of Children Living.	Total Children per Mother.	Living Children per Mother.	Total Children per 10,000 of Fe- male Population.	Living Children per 10,000 of Fe- male Population.	Estimated Female Population.
10-15 years....	5	5	5	1.00	1.00	1.55	1.55	32,208
15-20 years....	1,437	1,749	1,656	1.22	1.15	585.87	554.72	29,853
20-25 years....	4,035	8,006	7,278	1.98	1.80	2,998.73	2,726.05	26,698
25-30 years....	3,631	11,279	10,072	3.11	2.77	4,701.74	4,198.59	23,989
30-35 years....	2,727	12,127	10,509	4.45	3.85	5,491.55	4,758.86	22,083
35-40 years....	1,965	12,083	10,290	6.15	5.24	5,800.77	4,939.99	20,830
40-45 years....	719	5,592	4,701	7.78	6.54	3,158.79	2,655.48	17,703
45-50 years....	103	897	755	8.71	7.33	590.44	496.97	15,192
Age Unknown..	43	149	122	3.47	2.84	.....	.....	.....
Total.....	14,665	51,887	45,388	3.54	3.09	2,751.81	2,407.14	188,556
Colored.								
10-15 years....	23	25	25	1.09	1.09	28.29	28.29	8,836
15-20 years....	796	1,080	971	1.36	1.22	1,433.50	1,288.82	7,534
20-25 years....	1,069	2,960	2,411	2.77	2.26	4,832.65	3,936.33	6,125
25-30 years....	774	3,612	2,943	4.67	3.80	6,959.54	5,670.52	5,190
30-35 years....	603	3,830	3,115	6.35	5.17	9,200.10	7,482.58	4,163
35-40 years....	481	4,062	3,155	8.44	6.56	10,012.32	7,776.68	4,057
40-45 years....	177	1,732	1,346	9.79	7.60	5,077.69	3,946.06	3,411
45-50 years....	22	214	167	9.73	7.59	724.20	565.14	2,955
Age Unknown..	49	163	124	3.33	2.53	.....	.....	.....
Total.....	3,994	17,678	12,911	4.18	3.23	4,182.06	3,054.34	42,271

A few mothers included whose ages were over 50 years.

TABLE IX-A.

TABLE OF FECUNDITY FOR WHITE AND COLORED MOTHERS BY AGE PERIODS—
BALTIMORE CITY—1915.

Ages of Mothers.	No. of Mothers.	White.						
		Total No. of Children Born.	Total No. of Children Living.	Total Children per Mother.	Living Children per Mother.	Total Children per 10,000 of Female Population.	Living Children per 10,000 of Female Population.	Estimated Female Population.
10-15 years....	3	3	3	1.00	1.00	1.33	1.33	22,620
15-20 years....	1,042	1,261	1,180	1.21	1.13	488.19	456.83	25,830
20-25 years....	3,610	6,478	5,818	1.79	1.61	2,421.32	2,174.63	26,754
25-30 years....	3,150	8,701	7,645	2.76	2.43	3,687.49	3,239.96	23,596
30-35 years....	2,031	8,392	7,134	4.13	3.51	4,137.25	3,517.06	20,284
35-40 years....	1,183	6,712	5,538	5.67	4.68	3,537.47	2,918.73	18,974
40-45 years....	405	3,032	2,417	7.49	5.97	1,808.42	1,441.61	16,766
45-50 years....	30	230	182	7.67	6.07	160.25	126.80	14,353
Age Unknown..	7	16	16	2.29	2.29	.....	.....	.....
Total.....	11,461	34,825	29,933	3.04	2.61	2,058.49	1,769.33	169,177
Colored.								
10-15 years....	12	12	12	1.00	1.00	34.72	34.72	3,456
15-20 years....	525	702	623	1.34	1.19	1,524.43	1,352.88	4,605
20-25 years....	713	1,644	1,318	2.31	1.85	2,757.00	2,210.30	5,963
25-30 years....	435	1,697	1,283	3.90	2.95	2,918.31	2,206.36	5,815
30-35 years....	298	1,560	1,065	5.23	3.57	3,751.80	2,561.33	4,158
35-40 years....	193	1,232	869	6.38	4.50	2,972.26	2,096.50	4,145
40-45 years....	60	483	314	8.05	5.23	1,511.26	982.48	3,196
45-50 years....	6	48	28	8.00	4.67	181.68	105.98	2,642
Age Unknown..	5	17	9	3.40	1.80	.....	.....	.....
Total.....	2,247	7,395	5,521	3.29	2.46	2,176.28	1,624.78	33,980

1 white mother at the age of 58 years.

In order to ascertain the fecundity rates of the child-bearing portion of the population, Tables IX and 9-A have been devised. These tables are valuable for comparative purposes demonstrating particularly the difference in rates in a wholly urban population and the population of Maryland outside of Baltimore City, which is to a large extent a rural population. Of equal interest is a comparison of the difference of rates in the white and colored populations.

Chart II shows the fecundity rates for Rural Maryland and Baltimore City for total children born and total children living per 10,000 of female population, white and colored, in 1915.

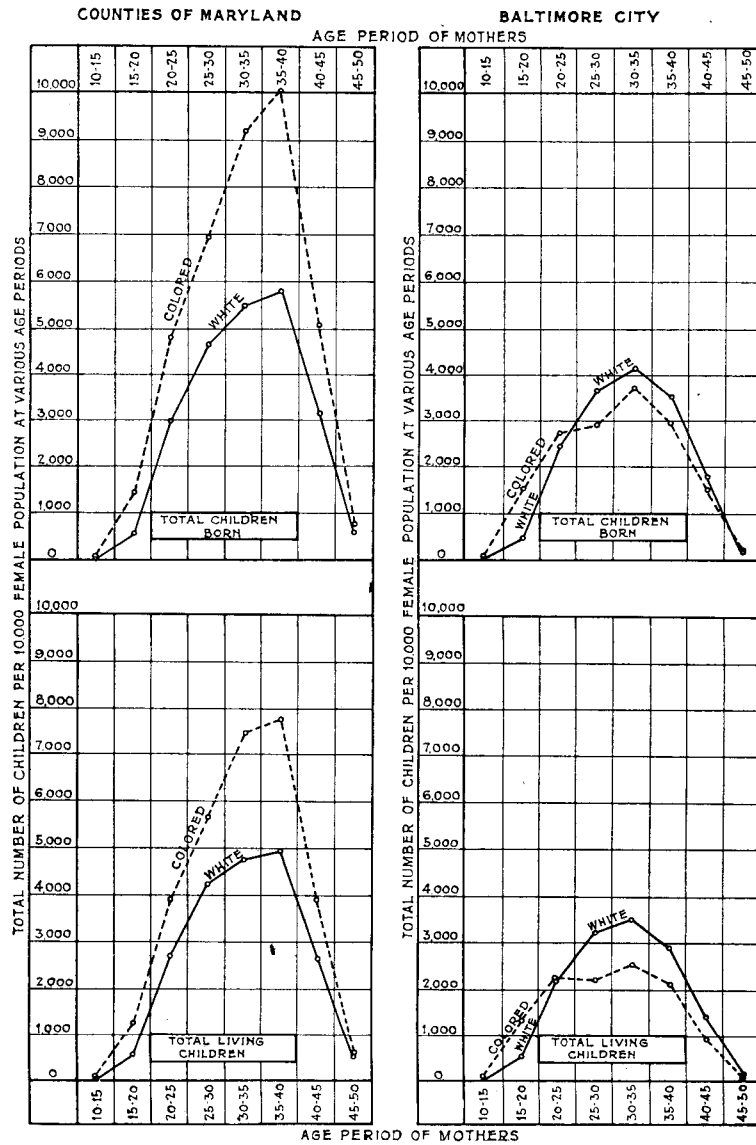


CHART 2.

The succeeding table (Table X) gives figures of maximum fecundity in Rural Maryland during 1915.

Only children in excess of the tenth during 1915 are considered. Of these, there were 349 white and 262 colored, a total of 611. The percentage of all births being: white, 1.87 per cent.; colored, 1.40 per cent.; total, 3.27 per cent.

Twin births occurred in the white population 149 times and in the colored population 50 times. There were also two triple births in the colored population.

TABLE X.

TABLE OF MAXIMUM FECUNDITY—NUMBER OF CHILD IN EXCESS OF TENTH BORN IN MARYLAND, EXCLUSIVE OF BALTIMORE CITY, 1915.

<i>County.</i>		11	12	13	14	15	16	17	18	19	20	Total.	Twins.	Trip-lets.
Allegany	W.	18	7	5	2	3	1	..	..	..	..	36	22	....
	C.	..	..	..	..	..	..	..	..	..	..	..	..	..
Anne Arundel.....	W.	6	5	2	1	2	..	..	..	..	..	16	6	....
	C.	11	5	6	4	3	..	1	..	1	..	31	2	....
Baltimore	W.	23	14	15	6	3	2	..	1	..	..	64	33	....
	C.	4	5	1	2	..	..	1	..	..	..	13	3	....
Calvert	W.	1	..	..	..	..	..	..	..	..	..	1	2	....
	C.	5	1	2	2	..	..	..	..	..	..	10	3	....
Caroline	W.	5	3	1	1	1	..	..	..	..	..	11	5	....
	C.	2	3	5	1	1	..	..	..	..	..	12	3	....
Carroll	W.	10	4	2	..	1	..	..	..	..	..	17	4	....
	C.	2	1	1	..	..	..	..	..	..	..	4	0	....
Cecil	W.	4	1	1	..	..	..	..	..	..	..	6	3	....
	C.	2	1	1	..	..	..	..	..	..	..	4	0	....
Charles	W.	3	3	3	..	..	..	..	..	..	..	9	2	....
	C.	5	6	3	..	..	1	..	..	..	..	15	1	....
Dorchester	W.	3	..	4	..	..	..	..	..	..	..	7	4	....
	C.	14	6	4	1	1	..	2	..	1	..	29	4	....
Frederick	W.	10	16	6	1	2	..	..	..	..	..	35	5	....
	C.	4	1	3	2	..	..	..	..	..	..	10	0	....
Garrett	W.	3	4	3	1	1	..	1	..	..	..	13	5	....
	C.	..	..	..	..	..	..	..	..	..	..	..	..	....
Harford	W.	..	4	1	3	..	1	..	..	..	..	9	8	....
	C.	2	..	2	1	1	..	..	..	..	..	6	1	....
Howard	W.	3	2	2	..	1	..	..	..	..	..	8	1	....
	C.	2	7	..	1	..	..	..	..	..	..	10	2	....
Kent	W.	4	3	2	1	..	..	..	..	..	..	10	1	....
	C.	..	4	4	2	1	..	..	..	..	..	11	2	....
Montgomery	W.	5	4	1	..	..	..	..	1	..	..	11	2	....
	C.	3	1	2	3	1	1	..	..	..	..	11	5	....
Prince George's....	W.	9	3	4	1	1	..	..	..	..	..	18	9	....
	C.	9	5	6	1	1	2	2	..	1	..	27	5	....
Queen Anne's.....	W.	2	1	1	..	..	..	..	..	..	..	4	3	....
	C.	4	2	1	1	..	..	..	..	..	..	8	2	1
Somerset	W.	2	2	2	1	..	..	..	..	..	..	7	2	....
	C.	3	2	..	2	1	1	..	..	..	..	9	1	....
St. Mary's....	W.	4	1	2	1	1	..	..	..	..	..	9	3	....
	C.	7	3	1	2	1	1	..	1	1	..	17	8	*1
Talbot	W.	..	..	..	..	..	..	..	..	..	..	..	1	....
	C.	3	2	2	..	..	..	..	..	..	..	7	0	....
Washington	W.	17	10	7	4	3	..	2	..	..	..	43	15	....
	C.	..	..	..	..	..	..	..	..	..	..	..	1	....
Wicomico	W.	4	1	3	1	1	1	..	..	..	..	11	10	....
	C.	5	5	2	..	..	..	..	..	..	..	12	5	....
Worcester	W.	4	..	..	..	..	..	..	..	..	..	4	3	....
	C.	3	5	6	..	1	1	..	..	..	..	16	2	....
White .....	....	140	88	67	24	20	5	3	2	..	..	349	149	....
Colored .....	....	90	65	52	25	12	6	6	2	1	3	262	50	2
Total.....	....	230	153	119	49	32	11	9	4	1	3	611	199	2

*One child stillborn, two living.

In Table XI the maximum age of fathers and mothers of children born in Rural Maryland during 1915 are shown for the white and colored races by counties. This table considers A, maximum age of father; B, maximum age of mother; C, minimum age of father; D, minimum age of mother.

Maximum age of father, 81 years (mother 40, black).

Maximum age of mother, 58 years (father 59, white).

Minimum age of father, 15 years (mother 18, black).

Minimum age of mother, 12 years (father 20, black).

TABLE XI.

MAXIMUM AND MINIMUM AGES OF FATHERS AND MOTHERS OF CHILDREN
BORN IN MARYLAND, 1915.

ALLEGANY COUNTY.

	W.	W.	W.	W.
Age of father.....	62	49	18	Unk.
Age of mother.....	26	47	17	14
	A	B	C	D

ANNE ARUNDEL COUNTY.

	B.	B.	W.	B.
Age of father.....	75	24	17	Unk.
Age of mother.....	42	52	16	14
	A	B	C	D

BALTIMORE COUNTY.

	W.	W.	B.	B.
Age of father.....	64	54	18	Unk.
Age of mother.....	30	48	15	13
	A	B	C	D

CALVERT COUNTY.

	B.	W.	B.
Age of father.....	54	43	17
Age of mother.....	35	43	13
	A	B	C
			D

CAROLINE COUNTY.

	W.	W.	B.
Age of father.....	60	50	17
Age of mother.....	32	45	15
	A	B	C
			D

CARROLL COUNTY.

	B.	W.	W.	W.
Age of father.....	67	36	16	26
Age of mother.....	28	49	16	14
	A	B	C	D

CECIL COUNTY.

	W.	B.	W.	B.
Age of father.....	61	45	17	35
Age of mother.....	41	50	17	15
	A	B	C	D

CHARLES COUNTY.

	B.	W.	B.	B.
Age of father.....	70	51	18	24
Age of mother.....	39	46	15	14
	A	B	C	D

DORCHESTER COUNTY.

	W.	B.	B.	B.
Age of father.....	72	32	16	26
Age of mother.....	33	48	16	13
	A	B	C	D

FREDERICK COUNTY.

	W.	W.	W.	W.
Age of father.....	75	53	16	21
Age of mother.....	35	48	18	14
	A	B	C	D

GARRETT COUNTY.

	W.	W.	W.	W.
Age of father.....	75	52	17	39
Age of mother.....	26	46	17	14
	A	B	C	D

HARFORD COUNTY.

	W.	W.	W.	B.
Age of father.....	55	48	17	20
Age of mother.....	39	45	20	15
	A	B	C	D

HOWARD COUNTY.

	B.	B.	B.	B.
Age of father.....	71	63	17	45
Age of mother.....	43	46	15	15
	A	B	C	D

KENT COUNTY.

	B.	W.	B.
Age of father.....	72	56	17
Age of mother.....	14	49	16
	A	B	C
	D		

MONTGOMERY COUNTY.

	B.	B.	B.	B.
Age of father.....	70	52	15	17
Age of mother.....	42	47	18	13
	A	B	C	D

PRINCE GEORGE'S COUNTY.

	B.	W.	B.	B.
Age of father.....	81	60	16	21
Age of mother.....	40	50	27	14
	A	B	C	D

QUEEN ANNE'S COUNTY.

	B.	W.	W.	B.
Age of father.....	63	48	18	23
Age of mother.....	32	42	18	13
	A	B	C	D

SOMERSET COUNTY.

	W.	B.	B.	B.
Age of father.....	61	50	18	Unk.
Age of mother.....	29	48	14	12
	A	B	C	D

ST. MARY'S COUNTY.

	W.	W.	B.	B.
Age of father.....	65	49	15	25
Age of mother.....	33	46	18	15
	A	B	C	D

TALBOT COUNTY.

	W.	W.	B.	
Age of father.....	69	46	15	
Age of mother.....	42	46	15	
	A	B	C	D

WASHINGTON COUNTY.

	W.	W.	W.	W.
Age of father.....	72	34	17	22
Age of mother.....	32	48	18	15
	A	B	C	D

WICOMICO COUNTY.

	B.	B.	B.	B.
Age of father.....	74	45	17	19
Age of mother.....	30	53	16	14
	A	B	C	D

WORCESTER COUNTY.

	W.	B.	B.	B.
Age of father.....	65	50	17	23
Age of mother.....	42	46	15	13
	A	B	C	D

BALTIMORE CITY.

	W.	W.	B.	B.
Age of father.....	73	59	15	20
Age of mother.....	45	58	15	12
	A	B	C	D

AVERAGE AGES OF PARENTS.

The succeeding table (Table XII) gives the ages of fathers and mothers of children born in Rural Maryland and Baltimore City for the year 1915. The table demonstrates the superior fecundity of females in early life and the superior fecundity of males at the higher age periods. This table shows an earlier average age for parents in Baltimore City than in Rural Maryland.

TABLE XII.

AGES OF PARENTS OF CHILDREN BORN IN MARYLAND DURING 1915.

Age Period.	Rural Maryland.				Baltimore City.			
	Number of Fathers.	Per Cent.	Number of Mothers.	Per Cent.	Number of Fathers.	Per Cent.	Number of Mothers.	Per Cent.
10-15 .....	.....	.....	28	0.15	.....	.....	15	0.11
15-20	309	1.66	2,233	11.97	197	1.44	1,567	11.43
20-25	3,451	18.50	5,104	27.35	2,824	20.60	4,323	31.54
25-30	4,445	23.82	4,405	23.61	3,994	29.14	3,585	26.15
30-35	3,691	19.78	3,330	17.85	2,805	20.46	2,329	16.99
35-40	3,060	16.40	2,446	13.11	1,972	14.39	1,376	10.04
40-45	1,976	10.59	896	4.80	1,080	7.88	465	3.39
45-50	919	4.93	.....	.....	442	3.22	.....	.....
50 and over...	543	2.91	.....	.....	173	1.26	.....	.....
45 and over...	.....	.....	125	0.67	.....	.....	36	0.26
Age unknown.	265	1.42	92	0.49	221	1.61	12	0.09
Total.....	18,659		18,659		13,708		13,708	

Two mothers at the age of 12; eight mothers at the age of 13; thirty-three mothers at the age of 14.

Table XIII gives the average ages of parents of children born in Rural Maryland for the years 1906 to 1915, inclusive. Except for slight variations in any single year, the average age of both fathers and mothers remains the same. The average difference between the ages of parents shows no marked variation.

TABLE XIII.

AVERAGE AGE OF PARENTS OF CHILDREN BORN IN RURAL MARYLAND,
1906-1915.

<i>Year.</i>	<i>Average Age of Father.</i>	<i>Average Age of Mother.</i>	<i>Average Difference Between Father's and Mother's Ages.</i>
1906.....	32.44	27.73	4.71
1907.....	33.06	28.42	4.64
1908.....	32.93	28.31	4.62
1909.....	32.97	28.36	4.61
1910.....	32.83	28.32	4.51
1911.....	32.85	28.35	4.50
1912.....	32.76	28.23	4.53
1913.....	32.82	28.23	4.59
1914.....	32.53	28.00	4.53
1915.....	32.48	27.99	4.49

Birth Registration.

For the purpose of ascertaining the extent of the practice of midwives as shown by registration, two tables were made. Table XIV gives the actual number of births attended by physicians, midwives or others, i. e., no physician or midwife in attendance. Of a total of 26,126 white births, 20,179 were attended by physicians, 5,802 by midwives and 145 did not have the attendance of either a physician or midwife. Of a total of 6,241 colored births, 3,243 received the attention of a physician, 2,927 were attended by midwives and 71 had neither the attention of a physician or midwife. The total number of births attended by physicians was 23,422, the total number attended by midwives was 8,729, and the total number without the attention of midwife or physician was 216.

TABLE XIV.

PROPORTION OF BIRTHS ATTENDED BY PHYSICIANS AND MIDWIVES, WHITE AND COLORED, MARYLAND, 1915.

Counties.	White.				Colored.				Total.
	Physician.	Midwife.	Other Person.	Total.	Physician.	Midwife.	Other Person.	Total.	
Allegany	1,612	95	27	1,734	36	11	2	49	1,783
Anne Arundel...	525	236	0	761	131	279	3	413	1,174
Baltimore	1,938	700	9	2,647	152	64	7	223	2,870
Calvert	63	32	0	95	13	137	1	151	246
Caroline	266	93	5	364	20	114	4	138	502
Carroll	727	11	6	744	38	10	0	48	792
Cecil	425	3	2	430	36	14	1	51	481
Charles	106	89	6	201	22	256	8	286	487
Dorchester	392	115	10	517	108	238	3	349	866
Frederick	1,082	41	14	1,137	116	29	4	149	1,286
Garrett	489	28	33	550	0	0	0	0	550
Harford	409	8	2	419	68	8	3	79	498
Howard	214	20	1	235	59	47	1	107	342
Kent	176	27	0	203	48	80	3	131	334
Montgomery ...	470	14	3	487	128	94	3	225	712
Prince George's.	550	66	2	618	108	233	4	345	963
Queen Anne's...	227	31	0	258	36	108	1	145	403
Somerset	387	28	0	415	118	165	3	286	701
St. Mary's.....	172	83	0	255	50	165	2	217	472
Talbot	257	35	1	293	52	97	1	150	443
Washington	1,392	69	13	1,474	29	6	2	37	1,511
Wicomico	415	71	3	489	87	115	6	208	697
Worcester	292	42	5	339	49	153	5	207	546
Total.....	12,586	1,937	142	14,665	1,504	2,423	67	3,994	18,659
Baltimore City..	7,593	3,865	3	11,461	1,739	504	4	2,247	13,708
Maryland	20,179	5,802	145	26,126	3,243	2,927	71	6,241	32,367

Table XV gives the percentage of births, white and colored, attended by physicians and midwives, respectively. In all counties the majority of white mothers had the attendance of a physician. In Charles County, 44.28 per cent. of white births were attended by midwives, and in a number of the other counties, namely, Anne Arundel, Baltimore, Calvert, Caroline and St. Mary's, over 25 per cent. of white mothers were attended by midwives. Counties in which the largest proportion of white mothers had neither the services of physicians or midwives were Garrett, 6 per cent. of births reported, and Charles, 2.99

per cent. of births reported. The large practice of midwives is seen among the colored women. In thirteen counties over 50 per cent. of colored births were attended by midwives. The county in which the largest percentage of colored mothers were attended by midwives is Calvert County, 90.73 per cent.; Charles county second, with 89.51 per cent. The counties in which the largest percentage of colored mothers had neither the attention of physician or midwife are Washington County, 5.41 per cent., and Allegany County, 4.08 per cent.

TABLE XV.
PERCENTAGE OF BIRTHS ATTENDED BY PHYSICIANS AND MIDWIVES, WHITE AND COLORED, MARYLAND, 1915.

<i>Counties.</i>	<i>Percentage of White Births.</i>			<i>Percentage of Colored Births.</i>		
	<i>Physicians.</i>	<i>Midwives.</i>	<i>Others.</i>	<i>Physicians.</i>	<i>Midwives.</i>	<i>Others.</i>
Allegany	92.96	5.48	1.56	73.47	22.45	4.08
Anne Arundel.....	68.99	31.01	0.00	31.72	67.55	0.73
Baltimore	73.21	26.45	0.34	68.16	28.70	3.14
Calvert	66.32	33.68	0.00	8.61	90.73	0.66
Caroline	73.08	25.55	1.37	14.49	82.61	2.90
Carroll	97.72	1.48	0.81	79.17	20.84	0.00
Cecil	98.84	0.70	0.47	70.59	27.45	1.96
Charles	52.74	44.28	2.99	7.69	89.51	2.80
Dorchester	75.82	22.24	1.93	30.95	68.19	0.86
Frederick	95.16	3.61	1.23	77.85	19.46	2.68
Garrett	88.91	5.09	6.00	0.00	0.00	0.00
Harford	97.61	1.91	0.48	86.08	10.13	3.80
Howard	91.06	8.51	0.43	55.14	43.93	0.93
Kent	86.70	13.30	0.00	36.64	61.07	2.29
Montgomery	96.51	2.87	0.62	56.89	41.78	1.33
Prince George's.....	89.00	10.68	0.32	31.30	67.54	1.16
Queen Anne's.....	87.98	12.02	0.00	24.83	74.48	0.69
Somerset	93.25	6.75	0.00	41.26	57.69	1.05
St. Mary's.....	67.45	32.55	0.00	23.04	76.04	0.92
Talbot	87.71	11.95	0.34	34.67	64.67	0.67
Washington	94.44	4.68	0.88	78.38	16.22	5.41
Wicomico	84.87	14.52	0.61	41.83	55.29	2.88
Worcester	86.14	12.39	1.47	23.67	73.91	2.42
Total Counties....	85.82	13.21	0.97	37.66	60.67	1.68
Baltimore City.....	66.25	33.72	0.03	77.39	22.43	0.18
Maryland	77.24	22.21	0.56	51.96	46.90	1.14

Table XVI gives the births, estimated population and births per 1,000 in cities of Maryland with population of 2,000 and over. Upon investigation we found it was the practice of physicians and midwives to enter the nearest town as the address instead of giving the exact location, and in this manner a number of births which did not occur within their limits were credited to some cities. A system has been devised which will correct this error in tables beginning with the year 1917.

TABLE XVI.

BIRTHS BY SEX AND COLOR, ESTIMATED POPULATION AND BIRTH RATES
PER 1,000 OF CITIES AND TOWNS IN MARYLAND WITH POPULATION
OF 2,000 AND OVER, 1915.

<i>Towns.</i>	<i>Male.</i>	<i>Female.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>	<i>Estimated Population.</i>	<i>Births Per 1,000.</i>
Baltimore City.....	7,028	6,680	11,461	2,247	13,708	584,608	23.45
Cumberland	384	344	689	39	728	25,564	28.48
Hagerstown	322	325	631	16	647	25,233	25.64
Frederick	115	130	203	42	245	10,999	22.27
Annapolis	129	101	152	78	230	8,751	26.28
Salisbury	105	106	169	42	211	7,963	26.50
Cambridge	135	110	149	96	245	6,755	36.27
Frostburg	82	113	187	8	195	6,426	30.35
Havre de Grace.....	42	38	66	14	80	4,628	17.29
Brunswick	58	53	107	4	111	4,380	25.34
Crisfield	61	57	85	33	118	3,628	32.52
Westminster	35	47	80	2	82	3,346	24.51
Easton	54	42	66	30	96	3,088	31.09
Westernport	53	47	98	2	100	3,073	32.54
Laurel	29	20	43	6	49	2,592	18.90
Chestertown	12	26	22	16	38	2,591	14.67
Pocomoke City.....	43	42	54	31	85	2,498	34.03
Elkton	33	28	57	4	61	2,283	24.82
Hyattsville	28	25	45	8	53	2,283	23.22
Total.....	8,748	8,334	14,364	2,718	17,082	710,864	24.03

One case sex unknown.

Deaths in Maryland.

The total number of deaths recorded in Maryland during 1915 was 21,350; of these, 12,023 occurred in Rural Maryland and 9,327 in Baltimore City.

The total number of white deaths was 15,767; of colored deaths, 5,583.

The total number of male deaths was 11,221; of female deaths, 10,129.

Tables III and 3-A give the births, deaths and increase, and the birth rates, death rates and rate of increase (per 1,000) for the white and colored population of Maryland.

Table IV gives the births, birth rates, deaths, death rates and excess of births over deaths per 1,000 of population for the male, female, white and colored, and total population of Rural Maryland, Baltimore City and the State of Maryland.

TABLE XVII.

DEATHS BY SEX AND COLOR, ESTIMATED POPULATION AND DEATH RATES
PER 1,000 OF CITIES AND TOWNS IN MARYLAND WITH POPULATION
OF 2,000 AND OVER, 1915.

<i>Towns.</i>	<i>Male.</i>	<i>Female.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>	<i>Estimated Population.</i>	<i>Deaths Per 1,000.</i>
Baltimore City.....	4,835	4,492	7,149	2,178	9,327	584,608	15.95
Cumberland	202	193	364	31	395	25,564	15.45
Hagerstown	184	187	333	38	371	25,233	14.70
Frederick	84	96	145	35	180	10,999	16.37
Annapolis	82	76	77	81	158	8,751	18.06
Salisbury	89	73	107	55	162	7,963	20.34
Cambridge	93	79	87	85	172	6,755	25.46
Frostburg	58	42	93	7	100	6,426	15.56
Havre de Grace.....	41	26	51	16	67	4,628	14.48
Brunswick	19	20	34	5	39	4,380	8.90
Crisfield	32	45	53	24	77	3,628	21.22
Westminster	36	24	50	10	60	3,346	17.93
Easton	61	34	52	43	95	3,088	30.76
Westernport	21	19	36	4	40	3,073	13.02
Laurel	20	29	45	4	49	2,592	18.90
Chestertown	30	27	23	34	57	2,591	22.00
Pocomoke City.....	32	34	40	26	66	2,498	26.42
Elkton	44	38	65	17	82	2,458	33.36
Hyattsville	11	11	19	3	22	2,283	9.64
Total.....	5,974	5,545	8,823	2,696	11,519	710,864	16.20

Table XVII gives deaths male, female, white, colored, estimated population and deaths per 1,000 for cities of Rural Maryland with a population of 2,000 or over. The rates for a number of the cities as given in the table are high. There are two reasons for this; first, that a number of the cities support hospitals and all the deaths which occur in the hospitals add to the death rate for the cities; second, the improper addresses on certificates causes a number of deaths which did not occur within the corporate limits of the cities to be included in the total number of deaths. We have taken means to eliminate this error in all tables beginning with 1917.

TABLE XVIII.

DEATHS FOR THE YEAR 1915 BY AGES, SHOWING PERCENTAGES OF TOTAL MORTALITY IN THE SEVERAL AGE PERIODS OF LIFE IN RURAL MARYLAND, BALTIMORE CITY AND THE STATE OF MARYLAND.

<i>Age Periods.</i>	<i>Rural Maryland.</i>		<i>Baltimore City.</i>		<i>Maryland.</i>	
	<i>Deaths.</i>	<i>Per Ct.</i>	<i>Deaths.</i>	<i>Per Ct.</i>	<i>Deaths.</i>	<i>Per Ct.</i>
0- 1 year.....	2,238	18.61	1,624	17.41	3,862	18.09
1- 5 years.....	685	5.70	537	5.76	1,222	5.72
5-10 years.....	213	1.77	158	1.69	371	1.74
10-15 years.....	199	1.66	109	1.17	308	1.44
15-20 years.....	323	2.69	221	2.37	544	2.55
20-25 years.....	428	3.56	309	3.31	737	3.45
25-30 years.....	425	3.53	370	3.97	795	3.72
30-35 years.....	446	3.71	371	3.98	817	3.83
35-40 years.....	472	3.93	458	4.91	930	4.36
40-45 years.....	456	3.79	486	5.21	942	4.41
45-50 years.....	481	4.00	551	5.91	1,032	4.83
50-55 years.....	567	4.72	643	6.89	1,210	5.67
55-60 years.....	654	5.44	663	7.11	1,317	6.17
60-65 years.....	763	6.35	672	7.20	1,435	6.72
65-70 years.....	855	7.11	607	6.51	1,462	6.85
70-75 years.....	933	7.76	564	6.05	1,497	7.01
75-80 years.....	821	6.83	482	5.17	1,303	6.10
80 years and over..	983	8.18	502	5.38	1,485	6.96
Age unknown.....	81	0.67	0	0.00	81	0.38
Total.....	12,023		9,327		21,350	

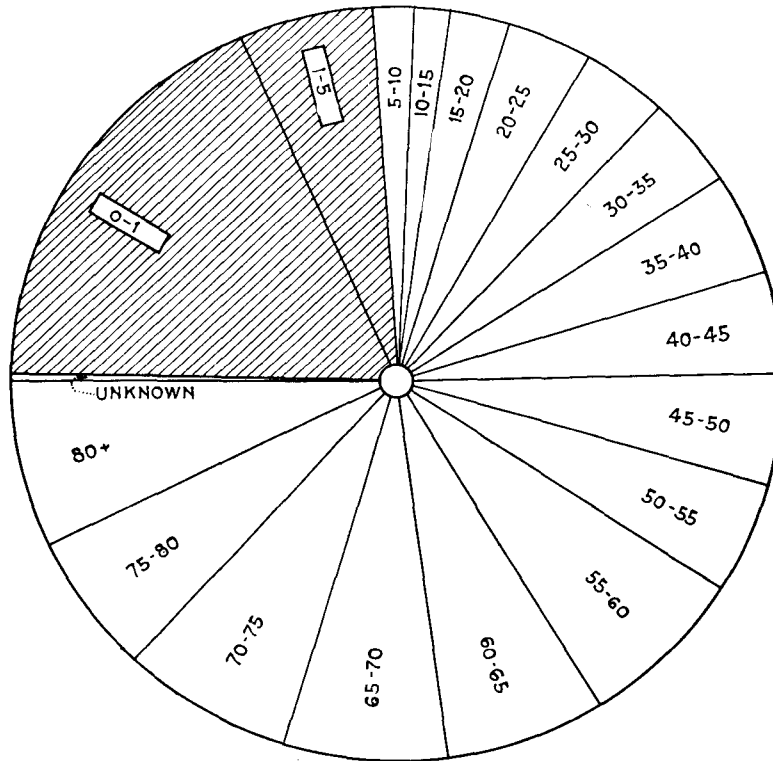
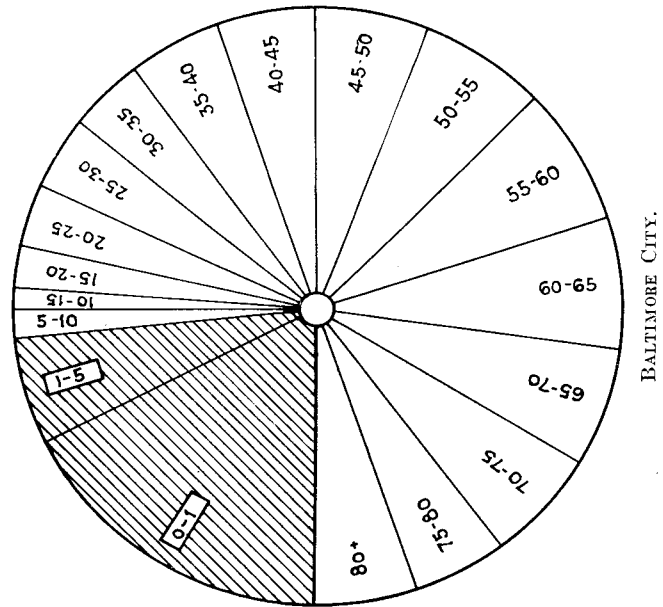


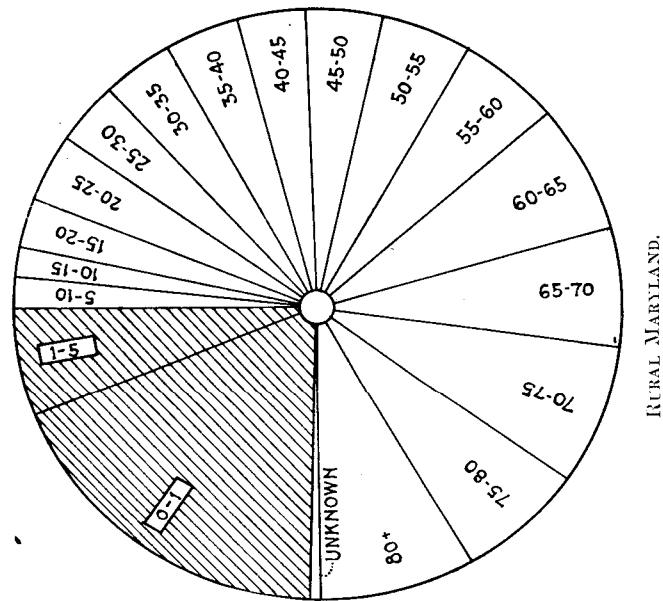
CHART 3—State of Maryland—Deaths by Ages, 1915.



BALTIMORE CITY.

1915.

CHART 4—Deaths by Ages.



RURAL MARYLAND.

The preceding table (Table XVIII) gives the distribution of the deaths in Rural Maryland, Baltimore City and the State of Maryland, according to age, giving the number of deaths at each age period and the percentages of total mortality. Chart 3 and Chart 4 show graphically the percentage of deaths at the several age periods; the charts indicate the excessive percentage of deaths in infancy (under 2 and under 5 years).

The table shows that the infantile mortality is slightly higher in Rural Maryland than in Baltimore City, as 18.61 per cent. of the deaths in Rural Maryland occurred under the age of 1 year and 17.41 per cent. in Baltimore City. The figures under the age of 5 for Baltimore City are 23.17 and for Rural Maryland 24.31 per cent. This difference is shown graphically in the accompanying charts.

Tables 19-A, 19-B, 19-C, give the estimated population, death rates per 1,000 at age periods and the mortality per 1,000 for age periods for the white, colored and total populations of Maryland. The mortality per 1,000 at age periods in the total population is lowest in the third quinquennium, after which it slowly rises until the period between 60 and 65 years, when it exceeds the mortality at the period of 0-5 years.

The uniformly higher death rate by ages in the colored population is well demonstrated up to the age period of 55-60, when the colored mortality almost doubles the white.

TABLE XIX-A.

POPULATION AND DEATHS PER THOUSAND AT THE SEVERAL AGE PERIODS—
MARYLAND, 1915.

<i>Age.</i>	<i>Per Cent.</i>	<i>Esti- mated Popu- lation.</i>	<i>Deaths.</i>	<i>Mortality Per 1,000 of Those Living at the Age.</i>	<i>Mortality Per 1,000 for Age Periods.</i>
Under 5 years.....	10.61	143,457	5,084	35.44	177.20
5 to 10 years.....	10.29	139,148	371	2.67	13.35
10 to 15 years.....	9.99	135,032	308	2.28	11.40
15 to 20 years.....	9.88	133,517	544	4.07	20.35
20 to 25 years.....	9.50	128,457	737	5.74	28.70
25 to 30 years.....	8.49	114,752	795	6.93	34.65
30 to 35 years.....	7.40	100,049	817	8.17	40.85
35 to 40 years.....	7.12	96,262	930	9.66	48.30
40 to 45 years.....	6.07	82,091	942	11.47	57.35
45 to 50 years.....	5.24	70,867	1,032	14.56	72.80
50 to 55 years.....	4.57	61,725	1,210	19.60	98.00
55 to 60 years.....	3.34	45,106	1,317	29.20	146.00
60 to 65 years.....	2.70	36,514	1,435	39.30	196.50
65 to 70 years.....	2.05	27,752	1,462	52.68	263.40
70 to 75 years.....	1.36	18,435	1,497	81.20	406.00
75 to 80 years.....	0.76	10,280	1,303	126.75	633.75
80 years and over..	0.53	7,115	1,485	208.71	....
Unknown	0.10	1,381	81	58.65	....
Total.....		1,351,940	21,350	15.79	

TABLE XIX-B.

ESTIMATED WHITE POPULATION AND DEATHS PER THOUSAND AT THE
AGE PERIODS FOR THE YEAR 1915—MARYLAND'S ESTIMATED
WHITE POPULATION, 1,120,769.

Age.	Per Cent.	Esti- mated Popu- lation.	Deaths.	Mortality	
				Per 1,000 of Those Living at the Age.	Mortality Per 1,000 for Age Periods.
Under 5 years.....	10.50	117,681	3,490	29.66	148.30
5 to 10 years.....	10.13	113,534	256	2.25	11.25
10 to 15 years.....	9.87	110,620	186	1.68	8.40
15 to 20 years.....	9.84	110,284	324	2.94	14.70
20 to 25 years.....	9.37	105,016	446	4.25	21.25
25 to 30 years.....	8.37	93,808	515	5.49	27.45
30 to 35 years.....	7.45	83,497	564	6.75	33.75
35 to 40 years.....	7.11	79,687	632	7.93	39.65
40 to 45 years.....	6.12	68,591	647	9.43	47.15
45 to 50 years.....	5.30	59,401	729	12.27	61.35
50 to 55 years.....	4.67	52,340	852	16.28	81.40
55 to 60 years.....	3.48	39,003	1,043	26.74	133.70
60 to 65 years.....	2.80	31,382	1,181	37.63	188.15
65 to 70 years.....	2.14	23,984	1,224	51.03	255.15
70 to 75 years.....	1.42	15,915	1,269	79.74	398.70
75 to 80 years.....	0.81	9,078	1,149	126.57	632.85
80 years and over..	0.54	6,052	1,224	202.25	....
Unknown	0.08	896	36	40.18	....
Total.....		1,120,769	15,767	14.07	

TABLE XIX-C.

ESTIMATED COLORED POPULATION AND DEATHS PER THOUSAND AT THE
AGE PERIODS FOR THE YEAR 1915—MARYLAND'S ESTIMATED
COLORED POPULATION, 231,171.

	<i>Per Cent.</i>	<i>Esti- mated Popu- lation.</i>	<i>Deaths.</i>	<i>Mortality Per 1,000 of Those Living at the Age.</i>	<i>Mortality Per 1,000 for Age Periods.</i>
Under 5 years.....	11.15	25,776	1,594	61.84	309.20
5 to 10 years.....	11.08	25,614	115	4.49	22.45
10 to 15 years.....	10.56	24,412	122	5.00	25.00
15 to 20 years.....	10.05	23,233	220	9.47	47.35
20 to 25 years.....	10.14	23,441	291	12.41	62.05
25 to 30 years.....	9.06	20,944	280	13.37	66.85
30 to 35 years.....	7.16	16,552	253	15.29	76.45
35 to 40 years.....	7.17	16,575	298	17.98	89.90
40 to 45 years.....	5.84	13,500	295	21.85	109.25
45 to 50 years.....	4.96	11,466	303	26.43	132.15
50 to 55 years.....	4.06	9,385	358	38.15	190.75
55 to 60 years.....	2.64	6,103	274	44.90	224.50
60 to 65 years.....	2.22	5,132	254	49.49	247.45
65 to 70 years.....	1.63	3,768	238	63.16	315.80
70 to 75 years.....	1.09	2,520	228	90.48	452.40
75 to 80 years.....	0.52	1,202	154	128.12	640.60
80 years and over..	0.46	1,063	261	245.53	....
Unknown	0.21	485	45	92.78	....
Total.....		231,171	5,583	24.15	

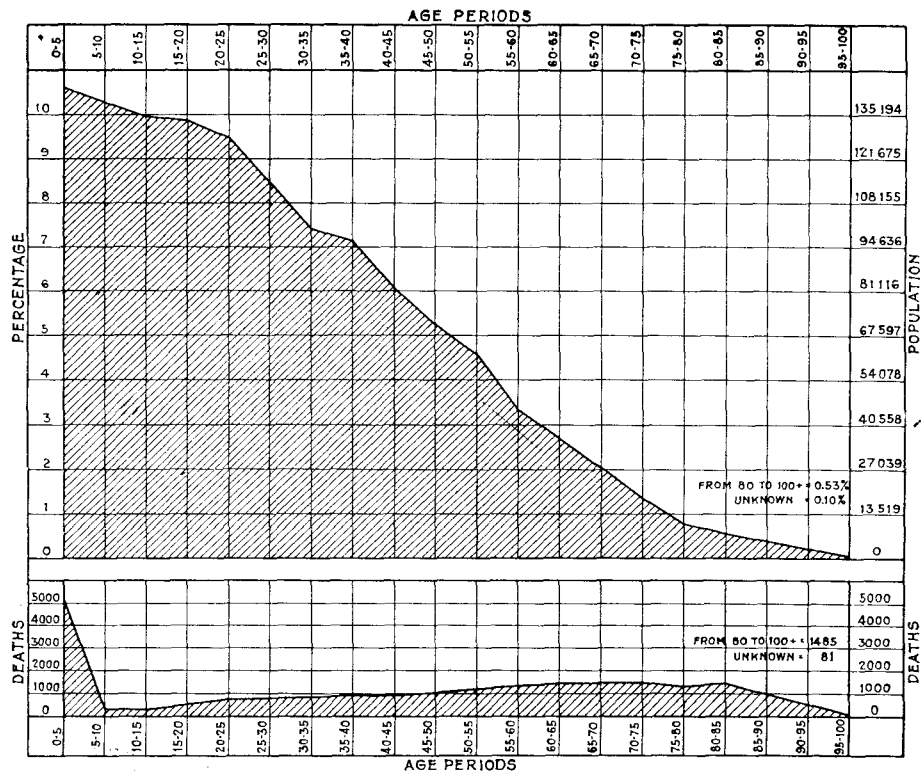


CHART 5—Distribution of the Population and Deaths by Ages, Maryland, 1915.

The figures for the total population (Table 19-A) are graphically shown in Chart 5. The profile of the black area, including the portion below, indicates the population; the number of deaths is shown in the black area described below.

From the chart it is seen that the curve plotted for population and the curve plotted for deaths bear no relation to one another except in the first period 0-5 years. The deaths are fewer in the larger population, and as the population diminishes, the deaths increase.

The diseases producing the general mortality analyzed in the preceding tables are shown in Tables A and B, at the end of the report, and in the special tables of this section.

It is evident from the sanitary point of view that important differences exist in the nature of these diseases in their relations to the public health, both as regards their infectiousness and the possibility of their prevention; accordingly, the diseases have been classified in the table from a strictly sanitary standpoint.

The following main divisions have been recognized—parasitic diseases, constitutional diseases, congenital diseases and malformations, poisonings and intoxications, malignant neoplasms, degenerations, pregnancy and violence; other obscure affections not properly falling in one of the previous classes.

The most important of these classes is that including parasitic diseases, which are mostly communicable, and are to a large extent subject to sanitary control. All diseases of parasitic origin may be assumed to be communicable to a certain degree, although important differences exist as to the amount and extent of their contagiousness. Accordingly, these diseases are considered in three classes: (a) infectious and contagious diseases; (b) communicable diseases; (c) other infections of parasitic origin.

The diseases classified under each heading are shown in Table XX. Parasitic diseases form a class largely under the control of sanitary authorities. Poisonings and intoxications are to some extent controlled by law. Constitutional dyscrasias are not, as a rule, subject to administrative control, while congenital diseases and malformations are wholly beyond administrative influence. Deaths from violence are also usually outside the control of sanitary authorities. The diseases classified under degenerations and malignant neoplasms form a class of

maladies which are imperfectly understood, and are accordingly not capable of control by our present methods. The comparative importance of these classes as causes of death is graphically shown in Chart 6.

TABLE XX.

A CLASSIFICATION OF CAUSES OF DEATH, WITH THE NUMBER OCCURRING AND THEIR RATIOS TO THE MORTALITY (MARYLAND, 1915).

<i>Diseases.</i> PARASITIC DISEASES. (Infectious and Contagious Diseases.)	<i>Balto.</i> <i>City.</i>	<i>Rural</i> <i>Mary-</i> <i>land.</i>	<i>Total.</i>	<i>P. C. of</i> <i>Total</i> <i>Mort.</i>
Typhoid fever, scarlatina, whooping cough, diphtheria, influenza, smallpox, measles, glanders, anthrax, actinomycosis.....	346	592	938	4.39
(*Communicable Diseases.)				
Malaria, dysentery, tuberculosis, syphilis, tetanus, pneumonia, gonorrhœa, rabies, erysipelas	1,748	2,345	4,093	19.17
(+Other Infections.)				
Septicæmia, pyæmia, rheumatism (febril), meningitis, bronchitis, broncho-pneumonia, gastro-intestinal inflammations (summer diarrhœa of infants), cholera nostras, tonsillitis, pharyngitis, cholecystitis (and other inflammations of the liver and gall bladder), pericarditis, cystitis, peritonitis, acute nephritis, gangrene, abscess, furuncle, pleurisy, appendicitis, laryngitis, metritis, endometritis, endocarditis (acute), salpingitis, pellagra.....	1,718	2,065	3,783	17.72
Total Parasitic Diseases.....	3,812	5,002	8,814	41.28
CONSTITUTIONAL DYSCRASIAS.				
Diabetes, exophthalmic goitre, gout, anæmia, chlorosis, leukemia, Addison's disease, diseases of the thyroid body.....	163	159	322	1.51
CONGENITAL DISEASES AND MALFORMATIONS.				
Morbus ceruleus, icterus neonatorum, marasmus, sclerema	541	726	1,267	5.93
POISONINGS AND INTOXICATIONS.				
Alcoholism, saturnism and occupational intoxications, scorbutus.....	30	60	90	0.42
MALIGNANT NEOPLASMS.				
Epithelioma, carcinoma, sarcoma.....	600	608	1,208	5.66
‡DEGENERATIONS.				
Cerebral congestion and hemorrhage, paralysis (without specified cause), meningo-encephalitis, cerebral softening (?), epilepsy, organic diseases of the heart, angina pectoris, arteriosclerosis, aneurism (and allied arterial degenerations), asthma (in all forms), Bright's disease, senile debility and dementia, locomotor ataxia, myelitis, insanity.....	2,789	3,555	6,344	29.71

TABLE XX—Continued.

	<i>Balto. City.</i>	<i>Rural Mary- land.</i>	<i>Total.</i>	<i>P. C. of Total Mort.</i>
PREGNANCY.				
Puerperal hemorrhage, puerperal septicæmia, puerperal albuminuria and convulsions, pleg- masia alba dolens.....	79	112	191	0.89
VIOLENCE.				
Suicide, homicide, murder, dueling, accidental violence, poisoning, gas inhalation, drowning, strangulation and legal execution, death by insulation, lightning, freezing, burns and scalds	573	698	1,271	5.95
All other causes.....	740	1,103	1,843	8.63
Total.....	9,327	12,023	21,350	

*All communicable diseases have been assumed to be due to a living organism, and included in this list whether the specific cause has been discovered or not.

†The distinction between these three classes is one of kind, rather than degree, as all parasitic diseases may at some time be communicable.

‡Includes mainly the disorders dependent on advanced years and prolonged strain.

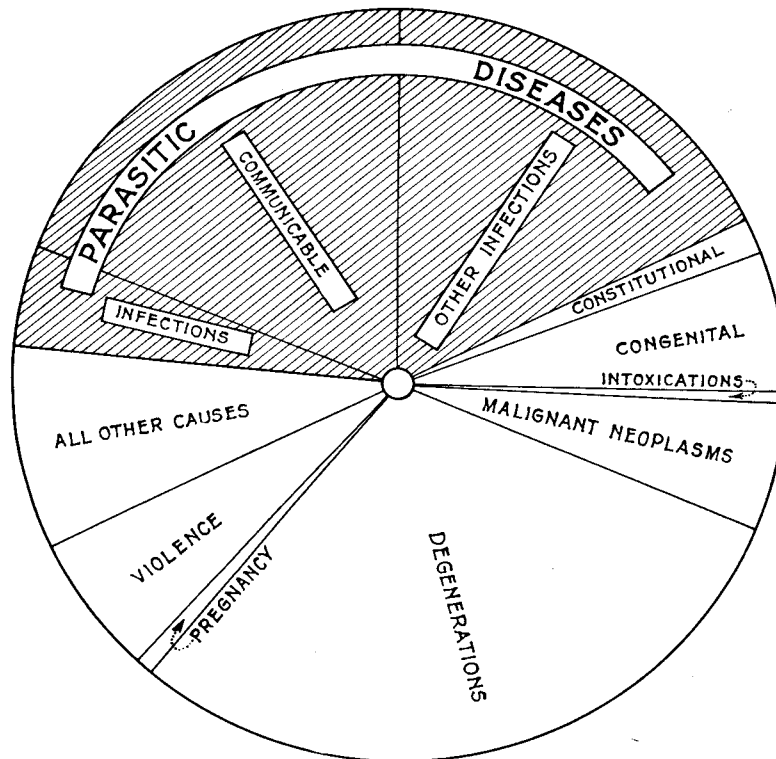


CHART G—*Maryland Classification of Causes of Death, 1915*

Principal Causes of Death.

The principal causes of death are separately considered, as together they cause about 75 per cent. of the total mortality, and they are in the main preventable diseases.

In Table XXI the twenty principal causes of death are tabulated for Rural Maryland, Baltimore City and total Maryland. The causes come in their proper numerical order under the column marked "Total Maryland." The percentages and figures are entered in the columns marked "Rural Maryland" and "Baltimore City," but do not follow in numerical order.

Deaths from tuberculosis always occupies first place in this table, and deaths from organic heart disease and chronic Bright's disease occupy, respectively, the second and third places. Deaths from cerebral congestion and hemorrhage will always be found in the upper part of this table, and causes like diarrhoea and enteritis, broncho-pneumonia, typhoid fever and influenza or other infectious diseases should gradually take lower positions. Diphtheria for a number of years has been eliminated from the table altogether, while such causes as accidental violence and malignant neoplasms will gradually assume more important positions.

TABLE XXI.
 TWENTY PRINCIPAL CAUSES OF DEATH, MARYLAND, 1915.

	RURAL MARYLAND.			BALTIMORE CITY.			MARYLAND.		
	Deaths.	Per Cent. of Total	Mortality Per 10,000.	Deaths.	Per Cent. of Total	Mortality Per 10,000.	Deaths.	Per Cent. of Total	Mortality Per 10,000.
Tuberculosis, Pulmonary and Laryngeal.....	*1,412	11.74	18.40	821	8.80	14.04	2,233	10.46	16.52
Organic Heart Disease.....	978	8.13	12.75	877	9.40	15.00	1,855	8.69	13.72
Chronic Bright's Disease.....	930	7.74	12.12	863	9.25	14.76	1,793	8.40	13.26
Cerebral Congestion and Hemorrhage.....	712	5.92	9.28	620	6.65	10.61	1,332	6.24	9.85
Malignant Neoplasms.....	608	5.06	7.92	600	6.43	10.26	1,208	5.66	8.94
Pneumonia, Lobar.....	571	4.75	7.44	605	6.49	10.35	1,176	5.51	8.70
Pneumonia, Broncho-Pneumonia.....	676	5.62	8.81	479	5.14	8.19	1,155	5.41	8.54
Diarrhoea and Enteritis (under 2 years)....	636	5.29	8.29	483	5.18	8.26	1,119	5.24	8.28
Congenital Debility.....	506	4.21	6.59	504	5.40	8.62	1,010	4.73	7.47
Broncho-Pneumonia.....	504	4.17	6.53	389	4.17	6.65	890	4.17	6.58
Accidental Violence.....	296	2.46	3.86	80	0.86	1.37	376	1.76	2.78
Paralysis.....	202	1.68	2.63	122	1.31	2.09	324	1.52	2.40
Typhoid Fever.....	175	1.46	2.28	145	1.55	2.48	320	1.50	2.37
Affections of the Arteries.....	204	1.70	2.66	94	1.01	1.61	298	1.40	2.20
Senile Debility.....	167	1.39	2.18	83	0.89	1.42	250	1.17	1.85
Diarrhoea and enteritis (2 years and over) ..	128	1.06	1.67	97	1.04	1.66	225	1.05	1.66
Influenza.....	68	0.57	0.89	69	0.74	1.18	137	0.64	1.01
Gastric Diseases.....	92	0.77	1.20	30	0.32	0.51	122	0.57	0.90
Convulsions (Infantile).....	80	0.67	1.04	21	0.23	0.36	101	0.47	0.75
Whooping Cough.....	57	0.47	0.74	40	0.43	0.68	97	0.45	0.72
Meningitis.....									

*Including 357 deaths of residents of Baltimore City who died at tuberculosis sanatoria.

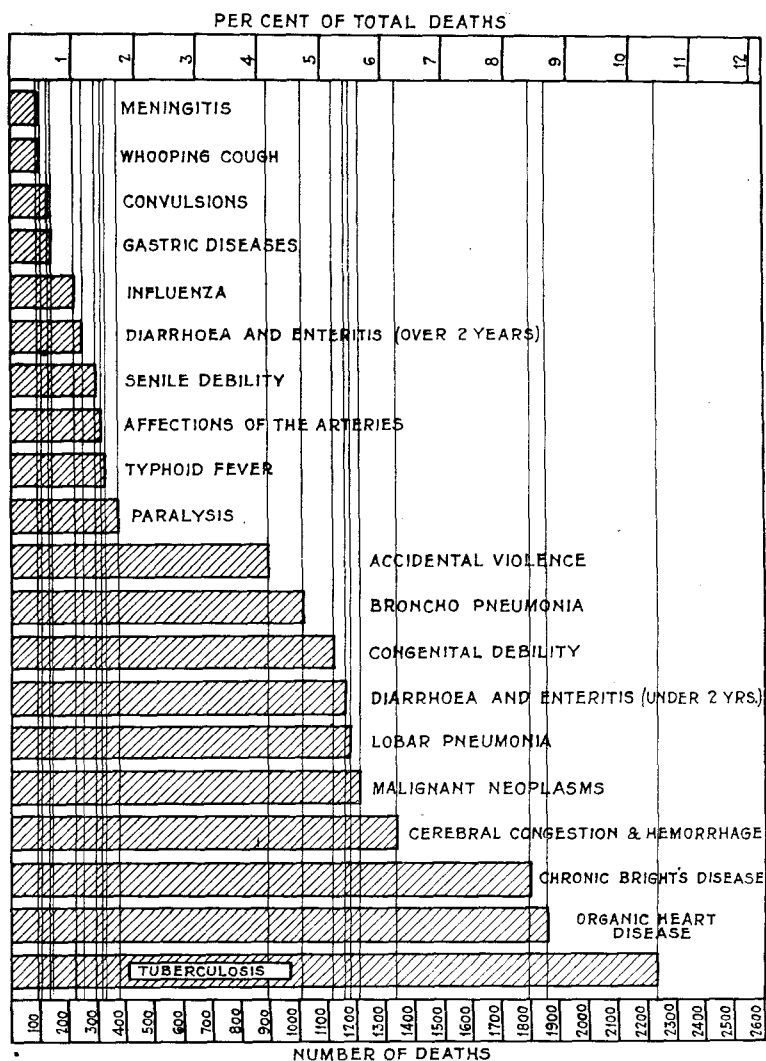


CHART 7—Twenty Principal Causes of Death, 1915.

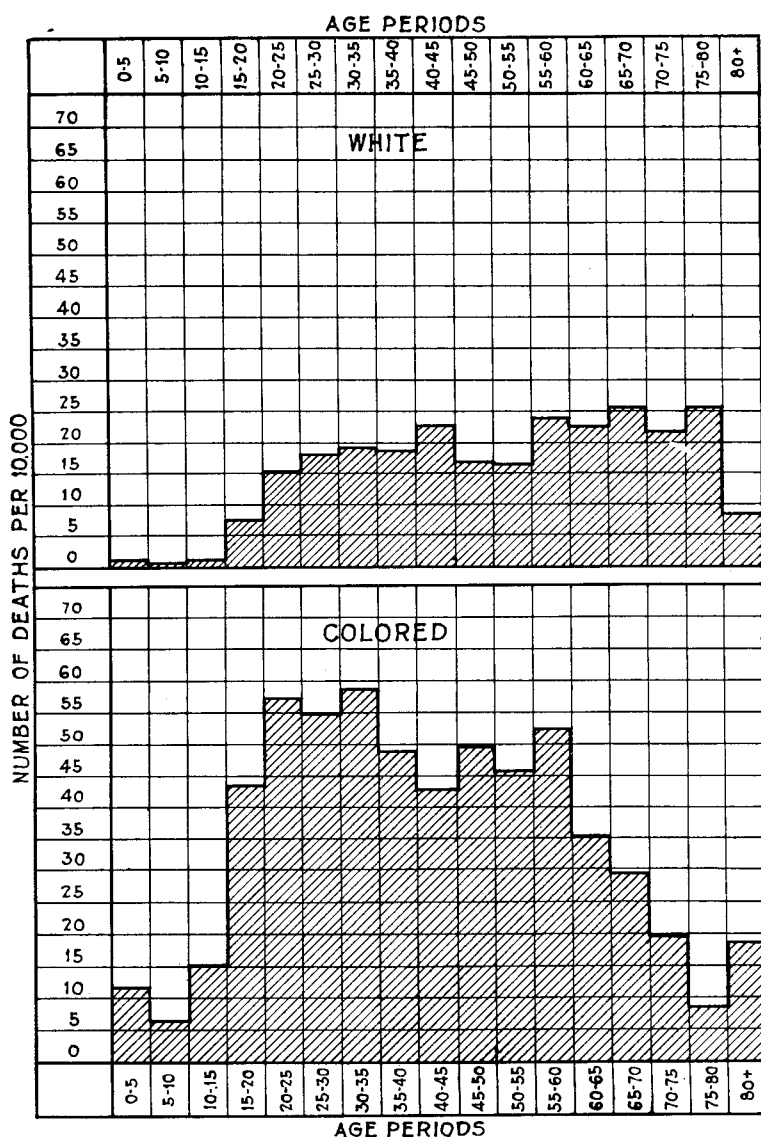
For the purpose of making a special study of tuberculosis Table XXII is inserted which gives the deaths from tuberculosis by age periods, percentage of deaths in age periods and percentage per 10,000 of the population living at the various age periods, white and colored. A much higher death rate from tuberculosis in the colored race per 10,000 of the living population is seen throughout. The excess of deaths in the colored population is extremely disproportionate up to the eightieth year.

On account of the number of deaths occurring from tuberculosis at early ages, we have always been inclined to feel that tuberculosis is a disease of early adult life but it is evident from this table and the accompanying chart that in the white population at least, deaths from tuberculosis are equally prevalent throughout life after the twentieth year. The chart for tuberculosis for the colored population is rather irregular but I attribute this to the difficulty in receiving proper returns of ages from this part of our population. Chart 9, which gives the percentage of deaths of total deaths from tuberculosis which occur at various age periods I think, is the ordinary conception which we have had of the distribution of deaths from this cause.

Howard County shows the smallest number of deaths per 10,000 among the white population while Baltimore County shows the highest. This is due of course to the large number of deaths from tuberculosis at Bay View Asylum. Garrett County gives the lowest death rate among the colored population. However, the colored population in this county is so small that the statistics are not of much value when considered separately. The greatest number of deaths among the colored population occurred in Baltimore County.

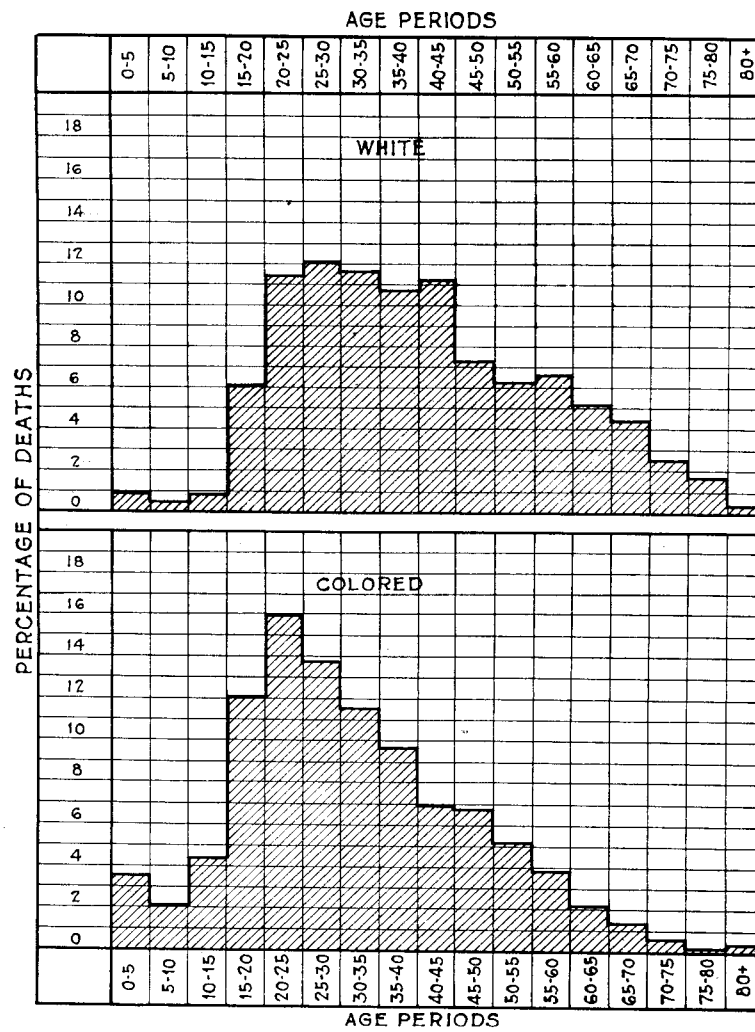
TABLE XXII.
PULMONARY TUBERCULOSIS—1915—GIVING DEATHS BY AGES, DEATHS PER 10,000 OF POPULATION AT AGE PERIODS, PER CENT. IN EACH AGE PERIOD, WHITE AND COLORED.

AGES.	WHITE.				COLORED.			
	Deaths.	Estimated Population.	Deaths Per 10,000.	Per Cent. of Total Deaths.	Deaths.	Estimated Population.	Deaths Per 10,000.	Per Cent. of Total Deaths.
Under 5 years.....	13	117,681	1.10	0.93	30	25,776	11.64	3.57
5 to 10 years.....	8	113,534	0.70	0.57	17	25,614	6.64	2.02
10 to 15 years.....	11	110,620	0.99	0.79	37	24,412	15.16	4.40
15 to 20 years.....	84	110,284	7.62	6.03	101	23,233	43.47	12.02
20 to 25 years.....	159	105,016	15.14	11.41	134	23,441	57.16	15.95
25 to 30 years.....	169	93,808	18.02	12.13	115	20,944	54.91	13.69
30 to 35 years.....	162	83,497	19.40	11.63	97	16,552	58.60	11.55
35 to 40 years.....	149	79,687	18.70	10.70	81	16,375	48.87	9.64
40 to 45 years.....	156	68,591	22.74	11.20	58	13,500	42.96	6.90
45 to 50 years.....	101	59,401	17.00	7.25	57	11,466	49.71	6.79
50 to 55 years.....	87	52,340	16.62	6.25	43	9,385	45.82	5.12
55 to 60 years.....	92	39,003	23.59	6.60	32	6,103	52.43	3.81
60 to 65 years.....	72	31,382	22.94	5.17	18	5,132	35.07	2.14
65 to 70 years.....	61	23,984	25.43	4.38	11	3,768	29.19	1.31
70 to 75 years.....	35	15,915	21.99	2.51	5	2,520	19.84	0.60
75 to 80 years.....	23	9,078	25.34	1.65	1	1,202	8.32	0.12
80 years and over.....	5	6,052	8.26	0.36	2	1,063	18.81	0.24
Unknown	6	896	66.96	0.43	1	485	20.62	0.12
Total.....	1,393	1,120,769	12.43	....	840	231,171	36.34	....



TUBERCULOSIS, 1915.

CHART 8—Comparative Chart Giving Deaths per 10,000 at Various Age Periods, Maryland, White and Colored.



TUBERCULOSIS, 1915.

CHART 9—Comparative Chart Demonstrating the Percentage of Deaths at Various Age Periods from Tuberculosis, White and Colored, Maryland.

TABLE XXIII.

DEATHS PER 10,000 OF POPULATION FROM PULMONARY TUBERCULOSIS—
WHITE AND COLORED—MARYLAND—1915.

<i>County.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>
Allegany	6.10	27.87	6.57
Anne Arundel.....	8.46	28.87	15.44
*Baltimore	27.88	113.44	35.97
Calvert	9.29	20.02	14.45
Caroline	8.92	21.66	12.03
Carroll	12.18	10.28	12.07
Cecil	8.91	32.45	12.03
Charles	10.38	28.73	19.73
Dorchester	11.19	46.87	22.72
†Frederick	18.96	29.55	19.97
Garrett	5.64	0.00	5.61
Harford	6.07	35.98	11.15
Howard	4.86	29.06	10.14
Kent	9.52	41.92	20.64
Montgomery	9.94	24.96	13.96
Prince George's.....	9.93	25.78	14.45
Queen Anne's.....	13.32	34.41	20.58
Somerset	17.35	26.47	20.57
St. Mary's.....	14.78	39.69	24.78
Talbot	12.48	24.94	16.63
Washington	9.19	20.79	9.62
Wicomico	13.43	19.80	14.88
Worcester	13.77	33.76	20.13
Total Counties.....	14.04	37.42	18.40
Baltimore City.....	10.41	34.57	14.04
Maryland	12.43	36.34	16.52

*Including 323 non-residents of Baltimore County who died at T. B. Sanatoria.

†Including 65 non-residents of Frederick County who died at Sabillasville.

In Table XXIV the principal diseases are divided according to the percentages occurring in the three periods of life already used, with the exception of senile debility, congenital debility, infantile convulsions, unspecified and ill-defined causes, the three former of which fall by reason of their classification in only one period of life.

Deaths in the middle period of life have an importance from the economic standpoint far greater than those occurring in either extreme. In Chart 10, the principal causes of death are arranged according to their importance as causes of death between the ages of 15 and 45 years, for the State of Maryland.

Tuberculosis of the lungs still easily retains first place on this chart. Accidental violence, which ranks tenth in Table 21, comes in second with this arrangement; typhoid fever is third, and Bright's disease fourth. A number of diseases which bear a high ratio to the total number of deaths do not occupy important positions as causes of death in the age periods of 15-45.

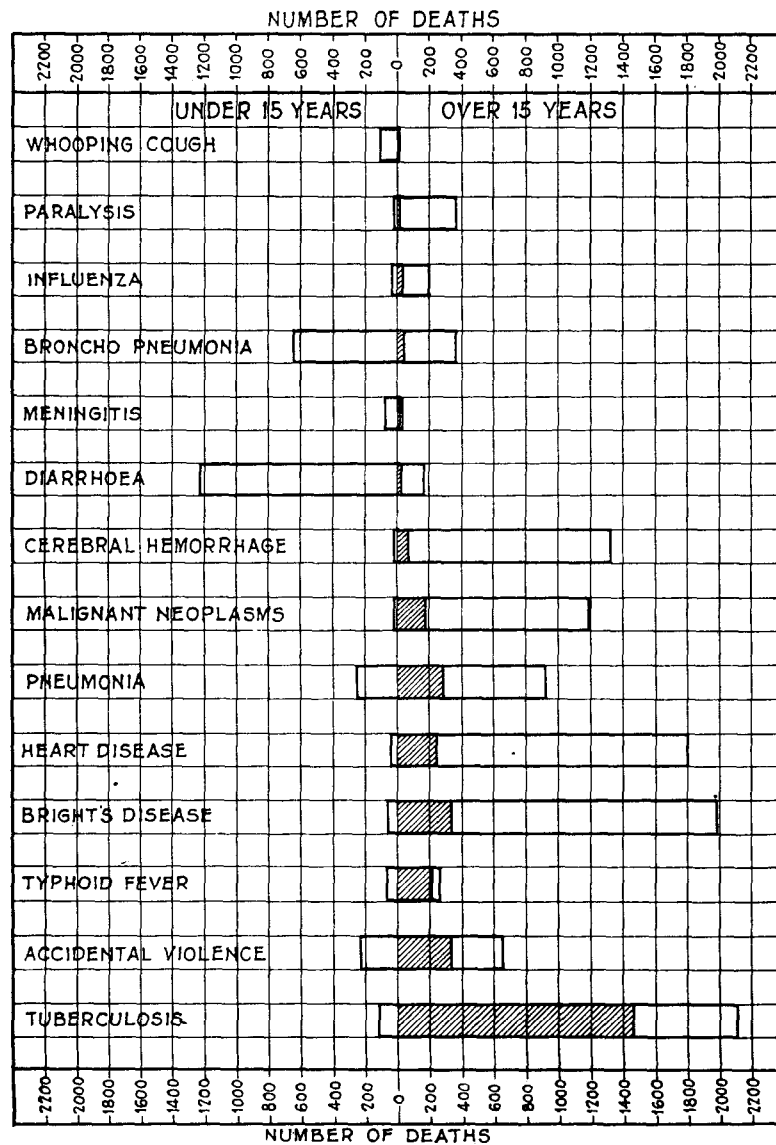


CHART 10—Principal Causes of Death, Classified According to their Importance in the Middle Period of Life.

TABLE XXIV.

DEATHS FROM FIFTEEN PRINCIPAL CAUSES IN MARYLAND, 1915, SHOWING
NUMBER AND PERCENTAGE OF DEATHS IN EACH OF THREE AGE PERIODS.

	RURAL MARYLAND.		BALTIMORE CITY.		MARYLAND.	
	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
TYPHOID FEVER.						
Under 15.....	45	22.28	17	13.93	62	19.14
15 to 45.....	121	59.90	83	68.03	204	62.96
45 and over.....	35	17.33	22	18.03	57	17.59
Age unknown.....	1	0.50	0	0.00	1	0.31
Total.....	202		122		324	
PARALYSIS.						
Under 15.....	1	0.48	0	0.00	1	0.37
15 to 45.....	7	3.38	3	4.76	10	3.70
45 and over.....	198	95.65	60	95.24	258	95.56
Age unknown.....	1	0.48	0	0.00	1	0.37
Total.....	207		63		270	
BRIGHT'S DISEASE.						
Under 15.....	43	3.98	17	1.73	60	2.91
15 to 45.....	145	13.43	193	19.67	338	16.40
45 and over.....	883	81.76	771	78.59	1,654	80.25
Age unknown.....	9	0.83	0	0.00	9	0.44
Total.....	1,080		981		2,061	
WHOOPING COUGH.						
Under 15.....	79	98.75	21	100.00	100	99.01
15 to 45.....	0	0.00	0	0.00	0	0.00
45 and over.....	1	1.25	0	0.00	1	0.99
Age unknown.....	0	0.00	0	0.00	0	0.00
Total.....	80		21		101	
HEART DISEASE.						
Under 15.....	20	2.04	23	2.62	43	2.32
15 to 45.....	96	9.82	158	18.02	254	13.69
45 and over.....	851	87.01	696	79.36	1,547	83.40
Age unknown.....	11	1.12	0	0.00	11	0.59
Total.....	978		877		1,855	
MALIGNANT NEOPLASMS.						
Under 15.....	7	1.15	3	0.50	10	0.83
15 to 45.....	77	12.66	105	17.50	182	15.07
45 and over.....	523	86.02	492	82.00	1,015	84.02
Age unknown.....	1	0.16	0	0.00	1	0.08
Total.....	608		600		1,208	
BRONCHO- PNEUMONIA.						
Under 15.....	304	60.08	335	66.47	639	63.27
15 to 45.....	13	2.57	39	7.74	52	5.15
45 and over.....	189	37.35	130	25.79	319	31.58
Age unknown.....	0	0.00	0	0.00	0	0.00
Total.....	506		504		1,010	

TABLE XXIV—Continued.

DEATHS FROM FIFTEEN PRINCIPAL CAUSES IN MARYLAND, 1915, SHOWING
NUMBER AND PERCENTAGE OF DEATHS IN EACH OF THREE AGE PERIODS.

CEREBRAL HEMORRHAGE.	RURAL MARYLAND.		BALTIMORE CITY.		MARYLAND.	
	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
Under 15.....	0	0.00	3	0.48	3	0.23
15 to 45.....	25	3.51	47	7.58	72	5.41
45 and over.....	682	95.79	570	91.94	1,252	93.99
Age unknown.....	5	0.70	0	0.00	5	0.38
Total.....	712		620		1,332	
DIARRHCEA AND ENTERITIS.						
Under 15.....	730	86.60	502	89.32	1,232	87.69
15 to 45.....	13	1.54	17	3.02	30	2.14
45 and over.....	99	11.74	43	7.65	142	10.11
Age unknown.....	1	0.12	0	0.00	1	0.07
Total.....	843		562		1,405	
INFLUENZA.						
Under 15.....	15	11.72	7	7.22	22	9.78
15 to 45.....	10	7.81	29	29.90	39	17.33
45 and over.....	100	78.13	61	62.89	161	71.56
Age unknown.....	3	2.34	0	0.00	3	1.33
Total.....	128		97		225	
MENINGITIS.						
Under 15.....	45	78.95	30	75.00	75	77.32
15 to 45.....	7	12.28	8	20.00	15	15.46
45 and over.....	5	8.77	2	5.00	7	7.22
Age unknown.....	0	0.00	0	0.00	0	0.00
Total.....	57		40		97	
ACCIDENTAL VIOLENCE.						
Under 15.....	123	24.55	105	26.99	228	25.62
15 to 45.....	205	40.92	132	33.93	337	37.87
45 and over.....	159	31.74	152	39.07	311	34.94
Age unknown.....	14	2.79	0	0.00	14	1.57
Total.....	501		389		890	
TUBERCULOSIS (LUNGS AND LARYNX).						
Under 15.....	69	4.89	47	5.72	116	5.19
15 to 45.....	914	64.73	551	67.11	1,465	65.61
45 and over.....	422	29.89	223	27.16	645	28.88
Age unknown.....	7	0.50	0	0.00	7	0.31
Total.....	1,412		821		2,233	

TABLE XXIV—Continued.

DEATHS FROM FIFTEEN PRINCIPAL CAUSES IN MARYLAND, 1915, SHOWING
NUMBER AND PERCENTAGE OF DEATHS IN EACH OF THREE AGE PERIODS.

	RURAL MARYLAND.		BALTIMORE CITY.		MARYLAND.	
	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
PNEUMONIA.						
Under 15.....	136	23.82	109	18.02	245	20.83
15 to 45.....	131	22.94	159	26.28	290	24.60
45 and over.....	300	52.54	337	55.70	637	54.17
Age unknown.....	4	0.70	0	0.00	4	0.34
Total.....	571		605		1,176	
OTHER CAUSES.						
Congenital Debility (under 1 year)...	636		483		1,119	
Senile Debility (over 50 years).....	204		94		298	
Convulsions of Chil- dren (less than 10 years)	92		30		122	
Unspecified or ill- defined causes....	355		28		383	

The age distribution of the principal causes of death is shown in Charts Nos. 12, 13, 14 and 15. The age distribution of the general mortality is shown in Chart No. 11. These charts illustrate the age distribution of the principal causes of death, with the exception of senile debility, congenital debility and infantile convulsions (whose age distribution is fixed by their classification) and the unclassified diseases. By referring to Chart No. 11 it will be seen that as has been shown in previous charts, a great portion, 24.31 per cent. of the general mortality occurs under the age of 5. The percentage rapidly declines to the ages between 10 and 15 years, 1.66 per cent., when the lowest actual mortality is reached. The percentage of deaths thereafter remains fairly constant until after the age period 45-50, when it increases. The general percentage ranges below 5 per cent. for all periods after the first quinquennium until the age period of 55-60 years. The percentage of deaths from lobar pneumonia has a large distribution corresponding closely to that of the general mortality. If the pneumonia and broncho-pneumonia curves were combined, the analogy would appear even more striking. This fact shows that the term pneumonia as generally employed, is composite, and relates to a number of diseases, mostly infectious, of which pneumonia is the terminal or secondary symptom. Both pneumonia and

broncho-pneumonia are important causes of death only at the extremes of life. After the age of 10 years, broncho-pneumonia becomes a small factor in the mortality, except for persons over 65, although it will be seen from the chart the largest proportion of deaths from this cause is in the first five years of life. Broncho-pneumonia and whooping cough have an almost wholly infantile distribution. 87.50 per cent. of the deaths from whooping cough occur in the first five years of life; 7.50 per cent. in the age period of 5-10. 55.08 per cent. of all deaths from diphtheria appears in the first quinquennium and 27.96 per cent. in the second.

Organic diseases of the heart, malignant neoplasms, cerebral hemorrhage, paralysis and Bright's disease occur almost entirely in the late periods of life. The mortality from cerebral hemorrhage rises above 5 per cent. at the fiftieth year, and increases rapidly thereafter and reaches its maximum between 65 and 70. Malignant neoplasms rise above 5 per cent. at from 40 to 45 and reaches its greatest height at 60-65. Bright's disease rises above 5 per cent. between 45 and 50; paralysis between 60 and 65 and organic heart disease between 50 and 55.

Tuberculosis—The greatest number of deaths from pulmonary tuberculosis occurs in early adult life. It will be noted in the chart that the percentage remains low to the 15th year, when there is a rapid rise, the curve reaching its maximum between 20 and 25 years, declining slowly until it reaches the 75th year.

Typhoid Fever—The greater number of deaths from typhoid fever occur in early adult life. The maximum is reached at 15-20 years.

The causes of accidental violence in infancy are due to the inability of the children to protect themselves and to the carelessness of parents. Burns and scalds account for a large portion of this mortality, and accidental drowning for a further considerable portion. A large number of these deaths are among the children of colored persons and foreigners, and are due, on the one hand, to the carelessness in handling fire, and on the other, to the ready access to water afforded by the Maryland coast line and Chesapeake Bay and its tributaries. The percentages are shown in Table XXV.

TABLE XXV.
AGE DISTRIBUTION OF MORTALITY FROM TWELVE DISEASES BY PERCENTAGES, RURAL MARYLAND, 1915.

<i>Causes of Death.</i>	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80 years and over.	Unknown
Typhoid Fever.....	5.94	7.43	8.91	16.83	13.37	10.40	5.45	7.92	5.94	4.95	3.47	3.96	1.48	1.48	1.48	0.50	0.00	0.50
Whooping Cough.....	87.50	7.50	3.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00
Tuberculosis, Pulmonary.....	1.42	0.02	2.55	7.93	14.09	12.25	11.54	9.70	9.21	6.73	5.74	5.31	4.80	3.40	2.27	1.42	0.42	0.50
Pneumonia, Lobar.....	19.96	2.63	1.23	2.80	2.80	5.08	4.20	4.73	3.33	2.63	5.25	7.53	8.23	8.58	6.30	5.95	8.06	0.70
Broncho-Pneumonia.....	58.30	1.38	0.40	0.40	0.20	0.59	0.40	0.79	0.20	1.38	2.17	1.38	3.75	5.93	5.93	6.92	9.88	0.00
Organic Heart Disease.....	0.92	0.20	0.92	1.02	0.51	1.02	1.43	2.35	3.48	4.81	7.16	8.69	10.33	12.27	16.05	15.03	12.68	1.12
Paralysis.....	0.00	0.00	0.48	0.48	0.00	0.48	0.00	0.48	1.93	2.90	2.90	3.38	13.04	14.98	15.46	17.87	25.12	0.48
Bright's Disease.....	2.69	0.56	0.74	0.83	1.30	1.39	2.22	3.33	4.35	5.28	7.69	8.80	10.83	13.06	14.63	10.56	10.93	0.83
Accidental Violence.....	12.18	5.79	6.59	7.98	8.38	7.78	6.79	6.39	3.59	5.99	3.99	4.79	4.19	3.19	2.40	2.20	4.99	2.79
Malignant Neoplasms.....	0.49	0.33	0.33	0.33	0.16	1.15	2.14	2.63	6.25	7.24	8.06	12.50	16.45	13.82	11.02	9.70	7.24	0.16
Diphtheria.....	55.08	27.96	6.78	1.69	0.00	0.85	0.85	2.54	1.69	0.00	0.85	0.85	0.00	0.85	0.00	0.00	0.00	0.00
Cerebral Hemorrhage.....	0.00	0.00	0.00	0.00	0.00	0.42	0.42	1.26	1.40	4.04	7.16	9.27	12.22	17.84	16.99	13.76	13.90	0.70
Deaths, all causes.....	24.31	1.77	1.66	2.69	3.56	3.53	3.71	3.93	3.79	4.00	4.72	5.44	6.35	7.11	7.76	6.83	8.18	0.67

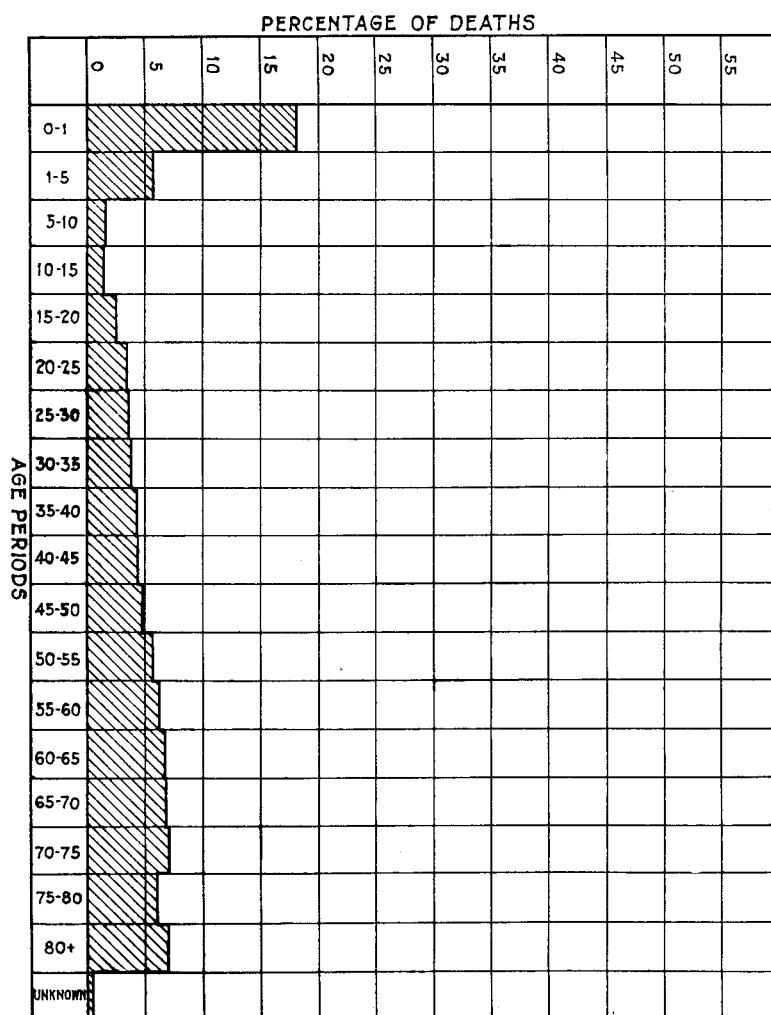


CHART 11—Age Distribution of General Mortality, 1915.

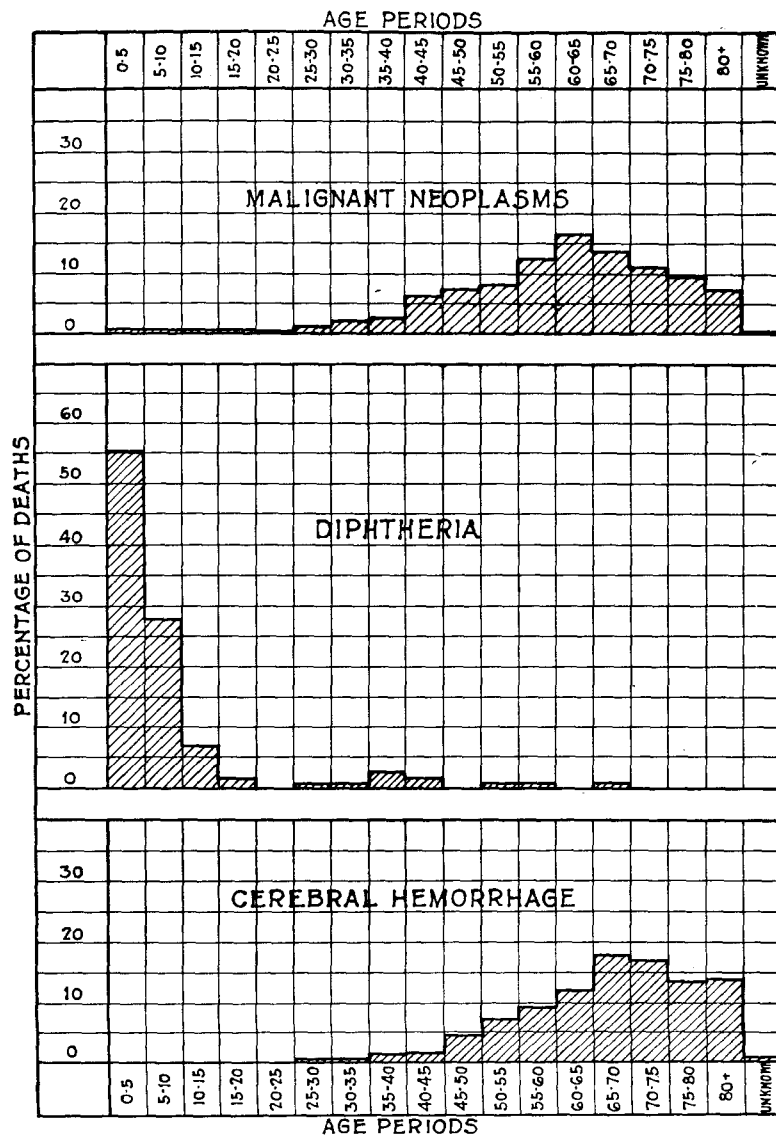


CHART 12.

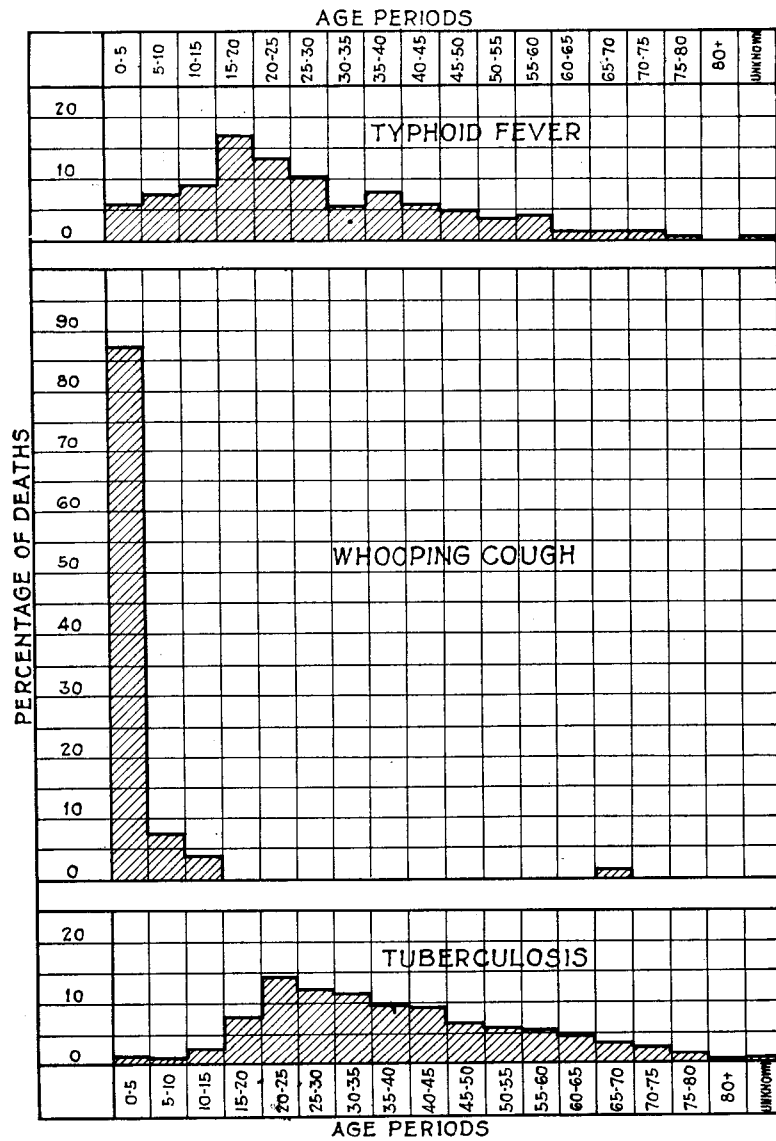


CHART 13.

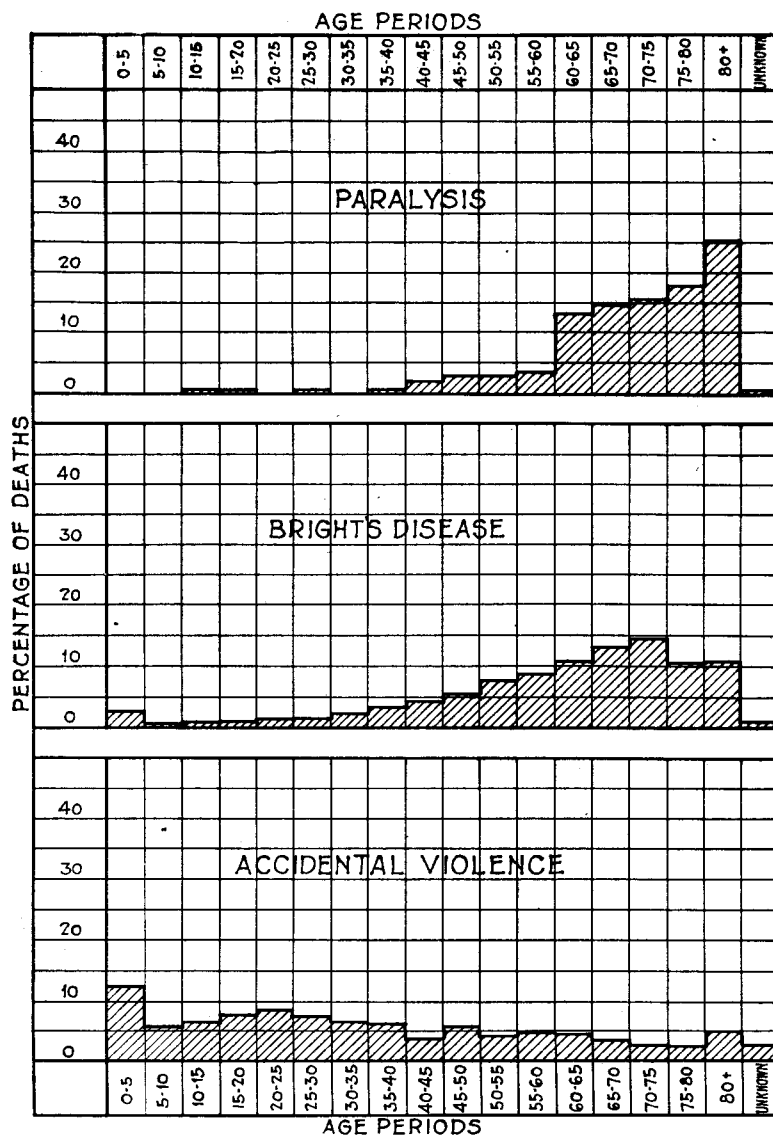


CHART 14.

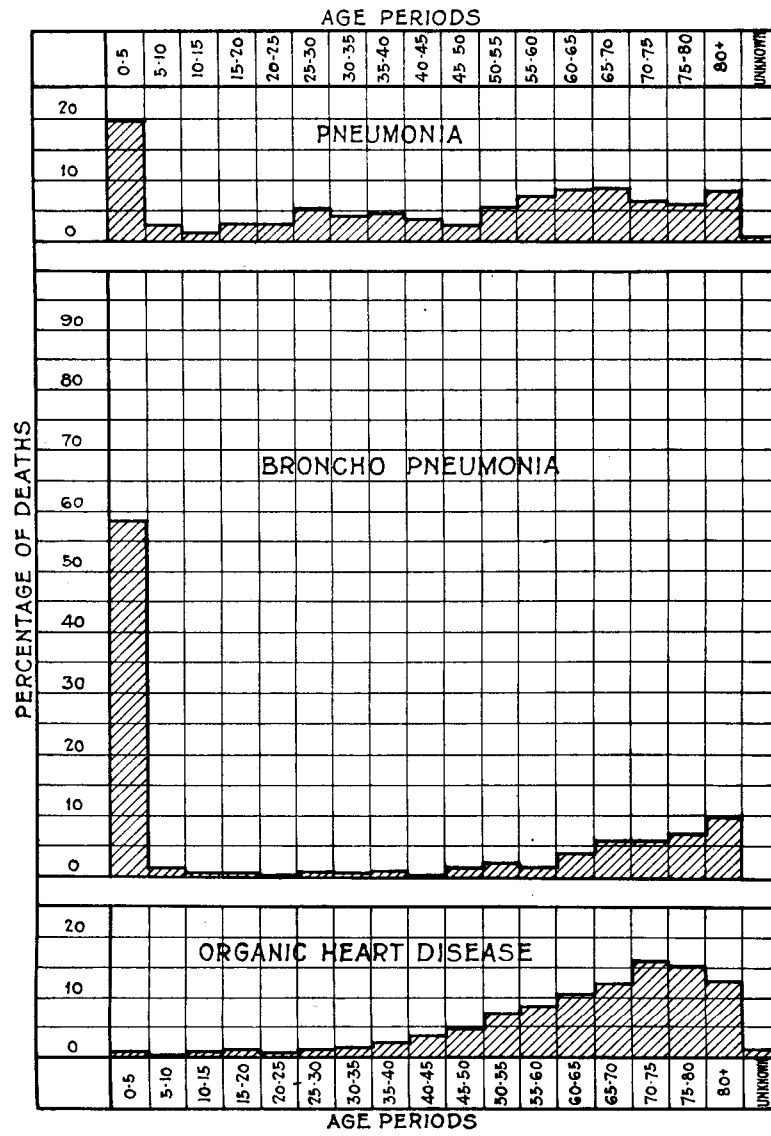


CHART 15.

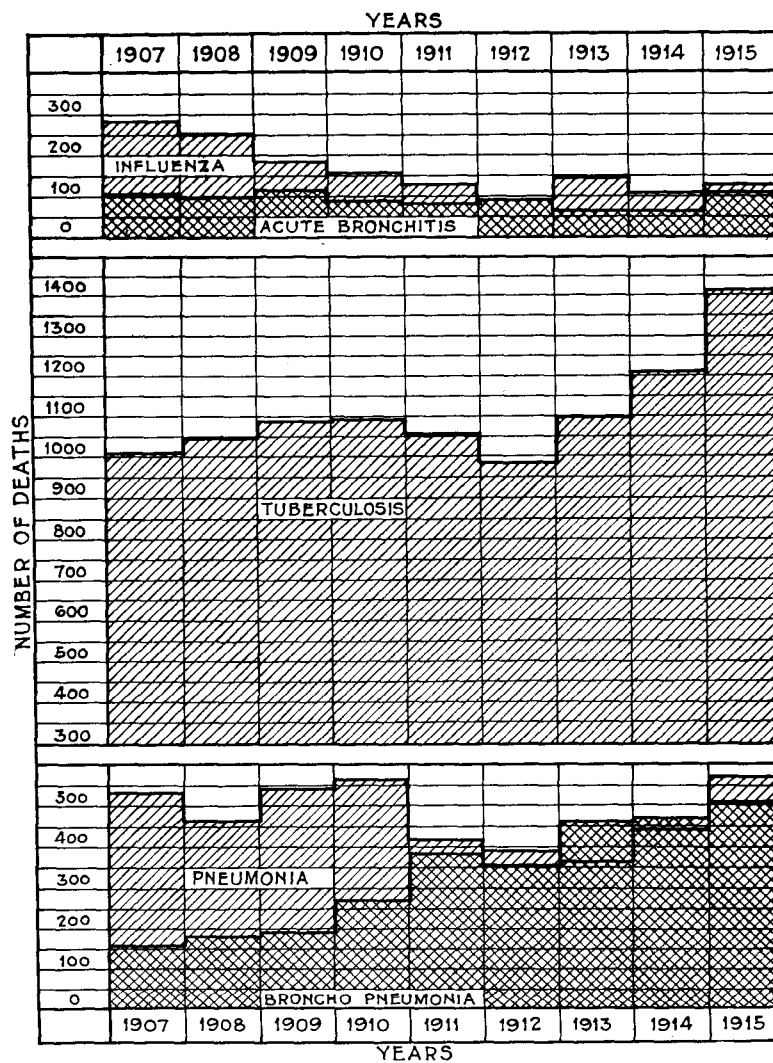


CHART 16—Mortality from Five Respiratory Diseases, 1907-1915.

Table XXVI gives the deaths from five principal respiratory diseases in Rural Maryland for the years 1907 to 1915, inclusive. In this table all of the figures show considerable variation except for broncho-pneumonia which has shown an increase. The figures given for pulmonary tuberculosis in Rural Maryland are always too high. While the general rate in the State as a whole has fallen, that for Rural Maryland has been increasing more so since the establishment of tuberculosis sanatoria.

Table XXVII gives the deaths from pulmonary and laryngeal tuberculosis by sex, percentage of the total mortality and the mortality per 10,000 for the years 1908 to 1915 inclusive. In general, the tuberculosis rates have shown a gratifying decrease. This decrease was very steady from the year 1908 to the year 1913. In 1914, the mortality rates per 10,000 exceeded those for the three previous years and the rate per 10,000 for the year 1915 still remains higher than the rate for 1912 and 1913. At the foot of Table XXVII, average figures for the eight years are given. It is evident that in Maryland, tuberculosis is more prevalent in the male population. The average rate per 10,000 for males is 18.05 and for females 16.21.

TABLE XXVII.

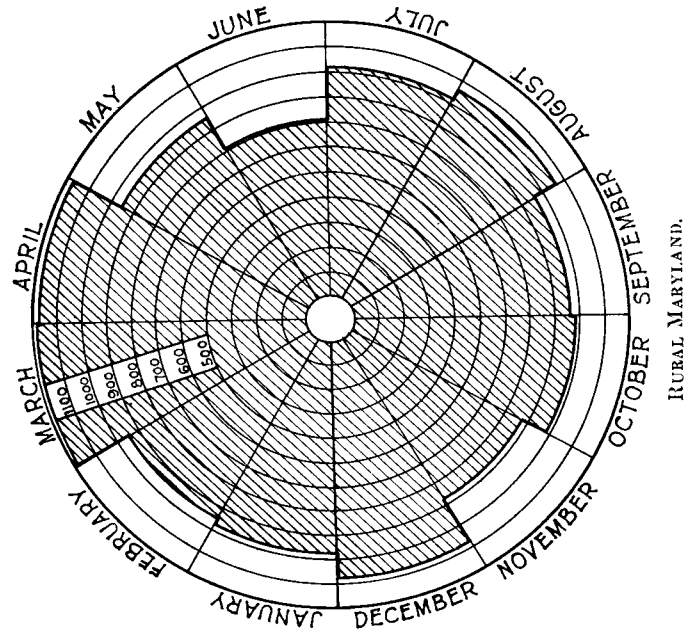
PULMONARY AND LARYNGEAL TUBERCULOSIS, 1908-1915.

<i>Year.</i>	<i>Mortality</i>			<i>Per Cent.</i>	<i>Mor-</i>
	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>	<i>of Total</i> <i>Mor-</i> <i>tality.</i>	<i>tality</i> <i>Per</i> <i>10,000.</i>
1908.....	1,187	1,112	2,299	11.33	18.02
1909.....	1,216	1,146	2,362	11.73	18.36
1910.....	1,192	1,136	2,328	11.10	17.94
1911.....	1,170	1,053	2,223	10.96	16.99
1912.....	1,175	1,003	2,178	10.57	16.51
1913.....	1,037	979	2,016	9.58	15.16
1914.....	1,274	1,085	2,359	11.03	17.59
1915.....	1,192	1,041	2,233	10.46	16.52
Total.....	9,443	8,555	17,998	....	....
Average for 8 years..	1,180	1,070	2,250	....	....
Average Population..	653,731	660,178	1,313,909	....	....
Death rate per 10,000	18.05	16.21	17.12	....	....

Seasonal Incidence of the Mortality.

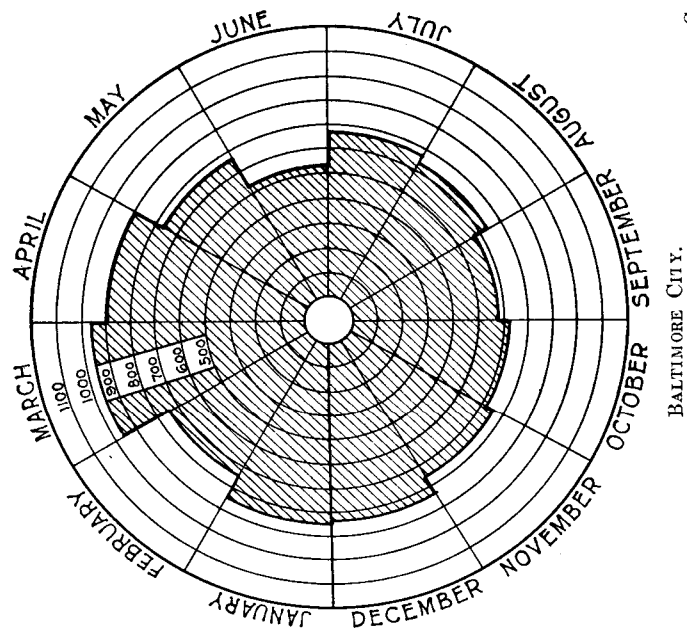
The seasonal incidence of the general mortality is shown separately for Baltimore City and Rural Maryland in Chart No. 17.

It will be seen that the monthly mortality, as shown in the black portion of the charts, is of somewhat oval shape, with the poles lying in the winter and summer months, which are the seasons of greatest mortality. Generally speaking, the mortality may be divided into two classes, diseases of the gastrointestinal tract, prevalent in the summer months, and diseases of the respiratory tract, prevalent in the winter. The gastrointestinal diseases reach their altitude in the height of the summer. March is the month of greatest mortality in Rural Maryland and in Baltimore City. June was the month of least mortality in both Rural Maryland and in Baltimore City. The expansion of the black portion of the chart during July and August is due almost entirely to the acute gastro-intestinal diseases of children. The mortality during the winter months is due mainly to pneumonia and influenza. While the summer mortality affects mainly children, the winter mortality affects both extremes of life (infancy and old age). The sudden rise from the months of low mortality, May and June, to the months of high mortality, July and August, produces a very notable eccentricity in the figures. The circles on the charts indicate the actual number of deaths in the two specified divisions of Maryland. A comparison of this chart with that of the preceding year shows a marked correspondence. The figure of the chart is apparently not subject to many changes, although it may rotate somewhat, either to a later or an earlier season. In the winter months, March furnished the highest mortality. In 1914 March furnished the highest mortality for Rural Maryland and for Baltimore City.



RURAL MARYLAND.

CHART 17.



BALTIMORE CITY.

In the following table the deaths by months for six years, ending 1915, are given for Baltimore City and Rural Maryland (Table 28). From this table it appears that March is the month of greatest mortality in Rural Maryland as well as for Baltimore City. June is the month of least mortality for Rural Maryland and for Baltimore City.

The seasonal prevalence of eight prominent causes of death are given in the succeeding chart, No. 18.

In considering seasonal prevalence, two classes of diseases must be recognized:

- (1) Acute fatal diseases, where there is a short interval between commencing sickness and the date of death.
- (2) Chronic diseases, where the date of death is separated by a long interval from the date of commencing illness.

The influence of pneumonia and influenza upon the tuberculosis mortality will be seen in a glance at the chart. The chronic degenerative diseases, cerebral appoplexy, heart disease and Bright's disease show little seasonal variation, and are apparently not much dependent upon acute infection. The pneumonia curve and influenza curve always correspond very closely. The gastro-intestinal diseases show a marked antithesis to pneumonia in their seasonal distribution. The mortality from acute gastro-intestinal infections shows the greatest seasonal variation of any of these diseases, as already observed. To illustrate the striking influence of pneumonia upon tuberculosis, the curves of these diseases, together with those of acute bronchitis and broncho-pneumonia, have all been introduced in Chart No. 18.

TABLE XXVIII.

	RURAL MARYLAND.						BALTIMORE CITY.						Total
	1915.	1914.	1913.	1912.	1911.	1910.	1915.	1914.	1913.	1912.	1911.	1910.	6 Years.
January	974	928	888	901	902	918	849	989	935	996	993	1,067	5,829
February	946	923	876	885	843	926	739	943	914	925	871	968	5,360
March	1,192	1,015	991	899	953	868	952	1,129	955	1,056	989	940	6,021
April	1,172	879	846	790	803	794	899	937	837	869	932	875	5,349
May	952	845	859	744	690	715	764	865	902	780	902	775	4,988
June	809	749	980	678	632	723	633	757	831	701	728	798	4,448
July	1,023	880	1,144	862	1,004	1,002	764	897	946	922	929	981	5,439
August	1,067	997	964	964	1,017	919	740	845	792	830	855	920	4,982
September	962	885	818	920	848	829	680	771	703	747	752	805	4,458
October	981	881	900	890	713	820	721	736	748	836	798	834	4,673
November	869	906	807	817	730	839	755	802	732	850	801	860	4,800
December	1,076	944	807	806	721	855	831	880	873	929	854	930	5,297
Total.....	12,023	10,832	10,880	10,156	9,886	10,218	9,327	10,551	10,168	10,441	10,404	10,753	61,044

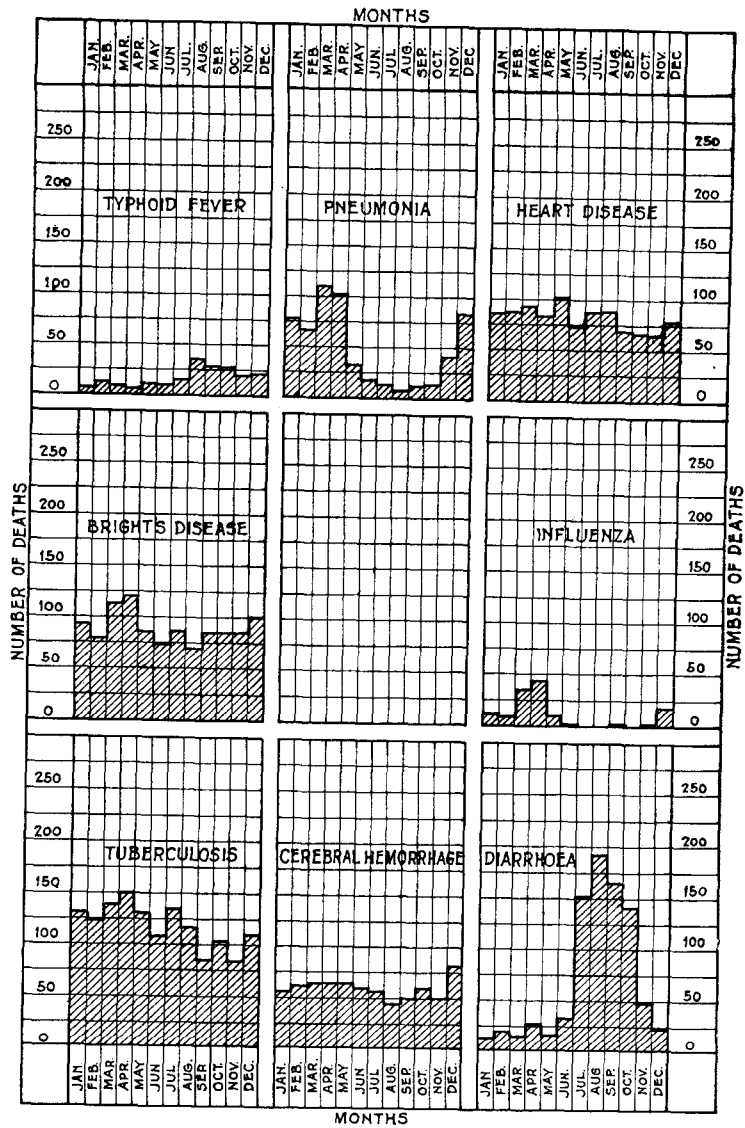


CHART 18.

EIGHT PROMINENT CAUSES OF DEATH BY MONTHS—RURAL
MARYLAND—1915.

TYPHOID FEVER.

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
7	12	8	6	11	10	15	36	29	28	19	21

LOBAR PNEUMONIA.

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
77	66	110	102	32	17	12	7	11	13	41	83

HEART DISEASE.

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
86	87	92	83	102	74	87	88	69	66	65	79

BRIGHT'S DISEASE.

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
93	79	113	121	86	73	87	69	86	86	86	101

INFLUENZA.

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
10	9	35	44	10	1	0	0	1	0	1	17

TUBERCULOSIS (PULMONARY).

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
130	124	138	150	130	108	134	116	85	103	84	110

CEREBRAL HEMORRHAGE.

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
56	62	64	64	64	60	57	44	50	60	50	81

DIARRHCEA.

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
12	19	15	26	16	33	152	192	165	141	49	23

Eight Prominent Causes of Death.

The succeeding table and chart (Table 29, Chart 19), show the comparative susceptibility of the several organs to infection. In general, the table and charts have been arranged so as to show infections of the special organs. The total number of deaths considered in this table is 8,875, or about 41.57 per cent. of the total mortality. Certain other important classes of diseases, such as degenerations, congenital diseases and accidents, are not considered in this tabulation.

It will be seen by reference to the table and chart that most of the inflammatory diseases affect the lungs and alimentary canal, infections of the lungs ranking very much higher than those of the other organs.

The special predilection of the tubercle bacillus for the lung has been previously recognized, but the fact that a majority of pathogenic organisms find in the lungs a favorable habitat is not so well recognized. The organisms of the enteric group are, of course, one exception to this rule.

TABLE XXIX.

PARASITIC DISEASES, SHOWING THE ORGAN AFFECTED.

	<i>Rural Maryland.</i>	<i>Baltimore City.</i>	<i>Maryland.</i>
<i>Respiratory Infections.</i>			
Influenza, laryngeal and pulmonary tuberculosis, bronchitis, broncho-pneumonia, pneumonia, pleurisy, pulmonary gangrene.....	2,814	2,179	4,993
<i>Systemic Infections, Principally Respiratory.</i>			
Measles, scarlet fever, whooping cough, diphtheria	261	127	388
<i>Infections of the Alimentary Tract.</i>			
Typhoid fever, cholera, dysentery, abdominal tuberculosis, gastritis, diarrhoea and enteritis, peritonitis, appendicitis.....	1,289	889	2,178
<i>Infections of the Urinary Tract.</i>			
Perinephritis, pyonephrosis, pyelitis, cystitis, nephrolithiasis	34	37	71
<i>Systemic Infections, Principally of the Kidneys.</i>			
Acute nephritis.....	150	118	268
<i>Infections of the Nervous System.</i>			
Rabies, meningeal tuberculosis, encephalitis, meningitis, tetanus, chorea.....	144	113	257
<i>Systemic Infections, Not Localized in Any Organ or Tissue.</i>			
Pyemia and septicemia, general tuberculosis, syphilis	114	139	253
<i>Infections of the Skin.</i>			
Erysipelas, gangrene, abscess and furuncle, dermatitis.....	68	47	115
<i>Systemic Infections, Principally of the Skin.</i>			
Smallpox	0	0	0
<i>Arthritic Infections.</i>			
Acute rheumatism.....	27	40	67
<i>Systemic Infections, Principally Arthritic.</i>			
Chronic rheumatism, gout.....	26	17	43
<i>Infections of the Female Organs of Reproduction.</i>			
Endometritis, metritis, salpingitis, puerperal septicemia	51	51	102
<i>Infections of the Liver.</i>			
Cholangitis, hepatitis, cholelithiasis.....	31	39	70
<i>Infections of the Bones.</i>			
Tuberculosis, osteomyelitis.....	23	32	55
<i>Infections of the Blood.</i>			
Malaria	14	1	15
Total.....	5,046	3,829	8,875

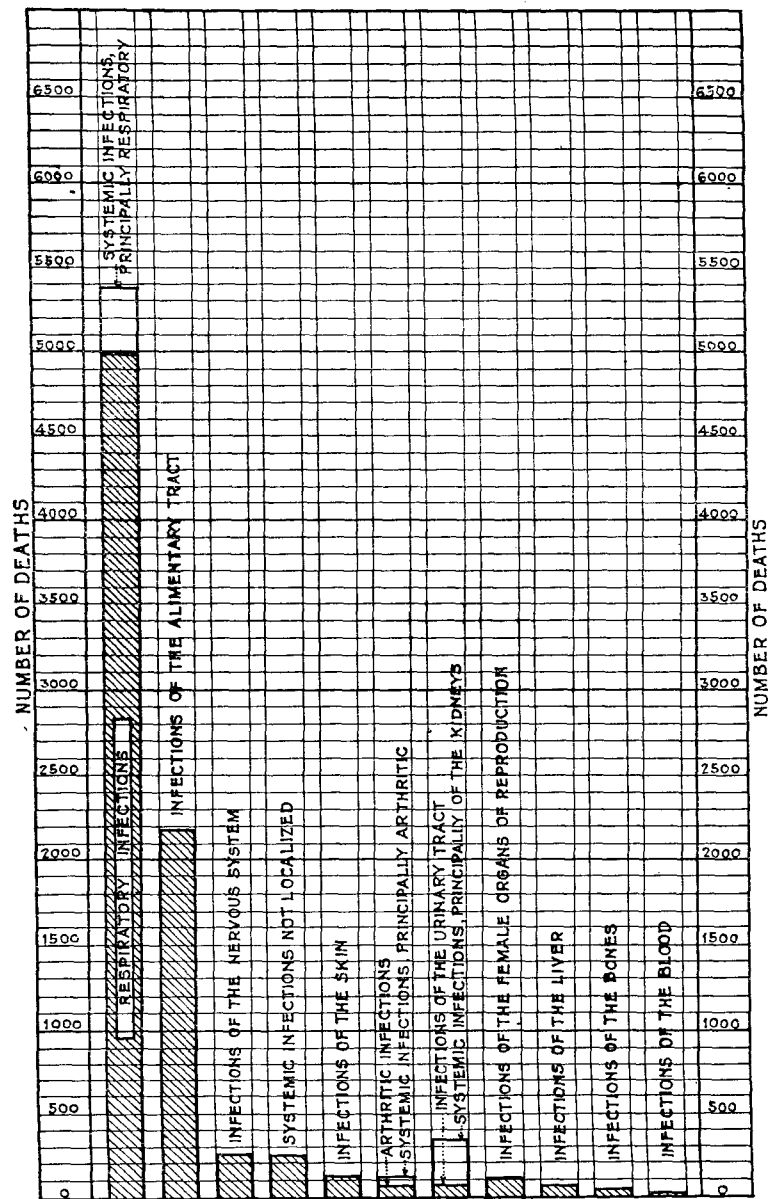


CHART 19—Comparative Susceptibility of the Several Organs to Parasitic Infections—Maryland Mortality, 1915.

Special Causes of Death.

Tables A. B and C, at the end of the report, give the causes of death by race, sex, age, county, and seasonal distribution for the 189 principal causes of death recognized in the international classification.

Many of the diseases recognized in this classification are only important causes of mortality during epidemics, and are not commonly prevalent in this State. Others are limited to Europe or other geographic or climatic divisions.

Among the diseases of the International Classification, from which there were no deaths in Maryland during 1915, were typhus fever, relapsing fever, miliary fever, Asiatic cholera, bubonic plague, yellow fever and leprosy.

The following table, which is for comparative purposes, gives the number of deaths from certain special causes not considered separately in this report, for a period of ten years.

TABLE XXX.

SPECIAL CAUSES OF DEATH.

SMALLPOX.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	0	0	0	0	0	0	0	2	5	0
Baltimore City.....	0	0	0	0	0	0	0	0	3	0
Maryland	0	0	0	0	0	0	0	2	8	0

RABIES.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	1	0	0	0	0	1	0	1	0	0
Baltimore City.....	1	0	6	1	1	2	0	0	0	0
Maryland	2	0	6	1	1	3	0	1	0	0

ALCOHOLISM.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	34	36	37	44	32	39	49	56	36	46
Baltimore City.....	59	53	46	40	49	46	49	57	55	25
Maryland	93	89	83	84	81	85	98	113	91	71

OCCUPATIONAL POISONINGS.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	1	1	0	0	0	0	0	0	0	1
Baltimore City.....	1	0	1	1	2	3	0	2	1	3
Maryland	2	1	1	1	2	3	0	2	1	4

DISEASES OF THE NERVOUS SYSTEM.

Encephalitis.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	21	11	19	7	14	10	18	10	5	14
Baltimore City.....	1	3	6	1	8	2	2	9	6	3
Maryland	22	14	25	8	22	12	20	19	11	17

Meningitis.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	130	124	117	107	103	88	101	105	73	57
Baltimore City.....	163	161	140	105	121	101	110	88	61	40
Maryland	293	285	257	212	224	189	211	193	134	97

Epilepsy.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	39	35	48	30	33	41	44	56	56	53
Baltimore City.....	18	19	18	15	28	19	15	12	22	14
Maryland	57	54	66	45	61	60	59	68	72	67

General Paralysis of the Insane and Other Forms of Mental Alienation.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	85	104	126	65	99	63	94	89	89	136
Baltimore City.....	37	43	38	28	37	32	21	17	34	21
Maryland	122	147	164	93	136	95	115	106	123	157

TABLE XXX—*Continued.*

TETANUS.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	32	31	19	29	24	22	26	26	21	23
Baltimore City.....	27	21	15	19	16	23	32	16	16	11
Maryland	59	52	34	48	40	45	58	42	37	34

INTESTINAL PARASITES.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	2	4	1	3	5	6	2	7	1	1
Baltimore City.....	0	0	0	0	1	0	0	0	1	0
Maryland	2	4	1	3	6	6	2	7	2	1

PREGNANCY.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	105	81	98	102	106	76	106	113	95	112
Baltimore City.....	102	97	92	103	86	87	105	116	84	79
Maryland	207	178	190	205	192	163	211	229	179	191

SUICIDE.

By Poison.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	6	12	6	14	2	5	8	20	15	14
Baltimore City.....	26	20	28	31	28	37	30	30	63	29
Maryland	32	32	34	45	30	42	38	50	78	43

By Asphyxia.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	0	2	2	2	1	0	4	3	0	4
Baltimore City.....	7	10	17	12	11	18	22	35	33	24
Maryland	7	12	19	14	12	18	26	38	33	28

By Hanging or Strangulation.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	9	13	10	18	14	12	13	15	15	14
Baltimore City.....	14	13	12	11	5	7	6	14	10	6
Maryland	23	26	22	29	19	19	19	29	25	20

By Drowning.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	3	6	4	6	6	5	10	4	3	9
Baltimore City.....	2	4	4	8	4	2	13	5	3	3
Maryland	5	10	8	14	10	7	23	9	6	12

By Firearms.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	12	22	22	28	20	16	23	39	30	34
Baltimore City.....	20	27	23	30	22	23	21	22	24	31
Maryland	32	49	45	58	42	39	44	61	54	65

By Cutting or Piercing Instruments.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	2	1	3	3	3	2	6	5	4	2
Baltimore City.....	6	3	7	3	5	5	2	8	4	5
Maryland	8	4	10	6	8	7	8	13	8	7

TABLE XXX—Continued.

By Jumping from High Places.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	0	0	0	0	0	0	0	1	3	3
Baltimore City.....	3	5	4	6	1	7	2	4	1	3
Maryland	3	5	4	6	1	7	2	5	4	6

By Crushing or Other Means.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	6	2	3	2	1	3	2	.1	1	2
Baltimore City.....	2	1	3	0	1	1	2	0	0	0
Maryland	8	3	6	2	2	4	4	1	1	2

ACCIDENTAL VIOLENCE.

Poisoning by Food and Other Acute Poisonings.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	17	18	22	26	29	20	15	21	21	26
Baltimore City.....	16	14	23	12	9	6	13	20	29	13
Maryland	33	32	45	38	38	26	28	41	50	39

Burns and Scalds and Burns by Corrosive Substances (Conflagration included from 1910 through 1915).

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	70	54	68	64	56	50	58	59	69	67
Baltimore City.....	70	81	65	76	86	68	67	69	69	88
Maryland	140	135	133	140	142	118	125	128	138	155

Absorption of Deleterious Gases (Conflagration included from 1906 through 1909).

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	4	5	3	6	13	18	16	19	9	6
Baltimore City.....	12	17	15	12	16	17	14	25	30	10
Maryland	16	22	18	18	29	35	30	44	39	16

Accidental Drowning.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	90	101	107	98	79	95	115	110	105	147
Baltimore City.....	61	54	55	47	49	45	52	58	46	58
Maryland	151	155	162	145	128	140	167	168	151	199

**Traumatism by Firearms.*

	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	28	21	21	28	30	20
Baltimore City.....	7	8	1	3	5	7
Maryland	35	29	22	31	35	27

**Traumatism by Cutting or Piercing Instruments.*

	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	10	4	3	6	3	2
Baltimore City.....	3	1	0	0	2	2
Maryland	13	5	3	6	5	4

TABLE XXX—Continued.

**Traumatism by Fall.*

	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	22	44	53	66	52	76
Baltimore City.....	80	91	94	86	100	91
Maryland	102	135	147	152	152	167

**Traumatism in Mines and Quarries:*

	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	8	10	12	11	25	7
Baltimore City.....	1	0	1	0	0	1
Maryland	9	10	13	11	25	8

**Traumatism by Machines.*

	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	4	6	7	7	11	10
Baltimore City.....	15	9	15	14	6	10
Maryland	19	15	22	21	17	20

**Traumatism by Crushing (Vehicles, Railroads, Landslides).*

	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	113	132	155	150	172	146
Baltimore City.....	93	74	64	96	108	109
Maryland	206	206	219	246	280	255

**Electrical Shock (Lightning Excepted).*

	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	3	4	6	11	4	4
Baltimore City.....	9	1	6	3	1	1
Maryland	12	5	12	14	5	5

Lightning.

	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	2	4	7	9	6	9
Baltimore City.....	0	3	0	0	0	0
Maryland	2	7	7	9	6	9

DROWNING.

Accidental and Suicidal.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	93	107	111	104	85	100	125	114	108	150
Baltimore City.....	63	58	59	55	53	47	55	63	49	61
Maryland	156	165	170	159	138	147	180	177	157	211

UNSPECIFIED OR ILL-DEFINED CAUSES.

Ill-Defined Organic Causes.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	40	27	30	36	22	5	4	1	1	5
Baltimore City.....	7	4	9	7	5	6	4	2	0	1
Maryland	47	31	39	43	27	11	8	3	1	6

TABLE XXX—*Continued.**Sudden Death.*

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	26	25	27	44	19	26	31	24	25	25
Baltimore City.....	1	0	0	0	0	0	1	0	0	2
Maryland	27	25	27	44	19	26	32	24	25	27

Unspecified Causes.

	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Rural Maryland.....	425	503	421	347	437	367	220	208	283	325
Baltimore City.....	280	295	308	326	313	220	85	45	10	25
Maryland	705	798	729	673	750	593	305	253	293	350

*Classified under one title, "Other Accidental Traumatisms," during the years 1906, 1907, 1908 and 1909.

Table XXX permits of rapid comparative observation for a period of ten years both for Rural Maryland and the City of Baltimore.

During the year 1915 there were no deaths from smallpox in Rural Maryland and Baltimore City. Except for the year 1913, in which there were two deaths from this cause, and 1914, in which there were eight deaths, not a single death from smallpox has been recorded for a period of seven years.

There were 71 deaths from alcoholism in 1915, a decrease of 20 over the previous year.

There were 34 deaths from tetanus, a decrease of three over the preceding year. This is the lowest number of deaths from this cause in ten years, except in the year 1908, when there were also 34 deaths. The majority of deaths from tetanus are in infants, and are due to infection of the umbilicus, the larger proportion occurring in the practice of midwives.

There were 183 deaths by suicide in the State in the last year. Of these, 43 were by poison, 28 by asphyxia, 20 by hanging and 65 by firearms. The greater number of suicides by poison and asphyxia occurred in Baltimore City, while the majority by firearms occurred in Rural Maryland. The total suicides in Rural Maryland were 82 and for Baltimore City 101.

The deaths from poisoning by food and other acute poisoning (not homicidal or suicidal) were 39; 26 in rural Maryland and 13 in Baltimore City.

Burns, scalds, etc., caused 155 deaths in 1915. Most of these deaths occurred in children and were due to clothes catching fire from stoves, open fireplaces or bonfires.

Accidental Drowning—199 deaths were reported from this cause during 1915. As usual, a majority of these deaths, 141 were reported from Rural Maryland, while approximately one-third, 58, were reported from Baltimore City.

Traumatism by Crushing (Vehicles, Railroads, Landslides, Etc.)—The number of deaths from this cause was 255 and has been on the increase for a number of years. The majority of these accidents occur on railroads. The proportion of deaths from automobile accidents is surprisingly small.

Lightning—There were nine deaths from this cause during 1915, all in Rural Maryland.

Infant Mortality.

With a total number of 32,367 living births reported and a birth rate of 23.94 per thousand for Maryland, we feel as if we have a proper basis to compute a correct infant mortality rate.

Table 31 gives the infant mortality rate, white and colored for Rural Maryland, Baltimore City, and total Maryland for the year 1915. Birth registration in Maryland is now practically complete and these rates for ordinary purposes are considered correct. The mortality rate per 1,000 of living births for Baltimore City in the white population is 105.58 and in Rural Maryland is 97.58, while the rate in the colored population in Baltimore City is 184.25 and in Rural Maryland 202.05. The total rate for Rural Maryland is slightly higher than that for Baltimore City.

TABLE XXXI.

INFANT MORTALITY RATE—1915—WHITE AND COLORED, MARYLAND.

	RURAL MARYLAND.		BALTIMORE CITY.		MARYLAND.	
	<i>Total Deaths</i>	<i>Mortality Per 1,000 Under Living Births.</i>	<i>Total Deaths</i>	<i>Mortality Per 1,000 Under Living Births.</i>	<i>Total Deaths.</i>	<i>Mortality Per 1,000 Under Living Births.</i>
White	1,431	97.58	1,210	105.58	2,641	101.09
Colored	807	202.05	414	184.25	1,221	195.64
Total.....	2,238	119.94	1,624	118.47	3,862	119.32

Duration of Life.

The main purpose of sanitary organization is to increase the duration of life. The duration of life is usually shown by tables of the mean duration and expectancy of life at given ages. Such tables were considered by Dr. Farr to represent the health and prosperity of the country, and to furnish a fair estimate of its living capital. Dr. Farr considered a table constructed in this way to be a measure of the life of the community, and hence it was called by him a biometer.

Other tables, popularly used by insurance companies, are tables of survivorship and tables showing the probability of living for a stated period beyond a given age—the probability of living one year being generally employed in the construction of this class of tables. Tables of duration of life are open to some objections for sanitary purposes. The extremes of either great or brief duration of life are largely lost, and certain components of the curve, which are of great sanitary importance, are not apparent.

Tables of duration of life are prognostic, the conditions of life in any given year being assumed to remain constant during a future period of years, i. e., 100 or 50 years. The particular question which interests the sanitarian is, at what period of life does the avoidable mortality occur. His problem is directed in general to increasing the duration of life, and the results of the work will be shown by fewer deaths in the early periods of life. The survivors, dying later, must, in proportion to their number, increase the number of deaths at an advanced age. Such tables and charts should illustrate, in the population of the State, under sanitary conditions present in the year of calculation, the number of the population living and the number dead at succeeding age periods.

The "Average Age of Death" may be considered in connection with the duration of life. This measurement is determined by adding the ages of the decedents and dividing them by the number of decedents. The fallacy that an increase in the average age at death indicates a corresponding increase in

the duration of life must be avoided. It is evident that in communities, made up of young adults and children, the average age at death will be low, while later, as the older portion of the population becomes numerous, the average age at death will be high, though there may have been no change in the death rate.

In 1915 there were 21,350 deaths in Maryland. Of these 21,269 occurred at known ages. Taking the sum of these ages, the 21,269 persons were found to have lived 868,616.932 years, giving an average age at death of 40.840 years. This number should be identical with the duration of life in a fixed population, therefore, the term "presumptive duration of life" may be applied to this factor in the succeeding table. The table of presumptive duration and presumptive expectancy is constructed as follows:

If we tabulate the decedents dying over the age of one year during 1915 we find 17,446 persons to have died, after living a total of 867,651.885 years, giving an average age at death of 49.734 years. This figure is entered in the table under the heading "Presumptive Duration — Years." Since this figure includes one year which has already been lived, the expectation of those decedent over one year will be, at the age of one year, 48.734 years. This factor appears in the table under the heading "Presumptive Expectancy at Age."

The factors of this calculation are shown in the first two columns of Table XXXII-A, while in the last two columns headed respectively "Presumptive Duration—Years" and "Presumptive Expectancy at Age," are given the presumptive expectation and duration of life by one-year periods.

To determine the total years lived by any number of decedents, it is necessary to add the ages of all the decedents and divide the sum of years by the number of decedents. This method involves considerable labor, and vital statisticians generally use the median age between the two age periods, multiplied by the number of decedents during the period.

By the aid of the Hollerith tabulating machine it has been possible for us to use the exact age of each individual of the 21,269 decedents of known ages in Maryland and secure a very accurate result. The ages being returned by years and months, the months are entered as decimal fractions of a year.

All registrations in which the number of days of the age of

the decedent was given were returned with an additional month, if over 15 days, and the additional days dropped, if under 15 days.

Thus the maximum error of any individual entry was only 0.0416 years. In any large series of entries the error should not exceed 0.001.

The following decimals were used for months, each being carried to the third place; one month, .083; two months, .166; three months, .249; four months, .333; five months, .416; six months, .499; seven months, .583; eight months, .666; nine months, .749; ten months, .833; eleven months, .916; twelve months, 1.000.

By reference to Table XXXII-A it will be seen that the presumptive duration of life steadily increases from the second year upwards, and the presumptive expectancy steadily diminishes.

The presumptive expectancy of life is greatest at two years, being greater than at birth (49.774, as compared with 48.734). At birth the expectancy and duration of life are identical, but after birth the expectancy increases to the second year, and thereafter steadily decreases, although the expectancy remains above that at birth up to the fifth year.

While the table of presumptive expectation and duration of life is not to be relied upon as an accurate measure of real expectation of life, such as is furnished by actuarial tables, its simplicity of construction and value for purposes of comparison give it a place in all our reports on vital statistics.

The figures over the age of 80 years are only included in the table for the interest they may possess, as they have no value for comparison, owing to the small number of entries and the great annual fluctuation in deaths over 80.

Table XXXII-B and XXXII-C are introduced in this report. Table XXXII-B gives the presumptive expectancy and duration of life worked on the total white deaths in Maryland during 1915, and Table XXXII-C gives the presumptive expectancy and duration of life worked on the colored deaths in Maryland for the same year.

The presumptive expectation of life in the white population exceeds that of the colored population at the second year by 9.564 years; at the 20th year it was 8.081 years greater; at the

30th year 6.106 years greater; at the 40th year it was 4.661 years greater; at the 50th year it was 2.746 years greater; at the 60th year it was only 0.401 years greater and at the 70th year the expectation of life in the colored population exceeds that of the white by 0.639 years.

TABLE XXXII-A.

PRESUMPTIVE EXPECTANCY AND DURATION OF LIFE—MARYLAND—1915.

<i>Deaths Over the Age of</i>	<i>Number.</i>	<i>Total Years Lived.</i>	<i>Presumptive Duration, Years.</i>	<i>Presumptive Expectancy at Age.</i>
1 year.....	17,446	867,651.885	49.734	48.734
2 years.....	16,740	866,692.196	51.774	49.774
3 years.....	16,472	866,052.391	52.577	49.577
4 years.....	16,312	865,517.568	53.000	49.060
5 years.....	16,191	864,990.322	53.424	48.424
6 years.....	16,097	864,485.899	53.705	47.705
7 years.....	16,034	864,084.703	53.891	46.891
8 years.....	15,958	863,526.265	54.112	46.112
9 years.....	15,883	862,896.780	54.328	45.328
10 years.....	15,816	862,265.379	54.519	44.519
11 years.....	15,754	861,623.578	54.692	43.692
12 years.....	15,698	860,984.217	54.847	42.847
13 years.....	15,647	860,356.782	54.985	41.985
14 years.....	15,594	859,645.680	55.127	41.127
15 years.....	15,509	858,425.785	55.350	40.350
16 years.....	15,420	857,051.126	55.580	39.580
17 years.....	15,339	855,723.458	55.787	38.787
18 years.....	15,214	853,553.060	56.103	38.103
19 years.....	15,098	851,419.106	56.393	37.393
20 years.....	14,966	848,862.444	56.719	36.719
21 years.....	14,832	846,141.873	57.048	36.048
22 years.....	14,696	843,239.184	57.379	35.379
23 years.....	14,537	839,688.975	57.762	34.762
24 years.....	14,393	836,334.077	58.107	34.107
25 years.....	14,230	832,378.619	58.495	33.495
26 years.....	14,071	828,358.349	58.870	32.870
27 years.....	13,910	824,121.483	59.247	32.247
28 years.....	13,758	819,976.320	59.600	31.600
29 years.....	13,588	815,165.737	59.992	30.992
30 years.....	13,434	810,653.497	60.343	30.343
31 years.....	13,266	805,568.382	60.724	29.724
32 years.....	13,099	800,335.753	61.099	29.099
33 years.....	12,934	795,010.151	61.467	28.467
34 years.....	12,793	790,313.151	61.777	27.777
35 years.....	12,618	784,309.763	62.158	27.158
36 years.....	12,407	776,875.831	62.616	26.616
37 years.....	12,257	771,434.667	62.938	25.938
38 years.....	12,076	764,676.995	63.322	25.322
39 years.....	11,875	756,982.304	63.746	24.746
40 years.....	11,688	749,627.011	64.136	24.136
41 years.....	11,461	740,496.980	64.610	23.610
42 years.....	11,301	733,889.425	64.940	22.940
43 years.....	11,094	725,136.571	65.363	22.363
44 years.....	10,930	718,041.464	65.695	21.695
45 years.....	10,744	709,798.862	66.065	21.065
46 years.....	10,476	697,678.285	66.598	20.598
47 years.....	10,300	689,532.006	66.945	19.945
48 years.....	10,117	680,876.710	67.300	19.300
49 years.....	9,918	671,274.450	67.682	18.682
50 years.....	9,714	661,221.010	68.069	18.069
51 years.....	9,410	645,958.964	68.646	17.646
52 years.....	9,222	636,321.630	69.000	17.000
53 years.....	8,953	622,268.394	69.504	16.504

TABLE XXXII-A—Continued.

<i>Deaths Over the Age of</i>	<i>Number.</i>	<i>Total Years Lived.</i>	<i>Presumptive Duration, Years.</i>	<i>Presumptive Expectancy at Age.</i>
54 years.....	8,740	610,919.169	69.899	15.899
55 years.....	8,505	598,152.604	70.330	15.330
56 years.....	8,227	582,794.054	70.839	14.839
57 years.....	7,960	567,758.695	71.326	14.326
58 years.....	7,706	553,194.679	71.788	13.788
59 years.....	7,432	537,213.701	72.284	13.284
60 years.....	7,188	522,727.425	72.722	12.722
61 years.....	6,823	500,739.026	73.390	12.390
62 years.....	6,604	487,303.975	73.789	11.789
63 years.....	6,317	469,429.572	74.312	11.312
64 years.....	6,041	451,959.636	74.815	10.815
65 years.....	5,761	433,944.482	75.325	10.325
66 years.....	5,391	409,805.850	76.017	10.017
67 years.....	5,134	392,759.033	76.502	9.502
68 years.....	4,861	374,381.133	77.017	9.017
69 years.....	4,565	354,159.641	77.582	8.582
70 years.....	4,302	335,926.558	78.086	8.086
71 years.....	3,924	309,372.424	78.841	7.841
72 years.....	3,658	290,402.219	79.388	7.388
73 years.....	3,362	268,989.563	80.009	7.009
74 years.....	3,047	245,899.442	80.702	6.702
75 years.....	2,799	227,454.808	81.263	6.263
76 years.....	2,445	200,809.638	82.131	6.131
77 years.....	2,166	179,512.629	82.877	5.877
78 years.....	1,943	162,256.890	83.508	5.508
79 years.....	1,679	141,580.159	84.324	5.324
80 years.....	1,491	126,660.910	84.950	4.950
81 years.....	1,224	105,229.829	85.972	4.972
82 years.....	1,059	91,810.106	86.695	4.695
83 years.....	886	77,558.576	87.538	4.538
84 years.....	758	66,893.947	88.251	4.251
85 years.....	619	55,169.431	89.127	4.127
86 years.....	498	44,852.922	90.066	4.066
87 years.....	408	37,082.781	90.889	3.889
88 years.....	324	29,746.779	91.811	3.811
89 years.....	269	24,880.251	92.492	3.492
90 years.....	217	20,235.107	93.249	3.249
91 years.....	156	14,730.982	94.429	3.429
92 years.....	118	11,262.376	95.444	3.444
93 years.....	91	8,769.117	96.364	3.364
94 years.....	61	5,971.337	97.891	3.891
95 years.....	49	4,840.488	98.785	3.785
96 years.....	38	3,794.407	99.853	3.853
97 years.....	30	3,025.159	100.839	3.839
98 years.....	24	2,440.996	101.708	3.708
99 years.....	14	1,458.916	104.208	5.208
100 years.....	13	1,359.916	104.009	4.609
101 years.....	10	1,059.833	105.983	4.983
102 years.....	9	958.000	106.444	4.444
105 years.....	8	856.000	107.000	2.000
106 years.....	6	646.000	107.667	1.667
110 years.....	2	222.000	111.000	1.000
112 years.....	1	112.000	112.000	0.000
Total.....	21,269	868,616.932	40.840	....

TABLE XXXII-B.

PRESUMPTIVE EXPECTANCY AND DURATION OF LIFE—WHITE—1915.

<i>Deaths Over the Age of</i>	<i>Number.</i>	<i>Total Years Lived.</i>	<i>Presumptive Duration, Years.</i>	<i>Presumptive Expectancy at Age.</i>
1 year.....	13,115	684,450.350	52.188	51.188
2 years.....	12,635	683,795.634	54.119	52.119
3 years.....	12,441	683,330.895	54.926	51.926
4 years.....	12,325	682,938.823	55.411	51.411
5 years.....	12,245	682,585.082	55.744	50.744
6 years.....	12,181	682,238.478	56.008	50.008
7 years.....	12,137	681,957.024	56.188	49.188
8 years.....	12,084	681,564.931	56.402	48.402
9 years.....	12,036	681,158.768	56.593	47.593
10 years.....	11,987	680,697.148	56.786	46.786
11 years.....	11,948	680,293.377	56.938	45.938
12 years.....	11,913	679,894.708	57.072	45.072
13 years.....	11,878	679,463.101	57.203	44.203
14 years.....	11,844	679,006.243	57.329	43.329
15 years.....	11,799	678,362.098	57.493	42.493
16 years.....	11,752	677,632.897	57.661	41.661
17 years.....	11,716	677,042.541	57.788	40.788
18 years.....	11,642	675,750.668	58.044	40.044
19 years.....	11,565	674,330.800	58.308	39.308
20 years.....	11,478	672,643.157	58.603	38.603
21 years.....	11,395	670,953.676	58.881	37.881
22 years.....	11,314	669,222.573	59.150	37.150
23 years.....	11,226	667,250.897	59.438	36.438
24 years.....	11,135	665,128.275	59.733	35.733
25 years.....	11,032	662,623.990	60.064	35.064
26 years.....	10,926	659,940.017	60.401	34.401
27 years.....	10,818	657,090.114	60.740	33.740
28 years.....	10,714	654,247.168	61.065	33.065
29 years.....	10,611	651,331.514	61.383	32.383
30 years.....	10,517	648,577.309	61.669	31.669
31 years.....	10,408	645,273.840	61.998	30.998
32 years.....	10,292	641,636.836	62.343	30.343
33 years.....	10,184	638,144.910	62.662	29.662
34 years.....	10,085	634,842.335	62.949	28.949
35 years.....	9,954	630,342.643	63.326	28.326
36 years.....	9,825	625,787.342	63.693	27.693
37 years.....	9,717	621,866.354	63.998	26.998
38 years.....	9,585	616,930.773	64.364	26.364
39 years.....	9,456	611,982.544	64.719	25.719
40 years.....	9,323	606,743.925	65.080	25.080
41 years.....	9,182	601,064.938	65.461	24.461
42 years.....	9,069	596,391.205	65.762	23.762
43 years.....	8,935	590,718.661	66.113	23.113
44 years.....	8,809	585,260.821	66.439	22.439
45 years.....	8,673	579,228.036	66.785	21.785
46 years.....	8,507	571,708.690	67.205	21.205
47 years.....	8,376	565,639.564	67.531	20.531
48 years.....	8,236	559,009.615	67.874	19.874
49 years.....	8,096	552,246.699	68.212	19.212
50 years.....	7,946	544,846.332	68.569	18.569
51 years.....	7,748	534,893.709	69.036	18.036
52 years.....	7,619	528,272.571	69.336	17.336
53 years.....	7,432	518,490.595	69.765	16.765
54 years.....	7,275	510,119.730	70.120	16.120

TABLE XXXII-B—Continued.

<i>Deaths Over the Age of</i>	<i>Number.</i>	<i>Total Years Lived.</i>	<i>Presumptive Duration, Years.</i>	<i>Presumptive Expectancy at Age.</i>
55 years.....	7,096	500,383.905	70.516	15.516
56 years.....	6,889	488,934.619	70.973	14.973
57 years.....	6,682	477,269.455	71.426	14.426
58 years.....	6,478	465,560.117	71.868	13.868
59 years.....	6,256	452,604.566	72.347	13.347
60 years.....	6,051	440,426.157	72.786	12.786
61 years.....	5,782	424,205.354	73.367	12.367
62 years.....	5,592	412,544.880	73.774	11.774
63 years.....	5,358	397,961.490	74.274	11.274
64 years.....	5,121	382,955.733	74.781	10.781
65 years.....	4,880	367,442.609	75.296	10.296
66 years.....	4,592	348,640.047	75.923	9.923
67 years.....	4,363	333,444.580	76.426	9.426
68 years.....	4,125	317,416.508	76.949	8.949
69 years.....	3,878	300,530.698	77.496	8.496
70 years.....	3,656	285,132.148	77.990	7.990
71 years.....	3,363	264,532.360	78.660	7.660
72 years.....	3,124	247,483.149	79.220	7.220
73 years.....	2,869	229,024.905	79.827	6.827
74 years.....	2,599	209,224.796	80.502	6.502
75 years.....	2,383	193,156.232	81.056	6.056
76 years.....	2,092	171,238.141	81.854	5.854
77 years.....	1,842	152,151.351	82.601	5.601
78 years.....	1,637	136,285.525	83.253	5.253
79 years.....	1,407	118,265.807	84.055	5.055
80 years.....	1,230	104,218.305	84.730	4.730
81 years.....	1,023	87,590.822	85.622	4.622
82 years.....	876	75,631.512	86.337	4.337
83 years.....	721	62,859.895	87.184	4.184
84 years.....	604	53,110.764	87.932	3.932
85 years.....	488	43,321.744	88.774	3.774
86 years.....	396	35,472.982	89.578	3.578
87 years.....	316	28,564.276	90.393	3.393
88 years.....	245	22,360.938	91.269	3.269
89 years.....	192	17,670.493	92.034	3.034
90 years.....	146	13,560.514	92.880	2.880
91 years.....	109	10,218.469	93.747	2.747
92 years.....	78	7,388.110	94.719	2.719
93 years.....	58	5,539.870	95.515	2.515
94 years.....	36	3,486.839	96.857	2.857
95 years.....	24	2,355.990	98.166	3.166
96 years.....	18	1,785.158	99.175	3.175
97 years.....	15	1,496.159	99.744	2.744
98 years.....	10	1,008.996	100.900	2.900
100 years.....	4	418.916	104.729	4.729
101 years.....	3	318.833	106.278	5.278
105 years.....	2	217.000	108.500	3.500
112 years.....	1	112.000	112.000	0.000
Total.....	15,731	685,096.801	43.551	....

TABLE XXXII-C.

PRESUMPTIVE EXPECTANCY AND DURATION OF LIFE—COLORED—1915.

<i>Deaths Over the Age of</i>	<i>Number.</i>	<i>Total Years Lived.</i>	<i>Presumptive Duration, Years.</i>	<i>Presumptive Expectancy at Age.</i>
1 year.....	4,331	183,201.535	42.300	41.300
2 years.....	4,105	182,896.562	44.555	42.555
3 years.....	4,031	182,721.496	45.329	42.329
4 years.....	3,987	182,578.745	45.794	41.794
5 years.....	3,946	182,405.240	46.225	41.225
6 years.....	3,916	182,247.421	46.539	40.539
7 years.....	3,897	182,127.679	46.735	39.735
8 years.....	3,874	181,961.334	46.970	38.970
9 years.....	3,847	181,738.012	47.241	38.241
10 years.....	3,829	181,568.231	47.419	37.419
11 years.....	3,806	181,330.201	47.643	36.643
12 years.....	3,785	181,089.509	47.844	35.844
13 years.....	3,769	180,893.681	47.995	34.995
14 years.....	3,750	180,639.437	48.171	34.171
15 years.....	3,710	180,063.687	48.535	33.535
16 years.....	3,668	179,418.229	48.914	32.914
17 years.....	3,623	178,680.917	49.318	32.318
18 years.....	3,572	177,802.392	49.777	31.777
19 years.....	3,533	177,088.306	50.124	31.124
20 years.....	3,488	176,219.287	50.522	30.522
21 years.....	3,437	175,188.197	50.971	29.971
22 years.....	3,382	174,016.611	51.454	29.454
23 years.....	3,311	172,438.078	52.080	29.080
24 years.....	3,258	171,205.802	52.549	28.549
25 years.....	3,198	169,754.629	53.081	28.081
26 years.....	3,145	168,418.332	53.551	27.551
27 years.....	3,092	167,031.369	54.020	27.020
28 years.....	3,044	165,729.152	54.445	26.445
29 years.....	2,977	163,834.223	55.033	26.033
30 years.....	2,917	162,076.188	55.563	25.563
31 years.....	2,858	160,294.542	56.086	25.086
32 years.....	2,807	158,698.917	56.537	24.537
33 years.....	2,750	156,865.241	57.042	24.042
34 years.....	2,708	155,470.816	57.412	23.412
35 years.....	2,664	153,967.120	57.795	22.795
36 years.....	2,582	151,088.489	58.516	22.516
37 years.....	2,540	149,568.313	58.885	21.885
38 years.....	2,491	147,746.222	59.312	21.312
39 years.....	2,419	144,999.760	59.942	20.942
40 years.....	2,365	142,883.086	60.416	20.416
41 years.....	2,279	139,432.042	61.181	20.181
42 years.....	2,232	137,498.220	61.603	19.603
43 years.....	2,159	134,417.910	62.259	19.259
44 years.....	2,121	132,780.643	62.603	18.603
45 years.....	2,071	130,570.826	63.047	18.047
46 years.....	1,969	125,969.595	63.976	17.976
47 years.....	1,924	123,892.442	64.393	17.393
48 years.....	1,881	121,867.095	64.788	16.788
49 years.....	1,822	119,027.751	65.328	16.328
50 years.....	1,768	116,374.678	65.823	15.823
51 years.....	1,662	111,065.255	66.826	15.826
52 years.....	1,603	108,049.059	67.404	15.404
53 years.....	1,521	103,777.799	68.230	15.230

TABLE XXXII-C—Continued.

<i>Deaths Over the Age of</i>	<i>Number.</i>	<i>Total Years Lived.</i>	<i>Presumptive Duration, Years.</i>	<i>Presumptive Expectancy at Age.</i>
54 years.....	1,465	100,799.439	68.805	14.805
55 years.....	1,409	97,768.699	69.389	14.389
56 years.....	1,338	93,859.435	70.149	14.149
57 years.....	1,278	90,489.240	70.805	13.805
58 years.....	1,228	87,084.562	71.364	13.364
59 years.....	1,176	84,609.135	71.947	12.947
60 years.....	1,137	82,301.268	72.385	12.385
61 years.....	1,041	76,533.672	73.519	12.519
62 years.....	1,012	74,759.095	73.873	11.873
63 years.....	959	71,468.082	74.524	11.524
64 years.....	920	69,003.903	75.004	11.004
65 years.....	881	66,501.873	75.485	10.485
66 years.....	799	61,165.803	76.553	10.553
67 years.....	771	59,314.453	76.932	9.932
68 years.....	736	56,964.625	77.398	9.398
69 years.....	687	53,628.943	78.063	9.063
70 years.....	646	50,794.410	78.629	8.629
71 years.....	561	44,840.064	79.929	8.929
72 years.....	534	42,919.070	80.373	8.373
73 years.....	493	39,964.658	81.064	8.064
74 years.....	448	36,674.646	81.863	7.863
75 years.....	416	34,298.576	82.449	7.449
76 years.....	353	29,571.497	83.772	7.772
77 years.....	324	27,361.278	84.448	7.448
78 years.....	306	25,971.365	84.874	6.874
79 years.....	272	23,314.352	85.715	6.715
80 years.....	261	22,442.605	85.987	5.987
81 years.....	201	17,639.007	87.756	6.756
82 years.....	183	16,178.594	88.408	6.408
83 years.....	165	14,698.681	89.083	6.083
84 years.....	154	13,783.183	89.501	5.501
85 years.....	131	11,847.687	90.440	5.440
86 years.....	102	9,379.940	91.960	5.960
87 years.....	92	8,518.505	92.592	5.592
88 years.....	79	7,385.841	93.492	5.492
89 years.....	77	7,209.758	93.633	4.633
90 years.....	71	6,674.593	94.008	4.008
91 years.....	47	4,512.513	96.011	5.011
92 years.....	40	3,874.266	96.857	4.857
93 years.....	33	3,229.247	97.856	4.856
94 years.....	25	2,484.498	99.380	5.380
95 years.....	25	2,484.498	99.380	4.380
96 years.....	20	2,059.249	100.462	4.462
97 years.....	15	1,529.000	101.933	4.933
98 years.....	14	1,432.000	102.286	4.286
99 years.....	10	1,040.000	104.000	5.000
100 years.....	9	941.000	104.555	4.555
102 years.....	7	741.000	105.857	3.857
105 years.....	6	639.000	106.500	1.500
106 years.....	5	534.000	106.800	0.800
110 years.....	1	110.000	110.000	0.000
Total.....	5,538	183,520.131	33.138	....

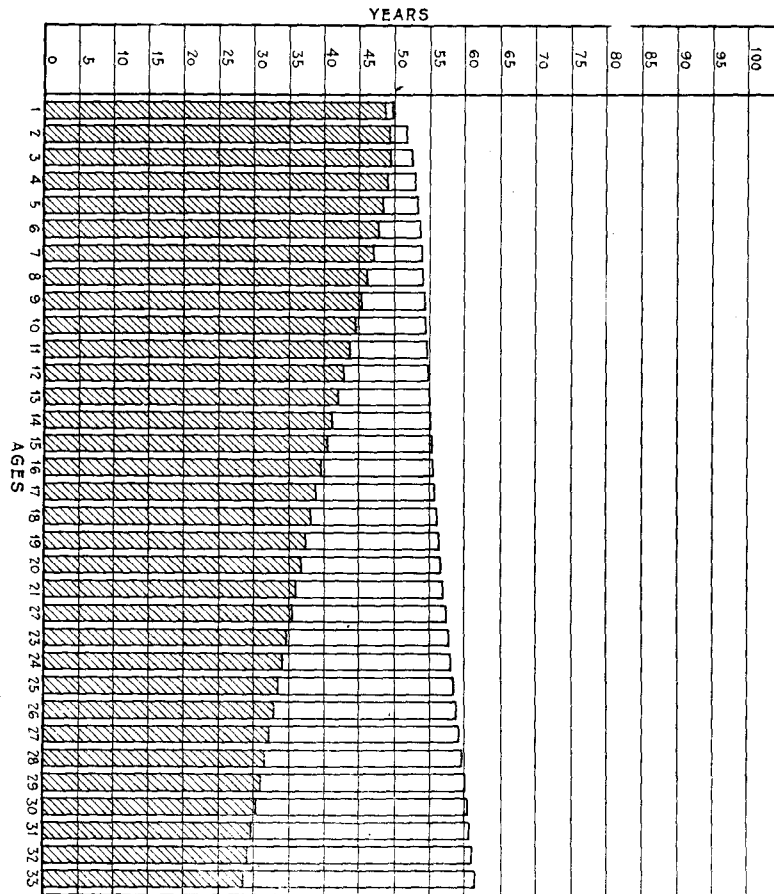


CHART 20-A—Presumptive Expectation and Duration of Life—Total Maryland, 1915.

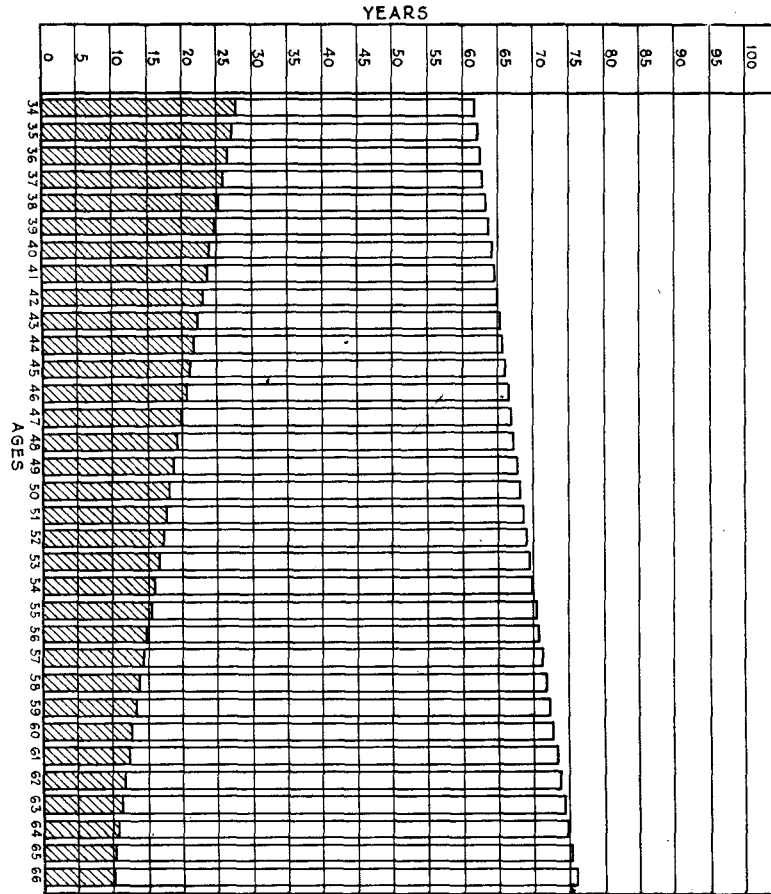


CHART 20-B—Presumptive Expectation and Duration of Life—Total Maryland, 1915.

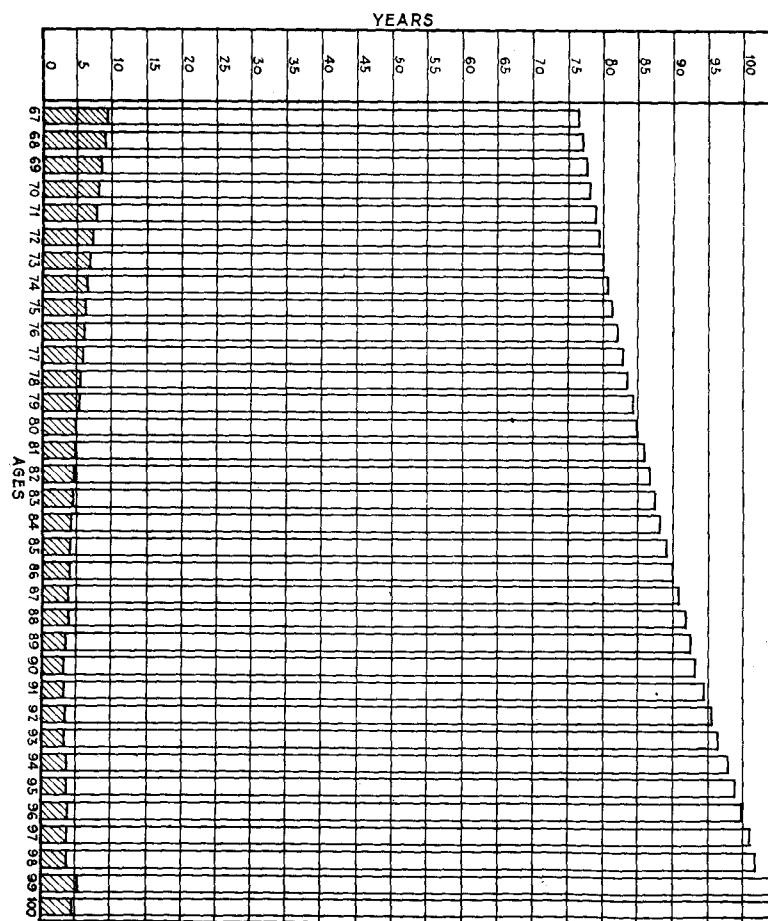


CHART 20-C—*Presumptive Expectation and Duration of Life—Total Maryland, 1915.*

The succeeding tables (Table XXXIII and Table XXXIV) give the average age at death by counties and by months, respectively.

The county giving the lowest average age at death in 1915 was St. Mary's County (32.461); the highest average age at death was in Carroll County (50.536).

The next table (Table XXXIV) gives the average age at death by months.

The lowest average age at death is in August. The average age at death in this month is 34.882. It is evident that in this State with the high infant mortality in July, August and September the lowest average age at death will always fall in one of these three months.

By reference to the table it will be seen that the average age at death falls below the mean in the months of July, August, September and October. In all the other months the figures are above the mean.

TABLE XXXIII.

MEAN AGE AT DEATH BY COUNTIES—1915.

<i>Counties.</i>	<i>Total Deaths.</i>	<i>Total Age of Decedents.</i>	<i>Average Age at Death.</i>
Allegany	822	34,663.716	42.170
Anne Arundel.....	736	26,583.747	36.119
Baltimore	2,687	115,908.523	43.137
Calvert	150	5,107.603	34.051
Caroline	278	10,250.735	36.873
Carroll	565	28,552.827	50.536
Cecil	365	17,238.452	47.229
Charles	267	9,189.813	34.419
Dorchester	497	16,506.325	33.212
Frederick	776	35,898.156	46.261
Garrett	224	8,614.946	38.460
Harford	386	17,595.121	45.583
Howard	199	8,907.712	44.762
Kent	272	10,633.874	39.095
Montgomery	436	19,230.802	44.107
Prince George's.....	518	20,330.444	39.248
Queen Anne's.....	272	10,407.071	38.261
Somerset	398	14,325.704	35.994
St. Mary's.....	266	8,634.587	32.461
Talbot	310	12,922.170	41.684
Washington	745	31,894.274	42.811
Wiconico	422	16,329.559	38.696
Worcester	351	13,932.291	39.693
Total Counties.....	11,942	493,658.452	41.338
Baltimore City.....	9,327	374,958.480	40.201
Maryland	21,269	868,616.932	40.840

TABLE XXXIV.
MEAN AGE AT DEATH BY MONTHS—1915.

Month.	RURAL MARYLAND.			BALTIMORE CITY.			MARYLAND.		
	Total Deaths.	Total Age of Decedents.	Average Age at Death.	Total Deaths.	Total Age of Decedents.	Average Age at Death.	Total Deaths.	Total Age of Decedents.	Average Age at Death.
January	967	41,895.096	43.325	849	37,668.741	44.368	1,816	79,563.837	43.813
February	941	40,505.479	43.045	739	30,548.338	41.337	1,680	71,053.817	42.294
March	1,180	53,789.070	45.584	952	40,894.453	42.956	2,132	94,683.523	44.411
April	1,162	51,806.895	44.584	899	38,853.782	43.221	2,061	90,662.677	43.990
May	941	42,216.549	44.863	764	30,838.377	40.364	1,705	73,054.926	42.847
June	804	33,571.329	41.755	633	24,117.111	38.100	1,437	57,688.440	40.145
July	1,016	38,259.432	37.657	764	26,816.188	35.100	1,780	65,075.620	36.559
August	1,063	37,671.151	35.439	740	25,220.464	34.082	1,803	62,891.615	34.882
September	958	34,368.462	35.875	680	23,940.358	35.206	1,638	58,308.820	35.598
October	976	37,818.803	38.749	721	28,297.968	39.248	1,697	66,116.771	38.961
November	863	34,790.531	40.313	755	31,742.777	42.043	1,618	66,533.308	41.121
December	1,071	46,965.655	43.852	831	36,017.923	43.343	1,902	82,983.578	43.630
Total	11,942	493,658.452	41.338	9,327	374,958.480	40.201	21,269	808,616.932	40.840

Maryland Biometer.

This biometer is constructed on a table of survivorship, in which 10,000 persons born in a given year are traced throughout life, under the sanitary conditions of the year of computation, as indicated by the mortality returns.

If the death rates for the several age periods are determined for any given year, we may, by applying these rates to the estimated population of this year, construct a table of survivorship, showing the number surviving at certain periods thereafter among those born in the given year.

Thus, of 10,000 persons born in Maryland during 1915, we have to determine the number surviving at the end of five years, of ten years, etc., providing the death rate of 1915 remains constant. A chart constructed from this table will indicate the sanitary condition of the State during the year 1915, and, described in the manner presently to be mentioned, forms the "Maryland Biometer."

The Maryland biometer is shown in the chart in quinquennial periods for the year 1915, assuming the death rate of that year to remain constant. Instead of considering the whole population as a basis the scale is reduced to a population of 10,000 for the convenience of comparison with succeeding years. Of a population of 10,000 born in Maryland during 1915, how many will be living and how many dead at the end of five years, of ten years, etc.? This table and chart indicate survivorship and give both the number of living and dead at each quinquennial period after 1915.

Such charts readily admit of comparison with preceding or following years, as variations in the mortality at the various ages appear in the curve in their proper positions and do not (as in the expectancy tables) merely modify the form of the curve.

The only factors necessary in the construction of this curve are the mortality rates for the several age periods (0-5, 5-10, etc.), which may be applied first to the original population of 10,000, then to the remaining population, after deducting the deaths from 0-5, etc. Applying the death rates obtained from Table XIX-A to 10,000 persons born in 1915, the survivorship at succeeding quinquennial periods is shown in Table XXXV-A. In Table XXXV-B the survivorship with regard to color is shown.

TABLE XXXV-A.

SURVIVORSHIP IN MARYLAND, 1915, TOTAL POPULATION.

SURVIVORS OF 10,000 PERSONS BORN IN MARYLAND IN 1915 AT SUCCEEDING
QUINQUENNIAL PERIODS, ASSUMING THE DEATH RATE
OF THAT YEAR TO BE CONSTANT.

Number born in 1915.....	10,000
Number reaching age of 5 years (A. D. 1920).....	8,228
Number reaching age of 10 years (A. D. 1925).....	8,118
Number reaching age of 15 years (A. D. 1930).....	8,025
Number reaching age of 20 years (A. D. 1935).....	7,862
Number reaching age of 25 years (A. D. 1940).....	7,636
Number reaching age of 30 years (A. D. 1945).....	7,371
Number reaching age of 35 years (A. D. 1950).....	7,070
Number reaching age of 40 years (A. D. 1955).....	6,729
Number reaching age of 45 years (A. D. 1960).....	6,343
Number reaching age of 50 years (A. D. 1965).....	5,881
Number reaching age of 55 years (A. D. 1970).....	5,305
Number reaching age of 60 years (A. D. 1975).....	4,530
Number reaching age of 65 years (A. D. 1980).....	3,640
Number reaching age of 70 years (A. D. 1985).....	2,681
Number reaching age of 75 years (A. D. 1990).....	1,593
Number reaching age of 80 years (A. D. 1995).....	583

TABLE XXXV-B.

COMPARATIVE TABLE OF SURVIVORSHIP IN MARYLAND, 1915,
WHITE AND COLORED.

NUMBER OF SURVIVORS OF 10,000 PERSONS BORN IN MARYLAND IN 1915 AT
SUCCEEDING QUINQUENNIAL PERIODS, ASSUMING THE DEATH
RATES OF THAT YEAR TO REMAIN CONSTANT.

	<i>White.</i>	<i>Colored.</i>
Number born in 1915.....	10,000	10,000
Number reaching age of 5 years (A. D. 1920).....	8,517	6,908
Number reaching age of 10 years (A. D. 1925).....	8,421	6,753
Number reaching age of 15 years (A. D. 1930).....	8,350	6,584
Number reaching age of 20 years (A. D. 1935).....	8,227	6,272
Number reaching age of 25 years (A. D. 1940).....	8,052	5,883
Number reaching age of 30 years (A. D. 1945).....	7,831	5,490
Number reaching age of 35 years (A. D. 1950).....	7,567	5,070
Number reaching age of 40 years (A. D. 1955).....	7,267	4,614
Number reaching age of 45 years (A. D. 1960).....	6,924	4,110
Number reaching age of 50 years (A. D. 1965).....	6,499	3,567
Number reaching age of 55 years (A. D. 1970).....	5,970	2,887
Number reaching age of 60 years (A. D. 1975).....	5,172	2,239
Number reaching age of 65 years (A. D. 1980).....	4,199	1,685
Number reaching age of 70 years (A. D. 1985).....	3,128	1,153
Number reaching age of 75 years (A. D. 1990).....	1,881	631
Number reaching age of 80 years (A. D. 1995).....	691	227

This biometer is graphically shown in Chart No. 21. It is evident that such a chart will indicate the life condition of the State, both in its form and in its area. To calculate the area it is only necessary to measure the length of the perpendiculars to the base line from each component point of the curve, and take the same measurement for the next succeeding point. The area of each trapezoid thus produced is calculated in the usual manner, by taking the product of one-half the sum of its parallel sides by its altitude.

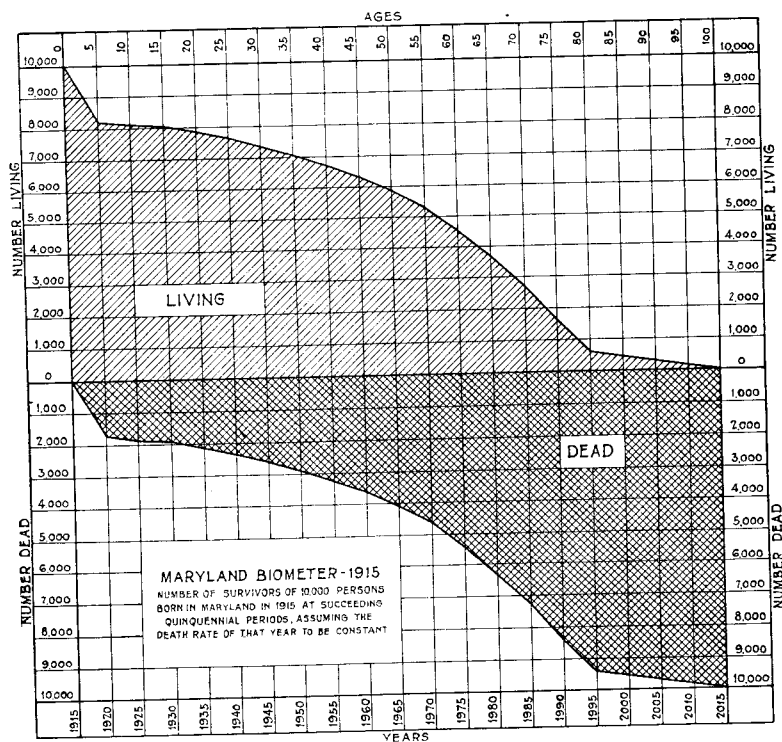


CHART 21.

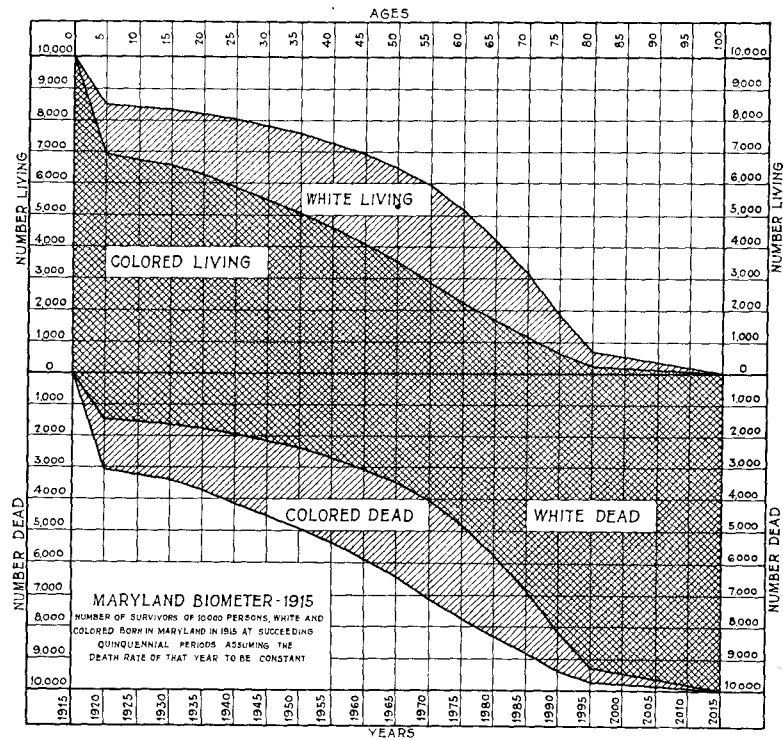


CHART 22—Illustrating the higher death rate in the colored population. In the upper biometer the total white living comprises the area marked colored living, plus the area marked white living. In the lower biometer the colored dead comprises the area marked white dead, plus the area marked colored dead.

TABLE XXXVI-A.

ESTIMATED POPULATIONS OF MARYLAND.

	1910.	1911.	1912.	1913.	1914.	1915.
0- 5 years.....	137,761	138,900	140,039	141,178	142,317	143,457
5-10 years.....	133,658	134,756	135,854	136,952	138,049	139,148
10-15 years.....	129,679	130,750	131,820	132,890	133,961	135,032
15-20 years.....	128,173	129,242	130,311	131,379	132,447	133,517
20-25 years.....	123,377	124,393	125,410	126,425	127,441	128,457
25-30 years.....	110,215	111,123	112,030	112,938	113,845	114,752
30-35 years.....	95,997	96,807	97,618	98,428	99,239	100,049
35-40 years.....	92,400	93,172	93,944	94,717	95,489	96,262
40-45 years.....	78,763	79,428	80,094	80,760	81,426	82,091
45-50 years.....	67,982	68,560	69,136	69,713	70,290	70,867
50-55 years.....	59,179	59,689	60,198	60,707	61,216	61,725
55-60 years.....	43,203	43,583	43,964	44,344	44,725	45,106
60-65 years.....	34,984	35,289	35,596	35,902	36,207	36,514
65-70 years.....	26,582	26,816	27,051	27,285	27,519	27,752
70-75 years.....	17,659	17,814	17,968	18,124	18,280	18,435
75-80 years.....	9,836	9,925	10,014	10,102	10,192	10,280
80 years and over	6,821	6,880	6,938	6,998	7,057	7,115
Unknown.....	1,341	1,349	1,357	1,366	1,374	1,381
Total.....	1,297,610	1,308,476	1,319,342	1,330,208	1,341,074	1,351,940

TABLE XXXVI-B.

DEATHS BY AGES.

	1910.	1911.	1912.	1913.	1914.	1915.
0- 5 years.....	5,873	5,467	5,415	5,896	5,419	5,084
5-10 years.....	421	426	373	436	397	371
10-15 years.....	372	320	272	289	299	308
15-20 years.....	606	574	556	591	573	544
20-25 years.....	1,656	763	742	793	803	737
25-30 years.....		850	843	845	814	795
30-35 years.....	1,725	774	826	805	757	817
35-40 years.....		857	885	818	912	930
40-45 years.....	1,764	842	904	892	1,006	942
45-50 years.....		921	940	964	1,029	1,032
50-55 years.....	2,120	1,077	1,127	1,101	1,156	1,210
55-60 years.....		1,017	1,056	1,095	1,250	1,317
60-65 years.....	2,640	1,215	1,276	1,186	1,322	1,435
65-70 years.....		1,285	1,377	1,293	1,403	1,462
70-75 years.....	2,401	1,325	1,370	1,413	1,483	1,497
75-80 years.....		1,105	1,106	1,142	1,211	1,303
80 years and over	1,359	1,414	1,458	1,420	1,467	1,485
Unknown.....	34	58	71	69	82	81
Total.....	20,971	20,290	20,597	21,048	21,383	21,350

TABLE XXXVI-C.

DEATH RATE PER THOUSAND AT AGE PERIODS.

	1910.	1911.	1912.	1913.	1914.	1915.
0- 5 years.....	42.63	39.36	38.67	41.76	38.08	35.44
5-10 years.....	3.15	3.16	2.75	3.18	2.88	2.67
10-15 years.....	2.87	2.45	2.06	2.17	2.23	2.28
15-20 years.....	4.73	4.44	4.27	4.50	4.33	4.07
20-25 years.....	7.09	6.13	5.92	6.27	6.30	5.74
25-30 years.....		7.65	7.52	7.48	7.15	6.93
30-35 years.....	9.16	8.00	8.46	8.18	7.63	8.17
35-40 years.....		9.20	9.42	8.64	9.55	9.66
40-45 years.....	12.02	10.60	11.29	11.05	12.35	11.47
45-50 years.....		13.43	13.60	13.83	14.64	14.56
50-55 years.....	20.71	18.04	18.72	18.14	18.88	19.60
55-60 years.....		23.33	24.02	24.69	27.95	29.20
60-65 years.....	42.88	34.43	35.85	33.03	36.51	39.30
65-70 years.....		47.92	47.40	47.39	50.98	52.68
70-75 years.....	87.33	74.38	76.25	77.96	81.13	81.20
75-80 years.....		111.33	110.45	113.05	118.82	126.75
80 years and over	199.24	205.52	210.15	202.92	207.88	208.71
Unknown.....	25.35	42.99	52.32	50.51	59.68	58.65
Total.....	16.16	15.51	15.61	15.82	15.94	15.79

TABLE XXXVII.

SURVIVORSHIP BY AGES—1910, 1911, 1912, 1913, 1914, 1915.

10,000 Born in.....	1910.	1911.	1912.	1913.	1914.	1915.
Number reaching 5 years.....	7,868	8,032	8,066	7,912	8,096	8,228
Number reaching 10 years.....	7,744	7,905	7,955	7,786	7,979	8,118
Number reaching 15 years.....	7,633	7,808	7,873	7,702	7,890	8,025
Number reaching 20 years.....	7,452	7,635	7,705	7,529	7,719	7,862
Number reaching 25 years.....	6,924	7,401	7,477	7,293	7,476	7,636
Number reaching 30 years.....		7,118	7,196	7,020	7,209	7,371
Number reaching 35 years.....	6,290	6,833	6,892	6,733	6,934	7,070
Number reaching 40 years.....		6,519	6,567	6,442	6,603	6,729
Number reaching 45 years.....	5,534	6,173	6,196	6,086	6,195	6,343
Number reaching 50 years.....		5,758	5,775	5,665	5,742	5,881
Number reaching 55 years.....	4,388	5,239	5,234	5,151	5,200	5,305
Number reaching 60 years.....		4,628	4,605	4,515	4,473	4,530
Number reaching 65 years.....	2,506	3,831	3,780	3,769	3,656	3,640
Number reaching 70 years.....		2,913	2,884	2,876	2,724	2,681
Number reaching 75 years.....	318	1,830	1,784	1,755	1,619	1,593
Number reaching 80 years.....		811	799	763	657	583

Table XXXVIII gives the marriages in Baltimore and in the various counties by months. Of the 18,616 marriage returns, 6,202 were made to the clerks of the court of Baltimore City and returns for 12,414 were made to the clerks of the courts of the counties.

Table XXXIX gives the divorces for Baltimore City and the several counties by months. Out of the total of 822 divorces recorded in the State during the time covered by these returns, 554 were issued in the courts of Baltimore City.

TABLE XXXVIII.
MARRIAGES FOR MARYLAND—1915.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Allegany	150	148	117	138	164	203	177	211	199	191	211	202	2,191
Anne Arundel	23	23	19	19	23	32	20	16	30	31	29	31	296
Baltimore	43	44	43	85	54	81	57	57	80	72	70	57	743
Calvert	12	4	5	6	6	7	7	2	8	5	11	8	81
Caroline	19	13	7	11	4	15	9	13	12	12	13	41	169
Carroll	28	18	16	14	20	19	12	12	17	31	35	34	256
Cecil	177	182	154	206	204	277	247	227	278	268	278	245	2,743
Charles	8	10	4	14	6	5	6	4	9	7	13	19	105
Dorchester	23	22	21	16	18	19	16	15	17	20	32	41	260
Frederick	38	29	40	36	40	48	36	35	35	43	37	85	502
Garrett	41	53	52	59	44	74	87	61	82	58	51	76	738
Harford	21	14	5	16	13	24	14	7	17	23	26	17	197
Howard	44	59	48	58	62	69	61	63	66	69	58	66	723
Kent	28	11	10	7	6	18	13	10	18	14	19	21	175
Montgomery	36	26	32	38	29	55	53	45	59	46	36	49	504
Prince George's	9	10	6	25	14	21	8	12	18	18	22	16	179
Queen Anne's	15	14	8	7	9	12	7	10	11	12	16	26	147
Somerset	17	16	18	17	15	32	20	25	11	25	23	41	260
St. Mary's	22	7	6	10	5	10	4	3	7	14	11	17	116
Talbot	16	7	11	12	9	20	9	9	11	16	19	38	177
Washington	99	91	88	102	83	103	94	98	102	163	131	163	1,320
Wicomico	23	21	15	19	21	28	23	27	26	31	29	50	313
Worcester	12	13	17	16	18	18	11	19	13	20	15	47	219
Total Counties.....	904	835	742	951	867	1,190	991	981	1,126	1,189	1,185	1,453	12,414
Baltimore City	474	406	352	527	398	800	423	443	540	597	662	580	6,202
Total Maryland.....	1,378	1,241	1,094	1,478	1,265	1,990	1,414	1,424	1,666	1,786	1,847	2,033	18,616

TABLE XXXIX.
DIVORCES FOR MARYLAND—1915.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Allegany	3	4	2	3	2	2	2	4	3	1	4	6	36
Anne Arundel	1	1	0	1	0	0	3	1	3	2	0	3	15
Baltimore	2	3	3	4	3	6	0	6	6	2	7	5	47
Calvert	0	0	0	0	0	2	0	0	0	0	0	2	4
Caroline	2	1	0	0	3	0	2	2	0	0	1	0	11
Carroll	3	0	1	0	0	0	2	1	0	0	0	1	8
Cecil	0	0	0	3	0	0	0	0	1	1	0	2	7
Charles	0	0	0	0	0	0	1	0	0	0	0	0	2
Charles	0	0	0	0	0	0	1	0	0	0	1	0	2
Dorchester	1	1	3	0	2	1	1	2	0	0	0	2	13
Frederick	3	0	1	2	2	3	0	0	2	0	1	3	17
Garrett	0	0	2	0	0	1	1	0	2	1	2	0	9
Harford	0	2	2	3	1	0	1	0	0	0	1	1	11
Howard	0	0	0	0	0	0	0	0	0	0	1	1	2
Howard	0	0	0	0	0	0	0	0	0	0	0	1	1
Kent	0	1	0	0	0	1	0	1	0	1	0	1	5
Kent	3	0	0	1	2	2	1	1	3	2	1	0	16
Montgomery	0	1	1	0	1	2	0	1	3	2	1	3	15
Prince George's	0	1	1	0	1	0	0	1	1	0	0	0	5
Queen Anne's	2	0	1	0	0	2	1	0	1	1	1	0	9
Somerset	1	2	1	0	0	0	0	0	0	0	0	0	1
St. Mary's	0	0	0	0	0	0	0	0	1	0	0	0	4
Talbot	0	0	0	0	1	2	1	2	0	0	0	0	4
Washington	2	2	3	4	0	5	1	2	0	1	1	1	22
Wicomico	0	0	0	0	0	0	0	0	0	0	0	0	0
Worcester	1	2	0	1	2	1	1	1	0	0	0	0	9
Total Counties.....	24	20	20	22	19	30	18	23	25	14	22	31	268
Baltimore City.....	60	41	54	51	40	43	36	40	42	36	48	63	554
Total Maryland.....	84	61	74	73	59	73	54	63	67	50	70	94	822

Prosecutions.

W. M. Talbott, West River, Anne Arundel County, for interring the body of Robert T. Neal in Anne Arundel County, without first obtaining a burial permit. Hearing waived, jury trial prayed. The State's Attorney believed the action of the defendant justifiable and recommended that warrant be quashed.

Sol Levinson, 1107 E. Baltimore St., Baltimore, for refusal or neglect to properly obtain a burial permit before removing the body of Samuel Sanberg, who died November 9, 1914, in Baltimore County. Defendant fined \$10.00 and costs.

Sol Levinson, 1107 E. Baltimore St., Baltimore, for refusal or neglect to properly obtain a burial permit before removing the body of Rachel Lazarus, who died January 16, 1915, in Baltimore County. Case dismissed by magistrate since defendant was authorized by State's Attorney to conduct interment and showed good faith on his part.

Dr. H. K. Peltekian, Preston and Eutaw Sts., Baltimore, for refusal or neglect to report the birth of the infant of Mrs. Walter Hermann, who was born February 22, 1914, in Baltimore County. Defendant plead guilty and was fined \$5.00 and costs.

R. N. Trabert, Freeland, Baltimore County, for interring the body of James White, in Baltimore County, without first obtaining a burial permit. Defendant plead guilty and was fined \$5.00 and costs.

Mrs. Theresa Blankey, 535 S. Belnord St., Baltimore, for refusal or neglect to report the birth of the infant of Mrs. John J. Kerns, who was born January 10, 1915. Defendant plead guilty and was fined \$5.00 and costs.

Dr. James Craighill, The Walbert, Baltimore, for refusal or neglect to report the birth of the infant of Mrs. John J. Kerns, who was born January 10, 1915. Defendant plead guilty and was fined \$5.00 and costs.

Dr. George De Hoff, 2020 N. Charles St., Baltimore, for refusal or neglect to report the birth of the infant of Mrs. William Brown, who was born May 25, 1915, in Baltimore. Case dismissed upon recommendation of State. Certificate dated wrong and was reported by Dr. De Hoff's assistant.

Dr. George De Hoff, 2020 N. Charles St., Baltimore, for refusal or neglect to report the birth of the infant of Mrs. Henry

Wildberger, who was born September 20, 1914, in Baltimore. Defendant plead guilty and was fined \$5.00 and costs.

Mrs. Yetta Feldman, Exeter St., Baltimore, for refusal or neglect to report to the Health Officer, or physician, a case of red, sore or swollen eyes in the infant of Mrs. Dora Cushner, in Baltimore, May 24, 1915. Defendant plead not guilty, but was fined \$5.00 and costs.

Dr. Raymond Glann, Mount Winans, Baltimore County, for refusal or neglect to report the birth of the infant of Mrs. Bernard C. Fink, who was born November 2, 1914, in Baltimore. Defendant plead not guilty but was fined \$5.00 and costs.

Mrs. Marie Kell, 1026 Denver St., Baltimore, for attending Mrs. John Monroe at childbirth, September 14, 1914, in Baltimore, without having been registered and licensed as provided by law. Case dismissed upon recommendation of State because of age and poverty of defendant.

Dr. Marshall G. Smith, 118 N. Calhoun St., Baltimore, for refusal or neglect to report the birth of the infant of Mrs. Harry Russell Miller, Sr., who was born May 12, 1915, in Baltimore. Defendant plead guilty. Case dismissed by magistrate.

Dr. James B. Wiltshire, 819 N. Eutaw St., Baltimore, for refusal or neglect to report the birth of the infant of Mrs. Leland Windsor, who was born September 19, 1914, in Baltimore. Case tried in Criminal Court. The evidence given by the State proved conclusively that defendant had not reported this birth but the Judge declared him not guilty.

Dr. Harry Fahrney, Myersville, Frederick County, for refusal or neglect to report the birth of the infant of Mrs. William Snyder, who was born January 14, 1915. Defendant plead guilty and was fined \$5.00 and costs.

H. G. Walker, Pleasantville, Harford County, for interring the body of Lida Hitchcock, without first obtaining a burial permit. Defendant plead guilty and was fined \$20.00 and costs.

Dr. T. R. Gough, Barnesville, Montgomery County, for refusal or neglect to report the birth of the infant (stillborn) of Mrs. Mamie Kuster, who was born dead December 10, 1914. Case stetted. Dr. Gough had made attempt to follow law.

Dr. T. A. Poole, 5611 Connecticut Ave., Chevy Chase, D. C., for refusal or neglect to report the birth of the infant of Mrs.

George F. Hobson, who was born February 27, 1915. Defendant plead guilty and was fined \$5.00 and costs.

Dr. George I. Eppart, Benning, D. C., for refusal or neglect to report the birth of the infant of Mrs. Jesse L. White, who was born February 3, 1915. Defendant plead not guilty, but was convicted and fined \$5.00 and costs.

Mrs. Mary Thomas, Cordova, Talbot County, for refusal or neglect to report the birth of the infant of Mrs. Jesse Suell, who was born October 22, 1914. Defendant plead not guilty and was fined \$5.00.

J. Radcliffe Farlow, Willards, Wicomico County, for interring the body of Mrs. Martha Ann Parker, December 22, 1914, in Wicomico County, without first obtaining a burial permit. Defendant plead guilty and was fined \$20.00 and costs.

(Sarah Keene, Madison, Dorchester County, for attending Mrs. Everett Bell at childbirth, November 14, 1914, without having been registered and licensed as provided by law. Found guilty and fined.) Case tried by County Registrar.

REPORT OF BUREAU OF COMMUNICABLE DISEASES

C. HAMPSON JONES, Chief

BALTIMORE, MD., April 18, 1916.

DR. JOHN S. FULTON,
*Secretary, State Department of Health,
Baltimore, Md.*

SIR:

I have the honor to transmit herewith the report of the Bureau of Communicable Diseases for the calendar year 1915. The data contained therein have been arranged under the following six sub-headings:

- I. Notifiable Disease Reports.
- II. Sanitary Surveys and Investigations.
- III. Public Health Conditions by Counties.
- IV. Occupational Diseases.
- V. Cases Examined for Diagnosis.
- VI. Prosecutions.

I. NOTIFIABLE DISEASE REPORTS.

In 1915, in the counties of Maryland,* there were 9,954 cases of notifiable diseases reported, as contrasted with 6,631 cases in 1911, 5,821 cases in 1912, 12,113 cases in 1913, and 9,061 cases in 1914.** Typhoid fever, diphtheria, scarlet fever, measles, chicken-pox, whooping cough, influenza and mumps were the prevailing epidemics.

*The State of Maryland, exclusive of Baltimore City.

**The above figures do not include the county tuberculosis cases.

The following is a detailed statement of the 1915 figures, arranged in numerical order, with comparative figures for 1911, 1912, 1913 and 1914.

CASES OF SICKNESS FROM NOTIFIABLE DISEASE IN THE
COUNTIES OF MARYLAND FOR 1915,
1914, 1913, 1912 AND 1911.

<i>Name of Disease.</i>	1915.	1914.	1913.	1912.	1911.
Typhoid fever.....	2,249	1,860	2,983	1,791	1,999
Diphtheria	1,390	790	1,049	785	783
Scarlet fever.....	1,141	1,655	822	607	656
Measles	1,049	2,000	5,352	1,675	1,706
Chickenpox	984	732	549	251	274
Whooping cough.....	906	768	812	441	453
Influenza	854	31	13	61	41
Mumps	602	470	287	103	605
German measles.....	206	259	29	11	13
Erysipelas	95	42	30	18	15
Acute dysentery.....	89	30	1	1	3
Smallpox	82	216	132	20	31
Malaria	64	96	13	14	27
Meningitis	54	39	11	6	8
Septicemia	49	16	1	4	1
Anterior poliomyelitis.....	40	12	9	32	12
Septic sore throat.....	39	18	5	0	0
Pellagra	13	2	5	0	3
Para-typhoid fever.....	9	0	0	0	0
Ophthalmia neonatorum.....	7	2	2	0	0
Trachoma	3	0	0	1	0
Cervical adenitis.....	3	0	0	0	0
Scabies	1	4	0	0	0
Foot-and-mouth disease.....	1	0	0	0	0
Conjunctivitis	1	0	0	0	0
Rabies	1	0	0	0	0
Anthrax	1	0	0	0	0
Impetigo contagiosa.....	0	13	0	0	0
Puerperal sepsis.....	0	3	0	0	0
Tetanus	0	2	0	0	1
Ring-worm	0	1	0	0	0
Catarrhal conjunctivitis.....	0	0	8	0	0
Yearly Totals.....	9,933	9,061	12,113	5,821	6,631
Belated returns of typhoid fever.....	21	....	....	....	....
Total	9,954	9,061	12,113	5,821	6,631

In the foregoing summary of cases of sickness from notifiable disease, the total is 9,954. There were reported during the year 3,215 cases of tuberculosis, as compared with 3,302 cases reported in 1914, distributed as follows:

- (a) Baltimore City, 2,051.
- (b) Counties of Maryland, 1,164.

By including the 1,164 county cases of tuberculosis, the figures for the year are raised to 11,118.

Compared with the preceding year there is a very noticeable increase in the total number of cases of notifiable disease reported. This is especially due to a high attack rate in typhoid fever, diphtheria, scarlet fever and measles. Good returns were received from seven counties; fair returns from ten; in different returns from five; while the returns from one—Calvert County—are very poor, totaling only 73 cases for the entire year.

The following table will give a condensed summary of the status of the 23 counties of Maryland in regard to the reporting of notifiable diseases:

STATUS OF THE COUNTIES OF MARYLAND, NOTIFIABLE DISEASE REPORTS, 1915.

	<i>Population.</i>		
Allegany	67,008	962	146.0
Anne Arundel.....	39,518	388	91.8
Baltimore	139,012	2,131	153.0
Calvert	10,379	73	70.3
Caroline	20,781	196	94.3
Carroll	33,974	748	229.0
Cecil	23,283	260	112.0
Charles	15,713	169	108.0
Dorchester	29,042	367	126.0
Frederick	53,070	554	104.0
Garrett	21,373	117	54.7
Harford	27,805	285	103.0
Howard	15,785	244	155.0
Kent	15,992	338	211.0
Montgomery	32,953	466	141.0
Prince George's.....	39,443	554	140.0
Queen Anne's.....	16,034	154	96.0
Somerset	26,736	352	131.0
St. Mary's.....	16,950	205	121.0
Talbot	19,239	311	161.0
Washington	51,981	604	128.0
Wicomico	28,905	180	62.3
Worcester	22,356	215	96.1

STATUS OF NOTIFICATION OF INFECTIOUS DISEASE IN THE
COUNTIES OF MARYLAND, 1915.

<i>Rank.</i>	<i>County.</i>	<i>Cases Reported.</i>	<i>Classifi- cation.</i>
1st	Baltimore County.....	2,131	"Good"
2nd	Allegany County.....	962	"Good"
3rd	Carroll County.....	748	"Good"
4th	Washington County.....	664	"Good"
5th	Frederick County.....	554	"Good"
6th	Prince George's County.....	554	"Good"
7th	Montgomery County.....	466	"Good"
8th	Anne Arundel County.....	388	"Fair"
9th	Dorchester County.....	367	"Fair"
10th	Somerset County.....	352	"Fair"
11th	Kent County.....	338	"Fair"
12th	Talbot County.....	311	"Fair"
13th	Harford County.....	285	"Fair"
14th	Cecil County.....	260	"Fair"
15th	Howard County.....	244	"Fair"
16th	Worcester County.....	215	"Fair"
17th	St. Mary's County.....	205	"Fair"
18th	Caroline County.....	196	"Poor"
19th	Wicomico County.....	180	"Poor"
20th	Charles County.....	169	"Poor"
21st	Queen Anne's County.....	154	"Poor"
22nd	Garrett County.....	117	"Poor"
23rd	Calvert County.....	73	"Very poor"

The reported cases of notifiable disease, rural Maryland (the State of Maryland, exclusive of Baltimore City), for 1915, by months and diseases, will next be shown in the form of a table. A glance at these figures will convince one that some of the minor notifiable diseases are not properly reported.

Three of the rarer communicable diseases appear in the list for this year. These are: A case of foot-and-mouth disease in February; a case of rabies in April, and a case of anthrax in July. Each is an example of a disease of animals communicable to man.

REPORTED CASES OF NOTIFIABLE DISEASES—RURAL MARYLAND, BY MONTHS AND DISEASES, 1915.*

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	100	66	47	55	74	94	196	397	423	357	228	212	2,249
Diphtheria	103	88	105	49	30	35	32	46	106	227	355	214	1,390
Scarlet fever.....	180	175	98	112	70	89	46	25	40	51	140	115	1,141
Measles	50	41	79	76	218	213	96	25	34	56	46	115	1,049
Chickenpox	194	172	126	88	53	70	20	12	9	49	96	95	984
Whooping cough.....	75	62	78	70	66	155	108	64	26	41	81	80	906
Influenza	31	45	243	341	72	19	6	0	4	2	8	83	854
Mumps	104	181	111	65	24	32	12	3	8	15	26	21	602
German measles.....	5	7	17	23	92	47	4	0	2	0	1	8	206
Erysipelas	9	10	11	8	10	7	7	4	6	10	6	95	95
Acute dysentery.....	2	1	1	0	4	1	5	17	31	17	8	2	89
Smallpox	26	10	3	16	17	6	3	0	0	0	0	1	82
Malaria	3	0	0	4	1	4	8	14	9	18	2	1	64
Meningitis	2	5	4	1	4	5	10	3	6	3	4	7	54
Septicemia	2	5	8	5	7	1	6	4	1	6	2	2	49
Anterior poliomyelitis....	2	0	1	6	3	3	6	10	6	3	0	0	40
Septic sore throat.....	6	3	2	2	0	0	4	6	6	2	4	4	39
Pellagra	1	1	0	3	2	1	0	1	0	3	1	0	13
Para-typhoid fever.....	0	0	0	0	0	0	0	2	0	3	3	1	9
Ophthalmia neonatorum...	0	0	2	1	1	0	0	0	0	1	1	1	7
Trachoma	1	0	0	0	0	0	0	0	0	2	0	0	3
Cervical adenitis.....	0	0	3	0	0	0	0	0	0	0	0	0	3
Scabies	1	0	0	0	0	0	0	0	0	0	0	0	1
Foot-and-mouth disease...	0	1	0	0	0	0	0	0	0	0	0	0	1
Conjunctivitis	0	0	0	1	0	0	0	0	0	0	0	0	1
Rabies	0	0	0	1	0	0	0	0	0	0	0	0	1
Anthrax	0	0	0	0	0	0	1	0	0	0	0	0	1
Total.....	897	873	939	927	748	782	570	636	715	862	1,016	968	9,933
Belated returns of typhoid fever from Frederick City Hospital and death certificates	1	0	0	0	2	0	4	2	10	0	2	0	21
	898	873	939	927	750	782	574	638	725	862	1,018	968	9,954

*Tuberculosis separately compiled.

The statistics of tuberculosis, a disease of State-wide importance, will next be displayed in a separate table. These figures, indicating especially sex and color, include Baltimore City. The total number of cases of tuberculosis registered in 1915 in the entire State is 3,215. The reporting is better in Baltimore City than in the counties. Taking population for population, the attack rate is considerably higher in the colored race than in the white race, the proportion being as 36 to 21 per 10,000.

TUBERCULOSIS. MORBIDITY, MARYLAND, 1915.

	<i>Male, White.</i>	<i>Female, White.</i>	<i>Male, Colored.</i>	<i>Female, Colored.</i>	<i>Total.</i>
Baltimore City.....	890	632	278	251	2,051
Counties of Maryland.....	399	471	142	152	1,164
Entire State.....	1,289	1,103	420	403	3,215

Tuberculosis morbidity statistics, arranged according to color and age-periods, will appear in the next table. In both races the attack rate is highest in the quadrennium from 20-25, gradually declining thereafter up to and including extreme old age. This disease is more frequent in early life than was formerly supposed.

TUBERCULOSIS MORBIDITY FOR 1915, ARRANGED ACCORDING TO COLOR AND AGE-PERIODS.

	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80 and over.	Unknown.	Total.
BALTIMORE CITY.																		
White	19	42	54	131	245	202	201	167	126	110	70	50	35	34	11	7	14	1,522
Black	27	17	16	61	88	74	67	54	42	35	17	12	5	3	0	0	11	529
Total	46	59	70	192	333	276	268	221	168	145	87	62	40	37	11	7	25	2,051
COUNTIES OF MARYLAND.																		
White	4	20	29	82	135	124	115	91	60	51	39	35	30	19	15	5	15	870
Black	6	8	14	52	62	27	28	24	17	14	18	8	4	3	1	1	7	294
Total	10	28	43	134	197	151	143	115	77	65	57	43	34	22	16	6	22	1,164
STATE OF MARYLAND.																		
White	23	62	83	213	380	326	316	258	186	161	109	85	65	53	26	12	5	2,392
Black	33	25	30	113	150	101	95	78	59	49	35	20	9	6	1	1	0	823
Total	56	87	113	326	530	427	411	336	245	210	144	105	74	59	27	13	5	3,215

In the next table the tuberculosis morbidity figures will be arranged according to counties, with the sex and color also indicated. The Baltimore City figures are not included in this table.

The largest number of cases (253) was received from Baltimore County; the next largest number (118) was received from Allegany County, while Washington County, with reports of 100 cases, ranks third. Only five reports were received from Garrett County, all five cases being white persons, one male and four females.

Among white persons the female cases predominate in fifteen of the counties, while in seven the male cases are in the ascendancy. In one county—Howard—the number of white cases in each sex is even, being seven males and seven females. In the colored race the attack rate is about even for both sexes throughout the counties. In Kent County all the white cases, seven in number, are females.

TUBERCULOSIS MORBIDITY FOR 1915, ARRANGED BY
COUNTIES.

	White Male.	White Female.	Total White.	Colored. Male.	Colored. Female.	Total Colored.	Total.
Allegany	51	55	106	8	4	12	118
Anne Arundel.....	14	17	31	18	17	35	66
Baltimore	117	113	230	9	14	23	253
Calvert	2	5	7	2	2	4	11
Caroline	9	7	16	2	0	2	18
Carroll	13	19	32	1	3	4	36
Cecil	7	6	13	4	1	5	18
Charles	6	5	11	7	7	14	25
Dorchester	11	12	23	8	14	22	45
Frederick	22	26	48	5	11	16	64
Garrett	1	4	5	0	0	0	5
Harford	9	12	21	4	5	9	30
Howard	7	7	14	3	5	8	22
Kent	0	7	7	7	8	15	22
Montgomery	22	29	51	8	6	14	65
Prince George's.....	13	11	24	17	5	22	46
Queen Anne's.....	6	4	10	5	5	10	20
Somerset	14	23	37	8	10	18	55
St. Mary's.....	5	4	9	4	5	9	18
Talbot	9	10	19	7	12	19	38
Washington	39	54	93	4	3	7	100
Wicomico	14	26	40	3	8	11	51
Worcester	8	15	23	7	8	15	38
Total.....	399	471	870	141	153	294	1,164

The tuberculosis morbidity according to months, displayed in the subjoined table, shows that the largest number of cases of this disease in the entire State occurred in March, with July next. In Baltimore City the largest number of cases reported in any one month was in July.

TUBERCULOSIS MORBIDITY ACCORDING TO MONTHS, YEAR 1915.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Counties of Maryland.....	100	88	124	99	114	116	101	103	95	80	87	57	1,164
Baltimore City.....	185	148	202	194	174	178	213	193	176	151	130	107	2,051
State of Maryland.....	285	236	326	293	288	294	314	296	271	231	217	164	3,215

II. SANITARY SURVEYS AND INVESTIGATIONS.

A total of 35 investigations were made in 1915 under the direction of this Bureau. These cover a wide range of topics. A summary of the results of the most important of these investigations will next be given, arranged in chronological order.

On January 22nd and 23rd an investigation was made of the smallpox situation at Pocomoke City, Worcester County. For two months smallpox had prevailed in Pocomoke City and vicinity, due largely to failure on the part of the authorities to enforce the vaccination law. Ten cases of sickness were reported, one terminating fatally. This figure, however, only includes the well-defined cases, a number of light ones going on to recovery unrecognized early in the outbreak.

On February 5th an investigation was made of the scarlet fever situation at Havre de Grace, Harford County. A total of nine cases of sickness occurred—3 in January, 5 in February and 1 in March. The public school buildings and moving-picture parlors were disinfected by the spray method, using a watery solution of pyxol, 1 in 500.

On February 6th a scarlet fever outbreak at St. Mary's Industrial School for Boys, Wilkens Avenue extended, was investigated. A total of 19 cases developed before the outbreak was checked, 9 occurring in February and 10 in March. The disease was probably introduced into the school from Virginia.

On March 1st an investigation was made of an epidemic of mumps at the Crownsville State Hospital for the Colored Insane, a total of 38 cases occurring—2 in February and 36 in March.

On March 2nd an investigation was made of an outbreak of diphtheria at St. Mary's Orphan Asylum, Cold Spring Lane, Baltimore County. The first case, a fatal one, in a white child, aged 10 years, occurred at the end of February. Cultures were taken from all the children and the Sisters in attendance, 190 cultures in all, 20 of which

proved to be positive for diphtheria, making a total of 21 clinical cases and "carriers" at the institution.

On April 15th an investigation was made of a case of scarlet fever in a white male student, aged 21 years, at Western Maryland College, Westminster, Carroll County. A rigid quarantine was established, no other cases occurring at the institution. The source of the disease was unknown.

In May and June of the present year (1915) there was an outbreak of typhoid fever at the Maryland Tuberculosis Sanatorium, which attacked the several groups of patients and employes using milk from one of the seven dairymen supplying the institution. Upon investigation it was found that an unrecognized case of typhoid fever had occurred in April, in the wife of the dairyman furnishing the infected milk. The outbreak subsided when the sale of milk from this dairy was stopped. The outbreak consisted of 27 cases, 19 of them tuberculous patients and 8 healthy persons. Three deaths occurred in the former group, and none in the latter.

On June 7th an investigation was made of the scarlet fever outbreak at Elk Ridge, Howard County, this disease having invaded a dairy supplying milk to the residents of the town. Pupils attending the public school also were attacked. The outbreak consisted of 15 cases.

On July 24th an investigation was made of a house outbreak of typhoid fever at Perryman, Harford County, where six cases occurred in one family. The infection was traced to a polluted subsoil well. The patients were colored—four males and two females. The first patient, a boy, 15 years old, died of the disease.

On July 31st an investigation was made of a case of ophthalmia neonatorum at St. Michaels, Talbot County. This baby, a colored twin, developed the disease when three days old. Both a physician and a midwife were in attendance. The child, almost entirely blind in both eyes, was brought to the Johns Hopkins Hospital for treatment.

Typhoid fever at Bel Air, Harford County. Date of inspection, September 16th. Five cases of this disease were investigated and traced to a dairy supplying milk to the town. One of the five cases, a colored boy, aged 13 years, had been employed in this dairy, delivering milk to customers. He developed typhoid fever on August 15th, and continued to deliver milk until August 20th.

On October 12th an investigation was made of a diphtheria outbreak in the public schools at Hancock, Washington County. A total of 239 cultures were taken, of which 221 proved to be negative and 18 positive. In addition, 15 clinical cases occurred in the town and its environs.

On October 24th an investigation was made of typhoid fever in Hagerstown. Information was obtained concerning 33 cases. The cases were scattered, and no general cause could be assigned. With two or three exceptions, all of these cases occurred in October.

On November 5th and 8th an investigation was made of scarlet fever conditions at Havre de Grace, Harford County, eight cases occurring within the past month, all white. Later on, another white case was discovered, and also a case in a colored boy attending school.

On November 17th to 19th an investigation was made of scarlet fever and diphtheria conditions at St. Inigoes, Ridge and Scotland, in St. Mary's County. Ten cases of diphtheria occurred at Scotland and one at Ridge; at the latter place 3 cases of scarlet fever occurred.

On December 3rd an outbreak of typhoid fever, 11 cases in all, was investigated at Chase, Baltimore County. The disease was attributed to pollution of the subsoil wells, some of them only eight feet deep, by the surface privies.

On December 20th—21st an outbreak of typhoid fever, eight cases in all, was investigated at "The Rocks," Harford County. These cases, occurring in three households, all intimately related, were due to contact. All were white persons of the poorer class, with insanitary home surroundings.

III. PUBLIC HEALTH CONDITIONS BY COUNTIES.

The State of Maryland is arbitrarily divided into two public health jurisdictions—the one composed of Baltimore City alone, the other comprising the State of Maryland, exclusive of Baltimore City. The former has an area of 31.64 square miles, with an estimated (1915) population of 584,608; the latter—the special province of the State Department of Health—has an area approximating 10,000 square miles, with an estimated (1915) population of 767,332. It is ordinarily spoken of as “rural Maryland,” or the “counties of Maryland.”

A series of 24 tables will follow. The first, a summary for the entire 23 counties, portrays notifiable disease conditions throughout rural Maryland, by months and counties, for 1915. This will be succeeded by a table for each of the counties, arranged alphabetically, giving the number of reported cases by month and disease. Epidemiological notes are also appended.

At the head of each county table the area in square miles of the county is given, along with the estimated (1915) population. The estimated (1915) population of the entire State of Maryland is 1,351,940.

The tuberculosis morbidity figures are not included in any of these tables.

Following the county morbidity tables is one entitled “Reported Cases of Notifiable Diseases—Rural Maryland, by Counties and Diseases, 1915.” In this table, a comprehensive one compiled from the county figures, the totals of the various communicable diseases for the entire year are shown by counties and diseases. In the typhoid fever column are included 21 belated reports of cases of this disease, raising the grand total for typhoid from 2,249 to 2,270 cases.

REPORTED CASES OF NOTIFIABLE DISEASES, RURAL MARYLAND, BY
MONTHS AND COUNTIES, 1915.

Counties.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Allegany	82	68	67	60	76	73	42	48	87	121	125	113	962
Anne Arundel	30	26	67	36	40	43	23	27	25	18	21	32	388
Baltimore	243	319	230	186	118	146	86	134	128	113	156	272	2,131
Calvert	9	1	4	2	2	11	10	17	6	8	0	3	73
Caroline	26	13	11	10	4	0	1	17	19	27	46	22	196
Carroll	43	64	148	218	38	44	51	26	26	26	23	41	748
Cecil	23	20	6	12	53	61	8	6	15	33	6	17	260
Charles	11	6	7	7	3	2	9	27	14	41	26	16	169
Dorchester	31	47	23	18	10	13	21	42	30	25	72	35	367
Frederick	64	32	33	38	56	72	27	35	43	46	57	51	554
Garrett	10	9	5	11	2	8	3	8	9	14	24	14	117
Harford	55	39	19	14	16	8	19	8	24	21	40	22	285
Howard	22	15	12	52	10	21	17	30	25	13	9	18	244
Kent	15	13	29	7	95	82	22	15	23	17	10	10	338
Montgomery	20	66	23	53	38	30	81	21	26	42	41	25	466
Prince George's	21	33	34	42	48	40	42	38	67	70	69	50	554
Queen Anne's	16	14	7	6	1	12	16	27	15	22	9	9	154
St. Mary's	3	2	50	43	40	14	10	2	3	5	30	3	205
Somerset	62	28	24	17	33	19	15	18	24	23	49	40	352
Talbot	33	14	92	30	11	5	11	24	30	15	34	12	311
Washington	33	32	35	40	45	51	19	23	29	114	126	117	664
Wicomico	12	7	10	20	3	10	18	18	21	21	21	19	180
Worcester	33	5	3	5	6	17	19	25	26	27	22	27	215
Total	897	873	939	927	748	782	570	636	715	862	1,016	968	9,933

Belated Returns of Typhoid Fever from Frederick City Hospital, 1915.

Carroll	0	0	0	0	0	0	1	0	0	0	0	0	1
Frederick	1	0	0	0	2	0	3	1	5	0	1	0	13
Montgomery	0	0	0	0	0	0	0	1	2	0	0	0	3
Washington	0	0	0	0	0	0	0	0	3	0	0	0	3
Total	897	873	939	927	748	782	570	636	715	862	1,016	968	9,933
Complete Total	898	873	939	927	750	782	574	638	725	862	1,017	968	9,953

Belated Returns of Typhoid Fever from a Death Certificate, 1915.

Charles	0	0	0	0	0	0	0	0	0	0	1	0	1
Complete Total	898	873	939	927	750	782	574	638	725	862	1,017	968	9,953
Grand total	898	873	939	927	750	782	574	638	725	862	1,018	968	9,954

ALLEGANY COUNTY.

(Area in Square Miles, 442; Population, 67,008.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	24	17	17	3	4	9	20	25	39	20	22	17	217
Diphtheria	5	6	11	2	3	4	2	8	28	81	73	37	260
Scarlet fever.....	25	26	19	24	40	26	9	7	4	5	7	2	194
Whooping cough.....	0	0	0	0	0	1	2	4	3	3	5	12	30
Chickenpox	17	6	4	6	4	9	2	2	1	2	12	11	76
Measles	1	1	4	3	11	16	0	0	3	0	2	0	41
Mumps	8	9	7	10	7	7	2	1	3	2	0	2	58
Erysipelas	0	0	2	1	2	0	1	1	0	1	2	0	10
German measles.....	1	0	0	0	0	0	1	0	0	0	0	1	3
Influenza	1	0	1	6	3	1	0	0	0	0	0	28	40
Septicemia	0	1	1	2	2	0	3	0	0	0	0	1	10
Septic sore throat.....	0	2	0	0	0	0	0	0	3	0	0	0	5
Meningitis	0	0	1	0	0	0	0	0	1	0	0	2	4
Poliomyelitis	0	0	0	3	0	0	0	0	0	2	0	0	5
Dysentery	0	0	0	0	0	0	0	0	2	3	0	0	5
Trachoma	0	0	0	0	0	0	0	0	0	2	0	0	2
Para-typhoid	0	0	0	0	0	0	0	0	0	0	2	0	2
Total	82	68	67	60	76	73	42	48	87	121	125	113	962

Typhoid fever prevailed to an undue extent in Westernport, with 16 cases in January, 12 in February and 10 in March. In July there were 14 cases of this disease reported from Cumberland; in August, 9 from Cumberland, 7 from Westernport and 5 from Luke; in September, 13 from Cumberland and 7 from Frostburg; in October, 8 from Cumberland and 4 from Luke; in November, 7 each from Westernport and Cumberland; in December, 3 each from Luke and Eckhart.

Several mild outbreaks of diphtheria occurred during the year. In March there were 5 cases in Cumberland and 3 in Lonaconing; in August, 3 each in Cumberland and Lonaconing; in September, 12 from Frostburg and 5 in Lonaconing; in October, 26 in Frostburg, 12 at Moscow Mills, 10 each at Lonaconing and Eckhart, and 6 in Cumberland; in November, 25 at Frostburg, 17 at Cumberland, 11 at Lonaconing and 5 at Grahamtown. In December there were 14 cases in Frostburg and 10 in Cumberland.

Scarlet fever cases occurred, in undue numbers, as follows: In January there were 8 cases at Frostburg and 5 at Eckhart; in February, 6 at Frostburg, 4 at Lonaconing and 3 at Eckhart; in March, 8 at Frostburg and 3 at Lonaconing; in April, 16 cases at Lonaconing; in May, 18 at Lonaconing, at Cumberland 8, and 4 each at Westernport and Gilmore. In June there were 12 cases at Lonaconing, 7 at Cumberland, 5 at Benfield and 4 at Frostburg.

In December there were 8 cases of whooping cough reported from Cumberland and 4 from Morantown.

A few cases of chickenpox were present in Cumberland, 9 cases having been reported in January, 7 in June, 5 in November and 7 in December. In January 6 cases were reported from Lonaconing.

In May, 6 cases of measles were reported at Keyser, R. F. D.; in June, 12 cases were reported from Cumberland.

During the first half of the year mumps was reported from Cumberland, as follows: In January, February, March, May and June, 7 cases in each month; in April, 10 cases.

In December, 28 cases of influenza were reported from Cumberland.

In February, 2 cases of septic sore throat were reported from Lonaconing; in September, 2 from Cumberland and 1 from Alleghany Grove.

A few scattered cases of infantile paralysis occurred. In April, 1 case each was reported from Cumberland, Lonaconing and Flintstone; in October, 1 case each from Cumberland and Lindnerville.

Two imported cases of trachoma were treated at the Western Maryland Hospital early in the year. Both were white men, Italian laborers, brought to the hospital from West Virginia.

ANNE ARUNDEL COUNTY.

(Area in Square Miles, 425; Population, 39,518.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	0	3	0	4	6	7	12	21	23	5	8	5	94
Diphtheria	7	0	2	2	2	1	3	0	0	4	3	5	29
Scarlet fever.....	13	13	10	6	1	7	0	0	0	2	6	11	69
Whooping cough.....	1	2	0	3	15	4	0	0	0	0	0	0	25
Chickenpox	7	4	12	9	4	8	3	0	1	3	1	7	59
Measles	1	2	0	1	0	10	1	1	0	0	0	2	18
Septicemia	1	0	0	0	0	1	1	0	0	1	0	0	4
Mumps	0	2	36	1	0	1	0	0	0	0	0	0	40
Influenza	0	0	3	7	4	2	0	0	0	0	1	1	18
German measles.....	0	0	4	1	0	0	0	0	0	0	0	1	6
Pellagra	0	0	0	1	0	0	0	0	0	1	0	0	2
Meningitis	0	0	0	1	0	0	3	0	0	0	0	0	4
Dysentery	0	0	0	0	1	0	0	2	1	1	2	0	7
Erysipelas	0	0	0	0	7	2	0	0	0	0	0	0	9
Malaria	0	0	0	0	0	0	0	1	0	1	0	0	2
Poliomyelitis	0	0	0	0	0	0	0	2	0	0	0	0	2
Total	30	26	67	36	40	43	23	27	25	18	21	32	388

In May, 4 cases of typhoid fever occurred at Annapolis; in July, 3 cases each at Deal and Churchton. In August, 6 cases were reported from Annapolis, R. F. D., 3 from Glenburnie and 2 from Churchton; in September, 6 cases from Annapolis and 3 from Mayo; in November, 3 from Curtis Bay.

Four cases of diphtheria were reported from Severn, R. F. D., in January; in December, 2 cases were reported from Curtis Bay.

In January, 7 cases of scarlet fever were reported from Brooklyn and 4 from Glenburnie; in February, 5 from Brooklyn and 3 from Glenburnie; in March, 5 from Waterbury and 3 from Eastport; in April, 5 from Brooklyn; in June, 5 from Benfield, R. F. D.; in November, 4 from Brooklyn; in December, 4 from Annapolis and 2 from Brooklyn.

Seven cases of whooping cough were reported from River-view; in May, 3 from Bayard.

Nine cases of chickenpox were reported from Dorsey, R. F. D., in March, and 6 in April; in June, 6 cases of this disease were reported from Annapolis.

In March an epidemic of mumps prevailed at the Crownsville State Hospital, 36 cases being reported.

Two cases of pellagra were reported during the year, one in April, at Bridewell, the other in October, at Annapolis. The former was a colored male laborer 32 years old; the latter a white male 33 years old, a merchant by occupation.

Seven cases of erysipelas occurred at the Maryland House of Correction in May.

Two cases of infantile paralysis occurred in August, one at Brooklyn and one at Harwood.

BALTIMORE COUNTY.

(Area in Square Miles, 656; Population, 139,012.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	15	14	3	12	10	20	27	65	68	46	37	41	358
Diphtheria	31	24	51	21	11	10	4	13	31	27	33	41	297
Scarlet fever.....	35	46	30	28	12	21	13	8	8	5	18	16	240
Whooping cough.....	5	6	13	5	1	18	14	21	3	3	9	18	116
Chickenpox	105	97	39	17	12	17	2	7	0	5	6	39	346
Measles	9	7	7	10	34	28	14	4	8	9	25	87	242
Mumps	32	112	42	15	11	10	3	0	1	4	19	13	262
Erysipelas	1	3	1	1	1	3	0	2	1	2	1	1	17
German measles.....	1	4	4	19	12	12	2	0	1	0	0	2	57
Influenza	7	2	35	55	7	4	0	0	0	0	4	10	124
Septic sore throat.....	1	0	0	0	0	0	0	1	0	0	0	1	3
Pellagra	1	1	0	2	1	0	0	1	0	0	0	0	6
Meningitis	0	2	0	0	3	2	1	0	1	1	2	1	13
Septicemia	0	1	1	0	1	0	0	1	0	1	1	0	6
Ophthalmia neonatorum....	0	0	1	0	0	0	0	0	0	0	0	1	2
Cervical adenitis.....	0	0	3	0	0	0	0	0	0	0	0	0	3
Malaria	0	0	0	1	0	1	2	5	1	6	1	0	17
Dysentery	0	0	0	0	1	0	1	0	4	4	0	0	10
Poliomyelitis	0	0	0	0	0	0	3	6	1	0	0	0	10
Para-typhoid	0	0	0	0	0	0	0	0	0	0	0	1	1
Smallpox	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	243	319	230	186	118	146	86	134	128	113	156	272	2,131

In January, 3 cases of typhoid fever occurred at Highlandtown and 2 at Catonsville; in February, 4 cases at Highlandtown and 3 at Notre Dame College; in April, 3 cases at Highlandtown and 2 at Catonsville; in June, 5 cases at St. Mary's Industrial School and 2 at Raspeburg; in July, 7 cases at Highlandtown, 3 each at Riderwood and St. Mary's Industrial School and 2 at Mt. Winans. In August there were 10 cases of typhoid fever at Highlandtown, 5 at Granite and 3 each at Roland Park, Lauraville and St. Mary's Industrial School. In September there were 4 cases each at Turners Station, Pikesville, Highlandtown and Arlington, 3 each from Catonsville and Govans and 2 from St. Mary's Industrial School. In October there were 5 cases at Sparrows Point and Towson, 4 each at Granite and Mt. Winans and 3 at Halethorpe; in November,

11 cases were reported from Highlandtown; in December, 7 from Chase, 6 from Catonsville, R. F. D., and 3 from Mt. Winans.

Diphtheria cases increased in number in several localities. In January there were 6 cases at Hamilton, 5 at Roland Park and 3 at Lauraville; in February, 8 at Highlandtown and 4 at Roland Park; in March, 21 cases occurred at St. Mary's Orphan Asylum, 8 at Highlandtown and 3 at Edgemere; in April, 7 at Highlandtown. In September, 14 cases occurred at Kernan Hospital and 4 at Holbrook; in November, 13 at Highlandtown and 3 at Monkton; in December, 10 cases of this disease at Highlandtown and 2 at St. Mary's Industrial School.

In January, 7 cases of scarlet fever were reported from Sparrows Point and 6 each from Highlandtown and Canton; in February, 10 cases of this disease were reported from Highlandtown and 9 from St. Mary's Industrial School; in March, 10 cases from St. Mary's Industrial School and 5 from Canton; in April, 8 from Catonsville, 5 from Highlandtown and 1 from St. Vincent's Orphan Asylum; in May, 5 cases from Catonsville; in June, 5 from Highlandtown, 4 from Ilchester, R. F. D., and 2 from St. Mary's Industrial School. In July, 7 cases were reported from Highlandtown; in November, 5 from Arlington and 1 from St. Mary's Industrial School.

Eight cases of whooping-cough occurred at Catonsville in March, and also in July. In June, 6 cases of this disease were reported from Relay and 5 from Grange. In August, 15 cases were reported from Catonsville; in December, 6 cases each from Fork and Arlington.

Several small outbreaks of chickenpox occurred. In January, 44 cases occurred at Catonsville, 17 at Relay and 7 each at Mt. Washington and Raspeburg. In February there were 28 cases of this disease at Catonsville, 20 at Mt. Washington and 10 at Highlandtown; in March, 8 cases at Loch Raven and 7 at Maryland School for Boys; in December, 17 cases at Rosewood State Training School and 11 at Catonsville.

Outbreaks of measles occurred at several places. In May, 13 cases were reported from Relay and 5 from Bengies; in June, 9 cases from Roland Park and 5 from Arlington; in November, 18 from Highlandtown; in December, 67 from Highlandtown and 9 from Canton.

In January, 13 cases of mumps were reported from Arling-

ton; in February, 80 cases from Arlington, 13 from Monkton, R. F. D., and 6 from Mt. Washington. In March, 24 cases of this disease were reported from Arlington; in April, 6 cases from Cockeysville; in November, 9 from Sparrows Point; in December, 8 from Roland Park.

Ten cases of German measles were reported from Lansdowne in April.

Influenza was epidemic at Sparrows Point, 30 cases being reported in March and 41 in April. In December, 10 cases of this disease were reported from Highlandtown.

A few scattered cases of infantile paralysis occurred. In July, 2 cases were reported from Highlandtown and 1 from Cockeysville; in August, 1 case each occurred at Highlandtown, Roguel Heights, Hamilton, Sparrows Point, Texas and Overlea; in September, 1 case occurred at Halethorpe.

One case of smallpox was reported, in May, from Loch Raven. The patient was an unvaccinated colored man working on the Loch Raven dam.

CALVERT COUNTY.

(Area in Square Miles, 222; Population, 10,379.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	4	0	1	0	0	1	5	15	6	7	0	2	41
Whooping cough.....	1	1	3	0	0	8	2	0	0	1	0	0	16
Chickenpox	3	0	0	0	0	0	0	0	0	0	0	0	3
Measles	0	0	0	0	0	2	3	2	0	0	0	0	7
Influenza	1	0	0	2	2	0	0	0	0	0	0	0	5
Meningitis	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	9	1	4	2	2	11	10	17	6	8	0	3	73

In January 3 cases of typhoid fever were reported from Wallville. In July, 2 cases of this disease were reported from Chesapeake Beach; in August, 4 from Broome's Island; in September, 4 from Willows.

Seven cases of whooping-cough were reported from Sollers in June.

In December a case of meningitis, male, white, was reported from Broome's Island.

CAROLINE COUNTY.

(Area in Square Miles, 320; Population, 20,781.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	0	0	0	1	3	0	0	13	11	10	9	3	50
Diphtheria	12	9	0	1	0	0	0	3	6	13	37	17	98
Scarlet fever.....	4	1	8	6	0	0	1	0	0	1	0	2	23
Whooping cough.....	0	0	0	0	0	0	0	0	1	0	0	0	1
Chickenpox	8	2	0	0	0	0	0	0	0	0	0	0	10
Septic sore throat.....	1	0	0	0	0	0	0	0	0	0	0	0	1
Dysentery	1	0	0	0	0	0	0	1	1	1	0	0	4
Foot-and-mouth disease.....	0	1	0	0	0	0	0	0	0	0	0	0	1
Erysipelas	0	0	1	0	0	0	0	0	0	0	0	0	1
Meningitis	0	0	2	0	0	0	0	0	0	0	0	0	2
Influenza	0	0	0	1	1	0	0	0	0	1	0	0	3
Malaria	0	0	0	1	0	0	0	0	0	1	0	0	2
Total	26	13	11	10	4	0	1	17	19	27	46	22	196

In August, 4 cases of typhoid fever were reported from Goldsboro, R. F. D.; in October, 3 cases of this disease were reported from Henderson, R. F. D.

Nine cases of diphtheria were reported from Denton in January and 4 cases in February. In September, 3 cases of this disease were reported from Ridgely; in October, 4 cases were reported from Preston; in November, 13 from Greensboro, 9 from Preston, R. F. D., and 4 from Preston.

In March, 6 cases of scarlet fever were reported at Preston, R. F. D.; in April, 3 cases of this disease occurred at Bethlehem.

Seven cases of chickenpox were reported from Preston, in January.

In February a case of foot-and-mouth disease was reported in a white male, aged 39 years, residing at Denton, R. F. D.

This man, E. C., a farmer, was taken ill about the middle of December, 1914. He was exposed to foot-and-mouth disease about Thanksgiving Day, 10 of his cattle and 7 of his hogs dying of it. The patient was isolated and treated. Neither his wife nor any of his children contracted the disease.

CARROLL COUNTY.

(Area in Square Miles, 437; Population, 33,974.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	5	1	0	1	2	0	6	15	13	12	5	6	66
Diphtheria	1	8	2	4	0	0	0	0	5	8	10	3	41
Scarlet fever.....	12	12	4	3	1	0	0	0	1	1	0	1	35
Whooping cough.....	0	8	6	31	19	39	36	4	3	5	0	8	159
Chickenpox	6	7	27	14	5	0	0	0	2	0	3	1	65
Measles	0	0	1	1	0	3	2	0	0	0	1	1	9
Mumps	17	21	14	25	2	2	5	0	0	0	3	0	89
Erysipelas	1	2	0	0	0	0	2	1	0	0	1	2	9
Dysentery	1	0	0	0	0	0	0	4	2	0	0	0	7
Influenza	0	1	94	139	8	0	0	0	0	0	0	18	260
German measles.....	0	3	0	0	1	0	0	0	0	0	0	1	5
Septicemia	0	1	0	0	0	0	0	0	0	0	0	0	1
Meningitis	0	0	0	0	0	0	0	1	0	0	0	0	1
Poliomyelitis	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	43	64	148	218	38	44	51	26	26	26	23	41	748

Belated Returns of Typhoid Fever from Frederick City Hospital, 1915.

Taneytown	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	43	64	148	218	38	44	51	26	26	26	23	41	748
Complete Total.....	43	64	148	218	38	44	52	26	26	26	23	41	749

In August, 5 cases of typhoid fever were reported from Sykesville, R. F. D.; in September, 3 cases were reported from Oakland Mills.

In February, 3 cases of diphtheria were reported from Finksburg; in October, 3 cases were reported from Finksburg, R. F. D.

In January, 4 cases of scarlet fever were reported from Lineboro and 3 from Taneytown; in February, 3 cases of this disease were reported from Taneytown.

In April, 16 cases of whooping cough were reported from Harney, R. F. D.; in May, 6 cases were reported from Harney and 5 from Key-Mar, R. F. D. In June, 15 cases were reported from Taneytown and 10 from Taneytown, R. F. D.; in July, 14 cases were reported from Taneytown and 10 from Sykesville.

In March, 12 cases of chickenpox occurred at Union Mills and 7 at Westminster; in April, 9 cases occurred at Oakland.

In January, 7 cases of mumps occurred at Oakland and 6 at Eldersburg; in February, 8 cases occurred at Oakland and 7 at Sykesville; in March, 4 cases at Oakland; in April, 8 at Berrett and 6 at Freedom.

Influenza prevailed, in March, to the extent of 28 cases at Union Mills, 24 at Manchester, 8 at Mt. Airy, 7 at Uniontown, 6 at Union Bridge and 5 at Hampstead and Cranberry. In April an excessive number of cases of this disease occurred, as follows: At Taneytown, 22 cases; at Springfield State Hospital, 21 cases; 17 cases occurred at Sykesville, 13 at Manchester, 8 at Key-Mar, R. F. D.; 7 at Uniontown, 6 each at Union Bridge and Westminster and 5 at Melrose. In May, 4 cases occurred at Woodbine.

One case of poliomyelitis (infantile paralysis) was reported in August, at Westminster, R. F. D., in a colored male.

CECIL COUNTY.

(Area in Square Miles, 360; Population, 23,283.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	3	2	1	5	1	1	1	4	7	2	3	3	33
Diphtheria	3	0	1	0	2	0	0	0	2	0	0	2	10
Scarlet fever.....	7	4	1	3	0	1	1	0	0	2	2	4	25
Whooping cough.....	4	5	0	0	0	6	5	0	2	0	0	0	22
Chickenpox	4	7	2	0	0	0	0	0	0	0	0	1	14
Measles	1	0	0	1	48	52	0	2	4	24	0	5	137
Malaria	1	0	0	0	0	0	0	0	0	0	0	0	1
Influenza	0	2	0	2	1	0	0	0	0	0	0	0	5
Erysipelas	0	0	1	0	0	0	0	0	0	1	0	0	2
Septicemia	0	0	0	1	1	0	1	0	0	1	0	0	4
Meningitis	0	0	0	0	0	1	0	0	0	1	0	0	2
Mumps	0	0	0	0	0	0	0	0	0	1	0	1	2
Para-typhoid	0	0	0	0	0	0	0	0	0	1	0	0	1
Dysentery	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	23	20	6	12	53	61	8	6	15	33	6	17	260

Two cases of typhoid fever were reported at Elkton, in April, and 2 at Elkton, R. F. D., in September.

Four cases of scarlet fever were reported at Chesapeake City, in January, 3 cases at Elkton, R. F. D., in February, and 2 at Elkton, in December.

In June, 4 cases of whooping cough occurred at Blythedale; in July, 5 cases occurred at Childs, R. F. D.

In May there were 36 cases of measles at Perryville and 6 at Northeast. In June, 21 cases occurred at Perryville, 6 at Childs and 4 at Rising Sun. In October there were 21 cases at Chesapeake City.

CHARLES COUNTY.

(Area in Square Miles, 451; Population, 15,713.

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	3	1	1	0	0	0	6	15	11	30	7	8	82
Diphtheria	2	1	3	0	0	0	0	5	1	1	1	2	16
Scarlet fever.....	0	0	0	1	0	0	0	0	0	0	2	0	3
Chickenpox	0	0	0	0	0	0	0	0	0	0	4	0	4
Measles	4	0	0	4	0	0	2	5	1	8	11	5	40
Influenza	1	2	3	1	3	2	0	0	1	0	1	1	15
Poliomyelitis	1	0	0	1	0	0	0	0	0	0	0	0	2
Dysentery	0	1	0	0	0	0	1	1	0	1	0	0	4
Malaria	0	0	0	0	0	0	0	1	0	0	0	0	1
Erysipelas	0	1	0	0	0	0	0	0	0	1	0	0	2
Total	11	6	7	7	3	2	9	27	14	41	26	16	169

Belated Returns of Typhoid Fever from Death Certificate, 1915.

Riverside, R. F. D.....	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	11	6	7	7	3	2	9	27	14	41	26	16	169
Complete Total.....	11	6	7	7	3	2	9	27	14	41	27	16	170

In August, 4 cases of typhoid fever occurred at Hughesville; in October, 9 cases of this disease occurred at La Plata, and 3 each at Port Tobacco and Pomfret. In December, 5 cases occurred at White Plains.

Three cases of diphtheria were reported from Berry, in August.

Four cases of measles were reported from Pisgah, in October; in November, 9 cases were reported from Marbury.

One case of poliomyelitis (infantile paralysis) was reported from Wicomico, in January. The patient was a colored male aged 16 years, attending the Wicomico public school. In April a case of this disease was reported from Grayton. The patient was a colored female infant, one year old.

DORCHESTER COUNTY.

(Area in Square Miles, 618; Population, 29,042.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	11	4	4	7	4	7	15	29	20	14	20	10	145
Diphtheria	3	4	1	1	1	0	3	3	9	7	44	17	93
Scarlet fever.....	7	16	4	0	0	5	1	0	0	1	4	5	43
Chickenpox	1	3	6	1	0	1	0	1	0	1	3	0	17
Measles	1	0	0	0	0	0	0	0	0	0	0	0	1
Mumps	8	20	6	6	0	0	0	1	0	0	0	0	41
Septicemia	0	0	1	0	0	0	0	1	0	0	0	0	2
Influenza	0	0	0	2	4	0	0	0	0	0	1	0	7
Conjunctivitis	0	0	0	1	0	0	0	0	0	0	0	0	1
Dysentery	0	0	0	0	1	0	1	4	0	0	0	0	6
Erysipelas	0	0	1	0	0	0	1	0	1	0	0	0	3
Malaria	0	0	0	0	0	0	0	2	0	0	0	0	2
Meningitis	0	0	0	0	0	0	0	1	0	0	0	3	4
Para-typhoid	0	0	0	0	0	0	0	0	0	1	0	0	1
Ophthalmia neonatorum.....	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	31	47	23	18	10	13	21	42	30	25	72	35	367

Typhoid fever prevailed in Cambridge to the extent of 9 cases in January, 8 in July, 7 in August, 4 in October and 9 in November. In August, 5 cases of this disease were reported at Castle Haven; in September, 3 at East New Market; in November, 5 at Cambridge, R. F. D.

In September, 7 cases of diphtheria occurred at Church Creek, R. F. D.; in October, 5 at Church Creek. In November there were 14 cases of this disease at Williamsburg, 9 at Cambridge, 6 at Hurlock, R. F. D., and 5 at Madison. In December, 8 cases occurred at Cambridge.

In February there were 3 cases of scarlet fever each at Linkwood, Golden Hill and Golden Hill, R. F. D. In June, 3 cases occurred at Church Creek; in December, 4 at Cambridge.

Four cases of chickenpox were reported from Church Creek, R. F. D., in March.

At Cambridge there were 8 cases of mumps in January, 20 in February and 5 in March.

One case of ophthalmia neonatorum occurred in October. The patient, a colored female two weeks old, resided at Linkwood.

FREDERICK COUNTY.

(Area in Square Miles, 662; Population, 53,070.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	3	4	2	1	21	7	15	19	22	20	8	5	127
Diphtheria	9	5	1	1	1	2	0	1	1	3	18	9	51
Scarlet fever.....	23	7	1	2	3	4	3	3	8	7	9	9	79
Whooping cough.....	19	7	18	11	21	49	8	10	6	7	4	13	173
Chickenpox	3	6	4	5	1	7	0	0	2	2	17	10	57
Measles	1	0	0	0	0	1	0	0	0	0	0	1	3
Mumps	2	0	1	0	0	1	0	0	2	5	0	1	12
Erysipelas	1	2	0	1	0	0	0	1	0	0	1	0	6
German measles.....	2	0	0	0	0	0	0	0	0	0	0	0	2
Influenza	1	1	4	17	8	1	0	0	1	0	0	1	34
Septicemia	0	0	2	0	1	0	0	0	0	0	0	0	3
Meningitis	0	0	0	0	0	0	1	0	1	0	0	0	2
Para-typhoid	0	0	0	0	0	0	0	1	0	0	0	0	1
Dysentery	0	0	0	0	0	0	0	0	0	2	0	0	2
Septic sore throat.....	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	64	32	33	38	56	72	27	35	43	46	57	51	554

Related Returns of Typhoid Fever from Frederick City Hospital, 1915.

Frederick	1	0	0	0	0	0	0	0	0	0	0	0	1
Sabillasville	0	0	0	0	2	0	0	0	1	0	0	0	3
Brunswick	0	0	0	0	0	0	2	0	0	0	1	0	3
Buckeystown	0	0	0	0	0	0	1	1	0	0	0	0	2
Myersville	0	0	0	0	0	0	0	0	1	0	0	0	1
Frederick, R. F. D.....	0	0	0	0	0	0	0	0	1	0	0	0	1
Walkersville	0	0	0	0	0	0	0	0	1	0	0	0	1
Mt. Airy.....	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	64	32	33	38	56	72	27	35	43	46	57	51	554
Complete Total.....	65	32	33	38	58	72	30	36	48	46	58	51	567

In May the milk outbreak of typhoid fever began at the Maryland Tuberculosis Sanatorium, near Sabillasville, 18 cases being reported from the institution in this month. In September, 3

cases each, of typhoid fever, occurred at Frederick and Emmitsburg. In October, 6 cases of this disease occurred at Emmitsburg, and 3 cases each at Frederick and Brunswick.

In November, 7 cases of diphtheria occurred at Sabillasville.

In January there were 8 cases of whooping cough reported from Woodsboro and 7 from Middletown. In March, 12 cases of this disease were reported from Emmitsburg and 6 from Jefferson; in May, 9 cases from Middletown and 5 from Myersville.

Nine cases of chickenpox were reported from Middletown, R. F. D., in November.

In April, 9 cases of influenza were reported from Myersville.

In December, 2 cases of septic sore throat developed at the Maryland School for the Deaf, in Frederick.

In January there were 7 cases of scarlet fever at Mt. Airy, R. F. D., and 3 at Buckeystown.

GARRETT COUNTY.

(Area in Square Miles, 660; Population, 21,373.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	1	0	0	0	0	0	2	1	8	11	3	0	26
Diphtheria	1	4	4	6	0	5	0	1	0	2	6	7	36
Scarlet fever.....	8	0	0	2	0	0	0	2	0	1	15	2	30
Whooping cough.....	0	0	1	1	0	1	0	3	0	0	0	0	6
Measles	0	3	0	0	0	0	0	0	0	0	0	0	3
Septicemia	0	2	0	0	0	0	0	0	0	0	0	0	2
Influenza	0	0	0	2	2	1	0	0	0	0	0	0	5
Malaria	0	0	0	0	0	1	0	0	0	0	0	0	1
Meningitis	0	0	0	0	0	0	1	0	0	0	0	0	1
Para-typhoid	0	0	0	0	0	0	0	1	0	0	0	0	1
Erysipelas	0	0	0	0	0	0	0	0	1	0	0	0	1
Mumps	0	0	0	0	0	0	0	0	0	0	0	1	1
Chickenpox	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	10	9	5	11	2	8	3	8	9	14	24	14	117

At Kitzmiller there were 3 cases of typhoid fever in each September and October. In September there were 2 cases of this disease at Accident; in October, 2 at Crellin.

In February, 3 cases of diphtheria occurred at Friendsville; in March there were 3 cases at Sines; in April, 5 at Davis; in June, 4 at Swanton, R. F. D.; in November, 5 at Sutton.

In January there were 3 cases of scarlet fever at Accident, R. F. D.; in November, quite a localized outbreak of this disease occurred at Jennings, 14 cases being reported.

HARFORD COUNTY.

(Area in Square Miles, 388; Population, 27,805.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	2	0	1	2	1	1	9	7	17	12	15	4	71
Diphtheria	5	5	7	1	1	1	0	1	0	1	2	4	28
Scarlet fever.....	15	11	2	4	1	2	0	0	6	7	19	11	78
Whooping cough.....	1	10	5	1	5	0	5	0	0	1	4	2	34
Chickenpox	4	1	0	1	0	0	0	0	0	0	0	0	6
Measles	0	0	0	0	2	1	1	0	0	0	0	0	4
Mumps	21	11	0	1	2	2	1	0	0	0	0	0	38
Influenza	3	0	0	4	2	0	0	0	0	0	0	0	9
Septic sore throat.....	4	0	2	0	0	0	3	0	0	0	0	0	9
Meningitis	0	1	0	0	1	0	0	0	0	0	0	0	2
German measles.....	0	0	2	0	0	0	0	0	0	0	0	0	2
Septicemia	0	0	0	0	1	0	0	0	0	0	0	0	1
Pellagra	0	0	0	0	0	1	0	0	0	0	0	0	1
Dysentery	0	0	0	0	0	0	0	0	1	0	0	0	1
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	55	39	19	14	16	8	19	8	24	21	40	22	285

In July there were 7 cases of typhoid fever reported from Perryman; September, 4 from Bel Air; in November, 7 from The Rocks.

In January there were 5 cases of scarlet fever reported from Bel Air, R. F. D., 3 from Havre de Grace; in February, Havre de Grace, 5; Aberdeen, 3; in October, Havre de Grace, 3; Forest Hill, 3; in November, Havre de Grace, 7; Coopstown, 3; The Rocks, 3, and in December, Havre de Grace, 7.

In February there were 6 cases of whooping cough reported from Van Bibber.

In January there were 5 cases of mumps reported from Bel Air and 4 from Perryman; in February, 4 from Abingdon.

In January there were 2 cases of septic sore throat reported from Forest Hill.

HOWARD COUNTY.

(Area in Square Miles, 365; Population, 15,785.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	6	3	1	0	1	1	3	28	14	7	4	2	70
Diphtheria	3	2	1	1	0	0	0	0	1	2	1	3	14
Scarlet fever.....	4	0	1	1	1	10	3	0	0	0	0	2	22
Whooping cough.....	4	1	3	7	0	0	0	0	0	0	0	0	15
Chickenpox	3	6	3	5	0	2	6	0	1	3	3	4	36
Measles	1	0	2	0	3	1	2	1	3	0	1	4	18
Mumps	1	0	0	1	0	5	0	0	0	1	0	0	8
Influenza	0	1	0	34	3	0	0	0	2	0	0	2	42
Meningitis	0	1	1	0	0	0	1	0	1	0	0	0	4
Erysipelas	0	1	0	1	0	0	0	0	0	0	0	0	2
Septic sore throat.....	0	0	0	2	0	0	0	1	2	0	0	1	6
Ophthalmia neonatorum.....	0	0	0	0	1	0	0	0	0	0	0	0	1
Poliomyelitis	0	0	0	0	1	2	0	0	0	0	0	0	3
Dysentery	0	0	0	0	0	0	1	0	1	0	0	0	2
Septicemia	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	22	15	12	52	10	21	17	30	25	13	9	18	244

In January there were 3 cases of typhoid fever reported from Ellicott City; in August, 5 from Ellicott City, 4 from Ellicott City, R. F. D.; in August, 7 from Glenelg; in September, 8 from Ellicott City; in October, 4 from Ellicott City.

In June there were 9 cases of scarlet fever reported from Elk Ridge.

In May there was 1 case of ophthalmia neonatorum reported from Ellicott City. The patient was a colored infant.

In May there was a case of poliomyelitis reported from Laurel, R. F. D., a colored male. In June, 2 cases, colored, one male and the other female, were reported from Gibson.

KENT COUNTY.

(Area in Square Miles, 281; Population, 15,992.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	2	0	2	1	2	0	0	9	11	2	5	2	36
Diphtheria	1	0	0	0	0	0	1	0	1	5	3	6	17
Scarlet fever.....	1	0	0	0	0	0	0	0	0	0	0	0	1
Whooping cough.....	1	0	0	1	0	1	1	0	0	0	0	0	4
Chickenpox	2	2	5	1	0	5	3	0	0	0	0	1	19
Measles	1	11	13	0	15	39	15	2	9	9	0	0	114
Erysipelas	1	0	2	1	0	0	0	0	0	0	1	0	5
Influenza	4	0	0	0	0	1	1	0	0	0	0	0	6
Malaria	2	0	0	0	0	0	0	0	0	0	0	0	2
Septicemia	0	0	1	0	0	0	0	0	0	0	0	0	1
German measles.....	0	0	6	3	77	35	0	0	0	0	0	0	121
Mumps	0	0	0	0	1	1	0	0	0	0	1	1	4
Anthrax	0	0	0	0	0	0	1	0	0	0	0	0	1
Septic sore throat.....	0	0	0	0	0	0	0	4	0	1	0	0	5
Dysentery	0	0	0	0	0	0	0	0	2	0	0	0	2
Total	15	13	29	7	95	82	22	15	23	17	10	10	338

In August there were 4 cases of typhoid fever reported from Rock Hall and 3 from Millington; in September, 5 from Rock Hall.

In March there were 7 cases of measles reported from Kennedyville, R. F. D.; in February, 6 from Kennedyville; in May, 6 from Worton and 6 from Betterton, R. F. D.; in June, 11 from Still Pond, R. F. D.; from Coleman, 10; Betterton, 5, and Worton, 4. In July, 6 from Kennedyville, R. F. D., and 5 from Massey.

In May there were 37 cases of German measles reported from Coleman; from Still Pond, 19, and Worton, R. F. D., 11. In June, 17 from Coleman and 13 from Still Pond.

In August there were 4 cases of septic sore throat reported from Worton, all colored, 2 males and 2 females.

In July there was a case of anthrax reported from Chester-town, R. F. D., a colored man who contracted pustular anthrax from a cut on his finger inflicted while flaying a cow dead of this disease. The patient recovered.

MONTGOMERY COUNTY.

(Area in Square Miles, 490; Population, 32,953.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	0	2	0	0	0	1	10	6	21	9	3	7	59
Diphtheria	3	6	2	1	1	0	11	0	0	5	1	4	34
Scarlet fever.....	1	24	5	9	0	0	5	1	0	4	16	9	74
Whooping cough.....	0	5	1	0	2	6	19	8	1	2	0	0	44
Chickenpox	10	14	4	4	10	4	1	2	0	17	17	3	86
Measles	3	4	0	2	15	14	28	2	0	3	1	1	73
Influenza	1	10	10	34	6	1	4	0	0	0	0	1	67
Meningitis	1	0	0	0	0	2	0	0	0	0	0	0	3
Trachoma	1	0	0	0	0	0	0	0	0	0	0	0	1
German measles.....	0	0	1	0	2	0	1	0	1	0	0	0	5
Mumps	0	0	0	2	0	1	0	0	1	0	1	0	5
Poliomyelitis	0	0	0	1	1	1	0	0	0	0	0	0	3
Dysentery	0	0	0	0	1	0	0	1	1	0	0	0	3
Malaria	0	0	0	0	0	0	2	1	0	1	0	0	4
Septicemia	0	0	0	0	0	0	0	0	1	0	0	0	1
Para-typhoid	0	0	0	0	0	0	0	0	0	1	1	0	2
Erysipelas	0	0	0	0	0	0	0	0	0	0	1	0	1
Septic sore throat.....	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	20	66	23	53	38	30	81	21	26	42	41	25	466

Related Returns of Typhoid Fever from Frederick City Hospital, 1915.

Mt. Ephraim.....	0	0	0	0	0	0	0	1	0	0	0	0	1
Clarksburg	0	0	0	0	0	0	0	0	1	0	0	0	1
Dickerson	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	20	66	23	53	38	30	81	21	26	42	41	25	466
Complete Total.....	20	66	23	53	38	30	81	22	28	42	41	25	469

In July there were 6 cases of typhoid fever reported from Damascus; in September, 4 from Silver Springs and 4 from Olney, R. F. D.

In July there were 6 cases of diphtheria reported from Chevy Chase.

In February there were 7 cases of scarlet fever reported from Chevy Chase and 6 from Bethesda; in November, 6 from Buck Lodge.

In July there were 5 cases of whooping-cough reported from Chevy Chase and 4 from Dickerson.

In October there were 14 cases of chickenpox reported from Kensington; in November, 6 from Kensington and 4 from Silver Spring.

In May there were 11 cases of measles reported from Takoma; in June, 9 from Takoma; in July, 7 from Burdett and 6 from Colesville.

In April there were 9 cases of influenza reported from Ashton and 6 from Olney.

PRINCE GEORGE'S COUNTY.

(Area in Square Miles, 486; Population, 39,443.

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	5	2	3	1	3	7	10	20	37	30	8	4	130
Diphtheria	3	3	6	0	0	1	0	1	3	6	3	4	30
Scarlet fever.....	5	5	5	12	2	3	3	1	1	6	7	13	63
Whooping cough.....	0	0	2	0	0	0	1	9	3	17	42	19	93
Chickenpox	2	4	8	11	4	3	1	0	1	0	2	2	38
Measles	2	3	3	14	34	23	22	4	1	2	4	6	118
Mumps	1	1	0	0	0	0	0	0	0	2	0	0	4
Influenza	3	15	5	3	4	3	1	0	0	0	0	0	34
Septicemia	0	0	2	0	0	0	0	0	0	0	0	0	2
Ophthalmia neonatorum.....	0	0	0	1	0	0	0	0	0	0	1	0	2
Pellagra	0	0	0	0	1	0	0	0	0	0	0	0	1
Malaria	0	0	0	0	0	0	2	1	3	6	0	0	12
Septic sore throat.....	0	0	0	0	0	0	1	0	0	0	0	0	1
Poliomyelitis	0	0	0	0	0	0	1	1	2	1	0	0	5
Dysentery	0	0	0	0	0	0	0	0	14	0	2	0	16
Erysipelas	0	0	0	0	0	0	0	0	1	0	0	0	1
Meningitis	0	0	0	0	0	0	0	1	1	0	0	0	2
German measles.....	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	21	33	34	42	48	40	42	38	67	70	69	50	554

At Nottingham there were 3 cases of typhoid fever reported in July; in September, 7 cases from Forestville and 5 from Aquasco. In October there were 7 cases reported from Forestville.

In April there were 3 cases of scarlet fever reported from Seat Pleasant; in December, 5 from Laurel.

In October there were 9 cases of whooping cough reported from Mt. Rainier; in November, 27 cases from Mt. Rainier and 15 from Brentwood. In December there were 6 cases reported from Brentwood and 6 from Woodmoor.

In April there were 9 cases of chickenpox reported from Mt. Rainier.

In April there were 10 cases of measles reported from Forestville. In May, 12 cases from Ritchie, 7 from Landover and 6 from Largo. In June, 7 from Mt. Rainier, 5 from Ritchie; in July, 5 from Brentwood, 5 from Capitol Heights, 5 from Mt. Rainier and 4 from College Park.

In February there were 12 cases of influenza reported from Mt. Rainier.

In April there was one case of ophthalmia neonatorum reported from Hyattsville. The patient was a white male. In November, one case from College Park, the patient being a white male.

In September there were 13 cases of acute dysentery reported from Aquasco.

QUEEN ANNE'S COUNTY.

(Area in Square Miles, 352; Population, 16,034.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	3	2	2	2	1	7	6	20	12	16	4	0	75
Diphtheria	0	0	0	0	0	1	0	0	1	3	5	4	14
Scarlet fever.....	1	5	1	1	0	1	0	0	0	0	0	0	9
Whooping cough.....	0	0	0	0	0	3	10	5	0	0	0	0	18
Chickenpox	2	0	0	1	0	0	0	0	0	0	0	1	4
Measles	2	4	0	0	0	0	0	0	1	0	0	0	7
Mumps	6	2	3	0	0	0	0	0	1	0	0	2	14
Erysipelas	1	0	0	1	0	0	0	0	0	0	0	0	2
Smallpox	1	0	0	0	0	0	0	0	0	0	0	0	1
Influenza	0	1	0	0	0	0	0	0	0	0	0	0	1
Poliomyelitis	0	0	1	0	0	0	0	0	0	0	0	0	1
Malaria	0	0	0	1	0	0	0	2	0	0	0	0	3
Dysentery	0	0	0	0	0	0	0	0	0	2	0	1	3
Septic sore throat.....	0	0	0	0	0	0	0	0	0	1	0	0	1
Septicemia	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	16	14	7	6	1	12	16	27	15	22	9	9	154

In August there were 5 cases of typhoid fever reported from Stevensville; 4, in September, from Sudlersville, R. F. D.; in October, 4 from Ford's Store.

In November there were 3 cases of diphtheria reported from Queen Anne.

In July there were 5 cases of whooping cough reported from Centreville, R. F. D.

In February there were 5 cases of scarlet fever reported from Carmichael.

In January there was one case of smallpox reported from Centreville. The patient was a colored female.

In March there was one case of poliomyelitis reported from Chester. The patient was a colored female.

ST. MARY'S COUNTY.

(Area in Square Miles, 372; Population, 16,950.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	0	1	0	0	2	0	0	0	2	3	1	0	9
Diphtheria	2	0	1	0	0	0	0	0	0	0	12	1	16
Scarlet fever.....	0	0	0	0	1	0	0	0	0	1	7	0	9
Whooping cough.....	0	0	0	8	3	3	4	0	0	0	0	1	19
Chickenpox	0	0	0	0	0	0	0	0	0	0	6	0	6
Measles	0	0	49	35	32	10	4	0	1	0	1	0	132
Poliomyelitis	1	0	0	0	1	0	0	0	0	0	0	0	2
Erysipelas	0	1	0	0	0	0	0	0	0	0	1	0	2
Influenza	0	0	0	0	1	0	0	0	0	0	0	0	1
Malaria	0	0	0	0	0	1	1	0	0	0	1	1	4
Meningitis	0	0	0	0	0	0	1	0	0	0	0	0	1
Mumps	0	0	0	0	0	0	0	1	0	0	0	0	1
Dysentery	0	0	0	0	0	0	0	1	0	0	0	0	1
Pellagra	0	0	0	0	0	0	0	0	0	1	0	0	1
German measles.....	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	3	2	50	43	40	14	10	2	3	5	30	3	205

In October there were 3 cases of typhoid fever reported from Valley Lee.

In November there were 10 cases of diphtheria reported from Scotland.

In November there were 3 cases of scarlet fever reported, each from Ridge and California.

In April there were 8 cases of whooping cough reported from Mechanicsville.

In March there were 42 cases of measles reported from Mechanicsville and 7 from Huntersville; in April, 35 from Mechanicsville; in May, 10 from Charlotte Hall, 8 from Mechanicsville, R. F. D., and 7 from Mechanicsville.

In January there was one case of poliomyelitis reported from Great Mills; in May, one case from Clements. The former was a white female; the latter, a colored female.

In October there was one case of pellagra reported from Charlotte Hall. The patient was a colored female.

SOMERSET COUNTY.

(Area in Square Miles, 362; Population, 26,736.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	2	2	1	0	1	4	11	12	15	11	11	4	74
Diphtheria	2	1	0	0	0	0	0	1	0	2	10	1	17
Scarlet fever.....	9	2	3	1	4	0	1	0	3	3	10	8	44
Whooping cough.....	24	6	12	1	0	0	0	0	1	1	3	7	55
Chickenpox	3	5	4	0	0	0	0	0	0	3	7	3	25
Measles	0	1	0	3	23	13	0	2	0	0	0	0	42
Mumps	2	0	0	0	1	0	0	0	0	0	2	0	5
Smallpox	20	10	3	3	0	0	0	0	0	0	0	0	36
Influenza	0	1	0	6	3	0	0	0	0	0	0	16	26
Dysentery	0	0	1	0	0	1	1	0	1	0	2	0	6
Erysipelas	0	0	0	1	0	0	0	2	0	0	0	1	4
Septicemia	0	0	0	2	0	0	0	0	0	1	0	0	3
Malaria	0	0	0	0	1	1	0	1	3	2	0	0	8
Meningitis	0	0	0	0	0	0	2	0	0	0	0	0	2
Poliomyelitis	0	0	0	0	0	0	0	0	1	0	0	0	1
Septic sore throat.....	0	0	0	0	0	0	0	0	0	0	4	0	4
Total	62	28	24	17	33	19	15	18	24	23	49	40	352

In July there were 5 cases of typhoid fever reported from Marion; in August, 3 from Marion; in September, 8 from Marion; in October, 3 from Marion; in November, 4 from Crisfield.

In November, there were 6 cases of diphtheria reported from Westover.

In January there were 5 cases of scarlet fever reported from Tylerton; in November, 4 from Crisfield.

In January there were 16 cases of whooping cough reported from Westover; in March, 4 from Westover.

In May there were 23 cases of measles reported from Chance; in June, 10 cases from Chance.

In January there were 12 cases of smallpox reported from Princess Anne, 5 from Marion, 1 from Crisfield and 2 from Pocomoke, R. F. D.

TALBOT COUNTY.

(Area in Square Miles, 286; Population, 19,239.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	1	0	3	1	0	2	7	18	16	4	13	4	69
Diphtheria	0	1	2	2	7	3	2	4	4	10	18	6	59
Scarlet fever.....	1	1	2	3	0	0	0	0	7	0	1	0	15
Whooping cough.....	15	4	2	0	0	0	0	0	0	0	0	0	21
Chickenpox	10	5	0	5	1	0	0	0	0	0	1	2	24
Measles	0	0	0	0	1	0	1	0	3	0	0	0	5
Mumps	3	1	0	3	0	0	0	0	0	0	0	0	7
Erysipelas	1	0	0	1	0	0	1	0	0	1	0	0	4
Influenza	2	2	82	14	1	0	0	0	0	0	0	0	101
Ophthalmia neonatorum.....	0	0	1	0	0	0	0	0	0	0	0	0	1
Poliomyelitis	0	0	0	1	0	0	0	0	0	0	0	0	1
Septicemia	0	0	0	0	1	0	0	1	0	0	0	0	2
Dysentery	0	0	0	0	0	0	0	1	0	0	0	0	1
Pellagra	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	33	14	92	30	11	5	11	24	30	15	34	12	311

In July there were 3 cases of typhoid fever reported from Tilghman; in August, 5 from Easton and 4 from Trappe, R. F. D.; in September, 5 from St. Michaels, 4 from Trappe; in November, 6 from Avalon and 4 from Easton.

In May there were 7 cases of diphtheria reported from Easton; in October, 6 from Easton; in November, 5 from Wittman, R. F. D.

In September there were 3 cases of scarlet fever reported from Oxford.

In January there were 8 cases of whooping cough reported from McDaniel.

In March there was one case of ophthalmia neonatorum reported from Trappe, the patient being a white female.

In January there were 7 cases of chickenpox reported from Cordova, R. F. D.

In April there was one case of poliomyelitis reported from the Emergency Hospital, Easton, the patient being a colored female.

WASHINGTON COUNTY.

(Area in Square Miles, 458; Population, 51,981.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	4	6	1	8	9	10	4	17	15	47	17	56	194
Diphtheria	9	9	10	2	1	5	6	4	10	45	59	31	191
Scarlet fever.....	8	2	0	2	4	5	3	1	2	5	17	19	68
Whooping cough.....	0	7	12	1	0	15	0	0	0	1	14	0	50
Chickenpox	2	3	5	8	12	12	2	0	1	13	14	6	78
Measles	1	2	0	1	0	0	0	0	0	1	0	3	8
Mumps	3	2	2	0	0	1	1	0	0	0	0	0	9
Erysipelas	3	0	3	0	0	1	0	0	0	0	1	1	9
German measles.....	1	0	0	0	0	0	0	0	0	0	0	1	2
Septicemia	1	0	0	0	0	0	0	1	0	0	1	0	3
Meningitis	0	1	0	0	0	0	0	0	1	1	1	0	4
Influenza	0	0	2	4	3	1	0	0	0	1	1	0	12
Smallpox	0	0	0	13	16	1	3	0	0	0	0	0	33
Malaria	0	0	0	1	0	0	0	0	0	0	0	0	1
Scabies	1	0	0	0	0	0	0	0	0	0	0	0	1
Dysentery	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	33	32	35	40	45	51	19	23	29	114	126	117	664

Belated Returns of Typhoid Fever from Frederick City Hospital, 1915.

Highfield	0	0	0	0	0	0	0	0	3	0	0	0	3
Total	33	32	35	40	45	51	19	23	29	114	126	117	664
Complete Total.....	33	32	35	40	45	51	19	23	32	114	126	117	667

In June there were 6 cases of typhoid fever reported from Hagerstown; in August, 8 from Hagerstown and 4 from Clear-spring; in September, 8 from Hagerstown and 3 from Hancock; in October, 33 from Hagerstown and 4 from Smithsburg; in November, 10 from Hagerstown; in December, 29 cases from Hagerstown and 4 from Smithsburg.

In March there were 5 cases of diphtheria reported from Hancock; in September, 10 from Hagerstown; in October, 15 from Hancock, 14 from Hagerstown and 6 from Charlton; in November, 29 from Hagerstown, 6 from Smithsburg, R. F. D., and 4 from Smithsburg; in December, 15 from Hagerstown and 3 from Funkstown.

In January there were 4 cases of scarlet fever reported from Hancock, R. F. D., and 2 from St. James' School; in October, 4 from Hagerstown; in November, 11 from Hagerstown and 2 from Big Pool; in December, 9 from Hagerstown and 4 from Big Pool.

In March there were 11 cases of whooping cough reported from Hagerstown; in June, 4 from Smithsburg and 3 from Big Pool; in November, 9 from Hagerstown and 5 from Smithsburg, R. F. D.

In May there were 10 cases of chickenpox reported from Hagerstown; in June, 7 from Hagerstown and 5 from Funkstown; in October, 13 from Hagerstown; in November, 11 from Hagerstown and 3 from Smithsburg.

In April there were 9 cases of smallpox reported from Hagerstown, 3 from Sharpsburg and 1 from Sharpsburg, R. F. D.; in May, 7 from Sharpsburg, 4 from Sharpsburg, R. F. D.; 3 from Hagerstown, 1 from Mondel and 1 from Boonsboro, R. F. D.; in June, 1 from Hagerstown; in July, 2 from Hagerstown and 1 from Downsville, R. F. D.

WICOMICO COUNTY.

(Area in Square Miles, 365; Population, 28,905.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	3	0	4	4	1	5	14	13	12	14	6	8	84
Diphtheria	0	0	0	2	0	2	0	1	3	2	13	10	35
Scarlet fever.....	1	0	1	4	0	0	1	2	0	0	0	0	9
Whooping cough.....	0	0	0	0	0	1	1	0	2	0	0	0	4
Chickenpox	1	0	3	0	0	0	0	0	0	0	0	0	4
Measles	0	1	0	1	0	0	1	0	0	0	0	0	3
Influenza	6	6	2	8	2	1	0	0	0	0	0	0	25
Meningitis	1	0	0	0	0	0	0	0	0	0	0	0	1
Mumps	0	0	0	1	0	1	0	0	0	0	0	0	2
Erysipelas	0	0	0	0	0	0	1	0	0	0	0	0	1
Dysentery	0	0	0	0	0	0	0	2	1	3	0	0	6
Malaria	0	0	0	0	0	0	0	0	2	1	0	0	3
Poliomyelitis	0	0	0	0	0	0	0	0	1	0	0	0	1
Pellagra	0	0	0	0	0	0	0	0	0	1	0	0	1
Smallpox	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	12	7	10	20	3	10	18	18	21	21	21	19	180

In July there were 5 cases of typhoid fever reported from Pittsville, R. F. D., and 7 from Salisbury; in August, 9 from Salisbury; in September, 6 from Salisbury, 2 from Pittsville, R. F. D., and 2 from Fruitland; in October, 8 from Salisbury; in December, 4 from Salisbury.

In November there were 13 cases of diphtheria reported from Salisbury; in December, 8 from Salisbury.

In April there were 4 cases of scarlet fever reported from Parsonsburg.

In September there was one case of poliomyelitis reported from Sharptown. The patient was a white male.

In October there was one case of pellagra reported from Tyaskin. The patient was a white female.

In December there was one case of smallpox reported from Salisbury. The patient was a colored male.

WORCESTER COUNTY.

(Area in Square Miles, 475; Population, 22,356.)

REPORTED CASES OF NOTIFIABLE DISEASES, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever.....	3	2	0	2	2	4	13	25	23	25	19	21	139
Diphtheria	1	0	0	2	0	0	0	0	0	0	1	0	4
Scarlet fever.....	0	0	1	0	0	4	2	0	0	0	0	1	8
Whooping cough.....	0	0	0	0	0	0	0	0	1	0	0	0	1
Chickenpox	1	0	0	0	0	2	0	0	0	0	0	0	3
Measles	22	2	0	0	0	0	0	0	0	0	0	0	24
Influenza	1	1	2	0	4	1	0	0	0	0	0	5	14
Smallpox	5	0	0	0	0	5	0	0	0	0	0	0	10
Rabies	0	0	0	1	0	0	0	0	0	0	0	0	1
Erysipelas	0	0	0	0	0	1	1	0	0	0	1	0	3
Malaria	0	0	0	0	0	0	1	0	0	0	0	0	1
Polomyelitis	0	0	0	0	0	0	2	0	1	0	0	0	3
Septic sore throat.....	0	0	0	0	0	0	0	0	1	0	0	0	1
Septicemia	0	0	0	0	0	0	0	0	0	2	0	0	2
Meningitis	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	33	5	3	5	6	17	19	25	26	27	22	27	215

In July there were 3 cases of typhoid fever reported from Snow Hill, R. F. D., 2 from Pocumoke City, 2 from Snow Hill and 2 from Berlin; in August, 7 from Pocumoke City, 6 from Berlin, 3 from Snow Hill, 2 from Stockton and 2 from Showell; in September, 6 from Pocumoke City, 5 from Berlin, 3 from Showell and 3 from Berlin, R. F. D.; in October, 8 from Pocumoke City, 5 from Stockton, 2 from Snow Hill, R. F. D., 2 from Girdletree and 2 from Berlin; in November, 5 from Pocumoke City, 3 from Snow Hill, 2 from Berlin, 2 from Pocumoke City, R. F. D., and 2 from Whaleyville; in December, 4 from Snow Hill, 4 from Snow Hill, R. F. D., 3 from Pocumoke City and 3 from Bishopville.

In January there were 9 cases of measles reported from Showell, 6 from Bishop and 5 from Bishopville.

In January there were 5 cases of smallpox reported from Pocumoke City. The patients were all colored, 4 being males and 1 female. In June, 5 cases were reported from Snow Hill. The patients were all white, 2 males and 3 females.

In April there was one case of rabies reported from Bishop. The patient was a white male aged 45 years, a farmer by occupation.

In July there were 2 cases of poliomyelitis reported from Snow Hill, and in September 1 case from Ocean City.

REPORTED CASES OF NOTIFIABLE DISEASES—RURAL MARYLAND—BY COUNTIES AND DISEASES, 1915.

County	Anthrax	Typhoid Fever	Para-Typhoid	Diphtheria	Scarlet Fever	Measles	Whooping Cough	Chickenpox	Mumps	Pollomyelitis	Scabies	Cervical Adenitis	Menigitis	Typhus Fever	Smallpox	Rabies	Pellagra	Ophthalmia Neonatorum	La Grippe	Malaria	German Measles	Dysentery	Erysipelas	Septicæmia	Septic Sore Throat	Trachoma	Foot-and-Mouth Disease	Conjunctivitis	Total		
Allegany	0	217	2	260	194	41	30	76	58	5	0	0	4	0	0	0	0	0	40	0	0	3	10	10	10	15	0	0	0	962	
Anne Arundel	0	94	0	29	69	18	25	59	40	2	0	0	4	0	0	0	0	0	18	0	0	6	9	4	0	0	0	0	0	388	
Baltimore	0	358	1	297	240	242	116	346	262	10	0	3	13	0	1	0	0	2124	0	17	57	10	17	6	33	0	0	0	0	2,131	
Calvert	0	41	0	0	0	7	16	3	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	73	
Caroline	0	50	0	98	23	0	1	10	0	0	0	0	0	0	0	0	0	0	3	0	0	4	1	0	0	1	0	0	0	196	
Carroll	0	66	0	41	35	9	159	65	89	1	0	0	1	0	0	0	0	0	260	0	5	1	0	0	0	0	0	0	0	748	
Cecil	0	33	1	10	25	137	22	14	2	0	0	0	2	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	260	
Charles	0	82	0	16	3	40	0	4	0	2	0	0	0	0	0	0	0	0	15	0	0	4	0	0	0	0	0	0	0	169	
Dorchester	0	145	1	93	43	1	0	17	41	0	0	0	4	0	0	0	0	0	0	0	0	6	3	3	0	0	0	0	0	367	
Frederick	0	127	1	51	79	3	173	57	12	0	0	0	2	0	0	0	0	0	34	0	0	12	6	2	0	0	0	0	0	554	
Garrett	0	26	1	36	30	4	6	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117	
Harford	0	71	0	28	78	4	34	6	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	285	
Howard	0	70	0	14	22	18	15	36	8	3	0	0	0	0	0	0	0	0	42	0	2	1	1	1	1	9	0	0	0	0	
Kent	0	36	0	17	1	114	4	19	4	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	1	6	0	0	0	0	
Montgomery	0	59	2	34	74	73	44	86	5	3	0	0	3	0	0	0	0	0	0	6	2	16	1	1	1	1	1	0	0	0	
Prince George's	0	130	0	30	63	118	93	38	4	5	0	0	2	0	0	0	0	0	2	34	12	3	0	2	1	1	0	0	0	0	0
Queen Anne's	0	75	0	14	9	7	18	4	14	1	0	0	0	0	0	0	0	0	1	0	1	0	1	1	1	1	0	0	0	0	
St. Mary's	0	9	0	16	9	132	19	6	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Somerset	0	74	0	17	44	42	55	25	5	1	0	0	2	0	0	0	0	0	26	8	0	0	0	4	3	4	0	0	0	0	0
Talbot	0	69	0	59	15	5	21	24	7	1	0	0	0	0	0	0	0	0	1101	0	0	1	4	2	0	0	0	0	0	0	0
Washington	0	194	0	191	68	8	50	78	9	0	1	0	4	0	0	0	0	0	0	0	2	1	9	3	0	0	0	0	0	0	0
Wicomico	0	84	0	35	9	3	4	4	2	1	0	0	1	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0
Worcester	0	139	0	4	8	24	1	3	0	3	0	0	1	0	0	0	0	0	0	14	1	0	0	3	2	1	0	0	0	0	0
Total	1	2,249	9	1,390	1,141	1,049	906	984	602	40	1	3	54	0	82	1	13	7,854	64	206	89	95	49	39	3	1	1	1	1	1	9,933
Related returns	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Grand Total	1	2,270	9	1,390	1,141	1,049	906	984	602	40	1	3	54	0	82	1	13	7,854	64	206	89	95	49	39	3	1	1	1	1	1	19,954

IV. OCCUPATIONAL DISEASES.

The reporting of occupational diseases and accidents is still in a very unsatisfactory condition. This remark applies alike to the number of cases of sickness or disability reported and to the terms by which such indispositions are designated. In a majority of instances it is a reporting of symptoms rather than of definite diseases.

In 1915 a total of 36 reports of occupational diseases and disabilities, chiefly from the Bureau of Child Labor, was received. The following table displays these cases, arranged by months and diseases.

A case of pustular anthrax is reported as occurring in March. As the report did not reach this office until after the patient had recovered, and the nature of the disease had not been verified bacteriologically, this case is not included in the list of communicable diseases.

OCCUPATIONAL DISEASES—MORBIDITY, 1915.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Ophthalmic neurosis.....	2	0	0	0	0	0	0	0	0	0	0	0	2
Toxemia	0	2	3	0	0	0	0	0	0	0	0	0	5
Infection of right hand.....	0	1	0	0	0	0	0	0	0	0	0	0	1
Occupational asthenopia.....	0	2	1	0	0	0	0	0	0	0	0	0	3
Exhaustion	0	2	1	0	0	0	0	0	0	0	0	0	3
Pustular anthrax.....	0	0	1	0	0	0	0	0	0	0	0	0	1
Bronchitis	0	0	1	0	0	0	0	0	0	0	0	0	1
Brass poisoning.....	0	0	1	0	0	0	0	0	0	0	0	0	1
Muscular strain.....	0	0	1	0	0	0	0	0	0	0	0	1	2
Lacerated hands.....	0	0	1	0	0	0	0	0	0	0	0	0	1
Leg cut by broken glass.....	0	0	1	0	0	0	0	0	0	0	0	0	1
Irritation of respiratory tract.	0	0	1	0	0	0	0	0	0	0	0	0	1
Miner's asthma.....	0	0	0	1	0	1	0	0	0	0	0	0	2
Incised wound of thumb.....	0	0	0	0	0	0	0	0	0	0	0	1	1
Amenorrhœa	0	0	0	0	0	0	0	0	0	0	0	2	2
Myalgia	0	0	0	0	0	0	0	0	0	0	0	2	2
Neurosis	0	0	0	0	0	0	0	0	0	0	0	1	1
Heat exhaustion.....	0	0	0	0	0	0	0	0	0	0	0	1	1
Byssinosis	0	0	0	0	0	0	0	0	0	0	0	1	1
Muscular cramps.....	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	2	7	12	1	0	1	0	0	0	0	0	13	36

V. CASES EXAMINED FOR DIAGNOSIS.

In 1915, in the counties of Maryland, a total of 31 cases of exanthematous disease was examined for the purpose of assisting the physician or health officer in making a diagnosis. In most instances, smallpox was suspected.

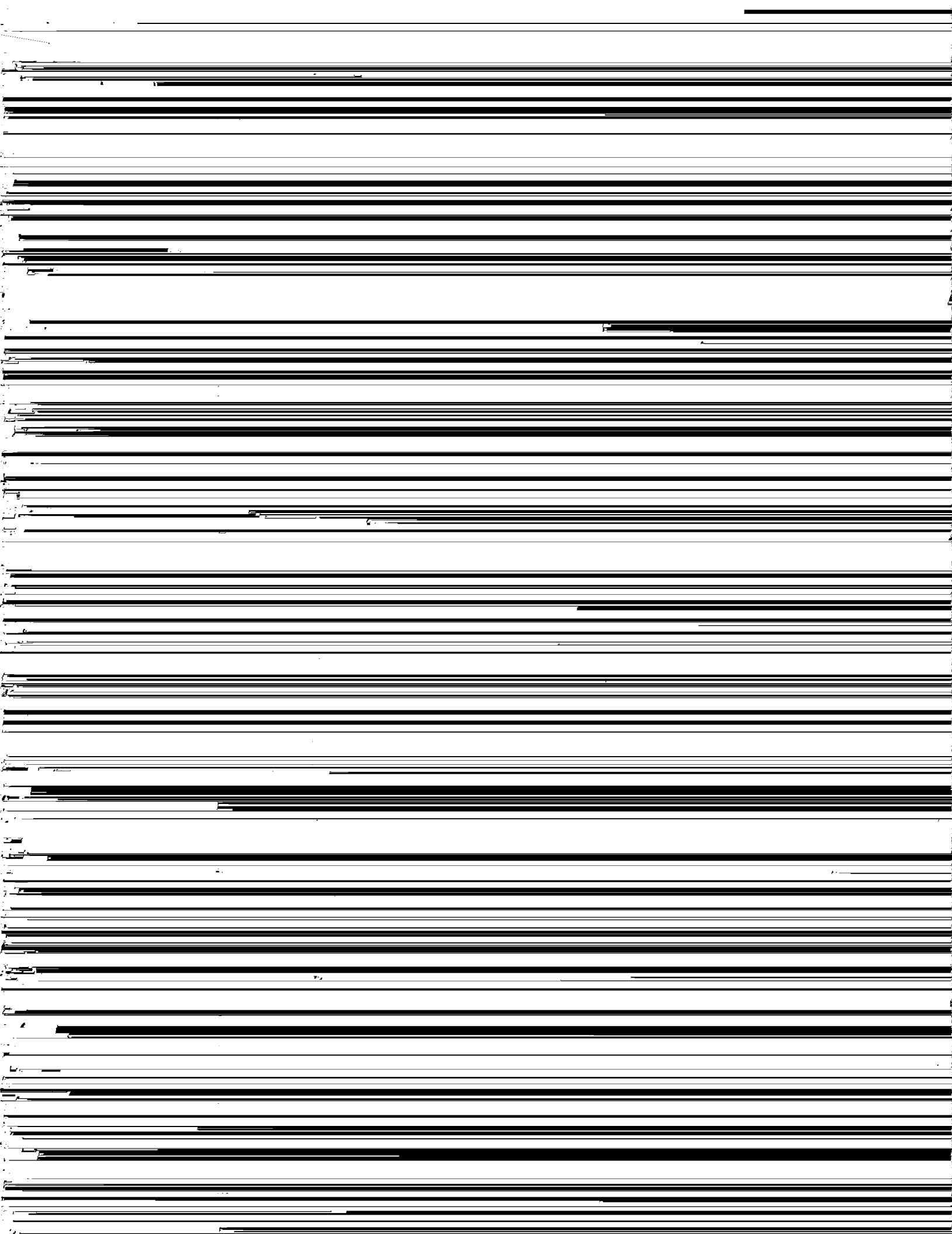
Of the 31 cases of sickness examined, 27 were white persons and 4 were colored; 17 were males and 14 were females. Eight of the Maryland counties were represented.

The distribution of these cases, by months and diseases, was as follows:

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Scarlet fever.....	2	3	0	0	0	0	0	0	0	0	0	0	5
Smallpox	2	0	0	14	1	0	0	0	0	0	0	0	17
Diphtheria	0	1	0	0	0	0	0	1	0	0	0	0	2
Chickenpox	0	1	0	0	0	0	0	0	0	0	1	0	2
Foot-and-mouth disease.....	0	1	0	0	0	0	0	0	0	0	0	0	1
Mumps	0	1	0	0	0	0	0	0	0	0	0	0	1
Typhoid fever.....	0	0	1	0	0	0	0	0	0	0	0	0	1
Pellagra	0	0	0	0	0	1	0	0	0	0	0	0	1
Furunculosis	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	4	7	1	14	1	1	0	1	1	0	1	0	31

The following table indicates the distribution of these cases by color and sex:

<i>Months.</i>	<i>White.</i>	<i>Colored.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
January	3	1	3	1	4
February	7	0	5	2	7
March	1	0	0	1	1
April	14	0	6	8	14
May	0	1	1	0	1
June	1	0	0	1	1
August	0	1	0	1	1
September	1	0	1	0	1
November	0	1	1	0	1
Totals.....	27	4	17	14	31



Report of the Bureau of Bacteriology.

WM. ROYAL STOKES, M. D., Chief Bacteriologist

I hereby respectfully report upon the work carried out in the bacteriological laboratory during the year 1915. Table No. 1 shows that there were 6,022 examinations made for physicians, and this is almost double the amount of examinations for 1914, since 3,866 examinations were made for physicians during this year. We made 5,126 examinations of water, milk and other foods, which is also an increase over the year 1914, when 3,187 such examinations were made. A total of 11,184 examinations was made, and 5,458 complete doses of antityphoid vaccine were given out to citizens of the State. The work in detail can be found in Table No. 1, which follows:

TABLE No. 1.
EXAMINATIONS FOR THE DETECTION OF DISEASES AND INSANITARY
CONDITIONS.

	<i>Positive.</i>	<i>Negative.</i>	<i>Suspicious.</i>	<i>Unsatisfactory.</i>	<i>Total.</i>
Typhoid fever.....	611	813	88	5	1,517
Malaria	4	203	2	64	273
Tuberculosis	309	888	4	4	1,205
Diphtheria	582	2,237	6	31	2,856
Miscellaneous (Examinations of Rabies, Gonococcus, Typhoid Blood Culture, Feces and Urine Specimens).....					171
Examination of Water.....					4,320
Examination of Milk.....					472
Examination of Cream.....					2
Examination of Ice Cream.....					1
Examination of Oysters.....					259
Examination of Canned Goods.....					30
Examination of Tomato Pulp.....					12
Examination of Ice.....					30
Total Number of Examinations.....					11,148
Complete Doses of Antityphoid Vaccine Distributed.....					5,458

In commenting on the various miscellaneous examinations made, it might be noted that the practical application of these examinations is allotted to the Bureaus of Sanitary Engineering and of Food and Drugs. Much of the bacteriological work for the former Bureau is used in the regulation of the various water supplies and sewage-disposal systems.

REPORT OF THE CO-OPERATIVE LABORATORY FOR ALLEGANY AND
GARRETT COUNTIES FOR THE MONTHS OF SEPTEMBER,
OCTOBER, NOVEMBER AND DECEMBER, 1915.

	<i>Cumberland County.</i>			<i>Allegany County.</i>			<i>Garrett County</i>			<i>Total.</i>
	<i>P.</i>	<i>N.</i>	<i>S.</i>	<i>P.</i>	<i>N.</i>	<i>S.</i>	<i>P.</i>	<i>N.</i>	<i>S.</i>	
Diphtheria (sw. from throat)	59	200	2	160	1,066	5	15	129	0	1,636
Typhoid fever (Widal test)	26	13	14	19	20	11	6	4	0	113
Typhoid fever (bile cult., feces, urine and blood)...	0	4	0	4	8	0	0	4	0	20
Typhoid fever (urine).....	0	0	0	2	2	0	0	0	0	4
Para-typhoid (Widal test)..	3	8	1	1	8	1	1	1	0	24
Malaria	0	5	0	0	2	0	0	0	0	7
Tuberculosis (sputum).....	9	55	0	12	44	0	0	10	0	130
Tubercular meningitis (Spg. Fl.)	0	1	0	0	0	0	0	0	0	1
Control cultures.....	0	31	0	0	0	0	0	0	0	31
	<i>Gd.</i>	<i>Bd.</i>	<i>Sus.</i>	<i>Gd.</i>	<i>Bd.</i>	<i>Sus.</i>	<i>Gd.</i>	<i>Bd.</i>	<i>Sus.</i>	
Milk Examinations.....	23	14	53	5	0	17	4	1	7	124
Water Examinations.....	21	14	0	12	9	1	29	19	3	108
Ice Cream Examinations...	4	7	0	0	0	0	0	0	0	11
Cream Examinations.....	5	3	0	0	0	0	0	0	0	8
Cond. Milk Examinations..	0	1	0	0	0	0	0	0	0	1
Butter Examinations.....	0	0	0	2	0	0	0	0	0	2
Total Number Examinations.....										2,220
Typhoid Vaccine Distributed.....							20	46	17	83
Smallpox Vaccine Distributed.....							0	1	50	61

Respectfully submitted,

W. A. GUNTHER,
Bacteriologist.

*NOTE—"P," "N" and "S" in above headings represent "Positive," "Negative" and "Suspicious," respectively.

Report of Bureau of Chemistry.

W. B. D. PENNIMAN, Chief

DR. JOHN S. FULTON,
*State Department of Health,
Baltimore, Maryland.*

DEAR SIR:

Below you will find the list of the substances analyzed by this Bureau during the year 1915. We have included in this list only those analyses made for other Bureaus. The analyses made in connection with our investigating work are not included in this list.

The law requires us to use the methods of the General Government, but we are still continuing to follow out your regulations that fundamental data regarding all methods and standards must be obtained in this laboratory as a necessary preliminary to prosecution. The principal investigations which have been carried on during the year are as follows:

Water and Sewage Analyses—This work has been completed and standard Laboratory methods adopted during the year. The plan proposed in our report of 1915 of using small containers for samples that can be sent by Parcel Post has been put into effect. In part, the results from a practical standpoint have been entirely satisfactory so far as convenience to the inspectors, accuracy of results and expense. New methods will have to be experimented with as they are proposed, and it is our intention to keep at least one trained chemist at work on this very important part of our work.

Tin in Canned Goods—A method for tin in canned goods has been devised in this laboratory.

Aspirin—A new method for the separation and estimation of this important drug has been devised.

Toxicological Work—Improvements in existing methods have been made. The more common general methods for the detection and estimation of poisonous substances have been studied and a new method suggested by our work is now under investi-

gation. The details of this method naturally require a good deal of additional study, and the work will be continued.

Investigations of minor importance have been made on the following subjects:

Evaporated Milk,
Nitrated Oils,
The Effect of Formaldehyd on Milk Serum,
Saccharin in Soft Drinks,
Canned Tomatoes,
The Amount of Sugar in Ripe and Artificially Ripened
Oranges,
Spirit of Camphor,
Chicory in Coffee.

W. B. D. PENNIMAN,
Chemist of the Board of Health.

DAIRY PRODUCTS.

Butter—within the limit.....	25	analyses.
Butter—not within the limit.....	3	"
Butter—for information.....	3	"
Butter—checks	7	"
Condensed Milk—within limit.....	1	"
Evaporated Milk—within limit.....	2	"
Evaporated Milk—for information.....	3	"
Evaporated Milk—checks	6	"
Milk—within the limit.....	272	"
Milk—not within the limit.....	43	"
Milk—checks	40	"
Human Milk.....	4	"

OILS AND FATS.

Lard—within the limit.....	3	"
Lard—not within the limit.....	1	"
Salad Oil—within limit.....	1	"
Olive Oil—within limit.....	2	"

CANNED GOODS.

Strawberries—for information.....	1	"
Beans—for information.....	2	"
Apples—for information.....	1	"
Canned Tomatoes—within limits.....	43	"
Canned Tomatoes—not within limits.....	10	"

SOFT DRINKS.

Lemon Soda—within limits.....	45	"
Lemon Soda—not within limits.....	6	"
Sarsaparilla—within limits.....	40	"

Sarsaparilla—not within limits.....	3	analyses.
Ginger Ale—within limits.....	42	"
Ginger Ale—not within limits.....	7	"
Vanilla Soda—within limits.....	10	"
Orange Soda—within limits.....	15	"
Orange Soda—not within limits.....	1	"
Birch Beer—within limits.....	14	"
Birch Beer—not within limits.....	5	"
Volco—within limits.....	1	"
Wil Mar Kola—within limits.....	1	"
Mo Ro Soda—within limits.....	1	"
Wild Cherry—within limits.....	1	"
Cherry Soda—within limits.....	5	"
Cherry Soda—not within limits.....	1	"
Coca-Cola—within limits.....	1	"
Coca-Cola—not within limits.....	1	"
Grape Soda—within limits.....	7	"
Grape Soda—not within limits.....	2	"
To Ko Kola—within limits.....	2	"
Cider Champagne—within limits.....	1	"
Linako—within limits.....	1	"
Peach Soda—within limits.....	4	"
Chocolate Soda—within limits.....	2	"
Soda Water—within limits.....	1	"
Raspberry Soda—within limits.....	4	"
Root Beer—within limits.....	6	"
Cream Soda—within limits.....	2	"
Cream Soda—not within limits.....	1	"
Gayola—within limits.....	1	"
Strawberry Soda—within limits.....	25	"
Strawberry Soda—not within limits.....	1	"
Sherbet—within the limits.....	1	"
Blackberry Cider—within limits.....	1	"

VINEGARS.

Vinegars—within the limits.....	681	"
Vinegars—not within the limits.....	116	"
Vinegars—for information.....	1	"
Vinegars—check	128	"

EXTRACTS.

Extract Rose—not within limits.....	1	"
Extract Almond—not within limits.....	2	"
Extract Orange—not within limits.....	2	"
Extract Lemon—not within limits.....	1	"
Extract Peach—not within limits.....	1	"
Extract Raspberry—not within limits.....	1	"
Extract Strawberry—not within limits.....	2	"
Extract Vanilla—not within limits.....	1	"
Extract Pineapple—not within limits.....	2	"
Extract Peppermint—not within limits.....	1	"

DRUGS.

Aspirin	97	"
Fowler's solution.....	140	"
Laudanum	105	"
Syrup of iodide of iron.....	45	"
Witch-hazel	9	"

MISCELLANEOUS FOOD PRODUCTS.

Coffee—within the limits.....	121	analyses.
Coffee—not within the limits.....	21	"
Coffee—for information.....	3	"
Vanilla Ice Cream—within limits.....	1	"
Oysters—within the limits.....	20	"
Whiskey—within the limits.....	4	"
Whiskey—for information.....	1	"
Ground Beef—within the limits.....	24	"
Ground Beef—not within limits.....	12	"
Ground Beef—check.....	10	"
Flour—for information.....	28	"
Honey—for information.....	4	"
Egg Lyn—for information.....	1	"
Rye Flour—within limits.....	2	"
Ice Cream Cones—within limits.....	1	"
Cornmeal—for information.....	1	"
Chickory—for information.....	1	"
Rye—for information.....	1	"
Wheat—for information.....	1	"
Bread—for information.....	1	"
Beets—for information.....	1	"
Peas—for information.....	1	"
Beans—for information.....	1	"
Peanuts—for information.....	1	"

MISCELLANEOUS.

Special test for lead—Dr. W. W. Ford.
Report on stone jar.

WATERS FOR THE YEAR 1915.

<i>Waters</i>	<i>Water.</i>	<i>Sewage.</i>	<i>Special Analysis.</i>	<i>Ice.</i>
Allegany County.....	67	...	56	1
Anne Arundel County.....	146	...	30	...
Baltimore County.....	419	41	178	2
Baltimore City.....	7	...	7	1
Calvert County.....	94	...	43	...
Caroline County.....	22	...	18	1
Carroll County.....	208	157	284	...
Cecil County.....	45	...	30	1
Charles County.....	37	...	3	...
Dorchester County.....	112	...	19	...
Frederick County.....	183	...	104	2
Garrett County.....	24	...	25	1
Harford County.....	88	...	70	...
Howard County.....	40	...	3	...
Kent County.....	108	...	76	3
Montgomery County.....	126	...	75	2
Prince George's County.....	41	...	20	...
Queen Anne's County.....	31	...	12	1
St. Mary's County.....	15	...	3	1
Somerset County.....	35	...	31	2
Talbot County.....	78	6	15	2
Washington County.....	30	...	14	1
Wicomico County.....	265	...	18	2
Worcester County.....	20	...	18	3
Table Waters.....	21	...	...	...
Total.....	2,062	204	1,152	26

Report of the State Food and Drug Commissioner.

To the State Board of Health of Maryland.

GENTLEMEN:

Herewith I beg to submit my report for the twelve months ending December 31, 1915.

As shown by the schedule below, 1,910 samples of food and drugs were purchased and analyzed during the year 1915, of which number 1,701 were passed and 209 were alleged to be in violation of the Pure Food and Drugs Act.

Increased work has been performed by our Veterinarian and Dairy Inspector, whose report is hereto attached, inspection of dairies and slaughter houses during the past year being confined to the following counties: Anne Arundel, Baltimore, Carroll, Frederick, Harford, Howard, Kent, Prince George's, Queen Anne's, Somerset, Talbot, Washington, Wicomico.

The milk supply of Baltimore City being carefully looked after by the City Health Department, the inspection of these dairies and dairy farms by the State authorities is not considered necessary, as it would be a mere duplication of work without added results. It is gratifying to note a gradual improvement in the sanitary conditions of the dairies and slaughter houses in the State, although in some instances repeated visits were necessary, and even a few prosecutions, in order to impress upon the owners of the establishment the importance and necessity of conforming to the requirements of the Sanitary Inspection Law. Investigations will be continued during the present year, and it is hoped that ere long we shall be able to record a satisfactory score for every dairy and slaughter house in Maryland, especially as far as proper provision against contamination by flies, the great carriers of filth and disease, is concerned.

I beg to call your attention to the report, hereto appended, of the Cannery Inspector attached to this Department, which shows to a marked degree the satisfactory results obtained in the enforcement of the sanitary requirements for canning establishments. The employment of more inspectors and consequent expenditure of more money, with the view of bringing the can-

neries of Maryland up to a condition beyond criticism and second to none in the country, is absolutely necessary, and it is earnestly hoped that the Legislature now in session will find it possible to appropriate the money asked for, in order to place this, one of the leading industries of the State, in the foremost ranks in respect to sanitary conditions, both in equipment and methods.

During the past summer the crab canneries at Crisfield and Cambridge were thoroughly inspected, with the result that nearly all of them were found to be operated in compliance with the Sanitary Inspection Law. Considerable attention has also been given during the year to the conditions surrounding the shucking and canning of oysters, and while a number of establishments required special instruction and warning, the situation as a whole was found rather satisfactory.

The bacteriological examination of oysters reported below was made with the view of ascertaining possible contamination with bacteria of the colon bacillus type, the numerical valuation being made in accordance with the scoring method adopted by the American Public Health Association and the Agricultural Department at Washington. A score of less than 50 in the examination of the liquid found in five oysters in shell, taken from the same lot, or of three samples of the liquid in the case of shucked oysters, is considered at present insufficient to warrant condemnation, and naturally, the lower the score, the better the quality of the oysters. If the colon bacillus has been isolated from 1 Cc. of the liquid, a value of 1 is given that particular sample; if isolated from 0.1 Cc. a value of 10 is given, and if isolated from 0.01 Cc. a value of 100 is given, etc.

The examination of a single set of oysters in any locality does not, of course, justify any definite conclusion, as subsequent examinations may indicate better or worse conditions. Since the Health Department of Baltimore City has undertaken to investigate the oyster supply furnished in this city, all examinations of intra-urban oysters by the State Department of Health ceased with the close of the year 1915.

OYSTERS EXAMINED IN 1915.

<i>Name and Locality.</i>	<i>Score for Isolated Colon Bacillus.</i>
Geo. W. Sheckels, 201 N. Pine St., City:	
Oysters in shell from Mill Creek, Va.....	1
Shucked oysters from Mill Creek, Va.....	1
Oysters in shell from Eastern Bay.....	0
Shucked oysters from Eastern Bay.....	3
T. A. Robinson & Co., High and Low Sts., City:	
Shucked oysters from South River, Md.....	120
Shell stock.....	14
E. H. Burrows & Son, 514 W. Lexington St., City:	
Shucked oysters from West River, Md.....	1
Shell stock.....	14
Oysters in shell from Patuxent River.....	0
Shucked oysters from Patuxent River.....	21
MacKenthun & Bach, 522 W. Lexington St., City:	
Shucked oysters from Bay Shore, West River.....	2,100
Shell oysters from Bay Shore, West River.....	32
Gerahty & McWilliams, Pratt and Hollingsworth Sts., City:	
Shucked stock from Tangier Sound.....	21
Shell stock from Tangier Sound.....	50
Oysters in shell from Mobjack Bay.....	2
Shucked oysters from Mobjack Bay.....	21
John G. Wagner & Co., 104 W. Dover St., City:	
Shucked stock from North End Bar, Rappahannock River..	30
Shell stock from North End Bar, Rappahannock River....	3
Oysters in shell from Hampton, Va.....	2
Shucked oysters from Hampton, Va.....	12
Atlantic Packing Co., President and Stile Sts., City:	
Shucked oysters from Magothy River.....	3
Shell oysters from Magothy River.....	1
W. H. Kirkwood & Sons, 114 Dover St., City:	
Shucked oysters from Water View, Va.....	120
Shell stock from Water View, Va.....	2
Wm. B. McCaddin & Co., 26 Market Space, City:	
Shucked oysters from Tangier Sound.....	0
Shell oysters from Tangier Sound.....	1
Oysters in shell from Tangier Sound.....	1
Shucked oysters from Tangier Sound.....	12
G. P. Peterson & Co., 120 E. Centre St., City:	
Shucked oysters from Old Point, Va.....	0
Shell oysters from Old Point, Va.....	1
Oysters in shell from Old Point, Va.....	4
Shucked oysters from Old Point, Va.....	21
J. Geo. Pertsch, 521 W. Lexington St., City:	
Shucked oysters from York River.....	1,200
Shell oysters from York River.....	0
Shucked oysters from Chesapeake Bay.....	3
Shell oysters from Chesapeake Bay.....	0
F. F. East & Co., Frederick and Water Sts., City:	
Shucked oysters from Hollins Point, Md.....	3
Shell oysters from Hollins Point, Md.....	2
Oysters in shell from Holland Point.....	1
Shucked oysters from Holland Point.....	3

OYSTERS EXAMINED IN 1915—*Continued.*

<i>Name and Locality.</i>	<i>Score for Isolated Colon Bacillus.</i>
Shall Packing Co., Atlantic Wharf, City:	
Oysters in shell from Patuxent River.....	1
Shucked oysters from Patuxent River.....	21
C. L. Applegarth Co., Webster St., City:	
Oysters in shell from Patuxent River.....	5
Shucked oysters from Patuxent River.....	21
Storey & Bunnell Packing Co., foot of West St., City:	
Oysters in shell from Rhoad River.....	3
Shucked oysters from Rhoad River.....	1
Chas. W. Reddish, Clement and Boyle Sts., City:	
Oysters in shell from Cedar Point.....	1
Shucked oysters from Cedar Point.....	2
R. Pohler, 514 W. Lexington St., City:	
Oysters in shell from Patuxent River.....	0
Shucked oysters from Patuxent River.....	3
Wm. Heyser, Pratt and Grant Sts., City:	
Oysters in shell from Hampton, Va.....	1
Shucked oysters from Hampton, Va.....	22
B. Hayden, 734 W. German St., City:	
Oysters in shell from York River.....	0
Shucked oysters from York River.....	3
Wm. Jacobs & Son, 411 N. Paca St., City:	
Oysters in shell from Herring Bay.....	1
Shucked oysters from Herring Bay.....	3
J. Langrall & Bro., Inc., 2105 Aliceanna St., City:	
Oysters in shell from Potomac River.....	0
Shucked oysters from Potomac River.....	3
H. McWilliams & Co., 110 Hughes St., City:	
Oysters in shell from South River.....	14
Oysters shucked from South River.....	12
W. H. Kirkwood & Son, 114 Dover St., City:	
Oysters in shell from Patuxent River.....	0
Shucked oysters from Patuxent River.....	300
T. E. Jones & Co., Cambridge, Md.:	
Shucked oysters from Chesapeake Bay.....	120
Shell oysters from Chesapeake Bay.....	2
W. G. Winterbottom, Cambridge, Md.:	
Shucked oysters from Annapolis, Md.....	1
Shell oysters from Annapolis, Md.....	1
I. L. Leonard & Co., Cambridge, Md.:	
Shucked oysters from Potomac River, Md.....	1
Shell oysters from Potomac River, Md.....	4
H. L. Harris & Co., Cambridge, Md.:	
Shucked oysters from Choptank and Potomac Rivers.....	120
Shell oysters from Choptank and Potomac Rivers.....	4
T. M. Bramble & Co., Cambridge, Md.:	
Shucked oysters from Potomac and Severn Rivers.....	21
Shell oysters from Potomac and Severn Rivers.....	0
A. Phillips, Cambridge, Md.:	
Shucked oysters from Choptank River, Md.....	1
Shell oysters from Choptank River, Md.....	0
M. V. Smith & Son, 310 W. Mulberry St., City:	
Oysters in shell from Lynn Haven Bay.....	1
Shucked oysters from Lynn Haven Bay.....	12

LIST OF SAMPLES OF FOODS AND DRUGS ANALYZED FROM
JANUARY 1, 1915, TO DECEMBER 31, 1915.

	<i>Passed.</i>	<i>Not Passed.</i>
Aspirin Tablets.....	88	3
Butter	27	2
Birch Beer.....	11	2
Coffee	120	16
Coffee (Information).....	4	0
Extract of Vanilla.....	1	1
Extract of Almond.....	1	1
Extract of Lemon.....	0	1
Extract of Orange.....	0	1
Extract of Peppermint.....	0	1
Extract of Peach.....	0	1
Extract of Pineapple.....	0	2
Extract of Rose.....	0	1
Extract of Raspberry.....	0	1
Extract of Strawberry.....	0	2
Fowler's Solution.....	122	12
Flour (Rye).....	1	0
Hamburg Steak.....	21	9
Ice Cream.....	1	0
Ice Cream Cones.....	1	0
Information Samples.....	9	0
Jamaica Type Rum.....	0	1
Lard	3	3
Laudanum	83	21
Milk	245	95
Oysters (Information).....	20	0
Olive Oil.....	2	0
Oleomargarine	1	0
Salad Oil.....	1	0
Soft Drinks.....	221	0
Spirit of Camphor.....	2	0
Spirit of Peppermint.....	1	0
Syrup of Iodide of Iron.....	41	4
Tincture Chloride of Iron.....	1	0
Tincture of Iodine.....	1	0
Vinegar	674	100
Witch Hazel.....	8	0
Whiskey	4	0
Total.....	1,701	209

As shown by the following list, our efforts to bring alleged violations of the Pure Food and Drug Law to trial met with better results than in former years, and the small number (25) of prosecutions may be accepted as evidence that violations of the law are annually growing less.

LIST OF PROSECUTIONS BROUGHT UNDER THE FOOD AND DRUGS LAW OF MARYLAND DURING 1915.

<i>City, Town or County.</i>	<i>Laboratory No.</i>	<i>Name of Defendant.</i>	<i>Date Sample was Purchased.</i>	<i>Why Prosecuted.</i>	<i>Final Disposition of Case.</i>
Oakland	7839	Thos. A. Gonder.	Jan. 20, 1915	Deficiency of arsenic trioxide in Fowler's Solution.	Plead guilty; paid fine of \$5 and costs.
Elkton	7865	Robt. B. Frazer.	Jan. 20, 1915	Deficiency of morphine in laudanum.	Plead guilty; paid fine of \$5 and costs.
Hagerstown	7827	S. P. Schindel.	Jan. 20, 1915	Deficiency of arsenic trioxide in Fowler's Solution.	Plead guilty; paid fine of \$10 and costs.
Cumberland	7856	Shirey & Hawkins.	Jan. 21, 1915	Deficiency of arsenic trioxide in Fowler's Solution.	Plead guilty; paid fine of \$5 and costs.
Cumberland	7858	A. M. Lichtenstein.	Jan. 21, 1915	Deficiency of arsenic trioxide in Fowler's Solution.	Plead guilty; paid fine of \$10 and costs.
Frederick	7951	Williamson's Drug Store	Jan. 27, 1915	Excess amount of morphine in laudanum.	Found guilty; paid fine of \$10.
Brunswick	7961	A. G. Horine.	Jan. 28, 1915	Deficiency of morphine in laudanum.	Found guilty; paid fine of \$10.
Baltimore	7992	Clotworthy Chem. Co.	Feb. 4, 1915	Excess amount of morphine in laudanum.	Stetted.
Annapolis	8008	Feldmeyer Bros.	Feb. 4, 1915	Deficiency of arsenic trioxide in Fowler's Solution.	Found guilty; paid fine of \$10 and costs.
Highlandtown	8033	Rose Drug Co.	Feb. 8, 1915	Deficiency of arsenic trioxide in Fowler's Solution.	Plead guilty; paid fine of \$5 and costs.
Baltimore	8042	Assoc. Drug Stores.	Feb. 10, 1915	Presence of chicory in coffee.	Plead guilty; paid fine of \$25 and costs.
Baltimore	8041	A. A. Brager.	Feb. 10, 1915	Presence of chicory in coffee.	Plead guilty; paid fine of \$25 and costs.
Baltimore	8066	J. W. Crook.	Feb. 24, 1915	Process butter sold as butter.	Found guilty; paid fine of \$1 and costs.
Salisbury	8316	Levin D. Collier.	Apr. 22, 1915	Deficiency of arsenic trioxide in Fowler's Solution.	Plead guilty; paid fine of \$5 and costs.
Baltimore	8067	J. P. Weber.	Feb. 25, 1915	Process butter sold as butter.	Plead guilty; paid fine of \$25 and costs.

LIST OF PROSECUTIONS BROUGHT UNDER THE FOOD AND DRUGS LAW OF MARYLAND DURING 1915.

Continued.

<i>City, Town or County.</i>	<i>Laboratory No.</i>	<i>Name of Defendant.</i>	<i>Date Sample was Purchased.</i>	<i>Why Prosecuted.</i>	<i>Final Disposition of Case.</i>
Baltimore	8324	W. D. Seamon.	Apr. 28, 1915	Presence of preservatives in ground beef.	Found guilty; paid fine of \$10 and costs.
Baltimore	8329	Ernest Bornman.	Apr. 29, 1915	Presence of preservatives in ground beef.	Found guilty; paid fine of \$10 and costs.
Baltimore	8337	Ernest Bornman.	Apr. 29, 1915	Presence of preservatives in ground beef.	Found guilty; paid fine of \$10 and costs.
Baltimore	8338	Chas. Schaaf.	Apr. 30, 1915	Presence of preservatives in ground beef.	Found guilty; paid fine of \$10 and costs.
Baltimore	7728	American Meat Market.	Nov. 27, 1914	Presence of cottonseed oil and other substances in lard.	Dismissed by Grand Jury.
Salisbury	6093	Jno. M. Toulson.	Jan. 14, 1914	Deficiency of iodine in tincture of iodine.	Stetted.
Cambridge	6869	Oscar C. Moore.	Apr. 14, 1914	Vinegar misbranded; sold as cider vinegar.	Stetted.
Crisfield	6926	R. J. Adams.	Apr. 16, 1914	Presence of cottonseed oil in lard.	Plead guilty; paid fine of \$5 and costs.
Baltimore	6807	Michael J. Crouse.	Mar. 26, 1914	Presence of cottonseed oil in lard.	Found guilty; paid fine of \$15 and costs.
Crisfield	7597	P. R. Mason.	Sept. 29, 1914	Deficiency of butter fat in ice cream.	Plead guilty; paid fine of \$5 and costs.

TOWNS VISITED BY FOOD AND DRUG INSPECTORS DURING
THE YEAR 1915.

Aberdeen (3), Adamstown (2), Arlington (3), Annapolis (5), Andrews, Abels (2), Allen, Bethlehem, Bradshaw, Betterton, Birdsville, Barstow, Buena Vista, Bowens, Broomes Island, Brentwood, Boone, Buckeystown (2), Brunswick (3), Bellevue (2), Belair (4), Bethesda, Berwyn (3), Berlin (3), Bowie (2), Brooklyn, Bishop Head, Bivalve, Barton (2), Boonsboro (2), Beaver Creek, Baden (2), Brandywine (2), Birdsville, Battle Swamp, Beltsville (2), Branchville (2), Bladensburg, Blackistone, Bushwood, Bryantown, Beachville, Belle Alton (2), Beauvue (2), Baldwin (2), Bengies (2), Bar Neck, Black Rock, Butler, Chesapeake City (2), Cumberland (4), Cooksville (2), Centreville (4), Churchville (2), Chestertown (3), Cockeysville (2), Corbett, Catonsville (2), Canton (2), Cambridge (4), Crisfield (4), Capitol Heights, Curtis Bay, Carney, Claiborne (2), Church Creek, Crapo, Clara, Cedarville, Croome Station (2), Conowingo (2), Colora, Cranberry Station, College Park, Clements (2), Crompton (2), California (2), Charlotte Hall, Cox's Station, Chaptico (2), Colgate, Cowenton, Chase (2), Corbett, Cob Hill, Cordova, Chester, Church Hill, Chance, Crumpton, Chaneyville, Charlotte Hall, Derwood (2), Denton (3), Deals Island (2), Delmar, Deer Park (2), Downesville, Davidsonville, Dryden (2), Delight, Dunkirk, Elkton (4), Emmitsburg (2), Easton (3), East New Market (2), Elkridge (2), Ellicott City (2), Eastport (3), Ellwood (2), Essex, Edgemere, Eckhart, Edgewood, Edgewater, Funkstown (2), Frostburg (3), Frederick (6), Federalsburg, Fairfield, Fruitland (2), Fork (2), Freeland (2), Fairbank, Frizzelberg, Fallston, Forrest Hill, Fowblesburg, Fords Store, Franklinville, Fullerton, Fairlee, Friendship, Faulkner, Gaithersburg (2), Greensboro (2), Govans, Glyndon (2), Gardenville, Golden Hill, Great Mills (2), Girdletree, Grange, Golden Ring, Glencoe, Glenarm (2), Garrison, Granite, Gorsuch Mills, Glenburnie, Galena, Galloway, Grove, Gallant Green, Hamilton (4), Hagerstown (4), Half Way (2), Havre de Grace (3), Hancock (2), Hampstead (3), Hillsboro (2), Hurlock (2), Highlandtown (2), Hyattsville (4), Hebron (2), Hopewell, Hooper Island, Harwood (2), Hughesville (2), Holly Wood (2), Hurry, Harri-
mansville, Hombergsville, Hyde, Hebbville (2), Hillsdale, Harrisonville (2), Hickory, Herford, Henderson, Hess, Huntington, Helen, Ironshire, Indian Head, Issue (2), Island Creek, Insley, Jesterville, Jefferson (2), Jarboeville, Jacksonville, Jarrettsville, Jessups, Kensington (2), Keymar, Kingston, Keedysville, Kingsville (2), Kennedysville, Lauraville (3), Lonaconing (2), Lisbon (2), Laurel (4), Lakesville, Lintnerville, Lime Kiln, La Plata (2), Leeland, Locust Grove (2), Lakeland, Leonardtown, Lothair (2), Long Green, Lewistown, Linwood, Lansdown, Lower Marlboro, Loveville, Laurel Grove, Mt. Airy (4), Myersville (2), Middletown (3), Manchester (3), Millington (2), Monkton, Mt. Winans (2), Mt. Ranier (2), Mardella Springs (2), Marion Station, Milton, Madison, Midland (2), Mason's Corner, Mitchellsville, Mulligan, Medford (2), Mt. Savage, Muirkirk, Milestown (2), Millstone, Maddox, Mechanicsville (2), Middle River (2), Mt. Washington, Monkton, Mountain Lake Park, Meadows, Malcolm, Millers Wharf, Mattox, Mapleville, Mt. Carmel, Manor, McDaniels, Marydel, Madonna, Morrisville, Maryland Line, Marley, Millersville, Morrell Park, Magnolia, Mutual, New Market, North East (3), New Windsor (2), Newark (2), Neavitt, Nanticoke, Nottingham, Naylor, North Keys, Newberg (2), Newport, North Keys, Oxford (2), Overlea (3), Oakland (3), Ocean City (2), Owings Mills (2), Oakwood, Odenton, Owing Station, Oakville, Oraville, Popes Creek, Perryville (2), Port Deposit (3), Poplar Springs (2), Pikesville (2), Preston (2), Parkton (2), Princess Anne (2), Pocomoke City (2), Parkville (2), Parsonsburg (2), Pittsville (2), Port Tobacco, Pomonkey, Pomport, Perry Hall (2), Perryman (3), Piney Point (2), Pearson (2), Park Hall, Point Ridge, Phoenix, Poplar (2), Poplar Heights, Pumphrey, Prince

Frederick, Port Republic, Palmer, Queenstown (2), Queen Anne's (3), Quantico, Raspeburg (2), Rising Sun (2), Ridgeville (2), Rockville (2), Reisterstown (3), Ridgeley (3), Royal Oak (2), Riderwood (2), River-ton, Riverdale (2), Rowlandville, Redgate (2), Rock Point, Rosedale (2), Rossville (2), Ruxton, Rockdale, Randallstown (2), Relay, Sykesville (3), Sudlersville, Sharpstown, Salisbury (4), Snow Hill (3), Seat Pleasant, St. Mary's City, St. Inigoes, St. George, Scotland (2), St. Helena, Sweet Air, Shawsville, Shipley, Severn, Still Pond, St. Leonards, Solomon's Island, Sherwood, Smithsburg, St. Michaels (3), Sparrows Point (2), Sharpsburg, Stockton, Sparks, Silver Springs, Stevensville, Taneytown (2), Thurmont (3), Trappe, Towson (3), Tilghman's (2), Taylor's Island, Toddville, Tyaskin, Tilghmanton, T. B. Talbot, Tomkinsville, Turner, Texas, Timonium, Union Bridge (3), Upper Marlboro (2), Uniontown, Upperco, Upper Falls, Valley Lee (2), Vienna, Williamsport (2), Westernport (2), Woodsboro, Walkersville, Westminster (3), Westport (2), Westover (2), Winona (2), Wingate, White Haven, Whaleyville (2), Williards, Westwood (2), Woodmore, Westmore, Wayside (2), Waldorf (2), White Hall (2), Woodlawn (2), Washington Grove, Wakeville, Woodenberg, Winchester, Warren, Walston, Whitmarsh, Worton, White Plain.

During the year 1915, 265 hearings were held in connection with alleged violations of the law, as follows: 16 in January, 23 in February, 36 in April, 30 in May, 16 in September, 16 in October, 99 in November and 29 in December.

Besides repeated inspections of markets, stores and wharves in Baltimore City, 653 towns were visited by the inspectors, resulting in 10,805 inspections of places where food products are manufactured, stored or sold, more especially with the view of correcting insanitary conditions. This does not include the inspections made by the Cannery and Dairy inspectors, which are separately reported upon elsewhere.

INSPECTIONS MADE IN 1915.

Butter Inspections.....	70
Bottling Plant.....	1
Bakeries	69
Crab Houses.....	43
Canned Goods Inspections.....	4
Depots	4
Fruit Exchanges.....	1
General Stores.....	8,450
Ice Cream Plants.....	118
Markets	390
Oyster Inspections.....	202
Produce Yards.....	4
Sanitary Inspections.....	358
Special Inspections.....	49
Soda Water Inspections.....	10
Terminal Warehouses.....	78
Wharves	954
Total.....	10,805

The following lists will show the character and quantity of food products condemned and destroyed by the inspectors of this Department during the past year, and also the number of samples of food products and drugs examined and not passed after analysis.

CONDEMNATIONS OF FOOD PRODUCTS FROM JANUARY 1, 1915,
TO DECEMBER 31, 1915.

Apples	1,908 gal. cans.
Bananas	2 bunches.
Beef	5½ lbs.
Butter, Peanut.....	2 lbs.
Beans	972 cans.
Chickens	18 lbs.
Currants	282 lbs.
Cantaloupes	1 basket & 7 crates.
Carrots	1 bushel.
Cherries	15 quarts.
Cranberries	97,831 lbs. (98 barrels).
Cabbage	40 lbs.
Dates	20 lbs.
Flavoring Extracts.....	8 bottles.
Fish	680 lbs.
Grapes	12 lbs.
Ham	7 lbs.
Horse Radish.....	4 bottles.
Haddock	1,400 lbs.
Hake	500 lbs.
Liver	15 lbs.
Lettuce	1 basket.
Laudanum	64 ounces.
Milk, Condensed and Evaporated.....	280 cans.
Onions	5½ bushels.
Oranges	225 lbs.
Pudding	8½ lbs.
Peaches	2 baskets.
Prunes	15 lbs.
Potatoes	18 bushels.
Pumpkin	3 lbs.
Rabbits	21
Raisins	94 lbs.
Sausage	20 lbs.
Sweet Potatoes.....	100 lbs.
Strawberries	53 quarts.
Syrup Iodide of Iron.....	1½ pints.
Turnips	½ bushel.
Tomatoes	2,139 cans.
Tomato Pulp.....	38,941 cans.

LIST OF FOODS AND DRUGS NOT PASSED DURING 1915.

<i>Representation.</i>	<i>Cause for Rejection.</i>
3 samples Aspirin Tablets.....	Adulterated with large quantities of foreign material.
2 samples Butter.....	Misbranded; renovated butter.
2 samples Birch Beer.....	Adulterated; contain saccharin.
16 samples Coffee.....	Adulterated; contain chickory.
12 samples Flavoring Extracts.....	Misbranded; artificial product.
12 samples Fowler's Solution.....	Adulterated; deficient in arsenic trioxide.
9 samples Hamburg Steak.....	Adulterated; contain preservative.
1 sample Jamaica Type Rum.....	Misbranded; imitation product.
3 samples Lard.....	Adulterated; mixture of cottonseed oil and other substances.
21 samples Laudanum.....	Adulterated; deficient in morphine.
95 samples Milk.....	Low in butter fat and bacteriologically bad.
2 samples Syrup Iodide of Iron...	Contain excessive amount of ferrous iodide.
2 samples Syrup Iodide of Iron...	Adulterated; deficient in ferrous iodide.
79 samples Vinegar.....	Adulterated; deficient in acetic acid.
21 samples Vinegar.....	Misbranded; sold as cider vinegar when not cider vinegar.

It is most unfortunate that as yet the Legislature at present in session has taken no favorable action on our application for a special appropriation to continue the work of sanitary inspection of the canneries of this State, and should the Legislature fail to make an appropriation, the work, so successfully inaugurated last year, will be seriously crippled. It is absolutely impossible to continue successful inspection of the large number of canneries in this State with the services of but one man at our disposal, since frequent visits during the short season are necessary and this would require at least five or six additional inspectors to be stationed in different parts of the State.

The Maryland Canners' Association has promised us their support in this matter, and I have no reason whatever to doubt their sincerity. This makes me somewhat hopeful of a final favorable outcome in our efforts to conserve one of the greatest industries in the State of Maryland, and if sufficient aid is not forthcoming from the State Treasury, I fear that the canning industry will suffer seriously.

Below please find the annual report of our Meat Inspector, whose activities during the many years of his connection with the State Board of Health have undoubtedly been of considerable value to the public.

REPORT OF MEAT INSPECTOR FOR THE YEAR 1915.

Inspected at slaughter-houses and abattoirs—84,378 cattle, 33,716 calves, 145,286 sheep, 203,587 hogs. Visited 2,756 slaughter-houses.

Condemned:

Beef, tainted.....	450 lbs.
Beef, corned.....	450 lbs.
Beef, tubercular.....	10,125 lbs.
Calves, under age and weight.....	37
Cows, tubercular.....	6
Hogs, cholera.....	13
Mutton	1,400 lbs.
Veal	700 lbs.
Veal and Mutton.....	310 lbs.

CHARLES N. MITTEN, Inspector.

I also desire to call your attention to the appended letter of the Department's chemist and to the report of examinations of canned tomatoes made in the State Laboratory. The laboratory work of this investigation was performed by Clifford O. Miller, assistant chemist, whose thorough and very creditable work has supplied us with much valuable information. Printed copies of this report are being mailed to all the canners of this State, and those whose products appear in Group 3 will receive special letters notifying them of the conditions found in the canned tomatoes obtained at their establishments.

MARCH 6, 1916.

Dear Sir:

I am sending you herewith a statement of the results obtained, during the past six months, in the chemical examination of packed tomatoes.

In accordance with your suggestion, we have divided the samples analyzed into three groups:

Group I contains all those which apparently are not adulterated through the addition of water.

Group II are those tomatoes which fall below the standards adopted, but whose adulteration may not have been intentional, and may have arisen from the condensation of steam used in the packing processes.

Group III contains the samples in which the extent to which water has been added excludes the possibility of such addition having been accidental.

With respect to the tentative standards suggested by you, we may say that their fairness is fully confirmed by our analytical results, there being no case where the intentional addition of water was charged by our Inspectors, and in which this charge was not fully established in the laboratory. These standards are as follows:

Can contents pulped:—Total solids not less than 5%.

Filtered juice:—Specific Gravity—(25° C.)—not less than 1.0190.

—Refractometer reading—(20° C.)—not less than 31.0.

—Total solids—not less than 4.0%.

—Reducing sugars—not less than 2.0%.

It will be noticed that there are really two sets of standards: one having to do with the amount of solid material, which should be and is naturally present in properly packed tomatoes, while the other has to do more particularly with the physical and chemical constants of the juice of tomatoes. We are of the opinion that the standard of 6.4% solids, suggested by the U. S. Government, is too high for the 1915 pack. The minimum of 5% is perhaps a little low, and therefore may in fairness be required of the packers, particularly if the examination of the filtered juice yields results which fall below the standard figures set forth above.

The drained solids vary greatly in amount, depending to a large extent upon the methods of packing. They are most likely lower in plunger-packed goods than in hand-packed; also in ripe or over-ripe tomatoes than in green ones. In addition to adulteration through addition of water, the occasional presence of green or of soft fruit was noted. The ash also varies, depending upon the amount of seeds present, and upon whether salt has been added. The amount of sugar in green tomatoes is lower than in ripe tomatoes, and a similar low sugar content is found when the tomatoes were over-ripe and had begun to ferment.

We also suggest for your consideration the possibility of fixing a limit for the acid present. Excessive acid generally

indicates that the tomatoes were over-ripe when packed, and had begun to ferment; however, a high acid content may be due in some instances to an excessive amount of seeds present.

Yours very truly,

W. B. D. PENNIMAN,

Chemist, State Dept. of Health.

CHAS. CASPARI, JR.,

State Food and Drug Commissioner.

RESULTS OF EXAMINATIONS OF CANNED TOMATOES.

GROUP I.

Laboratory No.	Net Weight.	Per Cent. Solids by Draining.	CONTENTS OF CAN, PULPED.			FILTERED JUICE.							
			Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Refractometer Reading.	Specific Gravity.	Per Cent. Acid.	Per Cent. Sugars.	Acid-Sugar Ratio.
10,072	34.74	33.00	5.73	0.430	0.032	4.30	0.410	0.037	32.80	1.0202	0.398	2.68	1: 6.7
10,064	35.62	50.49	5.63	0.480	0.030	4.49	0.408	0.017	34.20	1.0207	0.365	2.64	1: 7.2
10,066	33.29	54.50	5.42	0.430	0.004	4.23	0.380	0.008	33.05	1.0195	0.309	2.51	1: 8.1
9,802	18.69	16.98	5.80	0.344	0.0	4.29	0.390	0.00	33.00	1.0210	0.421	2.02	1: 4.3
10,076	10.58	61.66	5.54	0.405	0.016	4.30	0.403	0.009	32.45	1.0203	0.360	2.84	1: 7.9
8,975	19.57	45.04	5.15	0.375	0.0	4.01	0.243	0.0	32.65	1.0202	0.376	2.25	1: 6.0
8,975	20.10	45.59	5.25	0.460	0.010	4.09	0.331	0.006	31.25	1.0200	0.386	2.23	1: 5.7
8,861	34.39	36.41	5.40	0.237	0.004	4.08	0.301	0.003	33.31	1.0206	0.384	2.65	1: 6.9
9,819	34.39	42.57	5.19	0.379	0.009	4.12	0.264	0.0	32.05	1.0199	0.337	2.70	1: 8.0
9,810	29.98	59.41	5.10	0.314	0.0	3.98	0.344	0.0	32.15	1.0197	0.405	2.28	1: 5.6
9,807	35.27	38.50	5.05	0.32	0.002	4.13	0.270	0.0	33.00	1.0199	0.324	2.66	1: 8.2
10,083	32.62	43.31	5.36	0.470	0.005	4.26	0.450	0.017	33.20	1.0212	0.384	2.48	1: 6.4
10,085	33.15	35.63	5.54	0.430	0.027	4.31	0.410	0.031	33.10	1.0204	0.390	2.19	1: 5.6
10,092	20.45	35.34	5.75	0.467	0.025	4.90	0.413	0.025	35.68	1.0238	0.350	3.29	1: 9.5
9,824	33.86	55.20	5.32	0.372	0.006	4.20	0.355	0.003	34.30	1.0214	0.625	2.36	1: 3.8
10,097	34.38	40.10	5.83	0.368	0.002	4.34	0.379	0.003	34.00	1.0212	0.430	2.43	1: 5.6
10,089	34.56	37.24	5.64	0.966	0.420	4.60	1.06	0.510	34.18	1.0234	0.404	2.14	1: 5.5
9,813	34.39	31.79	5.33	0.437	0.028	4.26	0.413	0.028	33.15	1.0210	0.374	2.16	1: 5.8
9,803	18.69	16.98	5.50	0.292	0.004	4.05	0.228	0.006	33.10	1.0199	0.350	2.67	1: 7.6
10,071	33.29	47.09	5.17	0.483	0.040	3.98	0.425	0.040	32.65	1.0200	0.326	2.41	1: 7.3
10,078	32.62	43.24	5.32	0.440	0.018	4.43	0.430	0.017	33.15	1.0211	0.380	2.93	1: 7.7
9,822	35.09	42.28	5.01	0.390	0.004	3.99	0.288	0.006	33.00	1.0205	0.317	2.85	1: 9.0
8,973	33.12	45.74	5.33	0.439	0.02	4.06	0.161	0.0	32.50	1.0202	0.363	2.55	1: 7.0
9,816	34.74	36.46	5.83	0.393	0.025	4.37	0.410	0.041	33.80	1.0213	0.392	2.55	1: 6.5
9,820	34.21	44.34	5.18	0.411	0.010	4.08	0.333	0.0	35.00	1.0222	0.370	3.03	1: 8.2
10,086	31.74	44.44	6.37	0.590	0.024	5.12	0.400	0.028	36.65	1.0242	0.403	3.24	1: 8.4

GROUP I—Continued.

Laboratory No.	Net Weight.	Per Cent. Solids by Draining.	CONTENTS OF CAN, PULPED.			FILTERED JUICE.							
			Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Refractometer Reading.	Specific Gravity.	Per Cent. Acid.	Per Cent. Sugars.	Acid-Sugar Ratio.
8,873	34.09	38.38	5.38	0.480	0.001	4.22	0.309	0.002	33.33	1.0212	0.470	2.41	1: 5.1
10,065	32.27	43.95	5.09	0.620	0.140	3.98	0.520	0.110	31.35	1.0196	0.359	2.12	1: 5.9
9,812	20.63	40.17	5.28	0.25	0.02	4.25	0.19	0.005	32.35	1.0206	0.246	2.17	1: 8.8
9,837	33.33	35.34	4.82	0.263	0.0	4.21	0.342	0.0	31.38	1.0197	0.351	2.30	1: 6.5
9,817	33.50	55.26	5.52	0.336	0.027	4.30	0.280	0.017	33.55	1.0209	0.350	2.70	1: 7.7
9,818	34.74	40.61	5.94	0.380	0.022	4.53	0.440	0.009	34.25	1.0228	0.443	2.87	1: 6.5
9,838	33.86	40.10	5.11	0.234	0.004	4.17	0.278	0.003	31.40	1.0194	0.355	2.22	1: 6.6
9,805	20.63	39.31	5.18	0.382	0.018	3.99	0.222	0.0	32.28	1.0196	0.382	2.28	1: 5.0
9,841	34.21	42.80	5.11	0.418	0.026	3.98	0.330	0.017	32.00	1.0201	0.350	2.40	1: 6.9
10,095	19.38	44.54	6.12	0.413	0.037	4.90	0.456	0.039	36.70	1.0233	0.330	3.06	1: 9.3
10,087	32.27	66.36	5.75	0.340	0.00	4.56	0.270	0.0	34.35	1.0217	0.360	3.19	1: 8.6
9,804	20.81	27.12	5.92	0.278	0.0	4.61	0.180	0.0	34.90	1.0220	0.324	3.11	1: 9.6
10,075	20.11	36.00	5.25	0.45	0.017	4.18	0.417	0.022	32.55	1.0205	0.380	2.40	1: 6.4
10,067	33.29	56.61	5.47	0.370	0.034	4.16	0.290	0.020	32.60	1.0199	0.322	2.80	1: 8.7
10,077	102.29	39.14	5.10	0.430	0.015	4.14	0.430	0.014	33.00	1.0202	0.390	2.32	1: 6.0
9,809	33.86	39.58	5.02	0.24	0.0	4.29	0.372	0.0	32.00	1.0190	0.360	2.24	1: 6.2
9,806	33.65	39.78	5.96	0.37	0.009	4.67	0.340	0.009	34.80	1.0222	0.417	3.02	1: 7.2
9,811	33.50	33.25	5.08	0.411	0.016	3.99	0.332	0.020	32.00	1.0202	0.376	2.40	1: 6.8
9,814	34.56	41.83	6.21	0.401	0.007	4.54	0.282	0.0	34.55	1.0240	0.381	2.96	1: 7.7
9,800	20.11	28.07	5.26	0.525	0.011	4.36	0.544	0.036	33.84	1.0219	0.418	2.50	1: 6.0
9,842	34.39	40.00	5.03	0.480	0.006	3.98	0.292	0.0	32.10	1.0197	0.357	1.94	1: 7.6
9,821	34.74	40.99	5.04	0.412	0.004	4.40	0.404	0.0	32.40	1.0194	0.307	2.27	1: 8.0
9,808	34.56	35.71	4.94	0.257	0.0	4.37	0.182	0.0	31.45	1.0192	0.299	2.59	1: 8.6
9,823	33.86	48.18	5.38	0.394	0.007	4.21	0.226	0.006	33.60	1.0214	0.370	2.90	1: 7.8
9,843	32.45	34.33	5.11	0.320	0.0	4.55	0.280	0.0	32.05	1.0193	0.420	2.08	1: 5.0
9,815	38.69	36.12	6.14	0.47	0.0	4.62	0.350	0.0	35.00	1.0227	0.426	1.85	1: 4.3
9,801	20.11	32.45	5.07	0.406	0.038	4.04	0.353	0.004	31.95	1.0193	0.405	1.87	1: 4.6

GROUP II.

Laboratory No.	Net Weight.	Per Cent. Solids by Draining.	CONTENTS OF CAN, PULPED.			FILTERED JUICE.							
			Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Refractometer Reading.	Specific Gravity.	Per Cent. Acid.	Per Cent. Sugars.	Acid-Sugar Ratio.
10,090	19.93	35.40	4.75	0.530	0.019	3.68	0.420	0.011	30.50	1.0184	0.400	1.80	1:4.5
10,068	33.86	40.10	4.56	0.440	0.030	3.71	0.350	0.031	30.90	1.0183	0.280	2.23	1:8.0
10,088	32.62	50.80	5.19	0.337	0.010	3.87	0.350	0.014	32.00	1.0188	0.330	2.18	1:6.6
9,850	33.69	47.64	5.20	0.310	0.020	3.72	0.333	0.023	31.20	1.0187	0.416	2.17	1:5.2
9,840	33.29	43.90	5.00	0.270	0.0	3.91	0.224	0.0	31.20	1.0188	0.405	2.40	1:5.9
10,093	18.51	44.76	4.98	0.415	0.015	3.88	0.430	0.003	30.20	1.0192	0.340	2.57	1:7.5
9,858	34.74	50.50	4.46	0.290	0.0	3.60	0.326	0.0	30.20	1.0183	0.330	2.12	1:6.6
8,976	19.75	35.71	4.91	0.359	0.0	3.72	0.404	0.0	31.30	1.0185	0.377	1.74	1:4.6
8,976	20.63	47.00	4.95	0.380	0.0	3.72	0.290	0.0	31.30	1.0184	0.341	2.09	1:6.1
8,977	34.92	30.00	4.66	0.402	0.010	3.79	0.310	0.002	31.55	1.0186	0.371	1.87	1:5.1
8,974	20.10	45.61	4.53	0.440	0.011	3.62	0.280	0.0	31.20	1.0187	0.350	1.90	1:5.4
8,974	20.63	38.44	4.97	0.450	0.002	3.89	0.280	0.0	31.58	1.0184	0.327	2.16	1:6.6
8,862	33.86	39.90	5.04	0.309	0.008	3.83	0.387	0.005	31.50	1.0189	0.258	2.54	1:9.8
9,859	33.86	43.73	4.72	0.419	0.006	3.70	0.308	0.003	31.60	1.0191	0.350	2.11	1:6.0
9,860	34.74	33.33	4.74	0.349	0.0	3.59	0.306	0.0	30.90	1.0184	0.405	2.08	1:5.1
10,063	32.45	36.23	4.55	0.570	0.210	3.77	0.380	0.110	31.15	1.0186	0.380	1.91	1:5.0
8,903	33.86	33.16	4.80	0.290	0.0	3.79	0.340	0.0	31.10	1.0189	0.341	2.12	1:6.2
9,847	33.33	34.39	4.88	0.384	0.008	3.72	0.412	0.011	31.15	1.0189	0.352	1.90	1:5.4
9,848	37.39	33.00	4.51	0.419	0.012	3.63	0.420	0.023	30.80	1.0181	0.349	2.00	1:5.7
9,891	20.11	35.09	4.86	0.470	0.013	3.52	0.409	0.012	30.88	1.0184	0.389	1.98	1:5.1
9,856	33.50	40.00	5.01	0.357	0.0	3.49	0.356	0.0	30.90	1.0181	0.360	2.05	1:5.7
10,070	32.27	37.36	4.54	0.430	0.027	3.66	0.340	0.006	31.35	1.0186	0.340	2.06	1:6.6
9,854	19.22	52.29	4.63	0.280	0.011	3.55	0.270	0.0	30.85	1.0184	0.280	2.36	1:8.2
8,873	32.45	33.33	3.98	0.320	0.010	3.66	0.200	0.0	30.85	1.0189	0.430	2.06	1:4.7
8,874	33.68	30.89	5.02	0.406	0.006	3.83	0.320	0.002	31.42	1.0184	0.410	2.34	1:5.6
8,874	32.09	36.95	5.21	0.370	0.002	3.90	0.174	0.0	30.70	1.0186	0.431	2.38	1:5.5

REPORT OF THE
GROUP II—Continued.

Laboratory No.	Net Weight.	Per Cent. Solids by Draining.	CONTENTS OF CAN, PULPED.			FILTERED JUICE.							
			Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Refracto- meter Reading.	Specific Gravity.	Per Cent. Acid.	Per Cent. Sugars.	Acid-Sugar Ratio.
9,839	33.15	40.00	5.00	0.204	0.0	3.87	0.161	0.0	31.60	1.0193	0.324	2.22	1: 6.8
10,073	19.93	39.82	4.95	0.370	0.021	3.83	0.340	0.022	31.15	1.01855	0.402	2.16	1: 5.0
9,846	33.33	33.86	4.79	0.361	0.0	3.68	0.219	0.0	30.72	1.0182	0.357	2.28	1: 6.4
9,857	33.86	42.70	4.57	0.332	0.009	3.61	0.265	0.0	31.10	1.0194	0.447	2.08	1: 4.6
9,851	32.98	33.68	4.77	0.401	0.011	3.65	0.419	0.018	30.65	1.0183	0.338	2.12	1: 6.3
9,855	33.15	35.63	4.98	0.374	0.005	3.71	0.334	0.003	31.25	1.0187	0.420	2.16	1: 5.0
9,849	35.27	41.50	4.86	0.590	0.018	3.65	0.428	0.0	30.80	1.0186	0.350	1.93	1: 5.4
9,844	19.05	8.33	4.67	0.450	0.033	3.69	0.460	0.058	31.00	1.0188	0.477	1.73	1: 3.6
9,852	32.62	31.01	4.95	0.501	0.005	3.83	0.403	0.003	31.90	1.0198	0.554	1.86	1: 3.4
8,978	104.72	42.91	5.01	0.410	0.006	3.93	0.220	0.0	31.20	1.0188	0.317	2.31	1: 7.3
8,978	105.53	46.16	4.74	0.320	0.006	3.85	0.330	0.002	30.98	1.0182	0.348	2.20	1: 6.3
8,897	33.86	33.26	5.19	0.237	0.0	3.89	0.240	0.003	31.60	1.0190	0.250	2.14	1: 8.6
10,079	33.47	45.78	5.08	0.392	0.031	3.78	0.380	0.040	30.55	1.0185	0.380	1.57	1: 4.1
8,894	20.45	37.04	4.97	0.38	0.0	3.78	0.21	0.006	30.41	1.0187	0.392	2.12	1: 5.4
9,845	33.33	34.39	4.95	0.355	0.0	3.72	0.251	0.0	30.75	1.0187	0.353	2.12	1: 6.0
9,237	20.28	37.39	4.76	0.200	0.003	3.85	0.310	0.002	31.75	1.0184	0.298	1.73	1: 5.8
10,098	33.33	38.62	4.82	0.321	0.005	3.71	0.316	0.008	30.90	1.0182	0.356	2.12	1: 6.0
10,096	33.15	40.42	4.87	0.361	0.0	3.81	0.397	0.003	30.85	1.0190	0.340	2.05	1: 6.0
9,853	34.74	36.36	4.82	0.438	0.010	3.43	0.300	0.0	30.55	1.01805	0.330	2.03	1: 6.1

GROUP III.

Laboratory No.	Net Weight.	Per Cent. Solids by Draining.	CONTENTS OF CAN, PULPED.			FILTERED JUICE.							
			Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Refracto-meter Reading.	Specific Gravity.	Per Cent. Acid.	Per Cent. Sugars.	Acid-Sugar Ratio.
9,867	19.40	50.90	4.84	0.323	0.007	3.43	0.225	0.009	29.48	1.0162	0.328	1.83	1:5.6
9,871	19.75	47.32	4.90	0.320	0.003	3.55	0.395	0.015	30.21	1.0176	0.367	2.00	1:5.4
9,884	32.27	45.05	4.28	0.440	0.006	3.55	0.340	0.003	30.05	1.0176	0.320	1.99	1:6.2
9,074	19.75	41.98	4.34	0.450	0.019	3.23	0.380	0.002	29.25	1.0172	0.410	1.29	1:3.1
9,875	19.75	37.50	4.45	0.310	0.0	3.34	0.330	0.0	29.45	1.0174	0.480	1.45	1:3.0
9,865	20.11	37.72	4.64	0.459	0.028	3.52	0.230	0.006	29.95	1.0166	0.325	2.17	1:6.7
9,881	32.45	16.13	5.08	0.520	0.025	3.30	0.478	0.023	29.75	1.0185	0.438	1.46	1:3.3
9,888	34.74	33.00	4.36	0.295	0.008	3.41	0.187	0.0	30.00	1.0177	0.336	2.16	1:6.4
9,882	34.39	38.46	4.26	0.338	0.0	3.24	0.284	0.0	28.50	1.0156	0.240	1.95	1:8.1
8,974	20.11	43.86	4.44	0.265	0.003	3.24	0.250	0.003	29.38	1.0165	0.332	1.63	1:4.9
8,977	33.86	27.46	4.35	0.240	0.004	3.45	0.408	0.017	29.55	1.0170	0.381	1.79	1:4.7
9,866	20.28	33.91	4.47	0.339	0.003	3.39	0.287	0.0	28.95	1.0166	0.339	1.88	1:5.5
9,880	33.33	37.56	4.24	0.308	0.01	3.42	0.313	0.015	29.40	1.0170	0.312	1.90	1:6.1
10,082	32.62	51.89	4.18	0.320	0.026	3.51	0.330	0.009	29.92	1.0171	0.314	1.98	1:6.3
9,879	34.56	31.12	4.37	0.297	0.0	3.44	0.385	0.0	29.90	1.0172	0.392	2.72	1:6.9
8,898	34.57	32.47	4.08	0.357	0.004	3.18	0.357	0.020	29.05	1.0164	0.433	1.57	1:3.6
8,898	34.56	35.71	4.10	0.350	0.0	3.16	0.271	0.0	28.40	1.0160	0.404	1.59	1:3.9
8,899	32.27	9.62	2.50	0.258	0.0	1.70	0.186	0.0	21.70	1.0095	0.213	0.79	1:3.7
9,885	34.74	35.35	4.30	0.450	0.009	3.33	0.370	0.0	29.55	1.0169	0.305	1.75	1:5.7
9,872	33.86	34.37	4.87	0.402	0.012	3.82	0.320	0.0	30.90	1.0174	0.393	2.22	1:5.6
8,902	32.28	28.41	4.32	0.444	0.024	3.36	0.460	0.006	29.85	1.0174	0.367	1.81	1:4.9
8,902	33.65	37.17	4.37	0.475	0.020	3.40	0.310	0.005	29.45	1.0171	0.351	1.83	1:5.2
8,901	33.86	33.33	4.50	0.264	0.0	3.36	0.370	0.0	29.85	1.0171	0.393	1.64	1:4.2
8,903	34.56	36.73	4.69	0.320	0.0	3.56	0.360	0.002	30.60	1.0181	0.350	2.02	1:5.7
9,864	19.05	33.33	4.52	0.502	0.051	3.48	0.389	0.017	29.88	1.0173	0.380	1.95	1:5.1

GROUP III—Continued.

Laboratory No.	Net Weight.	Per Cent. Solids by Draining.	CONTENTS OF CAN, PULPED.			FILTERED JUICE.							
			Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Per Cent. Solids.	Per Cent. Ash.	Per Cent. Salt.	Refractometer Reading.	Specific Gravity.	Per Cent. Acid.	Per Cent. Sugars.	Acid-Sugar Ratio.
8,973	32.27	29.73	4.30	0.390	0.004	3.46	0.230	0.005	29.82	1.0175	0.350	1.80	1:5.2
8,973	32.27	39.56	3.66	0.247	0.0	2.83	0.307	0.0	26.92	1.0146	0.297	1.60	1:5.6
9,877	32.09	42.39	4.09	0.298	0.0	3.21	0.299	0.0	28.75	1.0159	0.272	1.82	1:6.7
9,890	32.27	35.13	4.26	0.377	0.006	3.44	0.292	0.0	29.82	1.0176	0.390	2.06	1:5.3
9,886	32.45	30.64	4.51	0.388	0.006	3.22	0.374	0.0	30.15	1.0172	0.334	0.26	....
9,873	33.86	37.50	4.71	0.334	0.010	3.55	0.260	0.004	30.50	1.0175	0.338	2.20	1:5.5
9,878	31.92	7.18	4.01	0.366	0.0	3.40	0.355	0.0	29.42	1.0170	0.427	1.90	1:4.4
9,863	18.87	35.51	4.57	0.501	0.020	3.58	0.282	0.011	30.72	1.0168	0.406	2.01	1:5.0
9,889	34.56	43.87	4.10	0.236	0.002	3.26	0.275	0.003	29.95	1.0170	0.318	2.07	1:6.5
10,080	32.27	36.06	4.85	0.385	0.008	3.56	0.394	0.009	30.30	1.0180	0.333	2.56	1:7.6
9,861	20.11	31.58	4.23	0.436	0.013	3.39	0.305	0.009	29.75	1.0174	0.340	2.08	1:6.1
9,869	20.11	25.43	4.44	0.474	0.005	3.58	0.238	0.003	30.33	1.0168	0.462	1.60	1:3.5
8,895	20.28	43.26	4.12	0.164	0.0	3.16	0.139	0.0	28.75	1.0161	0.325	1.73	1:5.3
8,895	19.75	38.40	4.26	0.180	0.002	3.24	0.230	0.003	28.38	1.0169	0.255	1.79	1:7.0
8,896	17.28	1.02	1.39	1.17	1.20	1.42	0.850	0.867	20.65	1.0111	0.0	0.0	0.0
10,091	19.93	46.90	4.65	0.447	0.019	3.63	0.410	0.017	30.15	1.0177	0.308	2.17	1:7.0
10,074	20.11	50.00	4.75	0.380	0.014	3.51	0.350	0.005	30.60	1.0180	0.376	2.04	1:5.4
9,876	34.21	44.39	5.32	0.273	0.0	3.56	0.270	0.0	30.25	1.0177	0.343	2.13	1:6.2
10,069	33.50	37.89	4.62	0.400	0.009	3.54	0.357	0.010	30.98	1.0173	0.478	1.92	1:4.0
8,979	41.62	1.27	1.06	0.160	0.0	0.99	0.120	0.0	18.45	1.0052	0.056	0.45	1:8.0
10,081	34.21	42.78	4.20	0.450	0.024	3.35	0.380	0.006	28.75	1.0165	0.350	1.89	1:5.1
10,094	10.40	55.93	4.59	0.416	0.013	3.44	0.380	0.014	29.40	1.0172	0.310	2.15	1:7.0
9,868	19.57	28.82	4.73	0.365	0.007	3.63	0.261	0.01	30.42	1.0175	0.403	1.83	1:4.5
9,870	19.22	14.60	4.34	0.374	0.004	3.31	0.421	0.057	29.28	1.0179	0.386	1.50	1:3.9
10,084	31.92	45.30	4.42	0.420	0.038	3.45	0.410	0.031	29.85	1.0169	0.360	1.82	1:5.0

GROUP III—Continued.

<i>Laboratory No.</i>	<i>Net Weight.</i>	<i>Per Cent. Solids by Draining.</i>	<i>CONTENTS OF CAN, PULPED.</i>			<i>FILTERED JUICE.</i>							
			<i>Per Cent. Solids.</i>	<i>Per Cent. Ash.</i>	<i>Per Cent. Salt.</i>	<i>Per Cent. Solids.</i>	<i>Per Cent. Ash.</i>	<i>Per Cent. Salt.</i>	<i>Refractometer Reading.</i>	<i>Specific Gravity.</i>	<i>Per Cent. Acid.</i>	<i>Per Cent. Sugars.</i>	<i>Acid-Sugar Ratio.</i>
9,887	33.50	36.84	4.48	0.280	0.0	3.27	0.190	0.0	30.35	1.0172	0.380	1.90	1:5.0
9,883	33.86	49.11	4.91	0.370	0.005	3.66	0.397	0.003	30.65	1.0179	0.420	2.04	1:4.9
8,893	32.28	28.95	3.54	0.294	0.0	2.72	0.336	0.011	26.40	1.0039	0.319	1.51	1:4.7
8,891	32.80	25.27	4.58	0.440	0.008	3.66	0.337	0.0	30.75	1.0179	0.423	1.53	1:3.6
8,893	31.39	23.60	3.58	0.266	0.002	2.89	0.240	0.0	26.95	1.0144	0.283	1.71	1:6.0
8,892	31.74	2.22	2.98	0.320	0.0	2.80	0.336	0.0	26.95	1.0144	0.355	1.46	1:4.1
9,238	20.11	14.36	4.54	0.360	0.003	3.60	0.280	0.002	29.75	1.0170	0.348	2.36	1:6.8
9,862	19.75	40.18	4.70	0.438	0.047	3.48	0.297	0.006	30.65	1.0176	0.330	2.13	1:6.4

Respectfully submitted,

CHARLES CASPARI, JR.,
State Food and Drug Commissioner.

BALTIMORE, March 10, 1916.

Report of Cannery Inspector.

DR. CHAS. CASPARI, JR.,
State Food and Drug Commissioner.

DEAR SIR:

I herewith beg to submit my report for the year ending December 31, 1915.

Five hundred and four (504) canneries were inspected, a large number of them being visited several times. In the spring months a considerable number of canners were conferred with in regard to proper changes for the betterment of the sanitary conditions of their establishments, and I am glad to say with very gratifying results, 28 canneries in the counties now being model plants. In the year 1914 there was but one cannery in the counties which complied with the requirements of the Sanitary Inspection Law, whereas in the past year, 1915, inspection showed 102 to be so equipped. The tabulation which follows shows the percentage of increase in the several different requirements.

The 44 canneries in Baltimore City have all been provided with the equipment required by law, but improvements are still necessary in the insanitary way in which some of them are conducted and the uncleanly condition of their help.

It was thought desirable to secure samples of freshly canned tomatoes for the purpose of chemical investigation, and with this end in view the following information was secured in connection with each sample taken:

The name and location of cannery; date when sample was taken; condition of tomatoes before packing; were cores and skins removed before packing; time between gathering and packing of the tomatoes; does the sample secured represent the tomatoes above indicated; how were the cans filled; how was the juice added, if any; how long were the canned tomatoes processed.

Later in the season a sample can was secured from each of the Baltimore canners, with the following information: Name and location of cannery; date when sample was taken; date

when the tomatoes were packed; how were the cans filled; was juice added or not; was juice boiled or not, and if boiled, how, by dry steam, open steam coils or jacketed kettle; how long were the tomatoes processed.

A large quantity of early Jersey tomatoes were brought to Baltimore, of which a great many arrived green, sour or soft, the juice in some instances running from the baskets and the tomatoes covered with white mold. As such fruit was unfit for canning purposes, the canners were commanded to have them picked over and were allowed to use only the sound, ripe fruit, the balance being hauled to the dump.

Six concrete bases with sanitary drainage and sewer connections were built this year, on which to rack up corn and pea ensilage to form a silo, whereby the stench usually coming from the seepage was avoided.

The sanitary toilet, as designed by the Bureau of Sanitary Engineering, does not meet the requirements of the larger canneries, and it seems impossible for them to keep the cans from overflowing, thus producing a most insanitary condition. Where concrete, flyproof pits have been built, these have proved most satisfactory.

The following information, arranged in tabular form, will give a better insight into the present conditions and the improvements which have been made during the past year:

Total number of fruit and vegetable canneries in the State.....	504
Number of canneries operating in Baltimore City.....	44
Number of canneries in the counties.....	460
In operation during 1914 and 1915.....	350
Operating in 1914, but not in 1915.....	76
Operating in 1915, but not in 1914.....	11
Not operating in 1914 and 1915.....	23
New canneries built during the past year.....	15
Canneries destroyed by fire.....	6
Canneries dismantled.....	8

TABLE SHOWING THE INCREASE IN THE NUMBER OF COUNTY CANNERIES COMPLYING WITH THE REQUIREMENTS OF THE SANITARY INSPECTION LAW IN 1915, AS COMPARED WITH THE NUMBER COMPLYING IN 1914.

	1914.	1915.	Increase.
Floors	65.0%	91.0%	40.0%
Sanitary washstands.....	32.9%	71.2%	116.0%
Sanitary toilets.....	5.5%	51.1%	830.0%
Living quarters.....	93.7%	97.1%	3.6%
Disposal of tomato skins.....	37.8%	73.3%	93.7%

As per following recapitulation:

FLOORS.

Old concrete floor.....	118
New concrete floor.....	53
Old tongue-and-groove floor.....	53
New tongue-and-groove floor.....	50
Old part concrete and part tongue-and-groove.....	17
New part concrete and part tongue-and-groove.....	6
Built over water.....	10
Concrete and over water.....	2
Tongue-and-groove and over water.....	2
Concrete and brick.....	1
Tongue-and-groove and brick.....	1
Caulked, new.....	1
Caulked, old.....	1
Part tongue-and-groove and part caulked.....	1
Plain	18
Old double.....	6
New double.....	1
Part concrete and part plain.....	4
Part tongue-and-groove and part plain.....	9
Part tongue-and-groove and part double.....	3
Plain and over water.....	2
Plain and tarred.....	1
Concrete and plain and tongue-and-groove.....	1

WASHING FACILITIES.

Stationary washstands.....	102
New stationary washstands.....	155
Ordinary washstands.....	96
No provision.....	8

TOILETS.

Old flush toilets.....	3
New flush toilets.....	13
Sanitary toilets with concrete.....	6
Old sanitary toilets.....	11
New sanitary toilets.....	151
Toilets not fly-proof.....	29
Separate toilets.....	135
No toilets.....	13

LIVING QUARTERS.

Local help.....	164
Private living quarters.....	177
New private living quarters.....	10
Living quarters not private.....	10

DISPOSAL OF TOMATO SKINS.

Elevated box over concrete base and concrete platform for wagon..	8
New elevated box over concrete base and concrete platform for wagon	16
Old concrete box and concrete platform for wagon.....	8
New concrete box and concrete platform for wagon.....	62
Wooden box over concrete base and concrete platform for wagon...	25
Old concrete platform for wagon.....	17
New concrete platform for wagon.....	42
Elevated box over concrete base.....	2
New concrete skin box.....	15
Skins loaded in wagon, no platform.....	15
Skins hauled in tight wagons.....	5
Skins hauled in barrels.....	14
Skins pumped to the creek.....	4
Skins pumped to the field.....	4
Skins dumped into river.....	39
Skins dumped on pile near cannery.....	11
Skins carried by conveyor.....	2
Skins put into wooden box, resting on wooden platform, for wagon.	2
Skins put into wooden box.....	30
Skins put in iron box.....	2
Skins removed in zinc-lined wagon.....	3
Drain under wooden skin box.....	3
Skins carried by chute to swamp.....	1

DRAINAGE.

Drains to sewer.....	11
New drains to sewer.....	4
Tile drain to river.....	8
Tile drain to creek.....	14
Tile drain to ditch.....	29
Tile drain to pit.....	9
Cement drain to river.....	2
Cement drain to creek.....	9
Cement drain to ditch.....	65
Cement drain to field.....	5
Drains to river.....	66
Drains to creek.....	47
Drains to ditch.....	44
Drains to railroad ditch.....	13
Drains to field.....	8
Drains to pit.....	6
Drains to branch.....	5
Drains by pump.....	8
No drainage.....	23

MISCELLANEOUS.

New screened syrup-rooms.....	20
Syrup-rooms not screened.....	9
Husking sheds.....	36
No husking sheds.....	1
Concrete base for corn ensilage, sewer connections.....	3

Concrete base for pea ensilage, sewer connection.....	3
Concrete platform to load corncobs on.....	15
Ensilage piles.....	13
Capping cans by hand.....	20
Canners suspected of adding water to tomatoes.....	9
Canneries found in a very insanitary condition.....	15

NOTICES MAILED TO CANNERS ORDERING THEM TO CORRECT
CONDITIONS SO AS TO COMPLY WITH THE SANITARY
INSPECTION LAW.

To correct floors.....	27
To correct washing facilities.....	42
To correct toilets.....	88
To correct living quarters.....	2
To correct disposal of ensilage.....	54
To correct drainage.....	47
To screen syrup-room.....	6
To provide caps and aprons for help.....	7

A detailed list of names showing the conditions found upon inspection of various canning establishments during the present year is withheld for the present, in order to give those parties, who have promised to do so, a chance to make further improvements before opening of the next season. Such a list, however, will be added to my report for 1916.

It would seem very desirable to have specifications for building sanitary toilets at the canneries prepared by our Bureau of Sanitary Engineering, in order that these may be supplied to those willing to conform to our requirements but ignorant of the best manner of fulfilling the latter. In a few isolated cases it may be necessary to institute prosecution against parties who do not appear willing to comply with our requirements, and this can undoubtedly be best done after the necessary specifications have been supplied.

Respectfully submitted,

ALFRED K. BEASLEY,
Cannery Inspector.

BALTIMORE, March 1, 1915.

Report of Veterinarian and Dairy Inspector.

Dr. Chas. Caspari, Jr.,
State Food and Drug Commissioner.

DEAR SIR:—

I beg to submit my report for the year ending December 31, 1915.

Inspections of dairies and slaughter-houses during 1915 were limited to the following counties: Anne Arundel, Baltimore, Carroll, Frederick, Harford, Howard, Kent, Prince George, Queen Anne, Somerset, Talbot, Washington and Wicomico.

Number of inspections of dairies.....	523
Number of cows examined.....	2,660
Number of cows found diseased.....	42
Number of gallons of milk sold daily.....	4,016
Number of dairies found in sanitary condition.....	114
Number of dairies found in insanitary condition.....	125
Number of milk samples brought in for analysis.....	322
Number of inspections of slaughter-houses.....	105
Number of slaughter-houses found in sanitary condition.....	33
Number of slaughter-houses found in insanitary condition.....	22
Special inspections.....	15
Total number of inspections.....	643

The number of dairies and slaughter-houses inspected does not correspond to the number in a sanitary and insanitary condition, since some were inspected several times.

In making inspections of dairies I might explain what is required of the average dairyman. Good, healthy cattle and kept clean and udders washed before milking, and the milk immediately cooled. To have the stables clean and whitewashed, well ventilated and well drained; also the barnyard well drained and the manure so disposed of that the cows cannot wade through it. To have a fly-proof dairy house and wash all utensils thoroughly as soon as possible after milking, and keep them in a fly-proof place, well lighted and ventilated. To have a sanitary toilet on the premises and to see that the water supply is not polluted.

There has been a marked improvement along these requirements in nearly every part of the State visited, even in Frederick county, where the dairymen had organized a dairymen's association and had combined to fight against these requirements, the majority have complied. By way of explanation, I might say that the President of this Association had his herd tested for tuberculosis with the intention of selling his milk in Washington, D. C., where they require all animals supplying milk to the District of Columbia to be tuberculin tested, and after three animals had reacted he had the test stopped and said he would sell his milk in Baltimore. I notified the Baltimore City Health Department, with the result that his milk was excluded from sale in this city. Since the guiding element of this Association was willing to sell milk from his herd to the public after knowing that three of his cattle had tuberculosis, with the possibility that more were affected, it looks bad for the Association and their object for associating. In fact, they said it was not the expense of making these tests or the changes necessary to safeguard the public health that they objected to, but the fact that they were commanded to do so.

There seems to be still one defect in the minds of a great many dairymen, and that is that they can strain the germs and filth out when they get into the pail of milk.

The great majority have also taken steps to prevent the pollution of their water supply. A great many have put concrete for quite a distance below and above the level of the ground, and also a tight cover over their wells to prevent surface drainage from getting in.

I must confess I feel greatly elated over the improvements the past year. Some farmers who were angry at the first and second inspection I have since had them to ask me to come to their place to make an inspection or see some new changes they had made or intended to make and have me suggest a way to improve their sanitary condition. If I can get equally as good results in the year 1916, I will feel that I have accomplished much for the benefit of the public health.

In reference to slaughter-houses, there has been a marked improvement in the sanitary conditions of all visited. They have put in tight floors and made their places fly-tight and provided adequate drainage and separate rooms for their hides, all white-washed or painted. One of the greatest defects seems to be the

failure to remove offal daily, and it seems that constant inspection is the only remedy to overcome this evil.

Animals in an advanced stage of tuberculosis are being utilized for food. One man in Frederick, Md., killed an animal in an advanced stage of tuberculosis (two large pulmonary abscesses with plural adhesions). After I condemned it he insisted that he be allowed to grind it up for bologna, saying that he frequently used that kind for bologna.

The great difficulty is to visit these places at the time when slaughtering is going on. The only remedy I see is to have incorporated towns pass local inspection laws similar to what I suggested in last year's report.

Respectfully submitted,

W. B. BILLINGSLEY,
Veterinarian.

March 1, 1916.

Report of the Bureau of Sanitary Engineering, 1915.**ROBERT B. MORSE, Chief Engineer**

GENERAL STATEMENT.

The year 1915 represents the first full year of operation of the Bureau under the new water supply and sewerage law, Chapter 810 of the Acts of 1914. A brief outline of the powers granted the Department by this law was given in the report of 1914. With the increased power and appropriation provided the activities of the Bureau have been greatly extended and the number of employes increased to meet the demands of the work. The establishment of a resident engineer in the Southern District, with headquarters at Hyattsville, completed the chain of engineering representatives in different parts of the State, the Northern, Eastern and Western residencies having been filled in 1914. The organization of the entire force was so changed as to provide greater facility for handling the increased amount of work in both office and field. Office and field divisions were established, each under the direction of a division engineer, to whom all office and field employes, respectively, are responsible. Special work of any description is to be done by a special assistant engineer, who reports also upon the examinations of private water supplies. The present arrangement of organization is shown graphically on Figure I.

The amount of work done by this Bureau in 1915 as compared with 1914 is made clear by the data in Table I. The great increase in the various forms of activity is at once apparent. Particular attention is called to the marked change in the amount of general correspondence, resulting from the increased number of requests for the approval of plans and for general investigations, and in the number of investigations demanding written reports. The experience of 1915 has illustrated that the work demanding the attention of this Bureau is limited only by the working force allowed and that proper control and supervision over water supply and sewerage systems and conditions throughout the State are tasks which are far greater than the present means at the disposal of the Bureau make it capable of performing as completely as would be desired.

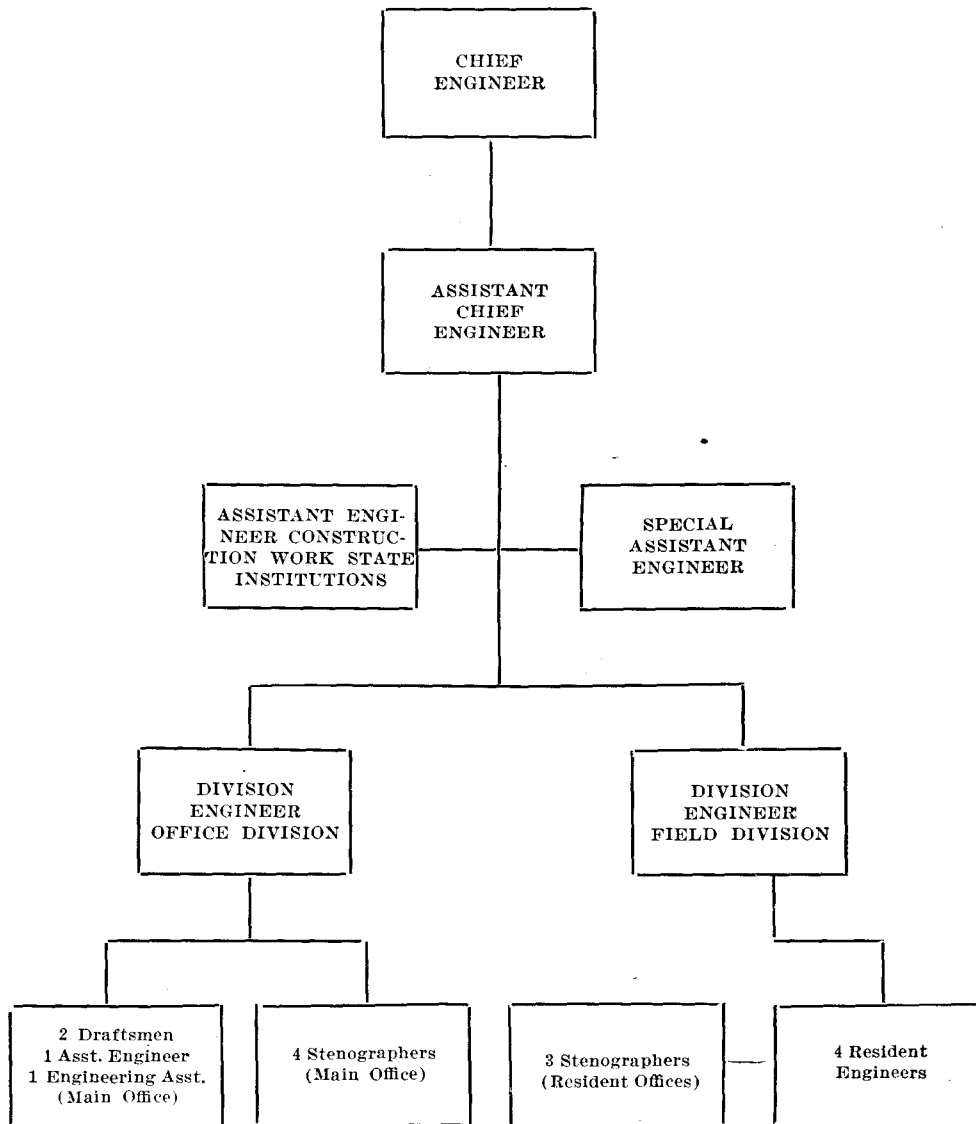


FIGURE I.—Organization, Office of Chief Engineer.

TABLE I.

COMPARISON OF WORK DONE BY ENGINEERING DIVISION* DURING 1914 AND 1915.

Month.	Letters Written.		Circular Letters Written.		Reports, Record Data, etc.—Pages.		Letters Received.		Field Examinations.		Permits Issued.		Plans Received.	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
January	119	446	0	0	397	774	109	298	4	95	0	11	12	21
February	91	311	0	0	298	633	96	259	12	65	0	3	3	68
March	97	509	0	72	750	574	81	223	23	109	0	16	12	49
April	62	477	0	59	317	826	57	244	29	91	0	13	6	94
May	228	530	0	200	343	1,019	126	422	60	132	0	11	15	43
June	294	608	0	0	256	862	151	417	44	181	9	17	18	70
July	385	795	0	0	530	1,287	198	554	40	129	5	18	103	33
August	324	578	0	0	412	1,190	174	397	43	111	9	12	122	18
September	331	1,032	0	0	787	1,450	204	381	34	134	11	14	38	38
October	289	448	0	0	815	1,326	190	513	49	123	10	12	30	28
November	457	529	0	0	705	1,083	291	517	88	129	20	16	28	35
December	307	620	0	0	699	1,092	243	508	83	146	13	9	50	66
Totals.....	2,985	6,943	0	331	6,309	12,116	1,920	4,733	509	1,445	77	152	437	563

INVESTIGATIONS IN 1915

A detailed summary is shown in Table II of the total number of investigations of various kinds made in the different counties during the past year. The regular examination of water supply and sewerage systems was continued, while considerable additional work was carried on in the investigation of ice supplies. Some of the examinations included systems that had been previously investigated, while others were entirely new. Samples were collected at intervals from practically all the water supplies, and in this way an activity was extended which had not been given regular nor requisite attention previously on account of the small and none-too-mobile working force. By the end of the year practically all of the important water supplies in the State had been investigated and reported upon.

In addition to the more or less routine examinations, a number of special investigations were carried on, chief among which are:—a complete study, report and estimate of cost for an increased water supply for Brunswick; a preliminary plan and estimate of cost for a system of water supply for Myersville; a series of float investigations of the currents in Chesapeake Bay off Tolchester Beach as a part of a study for improving sewerage conditions at that resort; and the preparation of complete construction plans for improved water supply and sewerage systems at the Maryland House of Correction.

Sewerage improvements at the Springfield State Hospital were completed during the year and studies for improving the water supply were begun.

Sanitary surveys were made of Elkridge, Broome's Island, Emmitsburg and Mt. Airy, and the Bureau participated in the sanitary survey of Salisbury, which was carried on under the supervision of the Deputy State Health Officer.

TABLE II.
FIELD INVESTIGATIONS MADE DURING 1915.

<i>County.</i>	<i>Water Supply.</i>	<i>Severage.</i>	<i>Bottled Water Supply.</i>	<i>Ice Supply.</i>	<i>Miscellaneous.</i>	<i>Total.</i>
Allegany	47	12	0	1	3	63
Anne Arundel.....	56	56	0	0	2	114
Baltimore	131	87	10	0	27	255
Baltimore City.....	7	1	11	0	0	19
Calvert	3	3	0	0	18	24
Caroline	20	40	0	3	0	63
Carroll	31	20	0	1	8	60
Cecil	35	2	0	1	4	42
Charles	11	5	0	0	9	25
Dorchester	25	14	0	0	1	40
Frederick	55	12	0	2	3	72
Garrett	9	8	0	0	0	17
Harford	26	2	0	0	0	28
Howard	6	2	0	1	1	10
Kent	33	44	0	3	7	87
Montgomery	46	64	0	1	17	128
Prince George's.....	52	65	0	1	6	124
Queen Anne's.....	11	6	0	2	7	26
St. Mary's.....	7	1	0	1	15	24
Somerset	13	24	0	9	1	47
Talbot	11	14	0	3	8	36
Washington	28	5	0	1	1	35
Wicomico	25	28	0	1	5	59
Worcester	22	21	0	2	2	47
Totals.....	710	536	21	33	145	1,445

Investigations of sanitary conditions were made also at the principal bay and river-shore summer resorts—Tolchester, Betterton, Chesapeake Beach, Bay Shore and Riverview. In the case of the first three, sanitary improvements are already in progress or under advisement.

The sanitary arrangements at schoolhouses, with particular reference to those buildings proposed for future construction, were given careful attention, and an attempt was made to have modern water supply and sewerage conveniences installed in all new buildings of appreciable size. This endeavor has resulted already in the installation of complete equipment in the new high schools at Betterton, Kennedyville and Rock Hall, and it is expected that several other schools on the Eastern Shore will make similar additions.

Brief summaries of the more important water supply and sewerage investigations will be found in a later portion of this report.

Considerable time was spent in carrying out investigations of the oyster beds in the vicinity of Cambridge and Annapolis in co-operation with the United States Public Health Service. The descriptions of the work and the conclusions reached have been discussed in detail in the official reports of the latter, and therefore only a short resumé will be repeated later in this report.

PLANS OF WATER SUPPLY AND SEWERAGE SYSTEMS RECEIVED

During the year 563 plans were received and filed. Water supply and sewerage plans were received from the following places:

WATER SUPPLY SYSTEMS—

Existing—Braddock Heights, Cambridge, Elkton, Frederick, Frostburg, Hagerstown, New Windsor, Roland Park, Salisbury, Sparrows Point, Takoma Park.

Proposed—Annapolis (Annapolis Water Co., improvements), Boonsboro (Boonsboro Water Co., improvements), Chestertown (extensions and improvements), Decatur Heights, Elkton (Maryland Water Co., improvements), Greensboro, Laurel (extensions and filtration plant), New Windsor (extensions), Westernport (extensions and improvements), Westminster (Consolidated Public Utilities Co., filtration plant).

SEWERAGE SYSTEMS—

Existing—Frostburg, Guilford, Havre de Grace, Loch Lynn, Roland Park Co., Sparrows Point (Maryland Steel Co.), Takoma Park (extensions).

Proposed—Arlington and vicinity (including disposal plant), Betterton (including disposal plant and storm-water drains), Cambridge (including disposal plant), College Park (Maryland Agricultural College, disposal plant), Decatur Heights (including disposal plant), Easton (disposal plant), Grantsville, Hurlock (including disposal plant), Kensington, Laurel (including disposal plant), Loch Lynn (extensions), Millington, Ocean City (including disposal plant), Takoma Park (extensions), Towson (Maryland State Normal School, disposal plant), Westernport (extensions).

PLANS PREPARED IN CONNECTION WITH INVESTIGATIONS

Fifty-six complete plans and 183 sketches were prepared in this office in connection with various investigations. The principal plans completed are as follows:

WATER SUPPLY SYSTEMS—

Bridewell—Maryland House of Correction—Existing water mains.
 Bridewell—Construction plans for water supply and sewage disposal improvements.
 Brunswick—Existing water mains.
 Emmitsburg—Water mains and private sewers.
 Frostburg—Proposed layout of water mains in Mechanic St.
 Myersville—Profile of proposed water supply and distribution system.
 Anacostia River Valley—Proposed water supply.

SEWERAGE SYSTEMS—

Bridewell—See Water Supply.
 Easton—Plan of future sewers for southern extension.
 Emmitsburg—See Water Supply.
 Rock Hall—Changes in sewer layout at High School.
 Sykesville—Springfield State Hospital—Stream relocation near sludge bed.

MISCELLANEOUS—

Elkridge—Map for sanitary survey.
 Havre de Grace—Map for float investigation.
 Maryland—Map of State.
 Mt. Airy—Map of sanitary survey.
 Miles River and Vicinity—Map.
 Salisbury—Map for sanitary survey.
 Tolchester—Results of float investigations.
 Details of sewers.
 Organization chart of Engineering Department.

PERMITS ISSUED

Seventy-seven water-supply permits were issued to various individuals, companies and municipalities. The more important are as follows:

Construction of New Water Works Systems—Decatur Heights, East New Market.

Extension of Existing Distribution Systems—Boonsboro Water Co., Braddock Heights Water Co., Cambridge (Dorchester Water Co.), Chestertown, Frederick, Hagerstown (Washington County Water Co.), Kensington, Laurel, Mortimer Heights (Suburban Water Co.), New Windsor, Pocomoke City, Princess Anne, Roland Park Water Co., Salisbury Water Co., Takoma Park, Westernport.

Drilling Wells—Cambridge (Dorchester Water Co.), Centerville, Elliott City Water Co., Elkton (Maryland Water Co.), Mortimer Heights (Suburban Water Co.), Rockville, Sparrows Point (Maryland Steel Co.), Sherwood Forest Co.

Construction of Filtration Plants—Baltimore County Water and Electric Company, Laurel, Westminster (Consolidated Public Utilities Co.).

Improvements to Existing Systems—Annapolis Water Co., Boonsboro Water Co., Braddock Heights Water Co., Brunswick, Chestertown, Elkton (Maryland Water Co.), Laurel, Princess Anne, Rockville, Westernport.

Installation of Disinfecting Apparatus—Annapolis Water Co., Arlington and vicinity (Suburban Water Co.), Piedmont Water Works Co.

Raising Money for Improvements—Chestertown.

Sixty-seven sewerage permits were issued. The more important are as follows:

Construction of New Sewerage Systems and Disposal Plants—Arlington and vicinity, Baltimore City Water Department (Montebello Filtration Plant), Betterton, Decatur Heights, Hillsdale (Kernan Hospital), Hurlock, Laurel, Ocean City, College Park (Maryland Agricultural College), Easton, Tolchester Beach (The Tolchester Co.), Towson (Maryland State Normal School).

Extension of Existing Sewerage Systems—Brooklyn, Cambridge, Chestertown, Curtis Bay, Frostburg, Germantown, Kensington, Loch Lynn, Pocomoke City, Preston, Ridgely, Riverdale (Riverdale Park Co.), Roland Park Co., Salisbury, Takoma Park, Tolchester Beach (The Tolchester Co.), Westernport.

Raising Money for Improvements—Easton, Kensington, Ocean City.

Expending Money for Improvements—Easton, Kensington.

Three permits were issued for the sale of ice, as follows:

Deal Island Ice Company, Easton Ice Company, Robert Maddox, Princess Anne.

Five permits were issued for the sale of bottled water, as follows:

Brooklandwood Spring Water Company, Big Rock Water Company of Baltimore, Chattolane Spring Water Company, H. N. Robertson, Rockville (2).

ORDERS ISSUED

Under the provisions of the new law giving the State Board of Health supervision and control over the maintenance, alteration, extension and construction of water and ice supplies, sewerage systems, trades wastes and refuse disposal in the

State, orders were issued during the year to various municipalities, corporations and individuals, the more important of which are as follows:

Avalon—Baltimore County Water and Electric Company: Cessation of work upon the Avalon filtration plant pending receipt of a permit.

Westernport—Mayor and Commissioners: Repair and operation of disinfecting plant.

Mt. Rainier—Mayor and Common Council: Installation of water supply and sewerage systems.

Ocean City—Mayor and City Council: Installation of partial sewerage system.

Easton—Mayor and City Council: Sewage-disposal plant improvements.

Roland Park—Roland Park Company: Cessation of discharge of untreated sewage into Stony Run.

Kensington—Mayor and City Council: Construction of outfall sewer to Rock Creek.

Silver Spring—Commissioners of Montgomery County: Installation of water supply and sewerage systems.

Myersville—Burgess and Council: Submission of plans and specifications for a water supply system.

Delmar—Commissioners: Submission of plans and specifications for sewerage system.

Crisfield—Mayor and City Council: Submission of plans and specifications for a sewerage system.

WATER SUPPLY INVESTIGATIONS.

Summaries of the more important reports on water supply investigations made during the year are given below :

ANNE ARUNDEL COUNTY

Bridewell—Maryland House of Correction—The extremely bad condition of the water supply of this institution was described in the 1914 report. After authorization by the Governor, surveys were started late in 1914 and complete construction plans and estimates of cost of a project for providing a pure water supply and an improved distribution system for proper fire protection have been prepared.

Under the new plans Dorsey Run is to be utilized as the source of supply, the intake to be located preferably above the railroad track on a farm, the purchase of which is contemplated for farming purposes by the institution authorities. The water will be conveyed by gravity through a wood pipe line to an abandoned pool near the present pumping station, which is to be rebuilt to provide several days' water storage, so that at times of muddy water in the stream it may be drawn from. Provision is made for applying chemicals to coagulate the water and cause subsidence of a large part of the sediment when necessary. The existing pumping station will be used to raise the water from the pool to a slow-sand filtration plant of 250,000 gallons per 24 hours capacity, situated to the east of the prison, from which the clear water will be drawn by the pumps in the pumping station at the power-house and delivered to a new distribution system designed to provide greater pressure. Liquid chlorine will be used to disinfect the water after passing through the filters. An elevated steel tank will be placed on the hill near the old distribution reservoir.

CAROLINE COUNTY

Federalsburg—Population in 1910, 1950. Federalsburg is located in the extreme southern part of Caroline county on Marshyhope Creek, a branch of the Nanticoke River. The water system, which is privately owned, was installed in 1900. Water

is obtained from two artesian wells, each 265 feet deep, and is collected in a small basin, from which it is pumped into the distribution mains, surplus pumpage going to an elevated tank of 10,000 gallons capacity. There are approximately 2 miles of mains and 175 services. The average consumption is about 33,000 gallons per day. The water is of good quality, but the system is thoroughly inadequate.

CARROLL COUNTY

New Windsor—Population in 1910, 446. New Windsor is located in the western part of Carroll county on the Western Maryland Railway. The water system is owned by the municipality and was installed in 1908. Water is obtained from Big Sink Spring, located about two and one-half miles southeast of the town, from which it flows to a collecting reservoir, with a capacity of 400,000 gallons, and thence to the distribution mains by gravity. There are approximately 3.5 miles of mains, 160 services and 29 fire hydrants. No data as to water consumption were available, although the yield of the spring was estimated at about 95,000 gallons per day.

FREDERICK COUNTY

Braddock Heights—Braddock Heights, an unincorporated community situated at the top of Catoctin Mountain about midway between Frederick and Middletown, is one of the popular mountain summer resorts. It has an all-year population of about 150 and a summer population of over 2000. The water system, which was installed about 1906, is owned by the Braddock Heights Water Company. Water is obtained from three springs. One of these is the famous Braddock Spring, located along the National Pike on the east slope of the mountain. The water flows to a collecting basin, from which it is pumped to a main distributing reservoir, which has a capacity of about 69,000 gallons, and to a smaller reservoir holding about 9000 gallons. From these reservoirs it flows by gravity to the distribution mains, of which there are approximately 2.5 miles. There are 68 services and 29 fire hydrants on the system. The water consumption is estimated at about 35,000 gallons per day at the height of the season. This water supply has been subjected to pollution as a result of insanitary conditions existing

on properties situated above the springs. The water company has been advised to acquire as many of these properties as possible for the purpose of protecting the water from contamination.

Brunswick—Population in 1910, 3721. The water supply of Brunswick was reported upon fully in the 1913 report. The city has large railroad yards and the population is rapidly increasing. The present source of supply is entirely inadequate and serves only about half of the residents. At the request of the city authorities an exhaustive investigation, extending over a year, has been made of all the possible water supply sources in the surrounding country. Mountain springs and available streams have been examined and measured.

Of the many possibilities that were presented, the investigation seemed to indicate as most favorable the development of Yourtee Spring, a large spring on the west side of South Mountain, yielding about 250,000 gallons per day in the dry seasons. The water from this source would be conveyed to the city in a wood pipe line passing around the south end of the mountain, then part of the way up the east side in order to intercept several springs on that side of the mountain, and finally would enter the town at the northwest corner and connect to the existing elevated tank. This development would serve for about five years and, it was estimated, would cost \$35,500, exclusive of land and rights-of-way. It was recommended that, after the capacity of these sources has been reached, a dam be built on the north branch of Little Catoctin Creek just above the Knoxville road, which would impound ultimately 270,000,000 gallons of water and supply 1,500,000 gallons per day. Since this water would require filtration, a plant was to be located near the existing elevated tank, to which the water would flow by gravity. Under such an arrangement both the high and low portions of the town would be served by gravity by the spring and stream waters, respectively. In the final system the distribution system would be divided into three zones, the highest one of which would be served by pumping.

A number of alternative schemes were presented. One of these provided for securing water from the Potomac River, to be used after filtration. Another suggested the immediate development of Little Catoctin Creek, with the idea of serving

water to the railroad and using the revenue thereby derived to pay for a large part of the improvement.

The town is to apply to the next Legislature for the right to issue bonds sufficient to pay for the first improvement.

Myersville—Population, 475. Myersville has at present no system of public water supply. Investigations have shown that most of the private wells are unsafe because of the congested character of the town's development. A study for a proposed water system was made at the request of the County Health Officer, Dr. Ralph Browning. After investigating several springs on private property about two miles north of the town, in the vicinity of Pine Knob, a practicable method of supplying water seemed to be possible. It was recommended, therefore, that the springs on the properties of Marshall Warrenfeldt and I. S. Smith be developed first, to be followed if necessary by the development of springs on the property of John Frey. Water would be conveyed through wood and terra-cotta pipe to a reservoir of 225,000 gallons capacity, to be situated on high ground about three-quarters of a mile northwest of the town. The distribution system would consist mostly of 8-inch pipe in order to provide ample fire protection. The total cost of this system, exclusive of engineering, land and rights-of-way, was estimated at \$10,500.

Maryland Tuberculosis Sanatorium—This institution is situated in the Blue Ridge just north of Sabillasville. Including patients, doctors, nurses and attendants, about 600 persons live in the institution. On May 14 two cases of typhoid fever developed among laborers and eventually 13 cases appeared.

The water supply is derived from springs and driven wells. The main source of supply, that of Bowman Springs, is situated a little over a mile southwest of the buildings. The water from five small springs and one main spring is conveyed by a single pipe to a pumping station just east of the Sabillasville road. The water is pumped thence to a covered concrete reservoir of 132,000 gallons capacity near the buildings. In addition to the above supply, there are two springs, known as Naylor Springs, and five driven wells, varying in depth from 150 to 175 feet. All are located in the vicinity of the pumping station. Naylor Springs, the flow of which is small, discharge by gravity to the pump well, while water from the wells is obtained by air-lift. The flow from Bowman Springs supplies the de-

mand of the institution at all times except during the dry seasons of the year. The investigation of this water supply showed that each one of the sources, with the possible exception of the driven wells, was subject to pollution. At Bowman-Springs a dwelling house, owned by the institution, is situated just above the sources, and the Naylor Springs appear to have insufficient protection.

As a precautionary measure a hypochlorite plant was installed to treat all the water supplied to the institution. Later a permanent liquid chlorine plant was put in.

MONTGOMERY COUNTY

Bradley Hills—Bradley Hills is a residential development located northwest of the District of Columbia. The water system is owned by the real estate company which is developing the property. Water is obtained from a well 263 feet deep and pumped directly into an underground pressure tank of about 24,000 gallons capacity, from which it is forced into the distribution mains. The total length of mains is small, and there are at present but six services and two fire hydrants on the system. No data are available as to the water consumption. The water is of good quality.

Friendship Heights—Friendship Heights is a small unincorporated suburb of about 200 population situated northwest of and adjacent to the District of Columbia. In 1910 a water system, privately owned, was installed. Water is obtained from three wells—two dug wells, 52 and 62 feet deep, and a driven well 115 feet deep. The water is pumped from the wells to an elevated tank of 7000 gallons capacity, from which it flows to the distribution mains. There are about 500 feet of mains and 16 services. The water consumption is estimated at 2500 gallons per day.

PRINCE GEORGE'S COUNTY

Hyattsville—Population in 1910, 1917. Hyattsville is located about one and one-half miles northeast of the District of Columbia between the Northeast and Northwest branches of the Anacostia River. The source of water supply comprises six driven wells, ranging in depth from 112 feet to 230 feet, situated near the easterly limit of the town. The water is delivered into a reservoir of 113,000 gallons capacity, from which it is pumped

into the distribution mains, the surplus pumpage passing to an elevated tank of 100,000 gallons capacity. There are on the system approximately 5 miles of mains, 460 services and 75 fire hydrants. The estimated average consumption is about 130,000 gallons per day. Although the water contains a large amount of iron, it is of safe hygienic quality.

WORCESTER COUNTY

Berlin—Population in 1910, 1317. Berlin is located in the northeastern part of Worcester County at the junction of the Delaware, Maryland and Virginia and the Baltimore, Chesapeake and Atlantic Railroads. It is served by a municipally owned public water supply system installed in 1909. Water is obtained from four driven wells about 100 feet in depth and is pumped directly into the distribution mains, surplus pumpage passing to a standpipe of 106,000 gallons capacity. There are approximately 3 miles of distribution mains, 205 services and 35 fire hydrants on the system. The average water consumption is about 55,000 gallons per day.

Pocomoke City—Population in 1910, 2369. Pocomoke City is located in the southwestern part of Worcester County on the south bank of the Pocomoke River. It is served by a municipally owned public water supply system installed in 1898. Water is derived from six wells about 130 feet in depth and is pumped directly into the distribution system, the surplus going to a standpipe of 86,000 gallons capacity. There are approximately 4.5 miles of distribution mains, 200 services and 43 fire hydrants on the system. The average consumption is 50,000 gallons per day. The water is of good quality.

Snow Hill—Population in 1910, 1844. Snow Hill, the county seat of Worcester County, is located on the south bank of the Pocomoke River, in the eastern part of the county. A municipally owned public water supply secures water from two driven wells 150 and 265 feet in depth. The water is pumped from the wells directly into the distribution system, the surplus passing to a standpipe of 38,000 gallons capacity. There are about 3.5 miles of distribution mains, 209 services and 40 fire hydrants on the system. The average consumption is about 55,000 gallons per day. The water is of good quality.

SEWERAGE INVESTIGATIONS.

Summaries of reports on the more important sewerage investigations carried on during 1915 are given below.

ANNE ARUNDEL COUNTY

Bridewell—Maryland House of Correction—This Bureau was authorized by the Governor to prepare complete construction plans and estimates of cost for sewerage improvements at the institution along with those of water supply. A new sewage disposal plant of 200,000 gallons per 24 hours' capacity is contemplated under these plans, to be situated on the opposite side of the road from the existing disposal works, and whatever new sewers are necessary in the vicinity of the buildings. The disposal plant will consist of a screen chamber, a primary Imhoff tank, a sprinkling filter, a final Imhoff tank and sludge beds. The effluent will discharge into Dorsey Run. As this stream and the Little Patuxent River, into which it discharges, are not used as sources of water supply and flow through farming country, it has been deemed necessary to provide for only sufficient treatment of the sewage to prevent a nuisance in the stream, and a plant of this type will give such results.

BALTIMORE COUNTY

Arlington and Govans—On October 23, 1914, an order was served on the Commissioners of Baltimore County directing the construction of complete sewerage systems in the districts of Arlington and Govans, to be completed by January 1, 1916. This order was contested by the Commissioners and the case was tried in the Circuit Court of Baltimore County. A large amount of preparation was made for this case, the two areas in question were investigated thoroughly and much evidence collected to show the necessity of sewerage systems. The decision rendered was adverse to the State Board of Health, and an appeal was carried to the Court of Appeals. No decision had been given at the end of the year.

KENT COUNTY

Tolchester Beach—Tolchester Beach, a one-day summer resort owned by the Tolchester Company of Baltimore, is located on Chesapeake Bay 28 miles east of Baltimore City. Sewerage conditions at Tolchester attracted the attention of this Department early in the summer season, when it was noted that sewage discharging from the main sewer outlet was being carried by the tide directly over the bathing beach. As a temporary expedient, until experiments could be made to indicate a suitable location for an outlet, it was advised that the sewer be extended about 200 feet further, to discharge under the steamboat wharf. This was done.

During the latter part of the year float investigations were carried on to determine the effect of the discharge of sewage, from the existing sewerage system at the beach, upon the area used for bathing purposes. An effort was made to determine the direction of the currents in Chesapeake Bay under varying conditions of wind and tide and the influence of such currents upon particles floating on the surface of the water or suspended at various depths. A large number of floats were set out, at different stages of the tide and under varying wind conditions, from the present sewer outlet and from a point near the end of the steamboat landing, about 600 feet from shore, and their paths carefully followed. The majority of the floats passed directly over the bathing beach or grounded on it. It was apparent, therefore, that either of the above locations for a sewer outlet would menace seriously the purity of the water on the bathing beach. In the light of these experiments the Tolchester Company was prevailed upon to employ an engineer to prepare plans for rearranging the sewerage system and for a complete disposal plant. These plans had not been completed at the end of the year.

OYSTER-BED INVESTIGATIONS.

A brief discussion of the investigations made in co-operation with the United States Public Health Service is given below.

ANNE ARUNDEL COUNTY

Annapolis—Fresh raw sewage is discharged from many sewers along the shore of Annapolis in immediate proximity to a number of oyster beds. The dilution in the harbor and in the neighboring waters has been shown to be insufficient for the adequate disposal of the volume of sewage discharged from the town and from the United States Naval Academy. These conditions have resulted in the recommendation by this Bureau of a project for sewage disposal which would eliminate the danger of infectious pollution of oysters, but this project has not yet been favorably acted upon. Since any adequate system of sewage disposal should include the sewage from the Naval Academy, an effort was made to obtain the co-operation of the authorities of this institution, but little progress has been made so far.

The conditions existing in Spa Creek and the vicinity indicated great danger of infection from oysters kept there, and an order was promulgated, therefore, that the taking of shellfish for consumption from the waters between a line drawn from Greenbury Point to the mouth of Lake Ogleton to the upper railroad bridge was unlawful.

DORCHESTER COUNTY

Cambridge—Previous to the joint investigation of Cambridge Harbor by the Public Health Service and this Bureau, a detailed study of the pollution of this section of the Choptank River had been made by this Department. The result of both this and the later co-operative study indicate a polluted condition of the harbor which is a serious menace to the oyster bars in the Choptank River.

Inasmuch as sewerage conditions in this town are responsible directly for the intermittent recurrence of putrefaction in the

harbor, preliminary plans for the eradication of the objectionable conditions were prepared in 1914. A design for a complete sewerage system, including a disposal plant, designed along the lines laid down in the early report, was later prepared by a firm of consulting engineers. The construction of the disposal plant has never been started, but certain changes in the sewer lines have been made and the gradual construction of the entire system may be expected in the future. The elimination of the sources of pollution will accompany the development of improved sewerage arrangements.

DISINFECTION OF PUBLIC WATER SUPPLIES IN THE STATE

(Extracted from Journal of the New England Water Works Association, Vol. XXX, No. 3. "Progress of Water Disinfection in Maryland," by Morse and Hall.)

There are 83 public water supplies in Maryland, serving about 842,500 people—62.1 per cent. of the estimated total population of 1,357,374. Several community systems delivering water to small groups of houses, and also institutional supplies, are not included in this number.

In 1912, when the engineering investigations were begun, it was found that, in general, knowledge of the condition of the public water supplies in the State was meager. Analyses of the water from many of the supplies had been made occasionally, but no systematic method of examination had been followed. The Baltimore system was looked after by the city water and health departments, and consequently received little or no attention from the State Board of Health.

The State's investigations commenced to show that many of the water systems were badly in need of attention. The surface supplies were derived from streams fed by watersheds containing habitations, in many cases providing numerous sources of contamination, and, in general, protection was not afforded by long storage, filtration or other treatment. Water was usually taken from the stream at an intake dam and passed into a distributing reservoir of insufficient capacity to provide a safe period of storage. Moreover, water from some of the tubular well systems was found to be polluted, because the wells either were of too shallow depth and located in the midst of thickly settled districts, where sources of pollution were numerous, or were driven in rock containing fissures. Some supplies previously considered to be beyond suspicion were found, upon close investigation, to be in a bad condition and a menace to the public health.

In a large number of the instances where supplies were polluted the water was satisfactory from a physical standpoint, there being an absence of color, turbidity and other objection-

able characteristics. This was naturally true in the case of most well and spring waters. The water from streams fed by mountain watersheds and from watersheds containing much wooded or uncultivated land was also generally in good physical condition.

Where water, otherwise acceptable, was found to be in an unsafe sanitary condition, filtration did not appear to be necessary or even advisable for assuring the proper degree of purity. Expense and the improbability of proper operation are two factors which would make filtration plants undesirable for many of the small systems which abound in Maryland. Consequently, disinfection was resorted to wherever it would serve the purpose. There were, however, a considerable number of surface supplies derived from streams flowing through cultivated country and furnishing a water occasionally or persistently turbid. Such supplies as these naturally require filtration. Disinfection in connection with filtration is general and is required in all new installations. While the Department has been able to obtain good results from several filter plants without the addition of disinfectants, the character of attention which small works ordinarily receive makes their use essential.

Prior to the establishment of the Engineering Division of the State Board of Health, in 1912, there were only four disinfecting plants in operation on water supplies in Maryland. Two of these were located on the Gunpowder and Jones Falls systems of Baltimore, and two, owned by the Baltimore County Water and Electric Company, were at the Avalon and Herring Run plants, which serve large sections in Baltimore County near the city. At Avalon disinfection was carried on in conjunction with filtration. All these installations used hypochlorite of calcium, and at Herring Run ozone was employed at times.

Since 1912 many towns in other parts of Maryland have been provided with purification plants, and it is a striking fact that, of the 842,565 persons served by public water supplies at the present time, 745,149, or 88.4 per cent. (approximately 54.9 per cent. of the population of the State), use water which is treated by either filtration or disinfection, or both.

The number of public systems in the State using raw, filtered, or disinfected ground and surface water, and the total populations of the communities served are shown by Table III.

There are 83 public water supplies in Maryland, 61 of which

derive their water from underground sources. The population thus served amounts to 102,099. The number of consumers is small in comparison with the number of systems, because these supplies, in general, are located in the smaller towns. The remaining 22 systems take water from surface streams and serve a population of 740,466. The large population using surface water is accounted for by the fact that Baltimore and most of the other places of considerable size are thus supplied. Ground waters are used by 12.1 per cent. of the people served by public systems, and by 7.5 per cent. of the total population of the State. The corresponding figures for surface waters are 87.9 and 54.6 per cent.

TABLE III.
CLASSIFICATION OF PUBLIC WATER SUPPLIES IN MARYLAND.

UNTREATED.				TREATED.							
Number of Supplies.	Population of Communities Served.	Per Cent. of Total Population of State.	Per Cent. of Population Using Public Supplies.	Form of Treatment.	Number of Supplies.	Population of Communities Served.	Per Cent. of Total Population of State.	Per Cent. of Population Using Public Supplies.			
51	253,845	6.3	10.2	Ground-Water Supplies.	1	6,000	0.4	1.7			
				Disinfected only.....							
				Filtered only.....							
				Total treated.....							
7	11,601	0.9	1.4	Surface-Water Supplies.	9	76,916	5.7	9.1			
				Disinfected only.....							
				Filtered and disinfected.....							
				Total disinfected.....							
62	97,416	7.2	11.6	Total filtered only.....	13	722,676	53.3	85.8			
				Total treated.....							
				All Supplies.	14	87,200	6.5	10.3			
				Disinfected only.....							
				Filtered and disinfected.....	4	645,760	47.6	76.7			
				Total disinfected.....							
				Total filtered only.....							
				Total treated.....							
Total population served by public water supplies.....								842,565			
Total population of State.....								1,351,374			

Of the ground-water supplies six are treated, while of the surface supplies only seven deliver untreated water, and these to only 11,601 people. The six plants for purifying ground water serve 16,284 persons, and communities with a total population of 728,865, supplied by fifteen systems, are using treated surface water. There are eighteen public supplies with disinfecting plants and three in which the water is filtered but not disinfected. A population of 732,960 is served with disinfected water, 12,189 with water filtered only, and 97,416 use raw water. Thus 54.1 per cent. of the total population of Maryland drink disinfected, 54.9 per cent. treated, and only 7.2 per cent. raw water. Of the total number of people served by public water systems, 87.0 per cent. use disinfected, 88.4 per cent. treated, and 11.6 per cent. raw water.

Not only is the influence of water purification felt by the public water supplies, but it has reached to State and private institutions as well. There are, as shown by Table IV, six institutions, embracing a population of 2352, where the water receives treatment of some kind, and in all but one of these it is disinfected. Included in this number are a penal institution, a tuberculosis sanatorium and four educational institutions.

TABLE IV.
CLASSIFICATION OF TREATED INSTITUTIONAL WATER SUPPLIES IN
MARYLAND.

<i>Class.</i>	<i>Form of Treatment.</i>	<i>No. of Supplies.</i>	<i>Population Served.</i>
Ground water.....	Disinfected only.....	2	652
Surface water.....	Disinfected only.....	2	1,100
	Filtered and disinfected....	1	350
	Filtered only.....	1	250
All supplies treated....		6	2,352
Disinfected supplies....		5	2,102

The location and nature of the public water systems and treated institutional supplies are shown in Fig. 11. The universal use of ground-water sources, and the consequent scarcity of purification works, in the section of the State east of Chesapeake Bay is notable.

Disinfection by means of hypochlorite of calcium or liquid chlorine is naturally the most common method practiced, although one small mill town uses distilled water, which is the condensed exhaust from the steam turbines in the mill, and there is an ozone plant which is operated in conjunction with one of the hypochlorite installations. There is a possibility that ultra-violet ray disinfection will shortly be introduced, as its use is under consideration for a mechanical filter plant now being constructed.

The type of apparatus suitable for hypochlorite or liquid chlorine treatment in any particular case depends upon the method by which water is supplied. Where the flow of water to be treated is at most times substantially uniform, as in the case of certain pumping plants or in gravity lines discharging into reservoirs, a manually controlled apparatus is sufficient. Where fluctuations occur in the rate of flow, automatic control devices are essential for proper results. Liquid chlorine plants, so-called, introduce chlorine into the water either as a gas or in solution. The gas feed, usually called "direct feed," is well adapted for use where no water under pressure, for dissolving the gas, can be easily obtained. There are no direct-feed plants in Maryland at the present time, and only one, at Perryville, is regulated automatically, although automatic equipment is about to be furnished at Frederick.

The early disinfecting plants, as stated previously, all made use of hypochlorite of calcium, and with effective results. Those on the Avalon and Herring Run supplies of the Baltimore County Water and Electric Company were the first to be installed in the State. The former was constructed in 1908 and the latter during the year following. Late in 1910 the Jones Falls supply for Baltimore was first disinfected, and in June, 1911, the Gunpowder River plant was put into use. Until 1913 these were the only installations of disinfecting apparatus used for water purification in Maryland. A filtration plant had been previously built by the Washington County Water Company to supply Hagerstown from Antietam Creek during dry periods and hypochlorite dosing apparatus had been provided, but the disinfectant was not used until the summer of 1913. About the same time the State Board of Health constructed a plant for the Ellicott City system. Cumberland next followed, during the fall of the same year, by putting into operation a hypo-

chlorite plant in conjunction with the mechanical filters on its new supply. In December the mountain supply of Hagerstown was furnished with hypochlorite apparatus. A typhoid fever epidemic at Rockville during February, 1914, made necessary the construction of an emergency hypochlorite plant by the State Board of Health for treating the supply derived from tubular wells driven in rock and proven to be the cause of the disease. The first liquid chlorine apparatus was put into operation at Union Bridge in January, 1914, for treating about 120,000 gallons of water derived from tubular wells driven in limestone rock. An ozone plant had been installed in 1909 at the Herring Run supply of the Baltimore County Water and Electric Company, but at first it was used, so the writers are informed, only experimentally.

After the powers of the State Board of Health were broadened, in 1914, and an increased appropriation was provided for sanitary engineering work, water purification plants were naturally introduced at a more rapid rate than previously. At the present time there are eleven liquid chlorine installations treating about 5,600,000 gallons of water daily and eleven hypochlorite plants treating approximately 90,600,000 gallons daily. Of the latter amount 80,000,000 gallons are delivered to Baltimore City.

Data concerning the disinfecting plants in Maryland are shown in Table V.

Changes are taking place continually in the water supply situation in this State, and it is expected that the number of disinfecting plants soon will be increased and that alterations will be made in some of the water supplies, which will involve plants now in operation. At Annapolis the existing liquid chlorine plant probably soon will be used in conjunction with a mechanical filtration plant, the construction of which is contemplated, and at the Maryland House of Correction the liquid chlorine apparatus already installed will supplement purification by slow-sand filters which were recently designed by the writers and which will soon be built. A filtration plant is being constructed at Westminster and one is being designed for the Springfield State Hospital. Liquid chlorine probably will be used for both of these installations. Liquid chlorine will soon replace hypochlorite at Westernport, and the same change is being considered for the Baltimore filtration plant, for which

TABLE V.
DATA CONCERNING WATER SUPPLY DISINFECTING PLANTS IN MARYLAND.

Place.	Population (Estimated 1916).	Type of Plant.	Character of Supply.	Date.	Average Amount Treated Daily (Gallons).	Chlorine Parts per Million.	Where Chemical Is Applied.	Character of Attention.
<i>Plants for Disinfection Only.</i>								
Annapolis	8,656	Liquid chlorine	Surface	1915	1,224,000	0.32	Pump suction	Good.
Arlington	5,250	Liquid chlorine	Ground	1914	*72,000	0.30	Pump suction	Indifferent.
Bloomington	372	Liquid chlorine	Surface	1915	15,000	...	Supply main	Not yet in continuous operation.
Chestertown	2,730	Hypochlorite	Ground	1915	170,000	0.23	Pump suction	Good.
Ellicott City	1,148	Hypochlorite	Surface	1913	70,000	...	Pump suction	Neglected—used only occasionally.
Frederick	11,056	Liquid chlorine	Surface	1915	1,000,000	0.36	Supply main	Indifferent.
Hagerstown	25,500	{ Hypochlorite†	Surface	1913	2,500,000	0.44	Before entering	Good.
Herring Run	25,493	{ Liquid chlorine	Surface	1914	2,800,000	0.40	supply main	Good.
(Baltimore County).	950	{ Hypochlorite	Surface	1909	150,000	Water is condensed	exhaust from steam tur-	
Luke		{ Ozone	Surface	1912	30,000	... bines in mill of W. Va. Pulp and Paper Co.		
		{ Distillation	Surface	1916	200,000	0.60	Pump suction	Not yet in full opera-
Maryland Agricultural College	300	Hypochlorite	Surface	1915	90,000	0.89	Pump suction	tion.
Maryland House of Cor-	800	Liquid chlorine	Surface	1915	200,000	0.60	Pump suction	Intermittent — much
rection	600	{ Hypochlorite†	Ground	1915	90,000	0.89	Pump suction	better than at first.
Maryland Tuberculosis Sanatorium		{ Liquid chlorine		1915		0.67		Good

Oakland Mills.....	200	Hypochlorite	Ground	1915	9,000	0.83	Storage tank	Neglected—used only occasionally.
Perryville	632	Liquid chlorine	Surface	1915	300,000	0.50	Supply main	Indifferent.
Rockville	1,221	Liquid chlorine	Ground	1916	30,000	0.22	Collect. res.	Good.
St. James School.....	52	Hypochlorite	Ground	1915	4,000	1.50	Storage tank	Good.
Union Bridge.....	883	Liquid chlorine	Ground	1914	120,000	0.35	Pump suction	Good.
Westernport	3,109	Hypochlorite	Surface	1914	450,000	0.40	Intake at dam	Neglected at first; at present good.

<i>Plants for Filtration and Disinfection.</i>								
Avalon	30,197	Hypochlorite	Surface	1908	1,500,000	0.80	Outlet of coagulating basin	Good.
(Baltimore County).							Filtered water	Good.
Baltimore City	587,112	Hypochlorite	Surface	1915	80,000,000	0.30†	Inlet to coagulating basin	Good.
Cumberland	25,843	Hypochlorite	Surface	1913	5,500,000	0.20	Filtered water	Not yet in continuous operation.
Laurel	2,608	Hypochlorite	Surface	1915	70,000	...	Pump suction	Good.
Notre Dame.....	350	Liquid chlorine	Ground	1915	30,000	0.25		

*This amount is mixed with raw water from other sources.

†Now kept for emergency use.

‡As high as 3.0 parts per million of available chlorine have been used in treating the raw water before the filtration plant was installed.

hypochlorite was recently quoted at \$290 a ton, on the basis of a yearly contract. There is a marked tendency to use liquid chlorine instead of hypochlorite of calcium in connection with old as well as new installations, and the high price which now has to be paid for the latter will stimulate this movement.

The amount of chemical used at the disinfecting plants in Maryland has varied widely according to local conditions. It has ranged from 0.2 to 3.0 parts per million of available chlorine in the case of hypochlorite treatment, and from 0.25 to 0.67 parts where liquid chlorine is used. Where the disinfectant is applied to a spring or well water, or to the effluent from a well-operated filtration plant, the amount required is usually near the minimum mentioned above. In the case of turbid waters, larger amounts have been found necessary for proper treatment, and at times of extreme turbidity excessive quantities are required. In the treatment of the Baltimore City water as high as 3 parts per million of available chlorine, or 75 pounds of hypochlorite to the million gallons, have been used on raw water. The amount necessary in many instances depends also upon the character of attention given the apparatus.

It is by no means a fact that the disinfecting plants in Maryland have been operated with complete satisfaction, for most of them have had trouble of some kind. The difficulties encountered could generally have been avoided with more attention to proper operation. With hypochlorite plants the principal annoyance has been due to the formation of coatings which clog the pipes; and, where the solution was particularly strong, the materials of which the piping was made have been attacked, necessitating the replacement of parts. These are not serious troubles, however, and can be eliminated by frequent inspection. In the case of liquid chlorine plants, it has been found that occasionally a part becomes corroded and requires replacement, or a valve gets out of adjustment, but the gradual perfection of apparatus is making such occurrences less frequent.

Where faithful and intelligent attention has been given to operation, and the amount of disinfectant used has not been excessive, few complaints have been made regarding tastes or odors in the water. In one instance, where a liquid chlorine plant of the manual control type was disinfecting water the flow of which fluctuated considerably, there was always an overdose at night, which caused complaint due to tastes noticeable during the early hours of the day. This, of course, was the

fault of the method employed and not of the treatment itself. In general, fewer complaints have been registered concerning disagreeable tastes where liquid chlorine was used than in the case of hypochlorite.

There has been a marked decrease in the prevalence of typhoid fever in some of the communities where disinfecting plants have been installed. In most cases, however, the period of operation has been so short, and, on account of the small size of some of the places, the appearance of typhoid so irregular, that records do not indicate clearly the effect produced. Moreover, much of the typhoid fever in Maryland is attributable to causes other than impure water supplies. Nevertheless, there are certain well-defined instances where a decrease in typhoid fever morbidity and mortality can be traced directly to purification of a water supply. In Baltimore the reduction has been very pronounced. After the disinfecting plants were built the prevalence of typhoid immediately fell off, and the improvement has since continued. In 1915 both the morbidity and mortality rates from this disease, although higher than in many of the larger cities of the country, were approximately half as great as in 1910. Following the introduction into Cumberland of filtered and disinfected water from Evitts Creek, in place of the former raw supply from the Potomac River, the occurrence of typhoid fever was so reduced that, in 1915, there were scarcely more than one-sixth as many cases of, and one-fifth as many deaths from, this disease as in 1913, in spite of the fact that the corporate limits had been enlarged in the meantime. However, the change in source and the long storage period provided in the reservoir would undoubtedly have caused a large proportion of this improvement without the presence of a purification plant. One of the most striking instances of the effect upon typhoid occurrence, caused by disinfecting a water supply in Maryland, was that of the Rockville epidemic, which, after 28 cases had occurred, was checked suddenly by the installation of an emergency hypochlorite plant.

In order that prompt remedial measures may be instituted when a water supply is at any time found to be in an unsafe condition, or when an outbreak of typhoid fever casts suspicion on a water previously untreated, the engineers of the State Board of Health are all instructed in the setting up of an emergency hypochlorite dosing apparatus, making use of ordinary and easily obtainable materials. A sketch showing the general arrangement of the device used, including a bill of material, has been prepared, and is usually sent ahead, so that the necessary material may be on hand when the engineer arrives at his destination. This apparatus, shown on Fig. III, has proven its value on many occasions, and several of the installations are still in operation.

Clerical Report and Financial Statement.

WALTER M. KIRKMAN, Chief Clerk

CLERICAL REPORT.

Number of letters written.....	24,471
Number of letters received.....	16,775
Number of multigraphed sheets (196 electros, 485 forms).....	819,229
Number of pages folded on folding machine.....	73,000
Number of pages typewritten for reports, etc.....	16,346
Number of birth certificates filed.....	20,458
Number of death certificates filed.....	13,532
Number of second-class packages sent out.....	5,530
Number of laboratory and miscellaneous reports.....	12,366
Number of reports sent to physicians.....	6,023
Number of disinfection sheets mailed.....	435
Number of certificates of qualification issued.....	109
Number of certificates of registration issued.....	75
Number of certified copies of death issued.....	500
Number of certified copies of births issued.....	32
Number of searches made for copies of births and deaths.....	877
Number of circulars and circular letters sent out.....	10,446
Number of receipts for duplicate portion of transit permits.....	1,349
Number of cards written for cross index.....	79,940
Number of registration cards written.....	10,399
Number of postal cards to obtain given name of children written.....	3,383
Number of cards sent out.....	11,356
Number of Anne Arundel Co. Survey cards punched and numbered.....	12,953
Number of given names entered on certificates of birth.....	652
Number of cards resent, including miscellaneous.....	154
Number of cards unclaimed and sent to local registrars.....	181
Number of vouchers sent out.....	1,111

DISTRIBUTION OF TUBERCULOSIS PROPHYLACTIC SUPPLIES.

<i>Materials.</i>	<i>To Substations.</i>	<i>Individuals.</i>	<i>To Institutions, Baltimore City Health Dept., etc.</i>	<i>Total.</i>
Sputum Cup Fillers.....	125,300	26,337	447,790	599,427
Sputum Cup Holders.....	1,347	223	2,408	3,978
Napkins	125,300	23,300	1,211,000	1,359,600
Disinfectant (½ pt. bottles)...	1,347	346	12,813	14,506
Disinfectant (gallons).....			50	50
Waterproof Pockets.....	1,566	200	500	2,266
Books of Information.....	3,783	400	.....	4,183
Pocket Flasks.....	11,750	2,000	1,300	15,050

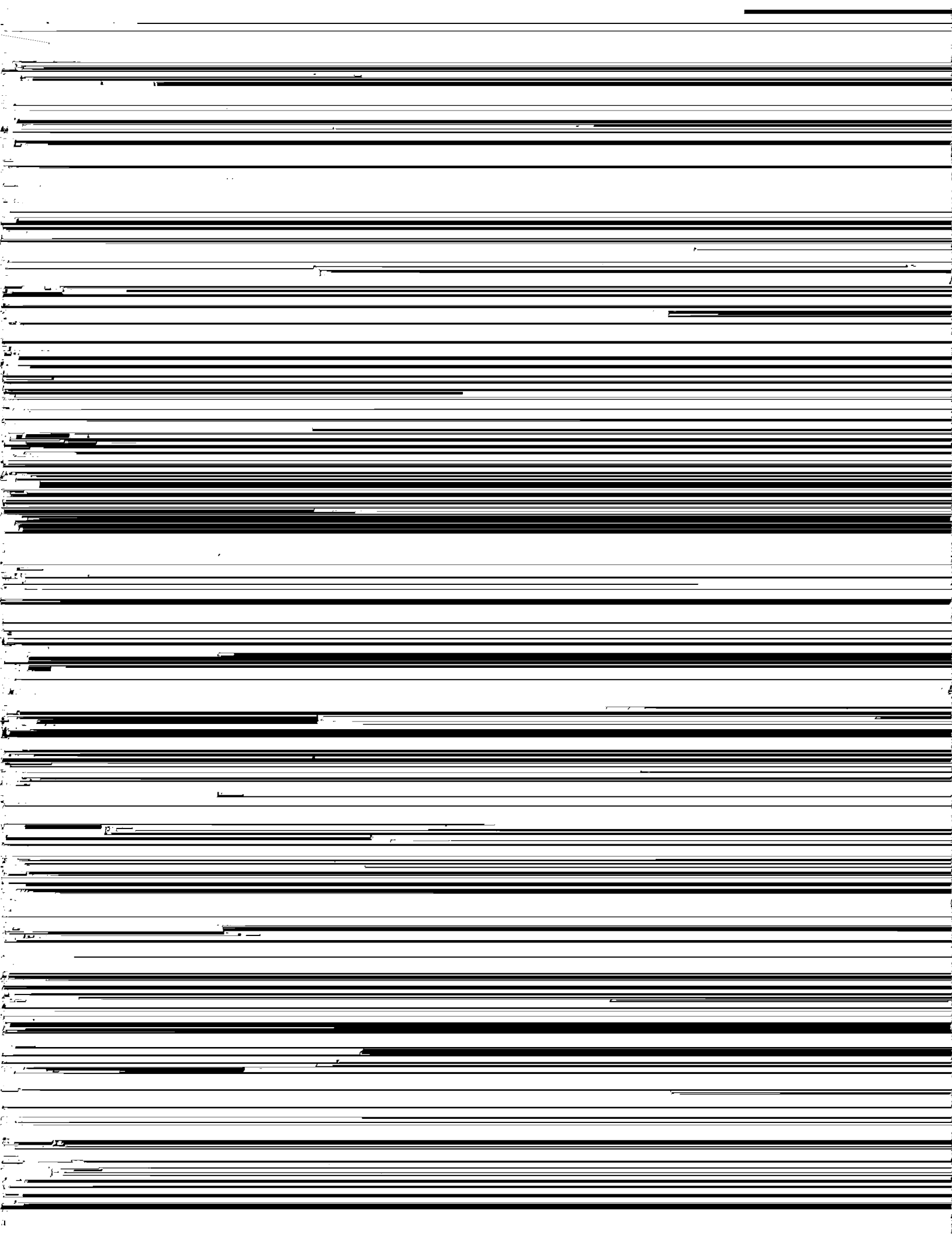
With respect to the clerical report, every item shows a very decided increase in the amount of work performed, thus illustrating the growing activities of the Department.

The following is a statement of the receipts and expenditures of the Department for the year ending December 31, 1915. The receipts are classified according to the names of the appropriations, and the disbursements by bureaus according to the objects of expenditure.

The balance on account of appropriations as of January 1, 1915, of \$75,236.12, does not represent unexpended balances, since the fiscal year of the Department does not coincide with the calendar year, because the due dates of the several appropriations fall between April 1 to March 31 as the fiscal year for the Department. To the balance as of January 1 (\$75,236.12) has been added the amounts due on the several appropriations—namely, \$142,500—and also the amounts received from sundry sources, which latter items total \$1,482.23, giving total receipts for the year \$219,218.35.

The disbursements follow, being arranged according to bureaus and objects of expenditure. The footings of the columns at the bottom of the sheet show the amounts spent by the various bureaus, and the total column on the right shows the total amount spent for each item by all the bureaus. The total amount of expenditures was \$140,188.19.

The next division represents the amounts which reverted to the State Treasury on account of unexpended balances of appropriations. It will be noted that on account of Sanitary Districts appropriation an amount of \$18,102.33 was returned to the State Treasury. This balance existed because the field organization of the Deputy State Health Officers was not complete, there being six Deputy State Health Officers in the field and one unassigned, instead of ten as required by law. Therefore, the money which would have been spent in equipping and maintaining these offices was not spent, and the balance, therefore, reverted to the State Treasury. This was an unusual situation and would not have existed had the field organization of the Deputy State Health Officers been complete. It will also be noted that \$1280 reverted to the State Treasury on account of Pasteur Treatment Appropriation. This represented an unexpended balance in an appropriation which was provided solely for the administration of Pasteur treatment to indigent



verified addition, checked postings, examined cancelled checks, and found all disbursements supported by proper vouchers.

Very truly yours,

BALTIMORE AUDIT COMPANY,
(Signed) ERNEST E. WOODEN,
Certified Public Accountant,
Secretary and Treasurer.

Baltimore, Md., March 7, 1916.

State Board of Health,
Baltimore, Md.

Gentlemen:

We have completed the audit of the books and accounts of your Board for quarter ending December 31, 1915, and found them in good order for the period under review. We verified additions, checked postings, examined cancelled checks and found all disbursements supported by proper vouchers. We also proved the cash expense funds and found same to be correct.

Very truly yours,

BALTIMORE AUDIT COMPANY,
(Signed) ERNEST E. WOODEN,
Certified Public Accountant,
Secretary and Treasurer

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