[Report of the Medical Officer of Health for Kingston-upon-Thames].

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BOROUGH OF

KINGSTON-UPON-THAMES.

Annual Report

OF THE

MEDICAL OFFICER OF HEALTH,

TO BE PRESENTED TO

THE TOWN COUNCIL

OF THE SAID BOROUGH,

ON TUESDAY, THE 15TH DAY OF JANUARY,

1895.

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH.

CLATTERN HOUSE,

KINGSTON-UPON-THAMES,

January, 1895.

GENTLEMEN,

During the past year the question of the extension of the Borough, so as to include the whole of the ecclesiastical parishes of Kingston and Ham, has culminated in an enquiry before an Inspector of the Local Government Board, with a view to obtaining a provisional order. Under these circumstances it is desirable to consider in what way questions of public health may be affected, and in what manner the present divisions of the district influence statistics and the incidence of various diseases.

I should like first of all to call your attention to the constitution of the population in the several districts, and to consider whether any one of these districts forms a normal community, with its fair proportions of rich and poor, males and females, young children and old persons, and in what way amalgamation will tend to remove disparities and bring the community nearer to, or farther from, the desirable normal condition.

For instance, the health statistics from a community of middle-aged persons and young spinsters would show an apparently lower death-rate than from a community consisting of young married couples and their aged parents ; simply because the children and parents of the young married couples were persons of the ages of highest mortality ; or in other words, the death-rate is much higher amongst the very young and the very old than it is amongst those of an intermediate age. Certain of the districts of the proposed extended Borough approach to the conditions just instanced, and I will therefore, for the sake of comparison, draw your attention to a few statistics from other towns not divided by lines only discernible on maps.

Croydon is a suburban town with a fairly well mixed population, and for comparison with Kingston it may be called four times the size. It has four times the population and four times the number of houses, but when we come to consider the number of males and females we find that the former are only 3½ times as numerous, whilst the latter are 4¼ times as many as in Kingston ; that is to say, there is a much greater excess of females over males in Croydon than in Kingston. Reigate, a little smaller than Kingston, has 2,000 more women than men, whilst Kingston has only a surplus of 1,100. In referring to other towns, not manufacturing, the excess is found to be even greater still. These figures clearly show that the Borough has a subnormal number of females, and those who know their Kingston well will not be surprised at the figures, which is only what might be expected of a town largely inhabited by the artizan class, who with their young wives and families reside in the smallest kind of villa residences, where they are unaided in their household duties by domestic servants.

Table shewing the mean Number of Persons at each Age Period per 1000 of the Population, 1871 to 1881, compared with the numbers per 1000 at each age for Kingston, Surbiton, New Malden, and Ham, Census of 1891.

ALL AGES.	AGE PERIODS.										
1000	Under 5	5	10	15	20	25	35	45	55	65	75 and upwards
Mean of England and Wales, 1871 to 1881	136	120	107	97	89	147	113	86	59	33	13
Kingston	120·9	114	102	103	94	161	114	85	52	32	16
Surbiton	85	89	92	112	110	189	130	91	58	34	15
New Malden	130	122	105	91	82	162	122	77	56	40	14
Ham Urban	105·5	112	155	122	74	140	114	70	50	42	13
Kingston Hill, Coombe, Southborough & Ham Rural	116	115	90	90	101	173	118	87	58	32	12
Proposed Extended Borough	111·5	110	109	103	92	165	119	82	55	36	14

New Malden approaches nearest to Kingston in the charcter of its population ; but here we find a slightly higher social stratum, living in what I will term one-servant villas

Surbiton is very differently constituted. The houses are many of them very large, and occupied by wealthy men, whose sons having gone out into the world leave a preponderance of daughters round the domestic hearth, with a whole army of female servants to wait upon them.

These servants are chiefly the daughters of the Kingston artizans, and often return to their homes when sick and likely to die.

Ham has a few large houses, some girls' schools, and a semi-agricultural population residing in small cottages.

Kingston Hill and Coombe is for none but the nobility and gentry, with the exception of the strikingly contrasting cottages of the hamlet of Hatch.

By grouping these districts together, and dividing the males from the females, it is found that even after taking in the excessively feminine Surbiton, Kingston approaches more to the commercial than to the suburban or pleasure town.

Croydon	...	Males	45	Females	57
Kingston (enlarged)		,,	20	,,	24
Or proportionally as		,,	45	,,	54

The proportion of males to females will naturally affect the proportion of children to adults, and the presence of large numbers of children affect to the greatest extent the incidence of such diseases as Measles, Scarlet Fever, Diphtheria, &c., being most prevalent amongst the young, and chiefly becoming epidemic through the agency of schools.

In referring to death-rates and the incidence of zymotic disease, I will, except where stated, take

the figures from Dr. Seaton's report for 1893, and the statistics of population from the last census. With regard to notifications, the only data at my disposal are those of Surbiton and Kingston, so that in the other divisions of the district I can only refer to the death-rates.

Death-rates for 1893 :—

Kingston.	Surbiton.	New Malden.	Ham.
18·6	12·5	15·5	15·6 per 1,000

These rates include all persons dying in public institutions to which they may have been sent from the different sanitary districts, but do not always include persons dying in health resorts, such as are frequented by the wealthy.

Ransome on Vital Statistics points out that such death rates as 12 and 10 per 1,000 through a series of years are *impossible death rates.* A death rate of 10 per 1,000 means that every person in the place must live to an average of 100, and of 12 per 1,000 to an average of 83. Consequently for every one dying under those ages it is necessary that some others must live to a correspondingly increased age. It is shown from the return of deaths that such is not the case, so that it is not too strong to describe the *Surbiton death rate as impossible.* Ransome goes on to say: "But the cases in which this emigration to die are most common are those of domestic servants. When a servant is taken ill with some serious illness, in far the majority of instances, he or she is sent away to friends; and this fact is the cause of the abnormally low death-rates of suburbs." This accounts for the low death-rate of Surbiton, due chiefly to the fact of its being a suburb, whether of Kingston or of London is immaterial, except as regards the preference of the inhabitants to be amalgamated by one parent or the other.

Before inquiring further into these figures I will refer to the density of population, which is a very powerful factor in the causation of disease. I find that the density per head per acre in the Borough of Kingston is twenty times as great as in Kingston Hill and Coombe—eight times as great as in New Malden—three times as great as in Surbiton —and two-and-a-half times as great as in Ham.

The excess of females over males is greatest between the ages of 10 years and 40 years, and the relative proportions in the different districts are as follows, viz. :—

Kingston	...	Males	14 to	Females	15
Surbiton	...	,,	10	,,	18
New Malden	...	,,	8	,,	10
Ham ...	...	,,	7	,,	11

A tolerably fair way of comparing the death-rates of each district is to deduct the excess of females at these ages from the estimated populations for each district for 1893, the result being as below :

	Kingstn.	Surbtn.	New Maldn.	Ham.
Death-rates for 1893	18·6	12·5	15·5	15·6
Death-rates after deduction of excessive female population	18·7	14·9	16·2	17·5

These calculations allow nothing for the extra density of population in any portion, so that given similar surroundings it cannot be said that any one division of the district is healthier than another, though, as is always the case, large, well built houses with plenty of air spaces, are healthier than small and thickly populated houses in narrower streets.

Passing on to the consideration of special diseases, we come first to Measles. In 1893, however, this disease was almost completely absent from

Kingston and Surbiton, no deaths being recorded in either place.

Scarlet Fever was, however, epidemic in the district, and the notification returns being available for Kingston and Surbiton I will compare those two places. As this is a disease of childhood, enquiry must be made into the relative numbers of children in the two places. Between the ages of 1 and 15 (very few cases occur amongst infants) there are 8,444 children in Kingston to 2,513 in Surbiton, or nearly 3·4 times as many in the Borough. Now in Surbiton 94 cases are recorded, which, multiplied by 3·4 gives 319·6, supposing the children's attack rate to be the same in Kingston as in Surbiton. Happily it is not as high, being only 277, nearly 5 per 1,000 children less. With regard to deaths, had the Kingston children died at the same rate as in Surbiton, there would have been 10 deaths instead of 7, the actual number.

Diphtheria being a disease the treatment of which is appreciably affected by considerations of air space, early diagnosis, and skilled nursing, it is naturally less fatal and less frequent in the large houses of Surbiton, where the doctor is called in for the slightest ailment and where trained nurses are sent for with promptitude, than in the smaller and poorer homes of Kingston, where the doctor is only fetched when the child is seriously ill and where trained nurses are as unattainable as the specific that will rid the world of this terrible scourge. This disease chiefly attacks young children, the greatest mortality being under 5 years of age. Of this age in Kingston we have 3,271, as against 851 in Surbiton, or nearly four times as many. In Kingston 127 cases were notified, with 23 deaths; and in Surbiton 23 cases with 3 deaths. By comparing the two places on these terms it will be seen that our 127 cases must be put against 92 for

Surbiton (23 × 4). In the same manner the 23 deaths in Kingston would compare with 12 for Surbiton (3 × 4). This is not as satisfactory as I should wish, but in the absence of an isolation hospital it is as good as might be expected.

Enteric, or Typhoid, Fever is in great part a "drains" disease, and after the inuendos levelled at the Borough, and the laudation of our plutocratic suburb, I should have expected to find Kingston's place for this disease even worse than for Diphtheria. So far from that being the case, the death-rate for Kingston is only 0·07, whilst for Surbiton it is 0·10, and for New Malden 0·27. In Kingston only 7 cases were notified in 1893, whilst in Surbiton, with barely one-third of our population, there were 5 cases. In both places there were some persons who contracted the disease whilst away from home, and as the disease chiefly affects adults, one would expect a somewhat higher rate in childless Surbiton. After making an allowance for this difference, the Kingston 7 cases would be in proportion with 11 for Surbiton, instead of 14, the proportion without any allowance for difference in ages of the populations.

Phthisis show its highest mortality in Ham, 2·12; Kingston comes next, 1·51; New Malden, 0·81; and Surbiton, 0.58. The latter rate is the lowest in Surrey, and no doubt is in part due to the fact that wealthy sufferers go away to warmer climes, so that the death-rate from this disease is lower than it should be in all wealthy places that are not sanatoria for the disease.

Having thus shown that the death-rates in the various divisions of the district require considerable modifications, on account of age and sex incidence, I need merely add that as regards Kingston Hill, Coombe, and Ham rural, that the latter is mostly Richmond Park and Ham Common; and that in Kingston Hill, Coombe, and Southborough together

the zymotic death-rate was 8·4, chiefly due to Diphtheria.

For the whole of the proposed extension the death rate for the estimated population for 1893 would be 16·7; the zymotic rate, 1·89; and the phthisis rate, 1·24.

The birth rate for New Malden was 30·1; for Kingston, 29·1; for Ham, 22·7; Kingston Hill, &c., 22·4; Surbiton, 18·1; and Ham rural, 14·6.

Deaths of infants per 1,000 births range from Kingston, 138; Ham, 125; New Malden, 108; to Surbiton, 81.

I will now turn to other matters in connection with health likely to be affected by the extension of the Borough. First and foremost comes the question of drainage, and those who heard the evidence of the scientific experts put forward on either side could only come to the conclusion that, as far as drainage was concerned, there was nothing to be said against extension, and everything in its favour. The multiplication of sewage filtration works in a district which, like that of the proposed extended Borough, is rapidly becoming covered with houses, and likely to develop even more rapidly when the drainage scheme is completed, was condemned by all. The only suggestion put forward was that the works used for treating the sewage of Kingston and Surbiton were improperly conducted. No evidence was adduced to support this contention; and as no ill effects are discoverable in the town, I conclude that the bad management is more theoretical than real.

The districts of Ham, Kingston Hill, and Coombe are without drainage, but New Malden has a sewage disposal works. These works are near the boundary of the borough, and can be smelt, and differentiated from the brick

works, on summer evenings. The effluent is discharged into the Hogg's Mill stream, which, even in flood time in winter, is perceptibly impurer below than it is above the works. The sludge is buried in trenches, but recently on complaint made by the Thames Conservancy of the pollution of a small watercourse parallel to the Hogg's Mill stream, I traced this ditch up to the boundary of the New Malden Sewage Works, and found it to be full of stinking black mud, such as might be expected to drain away from sludge taken out of sewage filtration tanks. Since attention has been drawn to this, floods have scoured the ditch clean. There is really no need for these works, as the sewage of New Malden could easily, and cheaply, be carried to the Kingston works for disposal, so that this would seem to be a desirable arrangement to make. At any rate, it is to be hoped that the proposal to bring additional sewage from 1100 persons on Kingston Hill will not be permitted by the Local Government Board, even should the defects of the scheme escape the vigilance of the Surrey County Council. It is also to be hoped that the Thames Conservancy will have some regard for the sufficiently polluted Hogg's Mill stream, which is in summer time little more than a rivulet of effluent from sewage works and overflowing cesspools.

Isolation Hospitals must next be considered in connection with an extended area. One hospital of fair size, capable of accommodating patients from an area with a radius of about 3 miles, would be preferable to the establishment of several small hospitals, some of which must, in a suburban district, be near dwellings. Though distance from houses is more beneficial to the patients than harmful to the surrounding population, except in the case of small pox, which is very readily carried from point to

point, even though aerial convection may not be clearly proved. A glance at the map will show that in the proposed district there are several sites well removed from dwellings, but easy of access; some one of which would doubtless be procurable for the purpose. There is already a hospital at Tolworth, just outside the district, that could readily be extended, should the Rural Sanitary Authority, to whom it belongs, cease to exist, as the adjoining property has been offered to the Corporation for the purpose. In this hospital patients are at present charged for maintenance, and paupers are not admitted. These restrictions are most objectionable, as an infectious person is not removed to hospital for his own benefit, but for the benefit of his neighbours, upon whom the burden of payment should fall, and who are just as likely to contract the disease from a pauper as from a peer.

In outbreaks of infectious disease the epidemic is, at first, usually limited to one portion of a district, so that a small district with a small hospital might be unable to cope with an outbreak that would present no difficulty in a grouped district of, say, 50,000 inhabitants. Here if there were 5 districts, there would be 5 hospitals, each with 10 beds, so so that if 15 or 20 cases suddenly appeared (not an impossibility) the small hospital would be unable to accommodate all; whereas the hospital for the grouped district with 50 beds would not be put to any stress. The nursing staff could be more readily arranged in a larger hospital, as it is necessary to have separate nurses to attend to each separate disease. It will be seen that in a hospital for 10 beds, with a matron and two nurses, one severe case of Scarlet Fever, one of Diphtheria, and one of Typhoid, would completely paralyse the institution, as there would be no reliefs available for the night. There would also be a considerable saving of expense

in administration: one laundry, one disinfecting apparatus, one ambulance, and one mortuary would suffice. In the matter of disinfection one good apparatus would amply suffice for the proposed district, and the charges, to such as could afford to pay, would materially help towards defraying the expenses. From figures in Dr. Thorne Thorne's report it may be deduced that, up to a certain size, the greater the number of beds the less the cost per bed per annum. Beyond a certain number the aggregation of cases seems to intensify individual attacks, so that costly expenditure in providing precautions are necessary, but such are only warranted where land is of high value, and distance from the home prevents going further afield. With any number of beds up to 100 I do not think these considerations would apply.

The Dairies and Milkshops Act could be more efficiently administered by a single authority, for strict regulations seem very onerous to a milk seller who finds persons from the surrounding districts coming into the town with milk from an unregistered dairy a mile or two away. Such a case recently came under my notice, the vendor using his cart as a shop. Unfortunately the administration of the Food and Drugs Act is not in the hands of the Corporation, or it would probably have been found that this person was selling separated milk deprived of its cream, a most necessary part of the milk and essential to the growth and welfare of young children. Parents tempted by the low price of the so-called milk provide their children with what is little better than water, and in some measure this accounts for the heavy child mortality amongst the poor.

Public abattoirs, with skilled veterinary inspection of all meat to be sold to the public, are necessities of the near future. Tuberculosis is

without doubt spread by the consumption of meat which is only slightly tainted, and which it requires the presence of a skilled expert to detect. It is clear that a public abattoir could only be successfully instituted in an area of considerable size, with boundaries in open situations, where illicit slaughter-houses could not be erected unnoticed.

The proposed district would include the two sub-registration districts of Kingston and Ham with Hatch, so that if the suggestions of the Commission on Death Registration should become law, the transference of the office would be simplified.

At present there is not an Inspector under the Shop Hours Act, and as further legislation in this direction is to be expected, a larger authority would be able to administer such laws more adequately and economically than several small ones.

The spread of infectious diseases being chiefly through schools, it is of great importance that children should attend the schools in the sanitary districts in which they reside. At present a certain number of children attend the Kingston Elementary Schools from Kingston Hill, Surbiton, and New Malden, whilst at the Grammar and Tiffins' Schools there are over one hundred scholars from the outside divisions of the proposed extended Borough. In time of epidemic it is often necessary to inspect schools and promptly hunt up all absentee scholars at their homes. If it is necessary to communicate with medical officers of health, who are busily engaged with their private patients, valuable time may be lost. This will be more especially the case when a laboratory for the detection of the Diphtheria bacillus, on the plan in work in New York, and shortly to be established in London and Bristol, shall be in operation in connection with the Isolation Hospital.

Diphtheria is contracted after short contact, and has a short period of incubation ; it is a throat disease characterised by great infectiousness, high mortality, and the frequent incidence of paralysis as an after effect. It usually becomes prevalent after the occurrence for some time of mild cases of sore throat ; breaking out with great virulence and high mortality, and then gradually declining. It has been found that in all true cases a bacillus, known as "Loeffler's,' is to be found, and it is supposed that under certain conditions the bacillus gradually gains in strengh and virulence until the acme is reached. It has been discovered in the mildest and most severe cases, and is often found in the throat as long as seven weeks after apparent recovery, and will, doubtless, be discovered in the earlier cases that at present escape observation.

Experiment has shown that so long as the bacillus is present the cases are infectious, and it will therefore be apparent that by isolating the patient until examination shows that the bacillus has disappeared, the chances of infection will be avoided and this terrible disease brought under control.

The Loeffler bacillus can be readily discovered by cultivation and by examination under the microscope, but this could not be done by medical men in their ordinary course of practice. The Health Committee of New York have taken measures to ascertain the presence of Loeffler's bacillus in all cases of suspected Diphtheria notified to them, with a marked diminution in the mortality of that disease in their city. In a district of 50,000 inhabitants suspicious cases could be followed from the schools to their homes, and the throat examined bacteriologically in a laboratory established for the cultivation and examination of the bacillus. From this laboratory a number of small boxes containing apparatus and printed directions would be supplied to certain

stations, chemists' shops, &c., throughout the district, where they could be readily obtained by medical men on the outbreak of the disease. The medical man having used the apparatus as directed would return the box to the laboratory, when an examination would be made of its contents, and within twenty-four hours the result communicated to the medical attendant. If the bacillus is discovered it is Diphtheria, and the more numerous the bacilli the greater the danger; but if none are found it is only a suspicious case, and the patient and friends are relieved from anxiety.

The duty of the medical attendant would not cease here, for on recovery he would send a further specimen to the laboratory, and keep the case in quarantine as infectious until the bacillus could no longer be found.

As shown in the paper read by Dr. Seaton at the International Health Congress in Buda Pesth, Dr. Lake, M.O.H, (Guildford Rural) has arrested an epidemic of Diphtheria by inspecting all the children in the schools affected. All suspicious throats were isolated and kept away from school, playing havoc with the school attendances; but if a laboratory had been at hand, an examination would have shown at once which children were infectious and which were not.

It will readily be seen that such an establishment could be beneficially worked in the extended district if under one control, whilst the present divisions would lead to frequent delays in controlling the spread of a disease in which time is life.

From the foregoing remarks and statistics it will be seen that in order to form a fairly normal community it is necessary to unite the five separate districts into one administrative area, and that such an amalgamation is likely to improve statistical returns; to afford the Sanitary Authority greater

facility in dealing with outbreaks of disease ; and to give the best practical working scheme for draining the whole of the district.

Deaths.

There were 414 deaths in the Borough, including 1 in Surbiton Cottage Hospital, 4 in Cambridge Asylum and 4 in Barracks. Of these 227 were males and 187 were females. In addition there were 41 deaths of persons in the Workhouse of persons not belonging to Kingston. This gives a death rate of 14·2 for the Borough. The rate corrected for age distribution, but not for difference of sexes, is 15·2. The zymotic death rate is 2·02.

Whether taken on its merits or in comparison with the other divisions of the district, this is a very good result, for it implies an average age at death of over 70 ; but some allowance must be made for deaths occurring away from the Borough, such as lunatic asylums, prisons, &c., which will raise the rate slightly.

Taking 1893 and 1894 together, the death rate is 16·05, which would give an average age at death of 62.

The death rate for Surbiton works out at 11·6. This is of course an impossible death rate over a series of years, as it means that the average age at death should be 86, which, allowing for the numbers dying young, would imply the presence in that suburb of two or three hundred centenarians, of whose presence there is no evidence. When corrected for age distribution the rate is 12·89 per 1,000.

Five cases of uncertified death are recorded, viz., 1 Hœmorrhage, 3 Heart Disease, 1 Premature Birth.

Birth and Death Rates of Kingston-upon-Thames and District, 1894.

PLACES.	Estimated population middle of 1894.	BIRTHS.		DEATHS.		Zymotic death rate.	Death rate for Phthisis & Tubercolosis.	Deaths under 1 year per 1000 of Births.
		Number.	Rate per 1000.	Number.	Rate per 1000.			
Kingston Borough	29,127	878	30·1	414	14·2	2·02*	1·5	118
Surbiton	10,398	210	20·1	121	11·6	1·3	·5	109
New Malden	3,802	113	29·7	47	12·3	0·5	·5	150
Ham Local Board	1,431	38	26·5	19	13·2	0·7	·67	131
Kingston Hill, Coombe, Southborough, and Ham rural ...	1,980	61	30·8	24	12·1	1·01	1·01	32
County of Surrey, 1893	...	...	25·6	...	14·1	†1·61	†1·19	110

* Measles Epidemic.

† Urban districts only.

Death Rates for 1894.

Corrected for Age Distribution but not for Sex.

		Under 5	5–15	15–25	25–65	Over 65	All ages
Kingston	Death rate	5·3	0·4	0·6	3·7	3·7	14·2
	Corrected death rate	6·6	0·5	0·7	3·6	3·8	15·2
Surbiton	Death rate	2·8	0·19	0·5	4·4	3·4	11·6
	Corrected death rate	4·9	0·24	0·5	4·2	3·05	12·89
New Malden	Death rate	5·3	0·9	0·9	2·5	2·8	12·3
	Corrected death rate	6·4	0·8	0·9	2·8	2·8	13·7
Ham	Death rate	5·39	0·67	1·3	4·1	0·67	13·2
	Corrected death rate	7·4	0·6	0·9	4.8	0·66	14·36

There were 23 inquests, the verdicts being as follows :—Hœmorrhage 1, congestion of brain 2, suffocation 2, heart disease 4, drowning 2, fractured ribs 1, injury to head 2, want of attention 1, fracture of neck 1, congestion of lungs 2, bronchitis 1, fall 2, fracture of skull 1, hanging 1.

Inquests are also held in Kingston for certain of the other districts.

Births.

878 are recorded, giving a birth rate of 30·1 per 1,000. 92 was the highest number recorded in any one month, and this was in November.

The highest number in 1893 was 90 in the month of October.

In Surbiton the rate is only 20·1, New Malden 29·9, Ham 26·5, and the Rural Sanitary Authority's district within the proposed extension 30·6, mostly in Southborough.

Small Pox.

Two cases of very mild character were notified. The first contracted the disease in London, and had an interview with a neighbour whilst the spots were out, but before the nature of the disease was known. On the first case being notified as Small Pox the neighbour was re-vaccinated, and when the disease developed in her it was so slight that it is possible it might have been overlooked but for the presence of the first case.

It is mild cases of this kind that generally give rise to epidemics of Small Pox at the present day. The greater number of persons are protected by vaccination, but some persons being naturally more liable to contract Small Pox than others, the protective influence of the vaccination is less lasting in them, so that should they come in contact with mild cases of the disease they may contract Variola in this very mild form, and pass it on to others, unwittingly,

who, if they happen to be entirely unprotected by vaccination, suffer from an aggravated attack.

In spite of loud voiced denials of the accuracy of German statistics, by fanatics, and certain members of the medical profession, who have acquired a notoriety by espousing the anti-vaccinationist cause that would have been denied them in the legitimate exercise of their profession, it has been proved to the satisfaction of most reasonable men that vaccination and re-vaccination have practically made Small Pox an unknown disease in Germany, except on the frontiers, where the ultra susceptible come into contact with the badly vaccinated natives of surrounding states.

Such being the case, surely it behoves all good citizens to get themselves and their families re-vaccinated, and by the expression of their opinion to so influence the legislature as to have the operation made satisfactory to all, except the irreconcileables.

In my own opinion the advantages of vaccination would be furthered by the adoption of the following suggestions, viz. :—

1. That vaccination should be carried out by the Sanitary Authority instead of by the Poor Law Guardians.

2. That vaccination should always be performed by the Public Vaccinator, and not by private practitioners, so that rich and poor should have the same and the best treatment.

3. That calf lymph should be used whenever demanded.

4. That all persons having conscientious scruples against vaccination should be compelled to register themselves and families as unvaccinated persons at the office of the Sanitary Authority, by which means alone they should be exempted from prosecution for non-vaccination.

5. That all persons on registering themselves as successfully vaccinated, or re-vaccinated persons, should receive a small fee in return for this service rendered to the State.

Some such regulations as these would ensure the thorough vaccination of the community and protection from Small Pox, without increase of cost, as the vaccination officers could be almost entirely dispensed with, and Small Pox hospitals would not be required, the few sporadic cases being isolated in their houses.

From perusal of anti-vaccinist literature I gather that Small Pox is to be safe-guarded against somewhat as follows, viz. :—

1. Inspection and detention at the ports of all persons coming from infected districts.

2. Provision of ample isolation accommodation.

3. Provision of quarantine establishments for the families of infected persons.

4. More frequent and thorough inspection of all sanitary districts.

5. The inoculation with modified Small Pox virus of nurses, attendants, and all persons connected with the isolation hospitals.

I venture to average the cost of these alternatives at 1s. in the £ on local rates, and an extra 1d. on the income tax, to say nothing of the restriction upon international trade.

Scarlet Fever.

Fifty-seven cases have been notified, 10 under 5 years of age. There has not been a single death. Several cases were found in connection with a private day school. Some of the children were absent without medical certificates, and were found on investigation to be desquamating after

slight attacks of the disease. In one case the child lived at a dairy, but no spread of the disease occurred after she was isolated. The surrounding districts seem to have been equally free from the disease, but one case was sent into the Workhouse Infirmary from New Malden and three from Hampton Wick.

Diphtheria.

Forty-two cases have been notified, 29 being under 10 years of age and 8 adults contracted the disease from children. The greater number of cases occurred in the second quarter of the year and were generally of a mild character. I attribute the absence of this disease in an epidemic form to the notification of suspicious cases. This has enabled the authority to isolate mild cases and enquire into the absence of children from the schools attended by patients. In many of these suspicious cases the disease, though mild, was infectious, spreading to other members of the family. Had these children been allowed to mix with other children at schools, it is probable that further outbreaks might have occurred.

Seven deaths were registered, giving a case mortality of 16·6 per cent. In a large number of the fatal cases death occurred almost as soon as medical aid was called in. There was indifferent sanitation in a few of the cases and bad water in one case, but the majority of the cases arose in modern houses, built on concrete foundations, with drains well laid and good sanitary appliances, with nothing to account for local origin and no traceable contagion. Two cases in a road of better class houses arose two or three days after the opening up of a choked drain midway between the two houses attacked. The child in each case had run into the garden to look at the opening in the ground.

7 deaths occurred from Croup and Laryngitis, but how far these should have been more properly attributed to Diphtheria I am not prepared to say. 2 deaths occurred in Surbiton, 1 in Ham, and 1 in Kingston Rural; Croup deaths, 3 in Surbiton and 1 in Kingston Rural. Calculating on the basis of child population, this would give 8 deaths from Diphtheria and 12 from Croup and Laryngitis in Surbiton, both figures higher than those for Kingston.

In Surbiton there are 2 elementary schools, whilst in Kingston there are 7, and 2 public schools, so that we have greater opportunities of spreading the disease.

Enteric Fever.

Nine cases have been notified and 2 deaths, 1 in a patient notified in 1893 and 1 in a person dying in the Surbiton Cottage Hospital. Many of these cases seem to have been very slight in character, and with the exception of 4, are traceable to origins outside the Borough. The 4 that seem to have arisen in the town were in one road. 1 case in June dying in the Cottage Hospital had been preceded by a case of Brain Fever, and was followed by another case in August. The house was very dirty, and the cistern was without a cover and full of growing plants, which was remedied before the second case occurred. The other 2 cases occurred in October in 2 children, in a house almost opposite those noted above, but the symptoms were not distinctly marked, the second child becoming ill about a week after the first, who was taken ill 3 weeks after her elder sister had died of Pneumonia. The house was very dirty and the mother on the verge of intoxication. 1 case occurred in a lady who had only been out once since convalescent from obscure illness. She had visited a place of entertainment just 3 weeks before the notification was received, so that this might be a case of relapse from

an obscure attack. The other cases all occurred in persons employed in business in other places, and where nothing wrong could be detected in their homes.

The same number of deaths occurred in Surbiton. Statistics of cases are not available, so that the death rate for that district is considerably higher than for Kingston, as was the case last year.

Puerperal Fever.

One case only—This patient had a whitlow on her finger and it was suggested that it was a case of auto-infection.

Two cases were recorded in Surbiton.

Measles.

This disease was very prevalent in the summer. There was 1 death in May, 9 in June, 8 in July, 4 in August, 1 in September.

On June 13 and 15 I visited the elementary schools, and found 13 absentees with Measles at St. Paul's, 7 at St. Peter's, 20 at St. John's, 50 at St. Luke's, 10 at All Saints' and 5 at the Public schools. These cases were almost entirely confined to the Infants' schools which I recommended should be closed. This was done with considerable success in abating the epidemic. In proof that Measles may be isolated satisfactorily I may mention that a boy contracting Measles at school was promptly isolated, and although he had been playing with his three younger sisters twenty-six hours before the eruption appeared, none of them contracted the complaint.

This disease has naturally a much heavier incidence in a town like Kingston, with 4,600 scholars in elementary schools, as well as two other large public schools. The great mortality is

under 1 year of age, and probably arises from the mothers being obliged to go out to work and leave the patients in the charge of elder children. All the deaths occurred in the poorest quarters of the town.

Whooping Cough.

Three deaths were uncomplicated, the remaining 5 were complicated with other diseases, and all were in very young children under 2 years of age.

There was 1 death in Surbiton and 2 in New Malden.

Diarrhœa.

This disease was much less prevalent than last year. 8 cases of death in children and 1 adult. There were many cases of mild diarrhœa at the time of the floods, when the water supplied by the Lambeth Co. was of a light sherry colour, because from want of storage capacity flood water was made use of. This mild diarrhœa seems to have been prevalent all over the districts supplied by the Lambeth Co. In Hampton Wick and Teddington, supplied by another company, it was not noticed although the notification of Diarrhœa was in force in that district.

Only 1 death from this disease in children and 1 in an adult occurred in Surbiton.

Influenza.

Seven deaths from this disease in Kingston with one in Surbiton and one in New Malden.

Phthisis.

Thirty-two adults and 2 children under 5 years.

Six of these persons lived in the older part of the town and 3 of them in the neighbourhood of Mill Street. There was no case at all at the Surbiton

end of the town and only one case, a soldier invalided from abroad, on the higher part of the Hill Ward. There were 11 cases in the Canbury district and 5 in Norbiton near the Cambridge Asylum. In seven cases death took place in the Workhouse.

Much the same incidence is shown for other Lung diseases such as Pneumonia, Pleurisy and Bronchitis All show that, proportionally for the population, in the neighbourhood of the Hogg's Mill Stream there is a preponderance of lung disease.

In Surbiton 6 deaths, New Malden 3, Ham 1, Kingston Rural 3.

Unquestionably the wealthier sufferers from this complaint leave the neighbourhood for more genial climes, whence unfortunately they in many cases never return. This will account for the small number of deaths from this disease in Surbiton. The other places bear a fair proportion to Kingston.

Cancer.

Eight Surbiton, 3 Ham, 2 New Malden, 1 Kingston Rural, 12 cases in Kingston.

This disease shows a higher rate in all the other districts than in Kingston. The reason for this is not very apparent as the death rates at the more advanced ages do not vary much in the different districts.

The deaths for the various diseases have been compared with the deaths in Surbiton and other districts, and it has been shown that the apparent greater healthiness of Surbiton depends upon accidental causes in the majority of cases. There is, however, one cause of death which is usually attributed to bad sanitation, and that is Typhoid Fever. In this case Kingston compares very favourably with all the other districts.

Populations of the Wards and Death Rates in each.

	Town Ward.	Canbury.	Norbiton.	Hill.	Workhouse.
Estimated Population, 1894... ...	6949	7486	7430	6858	400
No of deaths...	73	107	101	79	54
Death rate per 1000..	10·5	14·3	13·5	11·5	—
Death rate per 1000 when the deaths in Workhouse are evenly distributed between the 4 Wards	12·4	16·2	15·3	13·4	—

WARDS AND DISEASES IN EACH.	Primary Cases.				Secondary Cases.				Totals.	
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.		
TOWN—										
Scarlet Fever	2		1	1	1		1		6	
Diphtheria		4	2	1	3				10	
Puerperal										
Enteric Fever	1			1					2	
									—	18
NORBITON—										
Scarlet Fever	3	3		2	2	1			11	
Diphtheria	1	11		1		2			15	
Puerperal	1								1	
Enteric Fever										
									—	27
CANBURY—										
Scarlet Fever ... ‡‡	8	9	3	2	2	5			29	
Diphtheria		4		2					6	
Enteric Fever		1	2	1				1	5	
									—	40
HILL—										
Scarlet Fever	1	6	*1	1	1	1			11	
Diphtheria	1	2		5	1			3	12	
Enteric Fever			1	1					2	
Small Pox			*1				1		2	
									—	27
	18	40	11	18	10	9	2	4		
Scarlet Fever	14	18	5	6	6	7	1		57	
Diphtheria	2	21	2	9	4	2		3	43	
Puerperal	1								1	
Enteric Fever	1	1	3	3				1	9	
Small Pox			1				1		2	
								GRAND TOTAL	112	

‡‡ 9 Primary and 3 Secondary in Barracks.
* Came from London or elsewhere during period of incubation.

The death rates for the different wards of the Borough are given in the table, from which it will be seen that the Town and Hill Wards have almost identical death rates, in both cases only slightly higher than Surbiton. The varying death rates in the four wards tend to prove my contention that the highness of the death rate in one place above another is due to the character of the population, and the air space per head, much more than to any differences in administration. The Town Ward has fewer persons to the acre than Canbury, and has, therefore, a lower death rate. Surbiton is even more sparsely populated, and the death rate is a little lower.

Schools.

All the Public and Elementary Schools are now in good condition as far as the offices and drainage are concerned. A new School in St. Luke's Parish has been opened, and is a very good specimen of what an elementary school should be. The lighting and warming are good, and I hope the numbers will be always below the maximum permitted by the Education Department, as full schools are breeding grounds for infectious disease, and it would be worth while paying extra rates to give the children extra air space.

Dairies, Bakehouses, &c.

Dairies, Bakehouses, and Slaughter-houses have all been visited, and are kept up to the standard required by law.

Insanitary Houses.

Inspections of houses in various parts of the Borough have been made, and several owners have been called upon to improve the condition of their property. Many of these houses are kept in such a

condition as to keep the owners just out of reach of the arm of the law, but I hope that when the new Bye Laws are issued we shall be able to bring these houses, occupied as they are by the poorest classes, into a more satisfactory condition.

Floods.

During the autumn and early winter we have had two floods. The first was due to the overflowing of the Hogg's Mill Stream, and caused considerable damage to property in the neighbourhood of Mill Street and a great deal of misery to the poor inhabitants.

The overflow of the Hogg's Mill Stream occurs very soon after heavy rainfalls, as the course of the stream is short. The water accumulates on the meadows on either side of the stream, near about the New Malden Sewage Works. Having risen to a certain point, it seems to overflow on to land below the cemetery and floods the meadows near the Oil Mill Lane. These meadows are flooded because the sluices at the Oil Mills are not large enough to carry off the flood water. When the water has risen to a certain height in the Oil Mill Lane meadows, it reaches the crown of the arch of a bridge carrying the mains of the Chelsea Waterworks Company. Now this bridge spans a subsidiary stream that is supposed to drain these Oil Mill Lane meadows, and the crown of the arch being reached the outflow becomes blocked and the water has to find some other exit. It therefore flows over into the cricket field, forces a way under the fence into Fairfield Place, and into the gardens behind; and then rushes through the houses into that part of the stream passing under the most northern of the three bridges. If the Oil Mills sluice was enlarged there would be another hold back at Middle Mill, and if the latter were removed there

would still be a holding back at Hogg's Mill. As none of these mills use their water power, it is to be hoped that the Corporation may be able to acquire their rights, and then if the bridge for the Chelsea water mains is enlarged, and the stream allowed to run in its natural channel, deepened and straightened at some of its most sinuous bends, I venture to prophecy that there will be no more floods in Mill Street. Should this desirable event come off, I hope the banks will be kept in order and beautified, by the removal of the rubbish that the cottagers seem to think it suitable to deposit on them.

The site proposed for the Isolation Hospital was not affected by the floods.

The water might also be the better for the absence of the effluent from sewage works, which should be carried in pipes to a stream with a large body of water, like the Thames.

This improvement would greatly improve all the district of Mill Street, as well as the land further up the valley. Mill Street is considered by a leading practitioner in the town to be the district where Phthisis is most prevalent, and this disease always shows a predisposition to places more or less water-logged. Should the stream be lowered to its natural level, many of the wells in the neighbourhood might run dry, but this would be a great advantage, as they are always liable to pollution, either from the effluent water in the stream, or from the drainage of the cemetery, leaky gaspipes, or other accidental occurrences.

The floods in the Thames Valley were very serious, but appear to have done very little damage to health in the town. A bill giving popular advice as under was issued immediately :—

SANITARY PRECAUTIONS DURING THE FLOODS.

1. The floods having extended over the gathering ground of our water supplies, it is absolutely necessary that all water should be boiled and filtered before being used.

2. Persons attacked with diarrhœa should seek medical advice.

3. As soon as the water subsides, get the water pumped or baled out—open all windows and doors to allow of free ingress of fresh air—take up the flooring of basements to dry the space underneath—spread about quicklime to help the drying process —do not close up the floors till the space beneath is thoroughly dry.

4. Disinfectants will be supplied by the Corporation wherever necessary.

5. Further advice can be obtained by applying at this office.

As soon as the water commenced to subside, the steam fire engine was set to work to pump out a pond which had formed in the low-lying land in the Bittoms, and this being drawn off, the water in the cellars and basements flowed out, as it had flowed in. The landlords of the poorer people were communicated with, and in most cases sent coals and coke for drying purposes. The water was mopped up by the occupier, and disinfectants were freely distributed by the Sanitary Inspector and his assistant, who attended so promptly to every case that there was absolutely no complaint, except from persons who were in a position to help themselves, which I consider does these two officers great credit.

I visited the ice cream makers. These people were not at work, but their places were found to be fairly clean. They do not blow the eggs used in the process, so as to preserve the egg shells for rifle galleries, &c., as is done at some places, there being no demand for the shells in this neighbourhood.

Nine samples of well water were analysed and 4 were found very bad and the wells ordered to be closed. Several samples of water from the

Company's main were analysed and found to be fairly good; a constant supply is, however, greatly needed, especially for the poorer class of houses.

Remarks.

172 visits of Inspection in connection with Diseases.
170 ,, ,, ,, ,, House Sanitation.
11 ,, ,, ,, ,, Schools.
20 ,, ,, ,, ,, Various Enquiries.
81 ,, ,, ,, ,, Bakehouses.
15 ,, ,, ,, ,, Milkshops.
39 children were visited in connection with the School Attendance Committee.
137 letters were written and 6 notices were served.

The children reported by the School Attendance Officer as sick and unable to attend school, are now visited at their homes instead of visiting the Medical Officer, as formerly.

It will be seen from the general tenour of my remarks that the health of the town has been extremely satisfactory, and that it compares well with the surrounding districts. Diphtheria, though prevalent, is not as bad as in London, and the epidemic of measles was almost to be expected after the freedom from this disease during previous years.

Hoping that in the future, with an extended area, the health of the Borough may improve still further,

Believe me,

Yours faithfully,

H. BEALE COLLINS, D.P.H., &c.,

Medical Officer of Health to the Borough of Kingston-upon-Thames.

Schools and number of Scholars in the District.

Schools.	No. of Scholars.
KINGSTON-UPON-THAMES :	
7 Elementary Schools	4600
Grammar School	127
Tiffins' School	620
SURBITON :	
2 Elementary Schools	1086
1 with Tolworth	252
HAM :	
1 Elementary School	253
Boarding Schools	?
NEW MALDEN	461
KINGSTON VALE	64

HEALTH DEPARTMENT.

Showing the work done by the Sanitary Inspector.

Abstract of Notices for the Year 1894.

Choked and defective drains	117
Defective closets and syphons	35
Defective soil pipes and ventilators	12
Defective yard, sink and bath waste traps ...	30
Defective water apparatus to closets	52
To provide separate cisterns for flushing closets	20
Foul drinking water cisterns	48
To lay on water supply to houses	4
To cleanse and limewash houses	89
To cleanse and disinfect houses and cellars ...	52
To cleanse and limewash closets and yards ...	12
To cleanse urinals adjoining public thoroughfares	11
To screen urinals adjoining public thoroughfares	2
Dilapidated house roofs, floors and yards ...	22
Dilapidated and damp bedroom walls ...	20
Dilapidated manure and dust places	8
Accumulations of manure, offal, &c.	46
Pig keeping (a nuisance)	4
Fowl keeping (a nuisance)	20
Undrained stables and yards	5
Overcrowding of houses	3
Samples of well water procured for analysis ...	9

Canal Boats Acts, &c.

Canal Boats and Barges inspected	27
Offences in Contravention of Canal Boats Acts	Nil

Notification of Infectious Diseases Acts.

Notices served to Householders	111
Notices served to Attendance Officer ...	111

Notices served to Schools 111
Disinfecting houses after Infectious Diseases 101

The Slaughter Houses, Cowsheds, Dairies and Milkshops have been visited at various times and found in a satisfactory condition.

FRED. J. PEARCE, Assoc. San. Inst.,

Sanitary and Buildings Inspector.

January, 1895.

REPORT OF THE LODGING HOUSES, MARKETS, AND PETROLEUM INSPECTOR FOR THE YEAR, 1894.

Lodging Houses.

Registered Lodging Houses, to the number of 9, have been kept clean and satisfactory. The total number of Lodgers for the year using these houses amounted to 100,679, being a decrease of 200 upon the previous year.

Petroleum Act.

Premises and tanks licensed under this Act have been kept in a satisfactory condition, and have afforded no cause for any complaint.

Markets.

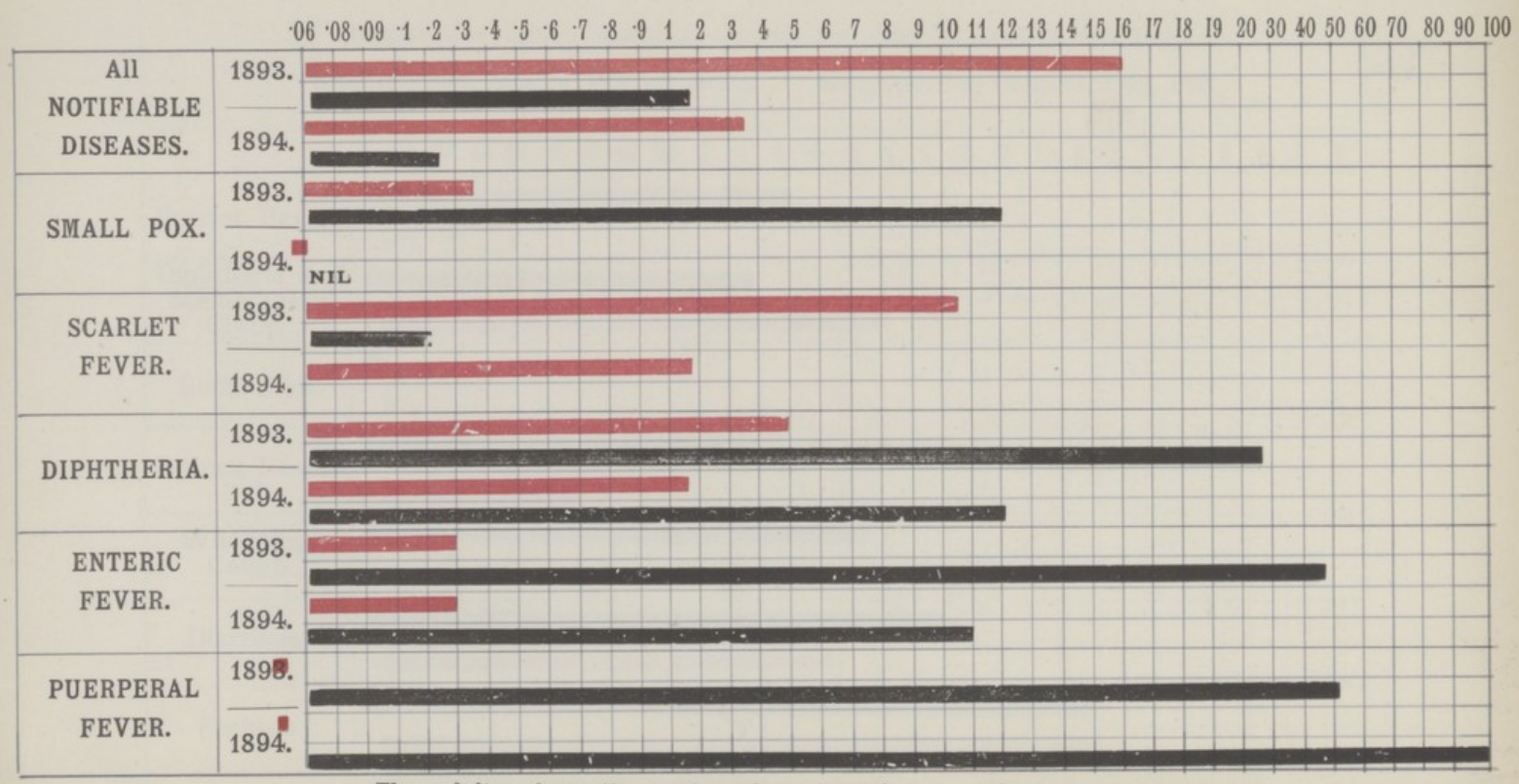
All stalls occupied by perishable goods have been kept under close obs rvation, and I have had no cause to make any complaint.

FRED. J. PEARCE,

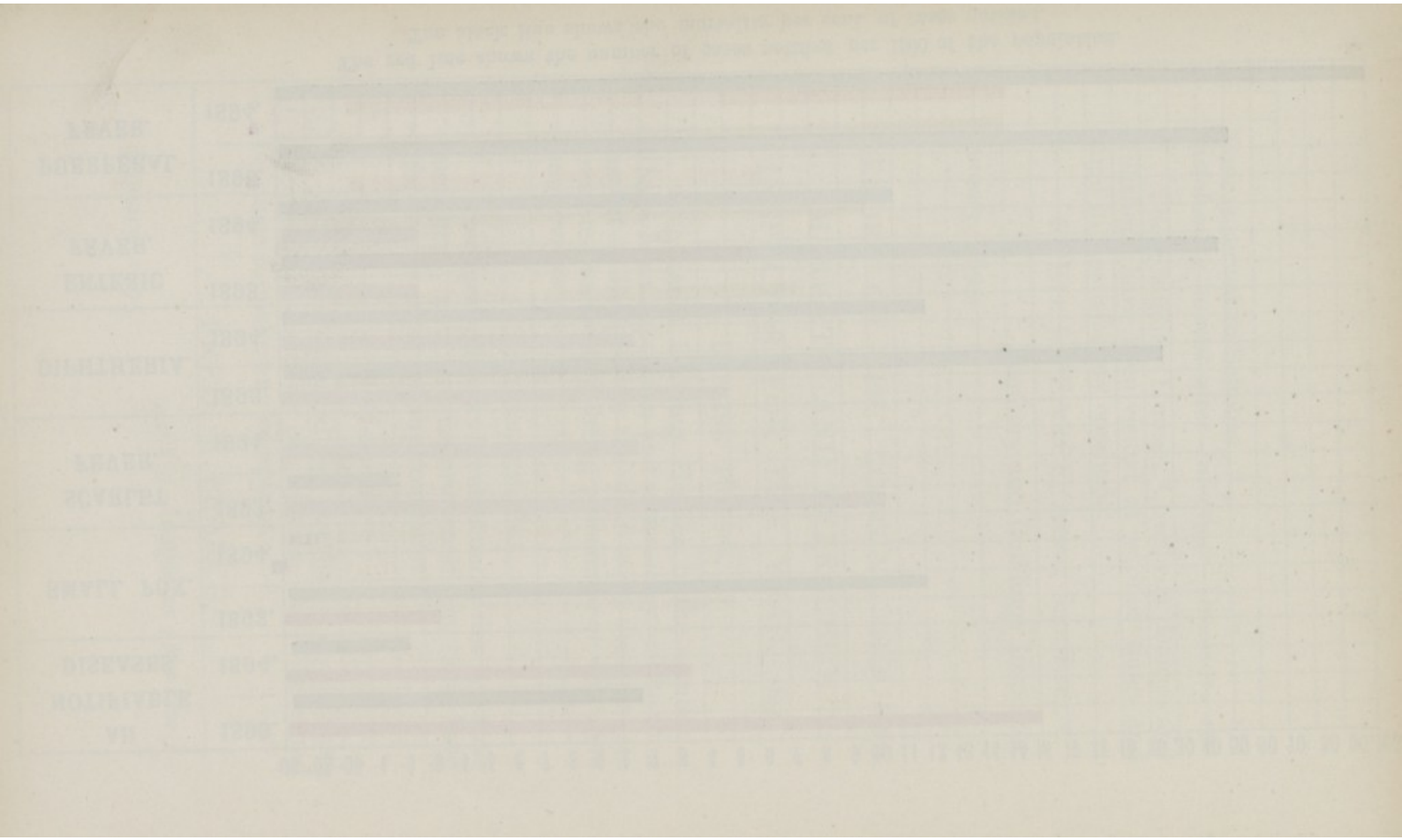
Inspector *(pro tem.)*

January, 1895

Table shewing Notified Diseases in 1893 and 1894, with their case mortality.

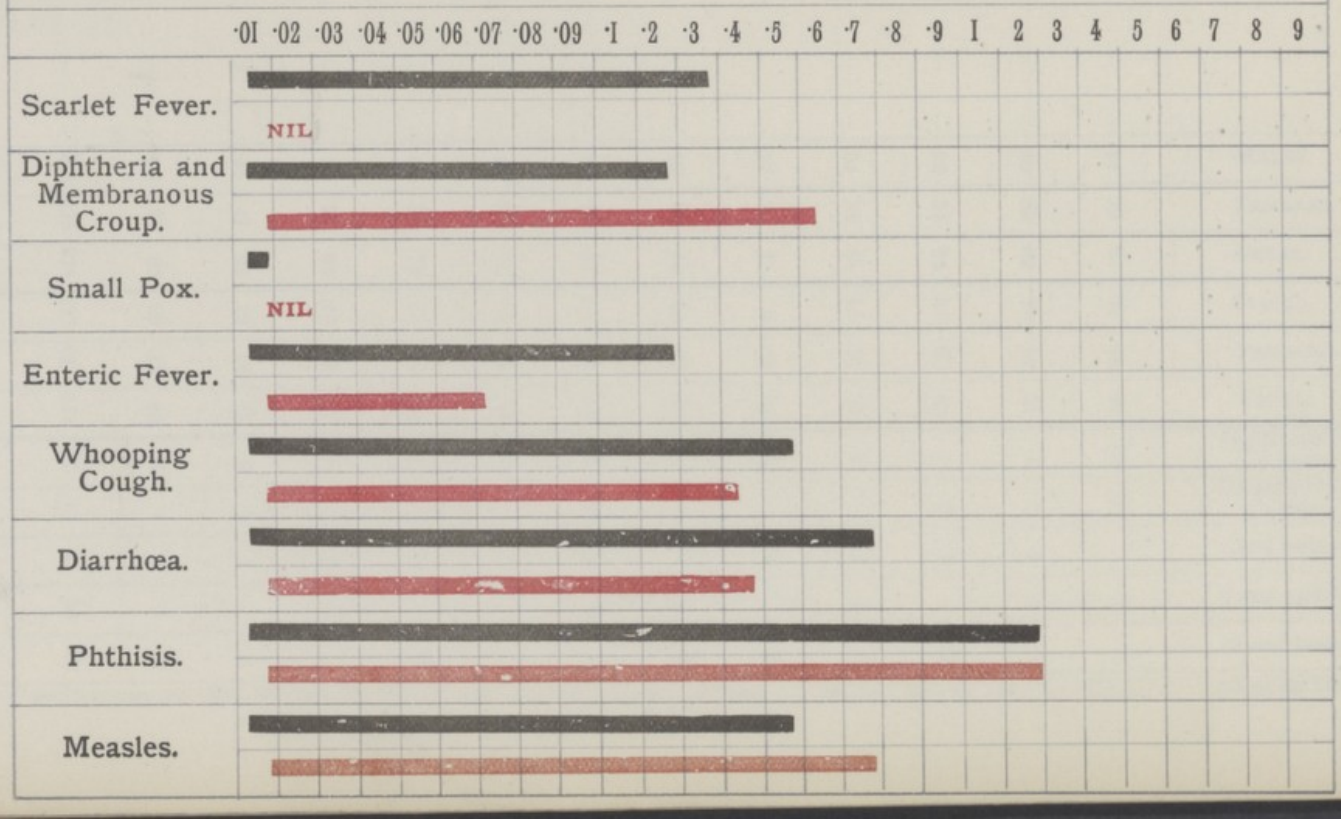


The red line shows the number of cases notified per 1000 of the population.
The black line shows the mortality per cent. of cases notified.



Comparative tables showing Deaths per 1000 for certain diseases.

England and Wales 1886-90, black. Kingston-on-Thames 1893, red.



BOROUGH of KINGSTON-ON-THAMES. Month.	BIRTHS. Males.	BIRTHS. Females.	BIRTHS. Total.	DEATHS. Males.	DEATHS. Females.	DEATHS. Total.	AGES OF THE DYING. Legitimate, under 1 year.	Illegitimate, under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	Over 65.		CAUSES OF DEATHS. Small Pox.	Scarlet Fever.	Diphtheria.	Croup and Laryngitis.	Enteric Fever.	Typhus.	Puerperal Fever.	Erysepelas.	Measles.	Whooping Cough.	Diarrhœa.	Influenza.	Rheumatic Fever.	Phthisis.	Bronchial Pleurisy and Pneumonia.	Heart Disease.	Tuberculosis.	Cancer.	Injuries.	All other Diseases.
JANUARY	46	39	84	26	20	46	10	1		1	1	16	17	Under 5															5	1	2			3
																			1							4		6	9	1		1		13
FEBRUARY	30	39	69	21	10	31	4	1	4	1	1	15	5	Under 5										1					2		3			3
																					1	1						4	6	2		2		6
MARCH	32	34	66	25	22	47	7	3	1		2	11	23	Under 5										1	1				2				1	6
																									1	1		4	6	7		2		15
APRIL	34	34	68	15	16	31	5		1	3	1	15	6	Under 5										1					1					4
																	1									1	1	3	2	4	2	2	3	6
MAY	37	34	71	9	11	20	6		4		2	5	3	Under 5			1						1	2				1	4		1			
																												3	1	1			1	4
JUNE	29	35	64	26	22	48	7	1	17	3	3	8	9	Under 5			1	1					9	2	1				3		1		1	6
																			1									1	6	3			1	11
JULY	32	37	69	21	14	35	11	2	9	2	1	4	6	Under 5									8			1			5		2		2	4
																		1										1	1			1	2	7
AUGUST	43	33	76	13	13	26	10		5			7	4	Under 5				1					4	1	1				2		1			5
																												2		1		1		7
SEPTEMBER	43	30	73	17	9	26	6	1	6		2	6	5	Under 5				2					1		1			1	1		2			6
																														1		1		10
OCTOBER	36	27	63	13	18	31	5		4	3		8	11	Under 5			2								2				2		1			3
																												3	4	3	2	1	2	6
NOVEMBER	45	47	92	12	15	27	8	1	1		4	9	4	Under 5											2				1		4			3
																												5	3	2		1		6
DECEMBER	46	37	83	29	17	46	14	1	5	1	3	7	15	Under 5			1	2								1			2		3		1	10
																	1					1				1		1		6		1	2	13
TOTALS	453	425	878	227	187	414	93	11	57	14	20	111	108	Under 5			5	6					23	8	8	2		2	30	1	20		5	53
																	2	1	2		1	2			1	7	1	33	38	31	4	13	11	104
RATE PER 1000 LIVING ...	15·5	14·5	30·1	7·7	6·4	14·2	3·1	·3	1·9	·4	·6	3·7	3·7	All ages			·24	·24	·06		·03	·06	·6	·27	·3	·3	·03	1·2	2·2	1·1	·7	·4	·5	5·3

DISTRICT OF SURBITON.

Month.	BIRTHS. Males.	Females.	Total.	DEATHS. Males.	Females.	Total.	AGES OF THE DYING. Legitimate, under 1 year.	Illegitimate, under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	Over 65.
JANUARY	7	8	15	7	13	20	2			1	2	5	9
FEBRUARY	5	5	10	2	5	7	2				1	2	2
MARCH	14	14	28	7	10	17	4	2		1	1	6	3
APRIL	16	8	24	5	9	14	3		2			7	2
MAY	5	10	15		3	3						2	1
JUNE	11	3	14	1	7	8	1		2		1	2	2
JULY	10	9	19	4	4	8	3					2	3
AUGUST	6	8	14	4	2	6	1				1	3	1
SEPTEMBER	9	8	17	2	3	5						4	1
OCTOBER	5	14	19	3	6	9						5	4
NOVEMBER	9	8	17	7	3	10			3			3	4
DECEMBER	11	7	18	10	4	14	5		1			4	4
TOTALS	108	102	210	52	69	121	21	2	8	2	6	46	36
Rate per 1000 Living	10·3	9·8	20·1	5	6·6	11·6	2	·19	·7	·19	·5	4·4	3·4

CAUSES OF DEATHS.

	Small Pox.	Scarlet Fever.	Diphtheria.	Croup and Laryngitis.	Enteric Fever.	Typhus.	Puerperal Fever.	Erysepelas.	Measles.	Whooping Cough.	Diarrhœa.	Influenza.	Rheumatic Fever.	Phthisis.	Bronchial Pleurisy and Pneumonia.	Heart Disease.	Tuberculosis.	Cancer.	Injuries.	All other Diseases.
Under 5															2					
			1									1		3	2	4		3		4
Under 5															1					1
														1		1		1	1	1
Under 5											1				2		1			3
					1										2	1		2		4
Under 5																				3
							1			1				1		1	1		1	5
Under 5																				
																				3
Under 5				1					1											1
																1			1	3
Under 5																				3
															1	1		1		2
Under 5																	1			
					1										2				1	1
Under 5																1				4
Under 5							1							1				1		6
				1								1							1	
Under 5								1								1		1		4
			1												2		1			2
Under 5				1							1				1	1			1	3
			1	2					1		1	1			7		3		1	13
All ages			1	1	2		2	1		1	1	1		6	8	12	1	9	5	40
			·19	·29	·19		·19	·09	·09	·09	·19	·19		·5	1·4	1·1	·3	·8	·5	5·2

DISTRICT OF NEW MALDEN.

Month.	Births. Males.	Births. Females.	Births. Total.	Deaths. Males.	Deaths. Females.	Deaths. Total.	Ages of the Dying. Legitimate, under 1 year.	Ages of the Dying. Illegitimate, under 1 year.	Ages of the Dying. 1 and under 5.	Ages of the Dying. 5 and under 15.	Ages of the Dying. 15 and under 25.	Ages of the Dying. 25 and under 65.	Ages of the Dying. Over 65.
JANUARY	4	6	10	3	7	10	2			2	1	1	4
FEBRUARY	6		6	4	1	5	1	2	1	1			
MARCH	12	7	19	1	1	2	2						
APRIL	2	9	11	1	1	2	1					1	
MAY	6	3	9	1		1			1				
JUNE	2	5	7		1	1						1	
JULY	5	5	10	2	2	4	1					3	
AUGUST	3	6	9	2		2		1	1				
SEPTEMBER	6	5	11	2	1	3	1					1	1
OCTOBER	6	2	8	1	2	3						1	2
NOVEMBER	6		6	3	4	7	2	1			2		2
DECEMBER	2	5	7	5	2	7	3					2	2
TOTALS	60	53	113	25	22	47	13	4	3	3	3	10	11
Rate per 1000 Living	15·7	13·9	29·7	6·5	5·7	12·3	3·4	1	·9	·9	·9	2·5	2·8

Causes of Deaths.

	Small Pox.	Scarlet Fever.	Diphtheria.	Croup and Laryngitis.	Enteric Fever.	Puerperal Fever.	Erysepelas.	Measles.	Whooping Cough.	Diarrhœa.	Influenza.	Rheumatic Fever.	Phthisis.	Bronchial Pleurisy and Pneumonia.	Heart Disease.	Tuberculosis.	Cancer.	Injuries.	Tetanus.	All other Diseases.
JANUARY — Under 5														2						
JANUARY — All ages											1		1	2	2		1			1
FEBRUARY — Under 5									2											2
FEBRUARY — All ages															1					
MARCH — Under 5																			1	1
MARCH — All ages																				
APRIL — Under 5																				1
APRIL — All ages															1					
MAY — Under 5														1						
MAY — All ages																				
JUNE — Under 5																				
JUNE — All ages																	1			
JULY — Under 5																				1
JULY — All ages													1			1		1		
AUGUST — Under 5																				1
AUGUST — All ages																1				
SEPTEMBER — Under 5																				1
SEPTEMBER — All ages															2					
OCTOBER — Under 5																				
OCTOBER — All ages															2					1
NOVEMBER — Under 5																1				1
NOVEMBER — All ages															2					3
DECEMBER — Under 5																				3
DECEMBER — All ages														1						3
TOTALS — Under 5									2					3		1			1	11
TOTALS — All ages											1		2	3	10	2	2	1		8
Rate per 1000 Living — All ages									·5		·2		·5	1·5	2·5	·9	·5	·2	·2	4·9

DISTRICT OF HAM.

Month.	Births. Males.	Births. Females.	Births. Total.	Deaths. Males.	Deaths. Females.	Deaths. Total.	Ages of the Dying. Legitimate, under 1 year.	Ages of the Dying. Illegitimate, under 1 year.	Ages of the Dying. 1 and under 5.	Ages of the Dying. 5 and under 15.	Ages of the Dying. 15 and under 25.	Ages of the Dying. 25 and under 65.	Ages of the Dying. Over 65.
JANUARY	1	1	2	1		1	1						
FEBRUARY		4	4		1	1						1	
MARCH	2	1	3		3	3			2			1	
APRIL				1		1	1						
MAY	2	1	3	1	4	5		2				2	1
JUNE	1	1	2	1		1					1		
JULY	3	2	5		1	1						1	
AUGUST		4	4	1		1			1				
SEPTEMBER	1	1	2	2	1	3				1		2	
OCTOBER	3	1	4										
NOVEMBER	2	4	6	2		2		1			1		
DECEMBER	1	2	3										
TOTALS	16	22	38	9	10	19	2	3	3	1	2	7	1
Rate per 1000 Living ...	11·1	15·3	26·5	6·2	6·7	13·2	1·3	2·09	2·09	·67	1·3	4·8	·67

Month.		Causes of Deaths. Small Pox.	Scarlet Fever.	Diphtheria.	Croup and Laryngitis.	Enteric Fever.	Typhus.	Puerperal Fever.	Erysepelas.	Measles.	Whooping Cough.	Diarrhœa.	Influenza.	Rheumatic Fever.	Phthisis.	Bronchial Pleurisy and Pneumonia.	Heart Disease.	Tuberculosis.	Cancer.	Injuries.	All other Diseases.
JANUARY	Under 5															1					
FEBRUARY	Under 5																		1		
MARCH	Under 5															1					2
APRIL	Under 5															1					
MAY	Under 5															2			1		2
JUNE	Under 5																			1	
JULY	Under 5																		1		
AUGUST	Under 5			1																	
SEPTEMBER	Under 5															2	1				
OCTOBER	Under 5																				
NOVEMBER	Under 5														1			1			
DECEMBER	Under 5																				
TOTALS	Under 5			1												4		1			2
															1	3	1		3	1	2
Rate per 1000 Living	All ages			·67											·67	4·8	·67	·67	2·09	·67	4·9