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Bedfordshire County Council.

REPORT

Upon the Sanitary Condition

OF THE

ADMINISTRATIVE COUNTY OF BEDFORD

FOR THE YEAR 1894.

BASED UPON THE

Reports of the District Medical Officers of Health,

BY

LEONARD WILDE, M.D., M.R.C.P., D.P.H.

COUNTY MEDICAL OFFICER OF HEALTH.

PRESENTED TO THE COUNCIL 8TH NOVEMBER, 1895.

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To the Chairman and Members of the Bedfordshire County Council.

MY LORDS AND GENTLEMEN,

I have the honour of presenting to you my Report upon the sanitary condition of the County of Bedford for the year 1894.

It is based chiefly upon the Annual Reports of the local Medical Officers of Health, and special effort has been made to record their opinions upon the requirements they consider most necessary to complete or improve the sanitary administration of their respective districts.

The same classification is adopted as in previous years, it being thought that this arrangement is best suited for comparative purposes and gives greater prominence to local necessities or defects.

Every effort has been made to extract the leading facts connected with the County, but I regret that I am again unable to submit the County death rates and statistics, inasmuch as separate returns have not in all cases been made for the Bedfordshire portions of those districts which are also in other counties. This however can hardly occur again, as under the Local Government Act, 1894, the Bedfordshire portions of these districts have been constituted separate Sanitary Authorities, with the result that in future all health reports which have to be forwarded to the County Council will refer to areas entirely within the County.

The number of Sanitary Authorities which have furnished reports to the County Council for the year 1894 is fourteen. Of these ten are now printed, two continue in manuscript, one is type-written, and one is in the form of a newspaper cutting.

It may again be mentioned how very desirable it is that all Authorities should print and circulate their health reports. By these means knowledge is acquired of local sanitation which often leads to increased activity, and acts as an inducement to the bestowal of more care in the preparation of the Report.

A Medical Officer who has to submit four official copies in manuscript can hardly be expected to enter much into detail or give sufficient time to render it as comprehensive as it should be.

The following is the list of unprinted reports for 1894 :—

BIGGLESWADE (RURAL)

DUNSTABLE (URBAN)

WELLINGBOROUGH (RURAL)

WOBURN (RURAL)

It is pleasant to record that with few exceptions the reports received are fuller and more complete than heretofore. Indeed some of them are excellent and leave nothing to be desired. The work of the Sanitary Inspectors has received greater notice, and no doubt in forthcoming Reports further attention will be paid to premises regulated by Sanitary Authorities, such as Dairies and Cowsheds, Slaughterhouses, Bakehouses, Factories and Workshops.

It is particularly requested that next year the area in acres and estimated population of the various districts will be given, as many have recently undergone considerable alteration. Also that the statistical forms, Tables A. and B., supplied by the Local Government Board will be appended to each report, as they form the basis from which the County Statistics are compiled.

Special Reports of much interest and value have also been received from several districts, among the most important of which may be cited those of Mr. Turnbull, of the Bedford Rural District, on the Carbonized Refuse System of Sewage Purification, the Drainage of Kempston, and the Water Supply of the Northern Villages. It is hoped that in future copies of all such reports will be forwarded to the County Council.

Many changes have been made in the names and areas of some of the Rural Districts. They are further alluded to in the first part of my Report.

The following is the amended list of the Sanitary Medical Service of the County :—

BEDFORDSHIRE COUNTY COUNCIL,

Medical Officer of Health,

LEONARD WILDE, M.D., M.R.C.P., D.P.H.,
Palace Chambers,
Westminster, S.W.

URBAN DISTRICTS.

AMPTHILL...	C. G. STEIN, M.B., C.M., Ampthill.
BEDFORD	C. E. PRIOR, M.D., F.R.C.S., Goldington Road, Bedford.
BIGGLESWADE	C. E. PRIOR, M.D., F.R.C.S., Goldington Road, Bedford.
DUNSTABLE	A. MORCOM, L.R.C.S., L.M. Montpelier House, Dunstable.
LEIGHTON BUZZARD	J. A. HEDGES, M.R.C.S., L.S.A., 18 Lake St., Leighton Buzzard.
LUTON	H. SWORDER, M.R.C.S., L.R.C.P., Durham House, Luton.

RURAL DISTRICTS.

AMPTHILL	J. MURRAY SMITH, M.B., C.M., Dunstable.
BEDFORD	C. E. PRIOR, M.D., F.R.C.S., Goldington Road, Bedford.
BIGGLESWADE	C. E. PRIOR, M.D. F.R.C.S., Goldington Road, Bedford.
EATON BRAY	H.W.A. SANDALL, M.R.C.S., L.R.C.P., Leighton Buzzard.
EATON SOCON	T. POYNTZ-WRIGHT, M.R.C.S., L.S.A., New St., St. Neots.
LUTON	A. MORCOM, L.R.C.S., L.S.A,, Montpelier House, Dunstable.
WOBURN	C. E. PRIOR, M.D., F.R.C.S., Goldington Road, Bedford.

With regard to the general sanitary condition of the County, the most frequent and notable deficiencies reported remain the same as pointed out last year. They are—unwholesome or inadequate water supplies, particularly in the rural districts, the pollution of streams and road-side ditches, the absence of any

system of refuse removal or disposal of excreta, and the lack of infectious hospital accommodation and public disinfection.

In connection with the above it may be useful to define what are the more important sanitary powers now possessed by County Councils.

Under the Local Goverment Act, 1888, County Councils are empowered to appoint a Medical Officer of Health, who shall have all the powers and duties of a Medical Officer of Health in any sanitary district, the authority of which has made arrangements to that effect with the County Council. He may also be employed to examine and report upon the reports of .the District Medical Officers, and in the event of failure on the part of a Sanitary Authority within the County to perform its duties, the County Council may make complaint to the Local Government Board under section 299 of the Public Health Act, 1875. They are also authorised to enforce the provisions of the Rivers Pollution Prevention Acts in relation to so much of any stream which is situated within or passes through or by any part of their County. They may also make bye-laws for the good rule and government of the County, and for the prevention and suppression of certain nuisances.

By section 16 of the Local Government Act, 1894, it is provided that if a Parish Council pass a resolution that a Rural District ought to have provided the Parish with sufficient sewers, or to have maintained existing sewers, and have failed to do so ; or that danger arises to the health of the inhabitants from a failure to supply sufficient or wholesome water ; or that the Rural District Council have neglected to enforce the provisions of the Public Health Acts ; the Parish Councils may make complaint to the County Council, and the County Council, if satisfied that default has been made, may either resolve that the duties and powers of the District Council shall, for the purpose of the matter of the complaint, be transferred to the County Council, or they may make an order fixing a time within which the Rural District Council shall perform their duties, or may appoint a person to perform the duties, and may make provision for the recovery of the cost from the defaulting authority. Under section 6, sub-section 2 of the Act of 1894, the Parish Council is given similar power of

making any complaint or representation as to unhealthy dwellings or obstructive buildings to that conferred on inhabitant householders by the housing of the Working Classes Act, 1890, and it will be remembered that by section 45 of the last-named statute, the District Council to whom any such complaint or representation is made, are required to forward a copy thereof to the County Council who, in the event of the failure of the District Council to take proceedings, may themselves exercise the powers of the District Council.

The Isolation Hospitals Act, 1893, enables County Councils to provide for the establishment of Infectious Hospitals. By section 6 a County Council may direct their Medical Officer of Health to make an enquiry as to the necessity of an Isolation Hospital being established for the use of any particular district, and if he reports that such a hospital ought to be established, the Council may take proceedings for its establishment as if a petition had been presented by a local authority.

It will be seen that the sanitary powers of County Councils are rapidly increasing and becoming interwoven with those of local Authorities. Recent legislation appears to indicate that much of the work hitherto under the control of the Local Government Board will eventually devolve upon County Councils, and the present tendency seems to be rather to extend the principle of Local Self Government by means of a Council locally elected than by a Central London Board.

In conclusion I have to thank the Clerk to the County Council for kindly acquainting me with the alterations in the areas and boundaries of various parishes affected by the Local Government Act, and for much other valuable information.

I hope that the Report will meet with the approval and support of the Council, and possibly encourage those Authorities to whom it refers to make further efforts to raise the sanitary standard of their districts.

I have the honour to be, Gentlemen,
Your obedient Servant,
LEONARD WILDE,
County Medical Officer of Health.

August, 1895.

THE COUNTY.

THE COUNTY GENERALLY.

The boundaries of the Ancient or Geographical County and those of the Administrative County are identical.

The Administrative County includes three Municipal Boroughs, and contains 132 entire civil parishes.

TABLE I.—*Administrative County; Area, Houses and Population. Census 1891.*

Area in Statute Acres.	HOUSES.			POPULATION.			Average Number of	
	Inhabited	Uninhabited.	Building.	Persons.	Males.	Females.	Persons to an Acre.	Acres to a Person.
298,494	34,537	2,977	157	160,754	75,477	85,277	0·54	1·86

TABLE II.—*Municipal Boroughs and their Wards; Houses and Population. Census 1891.*

BOROUGHS AND WARDS.	HOUSES.			POPULATION.		
	Inhabited	Uninhabited.	Building.	Persons.	Males.	Females.
BEDFORD,						
Wards: EASTERN	2,909	183	72	15,254	6,415	8,839
WESTERN.....	2,559	108	6	12,769	5,914	6,855
TOTAL...	5,468	291	78	28,023	12,329	15,694
DUNSTABLE*	1,088	108	1	4,513	1,909	2,604
LUTON,						
Wards: NORTH	2,046	285	27	10,255	4,684	5,571
WEST	2,114	236	5	10,371	4,467	5,904
EAST.....	1,981	224	3	9,380	4,180	5,200
TOTAL...	6,141	745	35	30,006	13,331	16,675

* This Borough is not divided into Municipal Wards.

The population of the various Sanitary Districts reporting to the County Council in 1894 and estimated by the Medical Officers of Health to the middle of that year was as follows :—

Urban Sanitary Districts	79,750
Rural Sanitary Districts	103,199
TOTAL...	182,949

The Local Government Act, 1894, has effected considerable alterations of the Sanitary areas of several Districts within the County of Bedford.

Prior to this Statute coming into operation there were five Rural Sanitary Districts which were partly in this County and partly in adjoining counties, viz. :—

Leighton Buzzard, Luton, Hitchin, St. Neots, and Wellingborough.

Under the provisions of the Act of 1894, Orders have been made under which the Parishes of Little Barford, Dean, Eaton Socon, Pertenhall, Shelton, Little Staughton and Tilbrook in this County, forming part of the St. Neot's Union, now form a separate Rural District entirely in Bedfordshire under the name of the Eaton Socon Rural District.

The parishes of Billington, Eaton Bray, Eggington, Heath and Reach, and Stanbridge in this County, which formerly formed part of the Leighton Buzzard Rural Sanitary District have been constituted a separate Rural District under the title of the Eaton Bray Rural District.

The parishes of Poddington and Wymington in this County, which formerly formed part of the Wellingborough Rural Sanitary District, have been attached to and now form part of the Bedford Rural District.

The parishes of Barton le Clay, Caddington, Houghton Regis, Humbershoe, Luton (Rural), Streatley, Studham, Sundon, Totternhoe, and Whipsnade in this County, now form a separate Rural District under the name of the Luton Rural District.

The remaining parishes of the Luton Union which are situated in Hertfordshire, and which formerly formed part of the Luton Rural Sanitary District, now form a separate Rural District in Hertfordshire.

The Parish of Holwell was the only parish in the Hitchin Rural Sanitary District which was situated in this County, and it now forms part of the Hitchin Rural District and consequently for sanitary purposes is no longer a part of this County.

Births.

The number of births registered in the Urban and Rural Sanitary Districts and the birth-rate per 1,000 of their respective populations compared with England and Wales is given below :—

Localities.	Estimated Population, 1894.	Births.	Birth-rate per 1,000 Population.
Urban Districts	79,750	2,175	27·2
Rural Districts	103,199	2,753	26·6
England and Wales	30,060,763	889,242	29·6

The highest birth-rates per 1,000 living were recorded in the Luton Urban and the Wellingborough Rural Districts, followed by Ampthill and Biggleswade. In other districts they were very low. In the whole of England and Wales the birth-rate for 1894 was the lowest ever recorded.

Deaths.

The number of deaths registered in the Urban and Rural Sanitary Districts and the death-rate per 1,000 of their respective populations, compared with England and Wales, was as follows :—

Localities.	Estimated Population, 1894.	Deaths.	Death-rate per 1,000 Population.
Urban Districts	79,750	1,127	14·1
Rural Districts	103,199	1,515	14·6
England and Wales	30,060,763	498,515	16·6

The highest death-rate was recorded in the Eaton Bray Rural District, 18·6 per 1,000, followed by Eaton Socon Rural and Ampthill and Leighton Buzzard Urban Districts. The lowest, 11·4, was in the Borough of Bedford. The death-rate for England and Wales was not only the lowest ever recorded, but so much as 1·5 per 1,000 under the lowest previous rate, viz., 18·1 in 1888.

In those districts where it has been possible to compare the statistics for 1894 with those recorded in previous years, there appears to have been a remarkable decline both in the general and special death-rates. Taking death as the index of public health, there is no doubt that a progressive reduction in the various mortalities is an illustration of the value of sanitary measures judiciously carried out, and shows that general death-rates are largely under municipal control. This saving of life and mitigation of sickness which may, to a certain extent, be regarded as a reward of sanitary activity, should act as an incentive to still further exercise of those sanitary powers which in the past have yielded such excellent results.

It may here be mentioned that there seems to be a tendency among Medical Officers of Health to reduce their death-rates by an undue exclusion of deaths. All "deaths occurring within the district among persons not belonging thereto" are rightly subtracted, but those "occurring outside the district among persons belonging thereto" are seldom added. No doubt this may be due in great measure to the disturbing influence of public institutions, into which persons from outlying districts are admitted and die. In London the deaths registered from public institutions are distributed to their respective localities by

the Registrar General, who sends a weekly return of such cases to the Medical Officer of Health for each Metropolitan District. In the provinces there should be no difficulty in obtaining similar returns from Clerks of Guardians or Registrars of Deaths for a small fee paid by local sanitary authorities.

Infantile Mortality.

The relative prevalence of infantile mortality, as measured by the proportion of deaths of children under one year of age to registered births, is considered by most sanitarians as a delicate test of the social and sanitary condition of any particular locality.

In a paper read before the Royal Statistical Society, Dr. H. R. Jones sums up the chief causes of excessive infant mortality as follows—

1. Ante natal conditions (leading to deaths from developmental and hereditary diseases).
2. Insanitary conditions (including overcrowding) conducive to excessive mortality from zymotic and lung diseases.
3. Social circumstances, such as poverty, ignorance, employment of women in industrial occupations, &c., leading to neglect and consequent excessive mortality from diarrhœa, convulsions, and infantile atrophy.
4. Wilful neglect and crime.

The reduction of the present high infantile mortality is a very difficult problem, and it is somewhat singular that in spite of all the sanitary improvements which have had so marked an effect in lowering the general death rate, this mortality continues stationary, or but very slightly reduced. No doubt a large proportion of it is due to improper feeding and maternal neglect, which can hardly be considered under municipal control, but the influence exercised by density of population and ill ventilated dwellings upon the spread of infectious air-borne diseases, is an undoubted factor in the production of an excessive infantile mortality, and admits of amelioration.

The remedies which have been suggested from time to time may be summarised as follows—

1. The prohibition of the employment of mothers in factories during the last month of pregnancy, and for two months afterwards.
2. Free lectures to women on the management of young children, both in health and sickness, and the circulation through the registrars of handbills giving precise directions as to the feeding and nursing of infants.

3. The establishment of well conducted day nurseries under educated supervision, where infants can be attended to during the day in the absence of their mothers.
4. The regulation of infant life insurance, and a more careful method of death certification.

It may here be mentioned that under section 17 of the Factory and Workshops Act of 1891, the employment of a woman within four weeks after she has given birth to a child is prohibited.

The relative infantile mortality per 1,000 births in the Urban and Rural Sanitary Districts compared with that of England and Wales is given below :

Localities.	Births.	Deaths under 1 Year.	Infantile Mortality per 1,000 Births.
Urban Districts ...	2,175	275	126·
Rural Districts ...	2,753	325	118·
England and Wales...	889,242	121,918	137·

The highest rates—182 and 178 per 1,000 births—were recorded in the Eaton Bray Rural and Leighton Buzzard Urban Districts respectively. The lowest—75 per 1,000 births—occurred at Ampthill.

Zymotic Diseases.

The principal zymotic diseases from which the zymotic death rate has been calculated in all the districts include small-pox, measles, scarlet fever, diphtheria, whooping cough, fever (typhus, enteric and continued), and diarrhœa. Diphtheria now includes croup. Dysentery and cholera, whether English or Asiatic, would be classified as diarrhœal diseases.

The zymotic death rate is generally regarded as an indication of the presence or absence of epidemic diseases. For comparative purposes, it should be divided into two, inasmuch as a continued high death rate from diphtheria, enteric fever, or diarrhœa would point to defective sanitation, particularly polluted water supply, inefficient drainage, and contaminated subsoil ; whereas an undue proportion of the infectious air-borne diseases, such as small-pox, scarlet fever, measles, would indicate inadequate administrative powers and an absence of notification, isolation, or disinfection.

The highest zymotic prevalence occurred in the Biggleswade and Eaton Bray Rural Districts, and the highest zymotic death rates are recorded in the Eaton Bray District and at Leighton Buzzard.

The deaths and death rates from the principal zymotic diseases in the Urban and Rural Districts and in England and Wales are given below—

Localities.	Estimated Population, 1894.	Deaths from the Principal Zymotic Diseases.	Zymotic Death Rate.
Urban Districts ..	79,750	113	1·4
Rural Districts ...	103,199	137	1·3
England and Wales...	30,060,763	52,771	1·76

The most important of these diseases have been separately dealt with in this Report.

Small-pox.

Only two cases of small-pox were notified throughout the County during the year 1894. They both occurred at Bedford, and afforded another notable example of the frequency with which this disease is disseminated by tramps.

This subject was discussed at a conference convened by the London County Council on July 19th, 1894, for the purpose of considering what means could be adopted for preventing the spread of infectious diseases by vagrants.

The representatives of many County Councils and Provincial and Metropolitan Sanitary Authorities attended, and the following resolutions were adopted :—

(1.) That common shelters which are not subject to the law relating to common lodging houses should be made subject to such law.

(2.) That there should be power to the Local Authority to require medical examination of all persons entering common lodging houses and casual wards, and that each inmate of a common lodging house or casual ward should on admission have a bath of fresh water.

(3.) That the Local Authority should have power to order the keeper of a common lodging house, in which there has been infectious disease, to refuse fresh admissions for such time as may be required by the Authority.

(4.) That the Local Authority should be empowered to require the temporary closing of any common lodging house in which infectious disease has occurred.

(5.) That the Local Sanitary Authority should have power to require the detention of any inmate of a common

lodging house or casual ward who may reasonably be suspected of being liable to convey infectious disease.

(6.) That means should be provided for the detention and isolation of any vagrant found wandering in a public place, if reasonably suspected of being liable to convey infectious disease.

(7.) That the Local Authority should have full power to require the disinfection of the person and clothes of any person in a common lodging house or casual ward, whether infected or exposed to infection.

(8.) That arrangements should be made by which the occurrence of infectious disease in common lodging houses or casual wards, should be made known by the Local Authority of the District to the Local Authorities of other Districts.

(9.) That Local Authorities should be empowered to require the vaccination or re-vaccination of persons in common lodging houses or casual wards, who are exposed to the infection of small-pox.

Vaccination.

From the Reports of some of the Medical Officers, it would appear that in certain districts within the County, vaccination is fast becoming merely voluntary. The half-yearly returns submitted to the Wellingborough Board of Guardians, August 14th, 1895, showed that out of 708 births in that Union, only four children, or less than one per cent. had been vaccinated. About five years ago the Board decided to suspend prosecutions under the Vaccination Laws, until the Royal Commission sitting on the question presented its Report.

No doubt the delay in the publication of the Commissioners' Report is to some extent the cause of the laxity with which the laws relating to vaccination are now enforced in other parts of the County.

It seems scandalous that Boards of Guardians should be allowed to make the Acts a dead letter, and that in one locality parents are prosecuted and fined for neglecting to have their children vaccinated, while in another district, immediately adjoining, the law is broken with impunity.

Whether vaccination be made voluntary or remain compulsory, the desirability of transferring the administration of the Acts from the Boards of Guardians to the Local Government Board should be seriously considered

The following table, which has been extracted from the "Digest of the Vaccination Officers' Return, 1891," recently issued by the Local Government Board, shows the percentage of infants not finally accounted for as regards vaccination in the County of Bedford and its separate Poor Law Districts :—

BEDFORDSHIRE.	RETURNS 1891.							
	Births.	Successfully Vaccinated.	Insusceptible of Vaccination.	Had Small-pox.	Died Unvaccinated.	Vaccination Postponed.	Remaining.	Children not finally accounted for (including cases postponed) per cent. of births.
Ampthill	413	344	...	...	33	9	27	8·7
Bedford	1,365	936	8	...	101	73	247	23·4
Biggleswade ...	825	502	1	...	83	...	239	29·0
Leighton Buzzard ...	552	375	1	...	61	...	115	20·8
Luton	1,326	116	...	...	188	6	1,016	77·1
Woburn	219	174	...	...	14	1	30	14·2
The County ...	4,700	2,447	10	...	480	89	1,674	37·5

Scarlet Fever.

There was a considerable diminution in the number of scarlet fever cases reported in 1894. With one exception the urban districts were practically free from it, but in the rural districts there was a continued though diminished prevalence. The only place in which it became epidemic was at Clophill, where the outbreak was attributed to school attendance and the mildness of the disease. Dr. J. Murray Smith reports as follows :—"The diffi-"culties of dealing with the epidemic were considerable. The "fact that the general type of the disease was of a mild character, "many of the cases had no medical supervision, and most of the "cases occurred in cottage property, thorough isolation and disin-"fection were very difficult to carry out. During the closure, the "school was thoroughly disinfected and fumigated by the Sanitary "Inspector."

The number of deaths from scarlet fever in 1894 was only 24, of which eight occurred in the urban districts and 16 in the rural districts.

Diphtheria.

There has been a considerable prevalence of this disease throughout the County, and it assumed epidemic proportions in the Biggleswade and Woburn Rural Districts.

It occasioned 37 deaths, of which 13 occurred in the urban, and 24 in the rural districts.

The increasing prevalence of diphtheria in England and Wales, particularly in the large towns and educational centres, has directed universal attention to its etiology and treatment.

Much time and trouble have been expended by many medical officers in trying to elucidate the origin of each case, yet in many no adequate explanation has been propounded.

One of the difficulties of investigations of this nature arises from the mildness of the disease in some cases, and the impossibility of arriving at a definite conclusion as to its specific character (without a skilful bacterioscopical examination) for some considerable time, until in fact, the advent of paralytic or other sequelæ discloses its true nature.

Something more than merely insanitary conditions of drainage seems to be necessary to produce diptheria, for in only a comparatively small number of instances are drainage defects discovered in the dwellings of patients.

The opportunities for direct contagion from child to child in crowded rooms, which school attendance permits, and the greater incidence on children between the ages of three and ten, go far to confirm the conclusion that one of the main factors in the dissemination of diphtheria is elementary school attendance.

It has been observed that the prevalence of ordinary sore throat among school children frequently precedes the notification of cases of diphtheria and seems to pave the way for its development.

These facts point to the necessity of periodical medical inspections, especially on the occurrence of throat illness among the pupils.

The systematic examination of the scholars' throats, combined with an inquiry at the homes in which throat illness was alleged to exist, is a very effective method of arresting the spread of diphtheria. But a medical examination of the throats of all the scholars has been objected to on various grounds, and a sufficiently effective alternative is to visit the school and get the teacher to assemble each class and ask the following questions :—

1. Has any child now, or recently, had a sore throat ?
2. Has anyone in your house a sore throat, or has anyone recently had a sore throat ?
3. Is anyone ill in your house ?

Where the first answer is in the affirmative, the child is sent home and temporarily excluded from school.

Where the second and third questions are answered affirmatively, the house is visited, and in cases where actual or recent throat illness is found the children are prohibited attending school for a time.

Subsequently these questions are repeated by the teachers twice a week until the subsidence of the outbreak.

As the germs of diphtheria remain in the throat for many weeks after all symptoms have disappeared, it is important not to allow persons to return to school or workroom until all danger of infection has passed away. The use of some antiseptic mouth-wash or gargle by them who are exposed to infection is also advisable.

It occasionally happens that there is but little clinicai distinction betweet the throat affection of scarlet fever and diphtheria, and it is in such cases that a bacteriological examination of the secretion is particularly valuable. Dr. Prior in his Report for the Borough of Bedford says :—"Diphtheria and scarlatina are "diseases which have, in some particulars, a strong similarity ; "both are infectious, though the one with much less regularity "than the other, both are characterised by a throat affection "occasionally very severe, both are apt to be attended with severe "constitutional disturbance. In the course of an epidemic of "scarlatina many cases are to be met with in which the eruption "has been slight or almost *nil*, while the throat symptoms have "been severe, and these I believe are occasionally certified as "diphtheria. Under the circumstances it is often very difficult, "almost impossible, to distinguish ; but, on the other hand, in an "outbreak of genuine diphtheria, it is very rarely if ever that cases "of scarlatina are to be met with."

Dampness in and around dwellings, combined with the excremental pollution of the soil so frequently observed in the cottages in rural districts appear to be the most common insanitary conditions associated with the development of diphtheria in country places.

The following inquiry form will be found very useful in the investigation of diphtheria outbreaks :—

DISTRICT.

DIPHTHERIA.

Date

Address — Ward

Name

Sex, Age, and Occupation

Medical Attendant — Date notified

Place of Work or School

Last at Work or School — Date of onset

History

Previous Illnesses of Patient

Work or business carried on in house

Number of Occupants in house

Milk Supply

Water Supply

Description of House

Sanitary Condition of Premises

Condition of Drains

Previous Illnesses in house or in vicinity

Probable source of Infection

Precautionary Measures

Remarks

It is filled up at the time of first inspection and subsequently elaborated and transferred to a register similarly printed.

Enteric Fever.

The prevalence or absence of Enteric fever is generally regarded as an indication of the sanitary condition of any particular locality.

No epidemic is reported from any district, and at Ampthill and Dunstable not a single case was notified.

The number of deaths from Enteric Fever was eleven, of which four occurred in the Urban and seven in the Rural Districts. Of the latter, four were in the Wellingborough Union now outside the County. This district has again the highest sickness rate of any reporting to the Council in 1894. For some years the Medical Officer of Health has strongly condemned the water supply.

Among the causes of Enteric Fever contaminated water plays the most important part and is referred to in the reports received from Biggleswade Rural, Luton Rural and Wellingborough Rural.

Dr. Prior (Bedford Urban) mentions that five out of seven cases notified were imported from outside the district.

Dr. J. M. Smith (Ampthill Rural) attributes the continuance of the disease in one house to personal infection from want of cleanliness and neglect of disinfection.

There is no doubt that cases of enteric fever can be treated in hospitals under trained nurses without any danger of infection, but in the houses of the working classes, with scant accommodation and without a knowledge of the proper use of disinfectants or of the disposal of soiled linen, the probabilities of direct contagion are greatly increased.

Measles.

Measles is not one of those diseases scheduled in the Notification Act, and as a rule the Medical Officer of Health has no official intimation of the prevalence of the disease till it proves fatal or has assumed epidemic proportions.

There was more than average prevalence of measles in 1894. It was the cause of more deaths than any other zymotic disease except whooping cough, by which it was frequently complicated. Of the 55 deaths 31 occurred in the urban and 24 in the rural districts.

Severe and extensive epidemics, necessitating the closure of schools, occurred at Dunstable, Leighton Buzzard, Heath and Reach, Lidlington, and Luton Rural.

At Dunstable and Eaton Bray it was associated with whooping cough. The Medical Officer for Dunstable is of opinion that "the prevalence of these two diseases may be attributable in a "great measure to the culpable neglect arising from the popular "belief, amounting almost to fatalism, that children must "contract them sometime, and that there is, therefore, little use "in endeavouring to take any protective steps when either "disease is epidemic. The consequence is, that the epidemic "continues to spread so long as susceptible victims are to be "found in the community, and only dies out for a time when "almost all these have been attacked."

Dr. Morcom (Luton Rural) again says: "The closing of the "schools may have a beneficial effect by preventing the spread of "measles and whooping cough, but the playing and mingling "together out of doors is a serious drawback; the ignorance and "indifference of most of the parents being lamentable."

Conflicting opinions are held as to the desirability of including measles in the list of notifiable diseases.

As a rule measles is the cause of more deaths than any other zymotic disease, except, perhaps, whooping cough and diarrhœa.

It is generally regarded as a mild disorder requiring little or no treatment, whereas careful isolation and nursing are most necessary, inasmuch as many grave complications often occur, and permanent disablement is not uncommon.

Much of its present high fatality is preventible; a large proportion of the deaths being due to exposure to cold, absence of treatment, and insanitary surroundings.

In the houses of the well-to-do the mortality is insignificant; but among the poor it has been estimated that the case fatality is as high as from 20 to 30 per cent.

Notification would afford an admirable opportunity to point out, by means of printed handbills, the necessity for the careful treatment of every case of measles and the precautions requisite to prevent its spread.

The preceding catarrhal stage of measles is often mistaken for an ordinary cold, and the fact—if it be one—that this pre-eruptive stage is infectious, is often quoted as an argument against its notification, but is equally in favour of the early knowledge of first cases and the quarantine of the patient and other members of the family during the pre-eruptive and incubative periods.

The remarkable virility of the morbific element of measles and its liability to lurk in localities in which it has arisen, renders efficient fumigation and steam disinfection indispensible. These can only be thoroughly carried out by the Sanitary Authority.

It has been urged that notification to be efficient should be followed by hospital isolation, which would entail greatly increased accommodation and large expenditure. With respect to measles this is by no means imperative. It is even doubtful whether measles can be practically treated in hospitals, as owing to the extreme vitality of its infective agent the aggregation of cases in wards (unless of enormous cubic capacity) is apparently attended with grave risks, owing to the then greatly increased tendency to fatal complications.

Whooping Cough.

Whooping cough was epidemic in several parts of the County, and necessitated the closure of schools at Maulden.

It is not included in the schedule of notifiable diseases, and its prevalence is mostly gauged by the death returns.

It caused the highest mortality of any zymotic disease in the County. The total number of deaths was 80, of which 32 occurred in the urban and 48 in the rural districts. The concurrent prevalence of measles is noted in the Ampthill and Eaton Bray Rural Reports.

The observations made with regard to measles apply almost equally to whooping cough. Both are highly infectious and preceded by a catarrhal stage; both have a high aggregate mortality and are liable to be followed by severe complications or permanent disabilities. Both are regarded as trifling disorders, and it is no uncommon thing to see children affected with whooping cough mixing with the healthy in a most reckless manner, or mothers carrying their infants suffering from it from house to house.

The measures necessary for the prevention of the spread of whooping cough are much the same as for measles, and a great deal of the mortality might be avoided if the disease were regarded more seriously, and the patient properly nursed and kept warm.

Cholera and Choleraic Diarrhœa.

No case of cholera or choleraic diarrhœa was notified in the County. There was also a considerable diminution in the ordinary diarrhœa prevalence, only 37 deaths being registered as compared with 139 in the previous year.

The temporary addition of diarrhœa occurring in persons of over one year of age to the list of notifiable diseases was not therefore necessary. It should, however, be remembered that this procedure would create a local index of susceptibility to enteric fever or cholera, and would no doubt prove of valuable assistance in preventing outbreaks of these diseases by directing attention to the probable existence of contaminated soil and water.

Phthisis.

Phthisis was certified as the cause of death in 211 cases, of which 113 occurred in the urban districts and 98 in the rural. The death rate for the County was 1·1 per 1,000; for the urban districts 1·4; and for the rural districts 0·9.

At Luton—the only Sanitary Authority whose Medical Officer furnishes quarterly reports to the County Council—the preponderance of deaths from this disease occurred in the third and fourth quarters. This is a reversal of the seasonal curve ordinarily observed in the phthisical death rate, and may possibly be due to the excessive rainfall and unusual height of the ground water during the latter half of the year.

Several districts have from time to time proposed to include phthisis among the notifiable diseases, but as yet this has not received the sanction of the Local Government Board. The notification of acute phthisis, which runs a rapid course and is invariably fatal, may be theoretically desirable, but to include the ordinary or chronic form, which may last for years, and does not appear to be infectious from person to person, would probably be found impracticable.

A knowledge of the etiology of tuberculosis is essential to its prevention, and the efforts of the sanitarian may well be directed towards securing the amelioration of those conditions which are known to favour its development.

Among the chief causative conditions which may be said to be within the reach of sanitary preventive measures may be mentioned :—

1. Continued dampness of locality and dwellings.
2. Direct infection by the inhalation of tubercle bacilli or their spores in a dry state. (Personal infection has been shown to occur only on some very rare occasions in cases of acute phthisis, and under circumstances of close intimacy and defective ventilation).
3. Habitually breathing the vitiated stagnant atmosphere of ill-ventilated, uncleanly, or overcrowded workrooms, dwelling rooms, and bedrooms.
4. Consumption of the milk of tuberculous cows, or the meat of tuberculous animals.
5. Certain trades and occupations in which dust, grit, or other irritants are constantly inhaled.

Other causes, such as hereditary transmission, alcoholic intemperance, and certain predisposing diseases hardly come within the range of practical sanitation. For their mitigation we must look to the spread of education and the advance of public opinion.

All sanitary improvements tend to reduce the mortality from tubercle, but the special protective measures which have

been advocated from time to time may be enumerated as follows :—

1. The drainage of the subsoil.
2. The ventilation of dwelling houses, factories, workshops, and school rooms, and the provision of sufficient window space to admit of the free penetration of sunlight and air.
3. The artificial illumination of workshops and offices by the arc electric light instead of gas.
4. The prevention of overcrowding.
5. Efficient sanitary supervision of dairy farms, dairies, and milkshops.
6. The periodical veterinary inspection of milch cattle and the slaughter and destruction of tuberculous animals.
7. The penalisation of the sale of the milk of cows affected by tubercle.
8. The boiling or sterilization of milk before consumption.
9. A proper inspection of meat and the more stringent regulation of slaughter houses.
10. The dissemination among the working classes of information as to the causation of phthisis, and the precautions necessary to prevent its development and spread.
11. The cleansing and disinfection of rooms in which phthisical persons have lived and died.
12. The regulation of certain dusty trades.

Infectious Diseases Notification.

The Infectious Diseases Notification Act has been adopted in three of the Urban and six of the Rural Sanitary Districts. It would have been thought that the Urban Districts, to which the Act is particularly applicable, would have been the first to recognise its value, instead of which half of the Urban, but only two of the Rural Districts (with an aggregate population of 64,683), continue to neglect its adoption, although the Medical Officers who advise these authorities are all strongly in favour of it.

The advantages of compulsory Notification have been fully discussed in all previous reports, and were explicitly set forth in pages 7 and 8 of my Report for the year 1892.

The three essential elements in the prevention of infectious diseases are notification, isolation, and disinfection, but without the first the others can hardly be brought into operation. There is no doubt that the absence of notification is a decided blot upon the sanitary administration of those districts which have not adopted the Act, and which thus become a standing danger to those which have. It is on this account becoming generally recognised that the Act should no longer remain merely permissive, as the want of its universal application is a source of weakness in our national defensive sanitary system.

Dr. A. Morcom, Dunstable, says :—

"In regard to infectious diseases, I may here state that their

proper and efficient treatment from a sanitary point of view cannot be carried out without the Infectious Diseases Notification Act is adopted, and arrangements made to provide an Isolation Hospital. As to the Infectious Diseases Notification Act, I consider it a most valuable one. By it an early notification of infectious disease is obtained, and prompt measures can be taken, and in a town like Dunstable, with large and important schools, it is doubly a matter of earnest consideration. In other parts of the country where the Act has been adopted it is found to work with little trouble or friction, and the small cost of notification fees to the medical practitioners should not be taken into consideration as against the health of the community."

Dr. Prior, for the Borough of Bedford, thus happily refers to this question :—

"In an educational town like Bedford, with its large families attending the various schools and its numerous boarding-houses, scarlatina, as it is by far the most common, and not infrequently the most fatal, of the ordinary zymotic diseases, must always be a subject of painful solicitude. Many is the flourishing school that it has shaken to its foundation, and many the well-established boarding-house that it has closed temporarily if not permanently. It would seem that, what with prompt notification and removal, or, if not these, with prompt exclusion of members of infected families from the schools, the disease has been kept pretty well at bay at Bedford, and there is reason to be thankful for the Infectious Diseases Notification Act that it is so."

The subjoined table shows the protected and unprotected districts.

Infectious Diseases Notification, 1894.

Sanitary Districts.	Notification in Force.	Since when.	Number of Cases notified in 1894.
URBAN.			
Ampthill	Yes	Nov., 1893	7
Bedford	Yes	Jan., 1890	138
Biggleswade	Yes	Jan., 1890	19
Dunstable	No	—	—
Leighton Buzzard	No	—	—
Luton	No	—	—
RURAL.			
Ampthill	No	—	—
Bedford	Yes	Jan., 1890	119
Biggleswade	Yes	Jan., 1890	271
Eaton Bray	Yes	Oct., 1894	228
Eaton Socon*	Yes	— 1890	100
Luton	Yes	— 1890	24
Wellingborough	Yes	Mar., 1890	235
Woburn	No	—	—

* Includes St. Neots Rural District.

Infectious Diseases Prevention.

The action usually taken by Sanitary Departments upon the receipt of a medical certificate of a case of notifiable disease may be summarised as follows :—

Every house from which a case of infectious illness has been notified is visited by the Sanitary Inspector, who fills up an enquiry form with particulars as to date of onset, place of work or school, water and milk supply, sanitary condition of premises, probable source of infection, &c.*

Should any nuisance or sanitary defect be observed, a notice is served on the owner to remedy the same.

The advantages of removal to hospital are duly explained and if consented to, the patient is removed forthwith. If home treatment is preferred and suitable accommodation afforded, the patient is isolated and a wet sheet hung up outside the door. Disinfectants are supplied during illness and their proper use explained. A printed circular is left with the occupier giving precise directions for preventing the spread of infectious diseases, and calling attention to the sanitary laws relating to infectious disorders.

In the case of a child attending school, a certificate is sent to the head master or mistress with a request that all other members of the infected family shall be temporarily excluded from school attendance.

In cases of small-pox, a copy of the medical certificate is sent to the vaccination officer.

In the event of removal to hospital, or upon the receipt of a medical certificate that the patient has completely recovered, or in case of death, upon the removal of the body, the Sanitary Authority fumigate the rooms and remove and disinfect all articles of clothing, bedding, &c., free of cost. After diphtheria the pillows used by the patient are usually destroyed, and after small-pox or cholera all infected articles are removed and burnt, compensation being given under Section 121 of the Public Health Act, 1875. A formal notice is then served upon the owner or occupier to strip the walls and thoroughly cleanse the rooms or house as the case may be.

Upon the completion of disinfection, a certificate is given that the house is free from contagion. The patient is then at liberty to return to school, workshop or office.

In towns where free libraries have been established, notice of infectious illness occurring in any house is sent to the librarian.

When a case of notifiable disease comes to the knowledge of the Medical Officer of Health for which no certificate has been received, it is ascertained whether medical advice has been solici-

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* *See page 22.*

ted, and if not, the parents or those in charge of the patient are informed of their liability to notify, and of the penalties attached to the concealment of infectious diseases. When a medical practitioner has omitted to notify, a printed form is sent to him pointing out the omission and calling his attention to Sections 3, 4, and 6 of the Infectious Diseases Notification Act.

The Infectious Diseases (Prevention) Act, 1890, is one of the most valuable preventive measures, and it is very desirable that this Act should be generally adopted.

There is no reference in any of the Reports to its being in force in any district in the County.

The Act gives increased control over milk supplies, by conferring on the Medical Officer of Health the statutory right of inspection of dairies in certain cases and power to prohibit the supply of milk.

It gives local authorities increased powers of cleansing and disinfection, and prohibits the retention of infectious dead bodies longer than 48 hours, except in a public mortuary or a room not used as a living, sleeping, or workroom. It provides that the bodies of persons dying of infectious diseases in hospital shall be removed only for burial, and it forbids the throwing of infectious rubbish into ashpits without previous disinfection. It empowers a justice to order an infectious patient in a hospital for infectious diseases, to be detained therein until free from infection, if it can be shown that he is without proper means of isolation and lodging elsewhere. It requires local authorities to provide free temporary shelter, with necessary attendants for the members of any family who have been compelled to leave their dwellings for the purpose of enabling such dwellings to be disinfected by the sanitary authority.

Hospitals for Infectious Diseases.

The question of the provision of hospital accommodation is admitted to be of urgent importance to the county, and one about which sanitary authorities will doubtless come to some practical decision sooner or later.

As far as I can ascertain no actual progress has been made in this direction during the year, although the subject has received a great deal of attention.

The position of the districts with regard to isolation hospitals is shown in the appended Table.

It will be observed that six districts have no hospitals at all, and one has but temporary accommodation for one kind of disease only.

In most of the existing hospitals within the county, a charge is made for maintenance which in some instances seems rather high.

Section 132 of the Public Health Act, 1875, empowers the Local Sanitary Authority to recover the cost of maintenance from the patients. It appears, however, that usually where the patients are very poor this power is not used, and the cost is thrown upon the rates.

No doubt some reasonable charge should be made for patients received into a hospital from outside the district for which it has been provided, but to exact payment from the inhabitants of the district is a very undesirable procedure, isolation being carried out for the benefit of the community at large rather than for that of the individual.

At Bedford, private accommodation is provided for paying patients, and no rate supported hospital under the control of a municipal authority is now considered complete without such.

The pressing necessity for hospitals of this kind is referred to in many of the Reports.

Dr. Morcom (Dunstable) mentions that the proper and efficient treatment of infectious diseases cannot be properly carried out without Notification and Hospital Isolation, and suggests a conjoint hospital scheme for the Borough of Luton, and the Luton and Markyate Rural District Councils.

Dr. Horace Sworder (Luton) gives a typical account of the manner in which hospital schemes are considered.

"In April I visited Spittlesea with the combined sanitary and sewage committees with a view to selecting a site for further accommodation for fever cases. The site was selected, but fortunately epidemics this year dealt so gently with us, that the matter, I suppose, never presented itself to your notice with sufficient force to call for solution. As we are at present situated, only one kind of fever can be treated at one and the same time: this condition of things is eminently unsatisfactory."

Dr. Poyntz Wright (Eaton Socon Rural) referring to scarlet fever and measles says: "The constant occurrence of these diseases shows that we are not so advanced in respect of the checking of these ailments, chiefly from the fact, which I have every year brought to your notice, that we have no Isolation Hospital, and that it is consequently utterly impossible to stamp out measles and scarlatina, breaking out in a row of thickly inhabited cottages, unless the first case can be immediately and at once removed from its surroundings into a hospital. If this is not done, the children mix together, run in and out of each other's houses, there are no means of isolation, the nucleus of disease spreads apace, and under such conditions no sanitary authority on earth can check it."

Now that County Councils are to a certain extent responsible for the provision of Isolation Hospitals, this is a question which

might with great advantage engage the attention of the Bedfordshire County Council.

The alteration of Sanitary Areas affected by the Local Government Act are now clearly defined, and many of the counties have already taken the matter in hand, and as a preliminary step, instructed their representative to report as to the existing hospital accommodation within their administrative area, and what, if any, further provision is required.

It has also been suggested that some counties should be divided into large areas for the purpose of providing separate smallpox hospitals, and that the Local Authorities either singly or in combination should provide accommodation for all other infectious diseases. This seems a very practical suggestion, which eludes the danger of treating smallpox on the same site as other infectious diseases, and lessens the difficulty of securing eligible sites for ordinary isolation hospitals.

The Isolation Hospitals Act, 1893, will no doubt stimulate local action, for in case of the default of a Local Authority, the County Council may provide the necessary hospital accommodation. The Act does not extend to any county boroughs, or, without the consent of the council of the borough, to any borough having a population of 10,000 or upwards, or to any borough of less population, unless the Local Government Board otherwise direct.

A County Council may, on the application of any Urban or Rural Sanitary Authority, or on the Report of the Medical Officer of the Council and a subsequent local enquiry, constitute a Hospital District, which may consist of a single local area or two or more local areas.

The County Council may form a Hospital Committee consisting wholly or partly of members of the Council, and partly of representatives of the local area, or wholly of such local representatives. This Committee shall have power to purchase land on which to erect the building, and to make Rules and Regulations for the conduct and management of the hospital, which shall be provided with ambulances and be in connection with a system of telegraphs. They may also make arrangements for the training of nurses for attendants on patients suffering from infectious disease, either inside or outside the hospital, and may charge for the attendance of such nurses outside the hospital.

The term "Infectious Diseases" has the same meaning as in the Infectious Diseases Notification Act, 1889, and the provisions of the Act may be applied to any other Infectious Disease by order of the Council.

HOSPITAL PROVISION IN VARIOUS DISTRICTS OF THE COUNTY OF BEDFORD.

Sanitary Districts.	Isolation Hospital Provided.	Where Situated.	Estimated Population, 1894.	No. of Beds.	Remarks.
URBAN.					
Ampthill	No	—	2,294	—	A Special temporary arrangement was made with the Poor Law Authorities to receive small-pox patients in case of epidemic.
Bedford	Yes	Bedford	29,985	35	In connection with Bedford Infirmary there is also separate small-pox hospital with 15 beds. No charge for patients from Urban District. Rural Authority pay 30s. a week, and sometimes recover costs from patients. Paying patients received.
Biggleswade	Yes	Biggleswade	4,860	24	Joint Hospital for Biggleswade Urban and Rural Districts. No fixed charge, poor people free. A small charge made by Rural District Council.
Dunstable	No	—	4,857	—	A joint hospital scheme has been under consideration for some time, but without practical result.
Leighton Buzzard	Yes	Leighton Buzzard	6,754	22	Situated near the workhouse. Charge made according to patients' means.
Luton	Yes	Luton	31,000	5	Temporary accommodation for one kind of disease only. Joint scheme under consideration.
RURAL.					
Ampthill	No	—	12,842	—	Hospital accommodation urgently asked for by Medical Officer of Health.
Bedford	Yes	Bedford	23,260	*See* Bedford Urban	Has the privilege of sending cases to Bedford Fever Hospital at a charge of 30s. a week for each patient.
Biggleswade	Yes	Biggleswade	20,851	*See* Biggleswade Urban	Joint hospital for use of Biggleswade Urban and Rural Districts. Small charge recovered from patients.
Eaton Bray	Yes	Leighton Buzzard	3,440 census	*See* Leighton Buzzard Urban	Joint hospital for Leighton Buzzard and Eaton Bray Rural District. Charge made according to patients' means.
Eaton Socon	No	—	3,744	—	Joint scheme recommended by Medical Officer of Health.
Luton	No	—	10,581	—	Joint scheme under consideration for some time but without practical result.
Woburn	No	—	9,230	—	—

Disinfection.

Disinfection continues to be very imperfectly carried out in the majority of the districts. With few exceptions, fumigation and cleansing of houses in which infectious disorder has occurred is undertaken, but not a single Authority has as yet provided an efficient apparatus for disinfection by steam.

Public disinfection may be regarded as the complement of notification and isolation, and no sanitary administration can be considered complete without it. It should be done under the

supervision of the Authority by skilled officials. Infected bedding and clothing, &c., should be fetched and delivered in covered vans, one of which should be set aside for collecting and the other for delivering. To avoid mistakes they should be painted different colours.

The construction of disinfecting stations and the provision of proper facilities for rapid and efficient disinfection free of cost are urgently required.

The adoption of the Infectious Diseases Prevention Act, 1890, gives Local Authorities greatly increased powers of cleansing and disinfecting.

Water Supplies.

In view of the great danger arising from polluted water supplies, more particularly during the prevalence of water-borne diseases, such as enteric fever and cholera, special attention should be directed to their source and purity.

Many of the districts appear to be dependent upon wells of defective construction, inadequately protected from percolation from the surface soil, and surrounded in many instances by obvious sources of pollution, such as privies, middens, pigstyes and farmyards. Indeed most of the villages may be said to be in need of an adequate and wholesome water supply, and as this is of urgent sanitary importance it might well form the subject of a special enquiry under some such headings as the following:—

1. Source, area and population of water supplies.
2. Purity and sufficiency.
3. River water supplies.
4. Surface and deep wells.
5. Waterworks, storage capacity, constant and intermittent services.

The following statements are from the Reports of Medical Officers of Health, taking the Urban Districts first:—

Ampthill.—The water supply continues to be dependent upon local wells, many of which are contaminated by the leakage of neighbouring cesspools or defective drainage. The introduction of a purer supply is annually urged. During the past year the matter has received some consideration, but with no definite result. The water from the Town pump is condemned.

Bedford.—Water works, reservoirs, and filtering beds with a constant service have been provided, and were reported in 1892 as highly satisfactory.

Biggleswade.—The conditions recorded in 1892 apparently remain the same, the inhabitants being dependent upon wells, then described as unsatisfactory

Dunstable.—The water supply is in the hands of a local company. It has recently been greatly improved by the sinking of a new well, and is now reported excellent.

Leighton Buzzard.—Here the supply is chiefly drawn from surface wells, which are necessarily contaminated by the existing privy soakage through a porous soil. An artesian well has been sunk and found to yield 30 gallons per head per diem. The water from this source will shortly be laid on, and it is hoped that all contaminated wells will then be closed.

Luton.—The water supply is in the hands of a company, and is reported of good quality and constant service. Several wells are in existence which, when condemned, are closed.

The reports from some of the Rural Districts indicate a still more alarming state of affairs, the supply being frequently both unwholesome and inadequate :—

Ampthill.—The water supply appears to be plentiful, but chiefly derived from shallow wells which are very liable to dangerous pollution. The provision of a proper supply for Marsden Shelton is under consideration. Pegsden requires similar attention.

Bedford.—The water supply of several of the upland parishes and in the outskirts of Wootton and Kempston were reported in 1892 as commonly derived from shallow wells. The provision of a pure water supply for the villages of Kempston, Harrold, Sharnbrook, Risely, and others are annually advocated. A comprehensive and valuable report upon the matter has been made by Mr. Turnbull, the Surveyor and Inspector.

Biggleswade.—The water supply of this district is being gradually improved, shallow wells have been closed where possible and properly situated public wells provided. It is not however in all parts exempt from suspicion.

Eaton Bray.—A wholesome water supply is much needed in many of the villages, particularly Eaton Bray. A special report upon the pollution of a spring at Moorlane was submitted in 1894, and preventive measures taken.

Eaton Socon.—In 1893 the supply was reported as inadequate and derived from shallow surface wells. The importance of a good water supply continues to be ably advocated by the Medical Officer, who states that this subject has received the attention of the local council. Improvement has been effected in every case where possible.

Luton.—In this district the water supply is happily described as plentiful and good.

Wellingborough.—The supply has here always been reported as insufficient throughout the district, and derived from shallow wells constantly liable to pollution.

Woburn.—No mention of the source and condition of the water supply of this rural district has I think been made in any of the Reports for the years 1892, 1893 or 1894.

Pollution of Rivers and Streams.

No reference is again made in any of the Reports of any specific pollution of the three main rivers which are within the County of Bedford, viz., the Ouse, the Ivel, and the Lea, but sewage pollution of their contributory streams and watercourses is particularly referred to in the Leighton Buzzard Urban and the Wellingborough Rural Reports.

It is, moreover, implied in several other Reports by reference to the absence of any proper means of sewage disposal and the consequent direct pollution of streams by crude sewage, and, in other cases, to the effluents of ineffective sewage farms, and to polluted roadside ditches and brooks.

Dr. Guthrie Stein (Ampthill Urban) reports no improvement of the effluent of the sewage farm which was described in 1893 as "not materially improved by lapse of time or any other influence, and still not such as should pass into a watercourse so shallow, containing no great volume of water, of varying levels, slow flow, and with numerous bends."

Dr. Hedges (Leighton Buzzard) reports: "The Clipstone Brook, "which, running under Lake Street, skirting the Bell Close, "presently joins the County Stream, is, like the latter, an open "sewer, each stream draining respectively the northern and "southern parts of the town." He further goes on to say, "Remembering that the County Stream runs close to our town, "I do hope that when our reforms (now in course of completion) "are obtained, and so expensively, that a neighbouring Parish "will not be allowed to pour its unpurified sewage into our "County Stream, but will be made to precipitate and disinfect it, "as we are doing."

Dr. H. W. A. Sandell (Eaton Bray Rural) reports an abominable nuisance, arising from a ditch, which receives the sewage from a row of cottages in Chapel Yard, Eaton Bray, and is allowed to remain in a stagnant condition. Dr. Morris (Wellingborough Rural) states that, "There is no proper drainage system in the "District, the whole drainage being discharged into the several "streams, and finally into the river."

Drainage, Sewerage, and Disposal of Excrement.

The rapid removal and satisfactory disposal of filth, is one of the most important questions relating to public health in this

County. In most of the towns and villages, the disposal of excrement is conducted in a most unsatisfactory manner, and is the cause of nearly all the pollution of rivers, streams, and water supplies which exists in many Districts.

The subject is one of considerable magnitude, and has engaged the attention of several of the Local Authorities during the year and it should be mentioned that some Councils are earnestly endeavouring to bring about a better state of affairs.

The best method of sewage disposal in particular districts is dependent to a great extent upon local conditions and the composition and quantity of the sewage to be disposed of. In the absence of a detailed account of the various systems in use in the County, I propose to give a summary of the conditions as gathered from the various reports under review since 1892.

URBAN DISTRICTS.

AMPTHILL.—There are many cesspools in the town, and privy middens still largely exist in some quarters. The water carried sewage is delivered, after coarse screening, upon a sewage farm, half of which is dealt with upon the principle of intermittent downward filtration, and the other half by broad irrigation. Neither portion is described as satisfactory, but apparently the latter continues to be waterlogged and worse than useless.

Dr. Stein reports, "During the year 1894 plans for a complete "system of sewers, to accommodate the whole town, were dis- "cussed and accepted by the late Sanitary Authority, and "approved by the Local Government Board, and it appeared "likely that the work would be carried out forthwith. Since the "beginning of the year, however, the decision to reconstruct the "sewers, according to the plans referred to, has been rescinded. "I still hope that this important work is only temporarily sus- "pended, and that in a future Report Ampthill may be con- "gratulated upon its completion. Re-sewering the town, and "extending drains to those parts at present unprovided with "drains of any kind, is a matter which cannot be postponed in- "definitely."

BEDFORD.—The broad irrigation system of sewage farming has been adopted, and every effort has been made to ensure its efficiency.

BIGGLESWADE.—The absence of any system of sewerage and the defective condition of the roadside drains were referred to in 1893, and attention directed to the urgent necessity of providing a proper system of sewers and sewage disposal.

No mention is made in 1894 of any progress in this direction,

DUNSTABLE.—In 1893 the necessity for an improved and more extended system of drainage was recognised, and an experienced engineer was consulted, but no decision was arrived at. This year Dr. Morcom reports, "The sewage disposal is now engaging the earnest attention of the Town Council. There is no doubt that improvement at the outfall is an urgent necessity, but this I think can be well carried out without any large or costly scheme, and be adequate for the town for many years to come."

LEIGHTON BUZZARD.—Up to the present time a considerable portion of the sewage of this town must have found its way into the Clipstone Brook, inasmuch as the road drains have in most instances being utilised as sewers, and these road drains discharge into the brook, which runs through the town and joins the River Ouzel, which for some distance forms the boundary between Bedfordshire and Bucks. The Local Council have recently adopted the Shone system of sewage disposal, which is now in course of construction. When completed the sewage will be conveyed into precipitation tanks, and after treatment with ferrozone and polarite, the effluent will be discharged into the brook. Privies should then be abolished.

LUTON.—The abolition of privies has been rapidly proceeded with. Only 91 now remain, 35 of which are in Round Green, in the outskirts of the Borough. Additional flushing tanks and ventilators have been erected, and the ventilation and flushing of the sewers are reported satisfactory.

The sewage farm covers 102 acres, and the upper and middle farms, which are worked on the broad irrigation system, continue efficient and satisfactory in every respect. 52 gallons per head of the population are disposed of daily.

RURAL DISTRICTS.

AMPTHILL.—No uniform system of sewage disposal has been adopted in this district, and in the majority of the parishes privy middens are in use which were described in 1893 as "most unsatisfactory," being below the level of the surrounding ground and in close proximity to the water supply.

In consequence of a report of the Medical Officer, in which he drew attention to the defective drainage of Clophill, the following resolution was adopted by the Council in 1894:—"That after a careful inspection of the adjoining property, they were of opinion that the owners should be called upon to abate the nuisance on their own premises, and not to discharge their

"sewage into the open drains. That they should keep the "storm water from the cesspool drains, and keep the tanks "properly cleaned out."

With regard to the drainage of Cranfield, "this matter was "fully considered at the first meeting of the Cranfield Parish "Committee, which comprises all the members of the Parish "Council, and a motion that Messrs. Stafford and Roger's "plans be adopted, and the whole expense borne by the Parish, "was carried. Although the adoption of this latter plan only "deals with about 30 houses—as a matter of fact, it removes "all the most pressing cases of nuisance. Of course it is not "such a comprehensive plan as the other, which dealt with the "whole village proper, and which I should have been more "pleased to have seen adopted."

BEDFORD.—A proper system of sewerage and sewage disposal would appear to be urgently required. Privy middens largely exist, and 102 cases of defective drains were reported during the year.

The Medical Officer hopes that "now that the difficult "questions of village sanitation and disposal of village refuse "has been placed in the hands of the Rural District Council, "with the aid of parochial committees which are already formed, "these questions may be energetically taken up, and that "some solution may be arrived at, not alone for the benefit of "Kempston but for that of other parishes and villages, such as "Harrold, Sharnbrook, Risely, and others where the demand is "only a little less urgent. The details of the requirements of "these villages have been so repeatedly discussed that I do not "feel it necessary in this place to enter upon particulars."

BIGGLESWADE.—In 1893 Dr. Prior referred to the necessity of devising some method of dealing with village slops and excreta without further pollution of local brooks and rivers. The villages of Sandy, Clifton, and Arlesey were especially mentioned in regard to this. The Parish of Potton has been provided with a proper sewerage system.

EATON BRAY.—The drainage, sewerage, and method of disposal of excrement appears to be in a most unsatisfactory condition.

Foul and pervious privies abound in large numbers, and what drains exist are described as defective and inadequate.

The sewage pollution of road-side ditches is mentioned.

EATON SOCON.—"The drainage of the villages, the "removal of excremental matter, and the abolition, where "possible, of the old privy middens," are referred to by the Medical Officer, who particularly draws attention to some cottages at Kimbolton Station, which have been rendered models of what such buildings should be in a rural district. "The yards "have been re-paved, the drains relaid and perfectly trapped,

"new privies have been built at a distance from the houses, "and a supply of soft water secured."

LUTON.—The drainage of this district is described as satisfactory, and the removal of all refuse is particularly prompt.

WOBURN.—No mention is made in this year's Report upon this question. In 1893 Dr. Prior reported :—"In the "Woburn sub-district, comprising five parishes, the town "of Woburn itself has appeared to require very little, but "it suffers in a minor degree from the want of systematic "sewerage."

Removal of Refuse.

The storage of refuse in the neighbourhood of dwellings is a source of some danger and much inconvenience and complaint.

Animal and vegetable matter is more often than not mixed with the ashes, and in the presence of warmth and moisture soon decomposes and gives out injurious effluvia. The removal of refuse should be frequent and regular, and by far the most efficient method is that the work should be carried out by the Sanitary Authority.

In most of the rural districts it is left to private enterprise, but in nearly all the urban districts it is undertaken by the Authorities themselves. In one or two places it is carried out by contract under the supervision of an Inspector.

It is, however, much better that public scavenging—that is, the cleansing of streets, ash-pits, privies, and cesspools—should be entirely in the hands of the Sanitary Authorities, as the system of contracting for the work is seldom, if ever, satisfactory.

In the following districts public scavenging has been adopted :—

Ampthill (Urban).	Luton (Urban).
Bedford (Urban).	Eaton Bray (Rural).
Dunstable (Urban).	Luton (Rural).

The Bedford Rural Council have this subject under consideration, and their Surveyor, Mr. William Turnbull, has presented an excellent report upon the "Carbonised Refuse System" " . . . which purifies the sewage by means of ash-pit "refuse, thus getting rid of two evils by combining sewage purifi- "cation with that of a destructor."

From a sanitary point of view the destruction of house refuse by heat is far preferable to any other, and if what is said with regard to the "simplicity, efficiency, and economy" of this

system is verified by practical experience, the difficult problem of village sanitation and the disposal of village refuse would appear to be within reach of solution.

House Sanitation.

It is satisfactory to notice that most of the Reports record frequent inspections of unsanitary houses and areas and many improvements effected during the year. Much still remains to be done, but a great deal of the sanitary inactivity displayed by a few rural sanitary authorities is due to the continued agricultural depression which affects the Midland counties.

Dr. H. W. A. Sandell (Eaton Bray Rural), commenting on the condition of the dwellings in his district, adds:—"I would most certainly advise a most drastic system of reform as regards some of the cottages by insisting that the owners put them in thorough repair; their rear premises thrown back a proper and healthy distance from the houses; their drainage systematically gone into; a supply of good wholsesome water provided; or, failing that, they may be ordered to be finally closed, for, as the population is greatly reduced from the census of 1881, they are not needed."

Dr. J. Poyntz Wright (Eaton Socon Rural) reports:—"Numbers of houses have been repaired and made habitable by the authorities under the Housing of the Working Classes Act. . . . It does not often happen in Rural Districts that a cottage is in such an unsanitary condition that the builder cannot render it habitable by order of the owner; there is generally abundance of fresh air, space, and light, and bricks and mortar can, in nine cases out of ten, do the rest."

Dr A. Morcom (Luton Rural) mentions that "The sanitary conditions of the dwellings in the district have greatly improved in recent years, but there is still a difficulty with a great many small owners of property who study their rights a great deal more than their duties."

Sanitary Authorities should be urged to adopt bye laws with regard to New Streets and Buildings, and to take measures for securing the thorough ventilation of such houses as are without such provision, owing to lack of back windows or doors. Attention should especially be given to the danger arising from dampness of walls and foundations of houses, due to the absence of proper eave-spouting and down spouts, want of damp-proof courses, or to dilapidated condition of roofing or other structural defects.

The Public Health Act, 1875, section 157, provides, as regards buildings, that every urban authority may make bye laws with respect to the following matters:—The structure of walls, foundations, roofs, and chimneys of new buildings, for

securing stability and the prevention of fires, and for purposes of health; with respect to the insufficiency of the space about buildings, to secure a free circulation of air; and with respect to the ventilation of buildings; with respect to the drainage of buildings, to water-closets, earth closets, privies, ash-pits and cesspools in connection with buildings, and to the closing of buildings or parts of buildings unfit for human habitation, and to prohibition of their use for such habitation. Plans of every new building are to be deposited beforehand.

Nuisances arising from overcrowding should be dealt with under section 91. Unwholesome dwellings which can be put into an habitable condition, and only require temporary closure pending alterations, should be proceeded with under this Act.

The Public Health Acts (Amendment) Act, 1890, is unfortunately an adoptive Act. Among the provisions which apply to dwellings may be mentioned section 23, which provides that the before-mentioned section 157 of the Public Health Act shall be extended so as to empower every urban authority to make bye-laws with respect to the following matters:—The keeping of water-closets supplied with sufficient water for flushing; the structure of floors, hearths, and staircases, and the height of rooms intended to be used for human habitation, and the paving of yards and open spaces in connection with dwelling houses.

The Housing of the Working Classes Act, 1890, makes it the duty of every local authority to cause a systematic inspection of their district to be made in order to ascertain whether any dwellings are unfit for human habitation, and if it appears on the representation of the medical officer of health that any dwelling house is in such a state, the local authority shall forthwith take proceedings for closing it under the Public Health Act, 1875. If the closing order is not terminated by a subsequent order, the sanitary authority may proceed to pass a resolution ordering the demolition of the premises, but before doing so must afford the owner an opportunity of stating his objections.

Factories and Workshops.

Several of the Reports record the periodical inspection of workplaces, and in three they have been given considerable attention.

The reponsibility of Sanitary Authorities with regard to Factories and Workshops has been recently materially increased, and in most towns it has become necessary to appoint a special inspector to devote his entire attention to their inspection and supervision. This does not appear to be necesssary in any of the towns of Bedfordshire, but the time seems to have arrived when it would be opportune to consider the desirability of increasing the staff of inspectors in some of the districts in order to enable

their Councils to cope with the additional duties conferred upon them by these and other new Acts of Parliament.

Under the Factory and Workshops Act of 1891, the sanitary control of workshops and work places is transferred from the inspector of factories to the sanitary authority, and it is made the duty of the latter to secure the abatement of all effluvium and privy nuisances, to cause systematic inspection, and to secure proper water supply, cubic capacity, ventilation and cleanliness in all workshops.

The sanitary provisions of the Factory Acts do not, however, apply to domestic workshops, *i.e.*, "places where persons are employed at home, that is to say, in a private house, room, or place, which though used as a dwelling, is by reason of the work carried on there, a workshop within the meaning of the Act, and in which neither steam, water, nor other mechanical power is used in the aid of the manufacturing process carried on there, and in which the only persons employed are members of the same family dwelling there."

Such workshops re-ain under the control of the sanitary authority under the Public Health Act, 1875 (Factory and Workshops Act, 1878, sec. 16—1891, sec. 37).

The Order issued from the Home Office requiring certain occupiers of factories and workshops to keep a list of their out-workers, may be most useful in the prevention of "sweating," but would appear to be somewhat unnecessary in those towns where the notification of infectious diseases and the sanitary inspection of houses is thoroughly carried out.

In the Factory and Workshop Act, 1895, overcrowding is defined, a minimum of 250 cubic feet being allotted to each person, which is increased to 400 cubic feet during any period of overtime.

The employment of persons in places injurious to health, and the making of wearing apparel in places where there is infectious disease are forbidden.

Steam laundries are considered as factories, and other laundries, workshops; special provisions being made for the ventilation of the former, and for keeping the floors drained.

Tenement factories, docks and bakehouses are included, and special regulations made concerning them.

The notification of certain occupational diseases to the Chief Inspector of Factories, and the provision of sanitary conveniences, and also lavatories in dangerous trades, are rendered compulsory.

A reasonable temperature is secured in all factories and workshops, and special provision made as to humid factories.

In deciding whether a room is overcrowded or insufficiently ventilated, the construction of the room and the nature of the work carried on must be considered. Where gas is employed as an illuminant, three gas burners are reckoned as one person.

Overtime is usually considered as after 8 p.m.

The powers and duties of sanitary authorities with regard to bakehouses are prescribed under the Factory Act of 1883. Section 16 provides that where a court of summary jurisdiction is satisfied on the prosecution of a local authority that any bakehouse is in such a state as to be on sanitary grounds unfit for use or occupation as a bakehouse, the occupier is liable on summary conviction to a fine not exceeding five pounds. The court in addition to or instead of inflicting such a fine, may order means to be adopted by the occupier, within the time named in the order, for the purpose of removing the ground of complaint. If after the expiration of the time as originally named or enlarged by subsequent order, the order be not complied with, the occupier is liable to a fine not exceeding one pound for every day that such a non-compliance continues.

Schools.

Outbreaks of scarlet fever, measles, and whooping cough, due to school attendance and necessitating closure, are reported from Dunstable, and from Ampthill, Eaton Bray, Eaton Socon, and Luton Rural Districts.

The Regulations recently issued by the Educational Department set forth very precise directions as to the construction and ventilation of school buildings, their sanitation and equipment. These should be rigidly enforced wherever possible, and a periodical inspection of school premises, class rooms, and drainage undertaken by the Local Sanitary Authority.

The influence of elementary school attendance upon the rise and fall of certain infectious diseases, has already been alluded to under Diphtheria, and the precautionary measures which may sometimes be successfully adopted before resorting to closure were detailed.

The value of providing cloak rooms is mentioned by Dr. Hedges, Leighton Buzzard, who prevented an outbreak of a parasitic scalp affection by securing the co-operation of the schoolmistress and excluding any scholar so affected. He condemned the local practice of throwing all hats and caps into one receptacle or basket, and recommended the provision of cupboards and pegs.

The advantages of school closure are ably advocated by Dr. Poyntz-Wright, who says :—"Another point which I believe "to be a most important one, is the early closure of public

"elementary schools when measles and scarlet fever break out. "I believe this is never done soon enough. I am, of course, "aware of the strong objections to the closing of schools from the "educational point of view, but I argue that the sanitary autho- "rities take action on account of the health of the public, and "that as far as they are concerned, the educational phase of the "matter should be secondary to the sanitary. My own experi- "ence convinces me that more than frequently, schools are "closed only when the mischief is done, and the stable door "'is shut after the horse is stolen.' I would go further than "this, and bring private schools within the jurisdiction of "sanitary authorities. It is, I think, a great misfortune that "private boarding schools are not under the supervision of the "authorities, so that they could be closed, by compulsion when "necessary, in the same manner as the public elementary schools. "I can assert from my own personal knowledge, that within "the last 18 years, in many instances no notice has been given "of the outbreak of infectious disease, the schools have not "been closed, and more than seldom no medical man has been "called in—unless and until the condition of the patient has "rendered such action imperative—in order that the truth may "be concealed, and this, regardless of future results, in houses "where any attempt at isolation is impossible."

Dairies, Cow-sheds, and Milk-shops.

Milk is such an important article of diet, and plays such an important part in the dissemination of certain diseases that great vigilance is needed in regulating and supervising the conditions under which the trade is carried on.

It has been recently shown that there is a very close connection between some human maladies and the same or similar ones in cattle. This is particularly the case in tuberculosis and diphtheria, in which it has been demonstrated that milk derived from animals so affected is capable of producing the disease in human beings when consumed in an unboiled condition, possibly in distant districts.

For this reason it is very desirable that all milk should be boiled or sterilized before consumption. A temperature of about 185 degrees Fahrenheit obtained in a sterilizer is sufficient to destroy all bacteria, and is not sufficient to affect its flavour. The adoption of some such precautions in every public institution or indeed in every household, would no doubt diminish infantile mortality, and possibly that from tuberculous disease.

The systematic inspection of dairies, cowsheds and milkshops, and the destruction of all milch cattle affected with communicable disease should be undertaken by all sanitary authorities. In

some of the districts considerable vigilance has been exercised, but in others they would appear to be entirely ignored. Whether any Regulations have been made under the order of the Local Government Board is not recorded in any Report.

Those sanitary authorities who have not as yet done so, should seriously consider whether the time has not arrived when they might with advantage draw up and submit to the Local Government Board under Section 13 of the Dairies, Cowsheds, and Milkshops Order, 1886, regulations :—

(*a*) For the inspection of cattle in dairies.
(*b*) For prescribing and regulating the lighting, ventilation, cleansing, drainage and water supply of dairies and cowsheds.
(*c*) For securing the cleanliness of milk stores, milkshops, and milk vessels used for containing milk for sale.
(*d*) For prescribing precautions to be taken by purveyors of milk, and persons selling milk by retail, against infection and contagion.

Slaughter Houses.

As far as can be judged from the Reports, the slaughtering of cattle within the County is entirely carried on in private slaughter houses, which are frequently situated in most populous localities, and are ill constructed and without proper appliances.

Slaughter houses in existence before the Local Government Acts were in force have to be registered, and new ones must be licensed, and can be regularly inspected and subjected to bye-laws under the Public Health Amendment Act, 1890, the licences must be renewed every year, and if the occupier of any licensed slaughter house is convicted under Sections 116–119 of the 1875 Act, the licence may be revoked.

The Report of the Royal Commission appointed to enquire into "The Effect of Food derived from Tuberculous Animals on Human Health," has recently been issued.

The Commission were empowered to employ experts to make experiments, and the subjects of enquiry were—

1. As to the means of recognising tuberculosis in animals during life.

2. As to the influence upon lower animals of food of tuberculous origin.

3. As to the effects of cooking processes upon food from tuberculous animals.

The conclusions arrived at were—

1. That food derived from tuberculous animals can produce tuberculosis in healthy animals. In the absence of direct experi-

ments on human subjects it was inferred that man also can acquire tuberculosis by feeding upon the milk or meat of tuberculous animals.

2. The actual amount of tuberculous disease among certain classes of food animals is so large as to afford to man frequent occasions for contracting tuberculous disease through his food.

3. Tuberculous disease is observed most frequently in cattle and in swine. It affects cows kept in town cow-houses with much greater frequency than cattle bred for the express purpose of slaughter. Tuberculous matter is but seldom found in the meat substance of the carcase, but principally in the organs, membranes and glands. When tuberculous matter is found in meat sold to the public it is more commonly due to contamination of the surface of the meat with material derived from other diseased parts, than to disease of the meat itself. The same tuberculous matter is found in the milk of cows when the udder has become invaded by tuberculous disease and seldom or never when the udder is not diseased.

4. The recognition of tuberculous disease during the life of an animal is not wholly unattended with difficulty. Happily, however, it can in most cases be detected with certainty in the udders of milch cows.

5. Provided every part that is the seat of tuberculous matter be avoided and destroyed, and provided care be taken to save from contamination by such matter the actual meat substance of a tuberculous animal, a great deal of meat from animals affected by tuberculosis may be eaten without risk to the consumer.

6. Ordinary processes of cooking applied to meat which has got contaminated on its surface are probably sufficient to destroy the harmful quality. They would not avail to render wholesome any piece of meat that contained tuberculous matter in its deeper parts. The boiling of milk even for a moment is sufficient to remove the very dangerous quality of tuberculous milk.

To put these recommendations into practice, it would be necessary to establish an efficient system of meat inspection which can only be secured by the provision of public abattoirs and the abolition of private slaughter houses.

By the erection of abattoirs in urban districts, the nuisance attending the use of private slaughter houses is avoided and a properly constructed building with abundant light and air, good drainage and water supply ensured. Moreover, a superintendent or inspector must necessarily be appointed who would be able to exercise an effectual supervision over the cattle killed, and prevent any unwholesome carcase being sent away for sale.

It has also been suggested that a separate slaughter house should be set apart for animals suspected to be diseased.

Adulteration of Food.

Particulars as to the results of analysis of the samples submitted to the County Analyst will be found in Dr. Stevenson's Annual and Quarterly reports to the County Council.

The appended Table is a summary of the number, kind, and result of analysis of the samples taken during the year 1894.

Article Submitted for Analysis.	No. of Genuine Samples.	No. of Adulterated Samples.	Remarks.
Arrowroot	3		
Beer	1		10¼% proof spirit.
Biscuits	1		
Brandy	1		13½% under proof.
Bread	1		
Butter	16	1	
Cheese...	6		
Chicory	1		
Cocoa	—	4	2 samples labelled as mixture.
Coffee	6	1	
Coffee and Chicory ...	4		
Cornflour	2		
Gin	2	2	Contained from ¾ to 6% water.
Ginger...	14		
Ground Ginger ..	1		
Lard	10		
Mustard	9	2	
Oatmeal	1		
Pepper...	22		
Rum	2	1	7¼% water.
Sago	1		
Salt Butter	3		3 to 5% mineral matter due to imperfect purpurification.
Sugar	8	4	
Sweetmeats	6		
Tapioca	1		
Tea	11		
Whisky	3	2	5½ to to 10¼% water.

NOTE.—During the first half of the year the Samples were submitted by the Superintendents of Police, but during the second half of the year the Samples were submitted by the Officer specially appointed to carry out the provisions of the statute.

There were 4 prosecutions during the year, and in 3 cases the offenders were convicted and fined.

At Luton, six samples of butter and thirteen samples of milk were analysed under The Food and Drugs Acts, and reported to be pure.

Dr. Sworder speaks in the strongest terms of the danger and dishonesty of milk adulteration, and the great influence it has upon the infantile mortality.

With this exception, no mention is made in the Reports of any supervision or inspection of food, and no inspectors under the Act have apparently been detailed for this purpose.

General Sanitation.

From three districts no Inspector's Return has been sent in, and one or two are so scanty that they convey no idea of the sanitary work carried on in the district. It is hoped that in all cases a tabulated statement of the work of the Sanitary Inspector, arranged on some definite plan, will be appended to or inserted in the Report of the Medical Officer of Health.

No doubt the primary duty of the Sanitary Inspector lies in the abatement of nuisances, but he should also possess an accurate knowledge of the sanitary condition of the streets and houses within his district. This can be acquired only by means of a systematic house to house inspection, by which many serious defects are frequently disclosed, which would otherwise have remained undetected.

The need of an additional inspector is occasionally mentioned, and in view of the increased responsibilities now incurred under recent Acts, this seems very necessary.

SUMMARY OF THE REPORTS

OF THE

DISTRICT MEDICAL OFFICERS OF HEALTH.

SUMMARY OF THE REPORTS

OF THE

MEDICAL OFFICERS OF HEALTH.

Urban Sanitary Districts.

AMPTHILL.

Medical Officer of Health.—C. G. STEIN, M.B., C.M.

Area in acres, 1,742. Census population, 2,294.

Birth rate, 28·7 per 1,000 of the population; death rate, after correction for non-residents, 17·9 per 1,000; zymotic death rate, ·87; death rate from phthisis, 3·4, and from respiratory diseases, 1·3 per 1,000; rate of deaths under 1 year to 1,000 births, 75.

The town of Ampthill was separated from the Rural District and constituted a separate Sanitary Authority in 1893.

The Medical Officer presents a valuable and concise report upon the sanitary condition of his district, from which it would appear that little or no progress has been made towards the provisions of a wholesome water supply, and that the contamination of the soil, wells, and atmosphere, arising from defective sewerage and drainage, remains in the same condition as reported in 1893. In the event of the town being exposed to an invasion of one of the specific water-borne diseases, such as cholera or enteric fever, the consequences of this truly apathetic policy are likely to prove disastrous. The outbreak of enteric fever which occurred at Worthing in 1893, as the result of a sewage polluted water supply, cost the ratepayers over £14,000 in money alone. 1,416 persons were attacked and 188 died.

Infectious Diseases Notification Act has been adopted, and it is a remarkably fortunate circumstance that with the exception of seven cases of erysipelas no zymotic diseases were notified during the year.

Infectious Hospital.—No hospital for this purpose has as yet been provided for this district, and now that the Notification Act has been adopted it is very desirable that the town should possess some means of isolating early cases of infectious disease.

Water Supply continues to be dependent upon local wells, many of which are contaminated by the leakage of neighbouring cesspools or defective drainage.

The Medical Officer again strongly urges the introduction of a purer water supply for the town, and mentions that during the past year this subject received some consideration but with no definate result. The water from the town pumps was condemned on analysis and the well thoroughly cleansed. Subsequent analysis, however, still showed continued sewage contamination.

Sewerage and Drainage.—There are many cesspits in the town, and privy middens still largely exist in some quarters. It is reported that plans for a complete system of sewerage for the whole town were discussed and accepted by the late Sanitary Authority, and were approved by the Local Government Board. For some reason, however, this much needed improvement is now in abeyance.

Refuse and Sewage Disposal.—The water carried sewage is still delivered, after coarse screening, upon the sewage farm, the condition of which does not seem to improve.

It is very satisfactory to note that a system of public scavenging has been introduced and followed by a great decrease in the number of ashpit nuisances.

Slaughter Houses, Cowsheds, and Dairies have been periodically inspected and attention again directed to their defects

Sanitary Work.—A separate Inspector's report has not been sent in this year, but excellent sanitary work continues to carried out by the official staff, and the adoption of local bye-laws, which came into force during the year, will no doubt in the future greatly assist the Sanitary Authority in maintaining a high standard of efficiency.

BOROUGH OF BEDFORD.

Medical Officer of Health.—C. E. Prior, M.D., F.R.C.S.

Area in acres, 2,223. Estimated population, 29,985.

The Medical Officer presents a comprehensive report, in which the vital statistics of the five years 1890 to 1894 inclusive are dealt with in tabular form. Taking death as the index of

public health, his table is highly instructive and well worthy of attentive study :—

	1890.	1891.	1892. Census.	1893.	1894.
Population estimated to middle of year...	27,080	28,023	28,701	29,562	29,985
Birth rate per 1,000 of population ...	23·9	25·2	22·3	22·4	24·1
Corrected General death rate per 1,000...	13·10	13·21	15·74	13·29	11·40
Zymotic death rate per 1,000	1·1	1·2	1·3	1·2	·8
Death rate from phthisis...	1.0	·99	·87	1·01	1·0
Death rate from respiratory diseases ...	2·0	2·2	2·5	2·4	1·4
Infant mortality, deaths to 1,000 births...	128	107	135	156	96
Ditto, percentage of total deaths ..	23.5	20·6	19·0	26·5	20·
Deaths under 5 years of age percentage of total	33·4	30·2	29·4	34·0	27·
Deaths over 60 the same...	34·3	33·3	—	—	—
Deaths over 65 the same	—	—	30·0	29·0	30

Infectious Diseases Notification Act.—138 notifications were received during the year, as against 204 in 1893. 19 cases of erysipelas are included. The Medical Officer refers to the value of the Act in an educational town like Bedford, and attributes the progressive diminution in the scarlet fever sickness rate to early notification and removal.

Prevalence of Disease.—Scarlet fever of a mild type, and very low mortality was prevalent during the year. 86 cases were notified, and 20 were removed to the hospital. There were only two deaths. Diphtheria was notified 23 times. Twelve of the cases were removed to hospital. No death was recorded. Enteric fever caused two deaths out of seven cases notified. Five of these were reported as due to importation from localities outside the Borough. Two cases of smallpox arrived from Birmingham, and were removed to hospital. Other precautionary measures were taken, and no further case occurred.

Infectious Hospital.—The hospital continues efficiently managed, and more than justified its maintenance during the year. No less than five distinct classes of Infectious Disease were separately treated. Out of the total number of notifications there were 39 removals, or upwards of 28 per cent.

Factories and Workshops.—Have been inspected, and the sanitary provisions of the Act enforced. Overcrowding would appear to have been the defect most frequently observed. The Medical Officer happily suggests that a card should be fixed in each workroom indicating its cubic contents and accommodation, 250 cubic feet being allowed for each person.

Other Premises Regulated by Sanitary Authority.—Bakehouses were visited, and no sanitary defects recorded against them. No mention has been made of a periodical inspection of cowsheds, dairies, slaughter houses, &c.

Sanitary Work.—A tabulated annual summary of the Inspector's work is not printed, but the Medical Officer states that the number of nuisances reported appears to have been about the same as in former years. A large proportion of them

were connected with defect of sewerage, water supply, and closet accommodation, most of which were abated upon request. No prosecution was necessary during the year, nor was his attention drawn to any special nuisance.

The extension of the public park and gardens, the municipal electric lighting, and other recent improvements, are referred to.

BIGGLESWADE.

Medical Officer of Health.—C. E. PRIOR, M.D., F.R.C.S.

Area in acres, 4,310. Estimated population, 4,860.

Birth rate, 29·4 per 1,000 of the population ; death rate fully corrected for deaths of non-residents and for residents dying elsewhere, 13·2 per 1,000 ; zymotic death rate, 1·8 ; death rate from phthisis, 1·6, and from respiratory diseases, 1·02 per 1,000. Rate of deaths, under 1 year, to 1,000 births, 126.

Prevalence of Disease.—This district was remarkable free from infectious diseases during the year, whooping cough being the only zymotic illness which was at all prevalent.

Only 19 notifications were received under the Notification Act, of which nine were erysipelas, seven diphtheria, two enteric fever, and one scarlatina. The latter was the only fatal case.

Infectious Hospital —One case of diphtheria was admitted. In other instances removal was offered but refused.

Sewerage and Drainage.—No reference is made as to whether any progress has been made towards the provision of a proper system of sewers and sewage disposal, the absence of which was mentioned in last year's Report.

Water Supply.—Apparently remains in the same condition as reported in 1892.

Common Lodging Houses have been visited and no insanitary condition recorded.

Factories and Workshops have also received attention.

Sanitary Inspector's Report for the year ending December 31 1894 :—

Defective drainage	27
Defective water supply	16
Privy nuisances	47
Pigstye nuisances	22
Foul accumulations	75
Dirty and dilapidated houses	8
Houses disinfected	3
Other nuisances	4
Total of nuisances inspected ...	202

BOROUGH OF DUNSTABLE.

Medical Officer of Health.—A. MORCOM, L.R.C.S., L.M., &c.

Area in acres 453. Estimated population 4,857.

	1892.	1893.	1894.
Population estimated to middle of year ...	4,530	4,530	4,857
Birth rate per 1,000 of the population ...	20·6	22	22·23
General death rate	16·8	12·5	12·76
Zymotic death rate per 1,000	·2	·2	1·0
Death rate from phthisis	1·5	1·1	·6
Death rate from respiratory diseases ...	3·5	2·2	2·6
Infantile mortality, deaths to 1,000 births ...	64·5	90	125

Dr. A. Morcom, the Medical Officer of Health for the Luton Rural District was appointed Medical Officer for the Borough of Dunstable in September, 1894. His report is of necessity somewhat meagre, but it embraces the whole year.

Prevalence of Disease.—Measles and its associate whooping cough were epidemic during the year, the former necessitating the closure of schools. Scarlet fever of a mild type prevailed occasionally, but without causing a single death.

Infectious Diseases Prevention.—The Medical Officer states that the proper and efficient treatment of infectious diseases cannot be carried out unless the Infectious Diseases Notification Act is adopted and an arrangement made to provide an isolation hospital. He rightly mentions that "in a town like Dunstable with its large and important schools its adoption becomes a matter of urgent importance, and that the small cost of notification fees to the medical practitioners should not be taken into consideration as against the health of the community." He suggests that a hospital should be provided for the joint use of the Boroughs of Luton and Dunstable and the Luton and Markyate Rural District.

The Water Supply has been greatly improved and is now reported excellent.

Disposal of Sewage and Refuse.—The question of sewage disposal is under the consideration of the Town Council and an improvement at the outfall is spoken of as an urgent necessity. In the 1893 Report the scavenging of the town was stated to have been undertaken by the Sanitary Department. The importance of the frequent removal of all refuse is insisted upon.

Factories and Workshops.—These are reported as well ventilated and the health of the employees carefully studied.

Other Premises Regulated by Sanitary Authority.—No mention is made of the condition of the bake-houses, slaughter-

houses, cowsheds, and dairies, or whether any regulations are enforced.

Sanitary Inspector's Report for the year ending December 31, 1894 :—

No. of houses, premises, &c., inspected	1,240
Orders issued for sanitary amendments of houses and premises	4
Houses, premises, &c., cleaned, repaired and white-washed	4
House drains repaired, cleaned and trapped	17
Privies and water closets repaired	4
No. of lodging houses registered...	1
Bakehouses	22
Licensed cowsheds	12
Licensed slaughter-houses	10

LEIGHTON BUZZARD.

Medical Officer of Health.—J. A. HEDGES, M.R.C.S., L.S.A.

Area in acres, 1,700. Estimated population, 6,754.

	1892.	1893.	1894.
Population estimated to middle of year ...	6,793	6,754	6,754
Birth rate per 1,000 of the population ...	28·4	27·5	22·3
Corrected general death rate per 1,000 ...	18·4	17·4	17·1
Zymotic death rate per 1,000	1·3	1·7	3·1
Death rate from phthisis	1·3	1·3	3·1
Death rate from respiratory diseases ...	5·3	2·9	1·9
Infant mortality, deaths to 1,000 births ...	170·9	198·9	178·8

It will be observed that the birth rate has fallen considerably and is the lowest recorded in the County.

The general death rate remains practically stationary, but the zymotic death rate, which is to a great extent the index of the prevalence of epidemic disease, presents a serious increase.

The infantile mortality continues considerably higher than that of the County generally.

Prevalence of Disease.—An excessive prevalence of diphtheria was observed throughout the year. Only a small proportion of the cases came to the knowledge of the Medical Officer. There were seven deaths.

A severe and extensive epidemic of measles occurred in the autumn, necessitating the closure of the schools for a period of six weeks. Ten deaths were registered.

Infectious Diseases Notification.—In spite of the greatly increased prevalence of infectious disease, this Act has not yet been adopted, and the Medical Officer rightly complains that

he has "no recognised means of finding out where it is, or if there is any at all." Without its aid 20 cases of diphtheria alone were brought under his notice. How many more occurred it is impossible to say.

Infectious Hospital.—Two isolation hospitals have been provided for the joint use of the Urban and Rural Districts, but unfortunately they are situated in the area owned by the Board of Guardians, which creates a sentimental dislike to removal among the neighbouring inhabitants, who think they are being sent to the Union. The Small-pox Hospital contains 14 beds, and an administrative block. The Fever Hospital provides 11 beds.

Not a single case was admitted into either from the Urban District during 1894.

Pollution of Rivers and Streams.—The Clipstone Brook, which runs under Lake Street, skirts the Bell Close, and afterwards joins the River Ouzel, drains the northern portion of the town. A considerable proportion of the urban sewage is discharged directly into it, and practically converts it into an open sewer.

The River Ouzel, which flows south of the town and subsequently—for some distance—forms the County boundary between Bedfordshire and Bucks, is described as in a similar condition.

It is stated that the pollution of the Clipstone Brook will shortly be remedied. The subsequent cleansing of its bed is strongly to be recommended.

A serious flood occurred in November, which has directed attention to the impediment of the streams by the lowness of the bridges and the position of the water mills. The possibility of raising the South Street bridge is under consideration.

Water Supply.—It is incidentally mentioned that the water supply is chiefly drawn from surface wells, which are necessarily contaminated by the existing privy soakage through a porous soil.

An artesian well has, however, been sunk and found to yield 30 gallons per head per diem. The water from this source will shortly be laid on, and it is hoped that all contaminated wells will then be closed.

Sewerage and Drainage.—The Shone system of sewage disposal has been adopted, and is now in course of construction. When completed, the sewage will be conveyed into precipitation tanks, and after treatment with ferrozone and polarite, the effluent will be discharged into the brook.

The abolition of privies will necessarily follow this much needed reform.

Premises Regulated by Sanitary Authorities.—No mention is made of inspection of bake-house, slaughter-houses, dairies and cowsheds, factories and workshops.

Special Reports.—Several were made during the year, summaries of which are reproduced in the Annual Report. One of the most important deals with the prevention of parasitic scalp affections among school children. The local practice of throwing all hats and caps into a common receptacle is condemned, and the provision of a cloak room or cupboard provided with pegs recommended.

Nuisances.—The attention of the Medical Officer was required with respect to a leakage of coal gas in Lake Street, which had rendered the soil in an unhealthy condition, and had become a danger to the public health; also to the flooding of a chapel school room with sewage.

No legal proceedings were necessary in any case.

Sanitary Inspector's Report for the year ending December 31, 1894:—

Number of nuisances reported	63
Number of notices to abate	77
Drains repaired	14
Infectious diseases	23
Breaches of bye-laws	2
Plans submitted	9

BOROUGH OF LUTON.

Medical Officer of Health.—H. SWORDER, M.R.C.S., L.R.C.P.

Area in acres, 2,613. Estimated population, 31,000.

	1892.	1893.	1894.
Population estimated to middle of year ...	30,300	30,600	31,000
Birth rate per 1,000 of the population ...	30·5	31	31·7
General death rate	18·5	18·2	16·1
Zymotic death rate per 1,000	2·1	2·8	1·6
Death rate from phthisis	1·1	1·4	1·4
Death rate from respiratory diseases ...	2·5	2·09	2·6
Infantile mortality, deaths to 1,000 births ...	145·6	184	144·3

Dr. Sworder presents his Sixteenth Annual Report, which is again a most valuable one, and gives an excellent account of the sanitary condition of his district.

Infectious Diseases Notification Act.—For many years the adoption of this Act has been strenuously urged and its advantages defined by the Medical Officer, who has frequently appealed to his Council to grant him the most important of the three essential elements (notification, isolation, disinfection) in the prevention of infectious diseases. It seems a pity that Luton, the most populous town in the county, with its large local industries and increasing population and importance, should

continue to ignore these representations until public opinion or a disastrous epidemic compels their recognition.

Prevalence of Disease.—No undue prevalence of zymotic disease happily occurred during the year, and the satisfactory diminution in the death-rate from these maladies may be attributed to the complete subsidence of the enteric fever outbreak of the previous year. It is somewhat significant to observe the reversal of the customary seasonal curve in the death-rate from phthisis. The preponderance of deaths from this disease apparently occurring in the third and fourth quarters, which may be possibly due to the excessive rain-fall and unusual height of the ground water during the latter half of the year.

Infectious Hospital.—The Spittlesea Cottage Fever Hospital of five beds has been found to be inadequate to the requirements of the district, and if occupied by one case of fever is not available for any other except of the same kind.

A site for further accommodation has been selected near the existing hospital, but owing to a deceptive sense of security engendered by the temporary absence of any particular epidemic, nothing further has been done. The Medical Officer recommends the purchase and preparation of the site in order that at any rate tents might be erected in case of emergency.

Public Disinfection.—Great reliance is placed upon the gratuitous distribution of disinfectants, which are periodically submitted to analysis and their efficiency certified. It is, however, most important that in addition to this, some efficient means of public disinfection should be provided, as without this it is almost impossible to eradicate some of the more virulent epidemic diseases in populous infected areas.

Sewerage and Drainage.—It is very satisfactory to note that there has been a further reduction of the number of privies ; only 91 now remain, of which 35 are in the outskirts of the borough.

Two additional flushing tanks have been erected, and the ventilation and flushing of the sewers are now reported as satisfactory.

The sewage farm continues to be more than sufficient to receive and efficiently dispose of the water carried sewage of the town.

The removal of refuse is under municipal control and is described as excellent.

Water Supply continues of good quality and constant service. Seven samples of well water were analysed and pronounced unfit for domestic purposes, a pure supply being provided.

Bake-houses, Slaughter-houses, Dairies, and Cowsheds were duly visited and found in a satisfactory condition.

Food and Drugs Act.—Six samples of butter and 13 of milk were submitted to the Borough Analyst and reported to be pure. The Meat and Fish Market were frequently visited but no case of unwholesome meat or fish observed.

Factories and Workshops Acts.—A periodical inspection has been made and the sanitary regulations of the Acts duly carried out.

Sanitary Inspector's Report for the year ending December 31, 1894 ;—

Drains and closets blocked	275
Broken bell-traps	174
Defective closets and drains	89
No ash receptacles	65
Water closets out of order	61
Offensive smells and accumulations	59
Insanitary privies	47
Insanitary houses	42
Sinks not disconnected	40
Privies and dumb wells overflowing	29
Defective ventilating pipes	14
Pigs kept contrary to bye-laws	10
Other nuisances	59
TOTAL	964

The Inspector states that 384 notices were served in connection with the above nuisances.

Rural Sanitary Districts.

AMPTHILL.

Medical Officer of Health.—J. MURRAY SMITH, M.B.

Area in acres, 40,809. Estimated population, 12,842.

Birth rate, 25·5 per 1,000 of the population ; corrected general death rate, 14·9 per 1,000 ; zymotic death rate, 1·6 ; death rate from phthisis, ·31, and from respiratory diseases, 1·7 per 1,000 ; rate of deaths under 1 year to 1,000 births, 137·1.

Notification of Infectious Diseases.—The Act is not in force, and the Medical Officer again directs attention to the serious necessity for its adoption, and states that it would have largely prevented, or at least curtailed an epidemic of scarlet fever at Clophill.

Infectious Hospital.—The district continues unprovided with any accommodation for the isolation of infectious diseases. The erection of such a hospital, and the provision of a proper ambulance for the conveyance of the infected sick, and an efficient apparatus for the public disinfection of clothing, &c., are urgently recommended.

Prevalence of Disease.—An epidemic of scarlet fever occurred at Clophill necessitating the closure and disinfection of the school. It was of a mild type, and many cases received no medical supervision. Consequently many persons were at large in a state of active desquamation.

Measles assumed epidemic proportions at Lidlington. School closure and fumigation, and the wise precaution of disinfecting the school slates, were resorted to.

Whooping cough suddenly attacked the Maulden School children in November. No less than 79 children being absent from this cause on one occasion. Closure of the school and the usual fumigation and disinfection were necessary.

Enteric fever again prevailed to a slight extent at Pegsdon. It is ascribed to a recrudescence of the outbreak of the previous year owing to absence of cleanliness. The original cause was contaminated well water.

Sewerage and Drainage.—In consequence of a report of the Medical Officer, in which he drew attention to the defective drainage of Clophill, the following report of a Special Committee of investigation was adopted by the District Council :—"That, "after a careful inspection of the adjoining property, they were "of opinion that the owners should be called upon to abate the "nuisances on their own premises, and not to discharge their "sewage into the open drain ; that they should keep the storm "water from the cesspool drains, and keep the tanks properly "cleaned out.'

The drainage of Cranfield has been the subject of several special reports, and it is satisfactory to observe that a scheme for the sewerage of about 30 houses has at length been adopted. This will greatly improve the most insanitary area, but leaves the larger portion of the parish to be dealt with at a future date.

Water Supply.—This has been previously reported as plentiful, but chiefly derived from shallow wells, which are very liable to dangerous pollution. The provision of a proper water supply for Marston Shelton is under consideration. In a previous report, Pegsdon was stated to require similar attention.

Sanitary Inspector's Report for the year ending December 31, 1894 :—

Defective and insufficient drainage	27
Dilapidated privies and ashpits...	15
Accumulations of refuse	18
Overcrowding	1
Deficient storm water drainage	4
Noxious smells	7
Dilapidated dwellings	9
Dilapidated outbuildings	1
Deficient water supply, contaminated wells, wells needing repair, &c.	9

BEDFORD.

Medical Officer of Health.—C. E. PRIOR, M.D., F.R.C.S.

Area in acres, 95,279. Estimated population, 23,260.

	1892.	1893.	1894.
Population estimated to middle of year ...	23,347	23,260	23,260
Birth rate per 1,000 of population ...	28·5	26·4	26·0
Corrected general death rate per 1,000 ...	17	15·74	13·57
Zymotic death rate per 1,000	1·3	1·6	·94
Death rate from phthisis	·64	·77	1·2
Death rate from respiratory diseases ...	2·5	2·4	1·9
Infantile mortality, deaths to 1,000 births...	96	105	113

Under the Local Government Act, 1894, the parishes and villages of Poddington and Wymington, which formerly were included in the Wellingborough Union, are now added to the Bedford Rural District, and their sanitary supervision will in future be undertaken by this District Council.

These parishes comprise an area of 5,216 acres, and support a population of about 840 persons. They contain 198 inhabited and 24 uninhabited houses.

The village of Wymington was provided with sewers in 1893, but otherwise the condition of the water supply, absence of drainage and pollution of streams and water courses in these districts suggest attention.

Infectious Diseases Notification.—During the year 119 cases were notified in the district, including 14 cases of diphtheria, 73 of scarlet fever, 3 of enteric fever, and 29 cases of erysipelas.

Infectious Hospital.—Eight cases of scarlet fever, one case of diphtheria, and one enteric fever, were admitted to the Bedford Fever Hospital from this district during the year.

Commenting upon the small number of removals, the Medical Officer mentions the reluctance of parents to allow their children to go to the hospital, and the very serious expense which would be cast upon the Rural Authority, were removal adopted on a larger scale, owing to the high terms at present charged for maintenance at the Fever Hospital.

Prevalence of Disease.—Scarlet fever is reported as almost indigenous in two or three of the villages. It was particularly active in the parishes of Wooton, Kempston, Colmworth, and Stagsden.

Diphtheria only occurred sporadically, and was not due to any well-defined local cause.

Measles and whooping cough are described as pretty general, the latter furnishing by far the largest contribution to the zymotic death rate, which nevertheless is remarkably low.

Small-pox was entirely absent.

Village Sanitation.—Details of the sanitary requirements of the villages of Kempston, Harrold, Sharnbrook, Risely, and others, particularly with regard to the disposal of refuse, drainage, and the provision of a pure water supply have been previously reported. No improvement has as yet been attempted, although the subject has engaged the attention of the Local Authority.

Factories and Workshops.—These have all been visited and no defects observed.

Schools.—The Medical Officer has been in frequent communication with the various school authorities, and has impressed upon them the value of the exclusion of members of infected families, and even of occasional school closure in certain circumstances.

Other Premises Regulated by Sanitary Authorities.—No mention is made of the condition of the bake-houses, slaughter-houses, dairies and cowsheds, &c.

General Inspection.—All parts of the district have been periodically visited, sometimes on account of epidemic disease, and sometimes for the purposes of ordinary inspection.

Sanitary Inspector's Report for the year ending December 31, 1894 :—

Foul accumulations, including privies	115
Defective privy accommodation	23
Defective drains	102
Pigstye nuisances	11
Houses dilapidated or unfit for habitation	8
Houses requiring disinfection...	23
Other nuisances arising from—no drains, damp foundations, no water supply, and overcrowding	37
Total	319

Nuisances abated without formal notice	172
,, ,, after formal notice	128
,, in process of abatement	19
,, abated after proceedings...	0
Total	319

Mr. Turnbull has also forwarded copies of some excellent special reports, which contain valuable information and careful recommendations with respect to the "The Water Supply of the Northern villages, the Drainage of Kempston, and the Carbonized Refuse System of Sewage Purification."

It is hoped that in future a copy of all his published reports will be forwarded to the County Council at the end of each year.

BIGGLESWADE.

Medical Officer of Health.—C. E. PRIOR, M.D., F.R.C.S.

Area in acres, 53,721. Estimated population, 20,851.

	1893.	1894.
Population estimated to middle of year	21,799	20,851
Birth rate per 1,000 of population	30·7	28·9
Corrected general death rate per 1,000	15·65	14·1
Zymotic death rate per 1,000	1·7	1·05
Death rate from phthisis	1·0	1·1
Death rate from respiratory diseases	2·7	1·1
Infantile mortality, deaths to 1,000 births ...	107	91

The vital statistics of this district are extremely satisfactory and more favourable than in any previously recorded year.

Prevalence of Disease.—Notwithstanding the favourable character of the general and zymotic death rates, the Medical Officer reports that the cases notified under the Infectious Diseases Notification Act were rather numerous.

Altogether 271 certificates were received, which were distributed as follow :—

Scarlet fever	128
Diphtheria	88
Erysipelas	49
Enteric fever	5
Puerperal fever	1
Total	271

Scarlet fever of a mild type and low mortality was prevalent throughout the year, particularly in the parishes of Sandy, Westlingworth and Clifton, and to a less extent in Shefford and Henlow. Its persistence is ascribed to the habitual refusal of hospital treatment.

Two outbreaks of diphtheria are reported, the original cause of each of which being attributed to importation from the Metropolis. The disease was limited to the parishes of Hendon and Campton and confined to a few families. Of the 88 cases notified in the twelve months 28 were removed to hospital and 11 died.

The other zymotic diseases were not unduly prevalent, and call for no further comment.

Infectious Hospital.—The Isolation Hospital, which is for the joint use of the Biggleswade Urban and Rural Districts, continues to be worked in a satisfactory manner and proved of the utmost value to the rural district, which contributed 31 out of the 32 cases admitted during the year. It is to be regretted that in some of the parishes, parents continue to decline hospital treatment with respect to scarlet fever, and retain their infected children in their own houses, where they are allowed to play with healthy children without restraint, or sent back to school in an infective condition.

The following is the statement of cases admitted during 1894 :—

	Admissions.	Discharges.	Deaths.
Diphtheria	29	25	4
Scarlet fever	2	2	0
Enteric fever	1	1	0
	32	28	4

Water Supply.—This continues to engage the attention of the Medical Officer of Health, who incidentally mentions that it "is not in all parts exempt from suspicion."

Sanitary Administration.—All the villages are systematically inspected, and a reference to the Inspector's return shows that a large amount of excellent sanitary work is carried out in the district.

Specific information is not given this year as to the sanitary conditions prevailing in the district, or of the action taken in regard to bake-houses, slaughter-houses, cowsheds, dairies, and milkshops, or of proceedings in which his advice has been offered.

Sanitary Inspector's report for the year ending December 31, 1894.

Defective drainage	35
,, Water supply	37
Privy nuisances	49
Pigstye nuisances	28
Foul accumulations	96
Dirty and dilapidated houses	31
Houses disinfected	84
Other nuisances	11
	371
Nuisances abated without formal notice	257
Abated after notice	103
	360

EATON BRAY.

Medical Officer of Health.—H.W.A. SANDELL, M.R.C.S.,L.R.C.P.

Area in acres, 8,902. Census population, 3,440.

Birth rate, 27·3 per 1,000 of the population ; general death rate, 18·6 per 1,000 ; Zymotic death rate, 3·77 ; rate of deaths, under 1 year, to 1,000 births, 182·7.

This district was formerly included in the area controlled by the Leighton Buzzard Rural Sanitary Authority, only a third of which was situated within the County of Bedford. Under the Local Government Act the Bedfordshire portion

has been constituted a separate sanitary authority, now known as the Eaton Bray Rural District, comprising the parishes of Eaton Bray, Heath-and-Reach, Billington, Eggington, and Stanbridge.

Dr. Sandell has been good enough to present a report dealing entirely with the newly constituted area, and gives a table of the principal death rates for each parish.

Epidemics.—Two serious epidemics of measles occurred at Heath-and-Reach and Eaton Bray which were attributed to school attendance, and necessitated the closure of schools in both villages. In the second outbreak the disease assumed a severe type, bronchitis and whooping cough being associated.

Prevalence of Disease —A great deal of sicknesss prevailed during the year, no doubt partly through the mealses epidemic and its sequelæ, but as the Notification Act did not come into force in the district until October the extent and classification can only be judged from the death returns, which are exceptionally heavy.

Infectious Diseases Notification.—This Act has now been adopted and will no doubt greatly assist the Medical Officer in his efforts to arrest zymotic diseases.

Infectious Hospital.—An isolation hospital for the joint use of the Leighton Buzzard Urban and Rural Districts was provided at Leighton Buzzard. Whether it is still available for the infectious sick of Eaton Bray Rural District is not specified. Only three cases of scarlet fever are reported as having been removed.

Water Supply.—A wholesome water supply is urgently required in some of the villages, notably Eaton Bray. A special report upon the pollution of a spring at Moor Lane was presented.

Removal of Refuse.—A system of public scavenging has been adopted for Eaton Bray, and is strongly recommended for other parishes.

Sewage Disposal.—Owing to the existence of foul, pervious cesspits and inadequate drainage, the disposal of sewage appears to be in a very unsatisfactory condition. The pollution of the roadside ditches at Eaton Bray, and consequent danger to the public health, has received attention from the Sanitary Authority.

House Sanitation.—Great attention has been paid to the condition of the cottage dwellings during the year.

Special reports have been presented upon insanitary localities in Eaton Bray, notably Bedford Square, Chapel Yard, and Clipping Yard, which were found in a very dilapidated state, particularly the rear offices. Throat illness was very prevalent in these areas.

The general state of Eggington and the dilapidation of many of the cottages have also been reported upon, and the owner required to put them in proper repair.

Housing of the Working Classes Act.—The Medical Officer advises a most drastic system of reform with regard to some of the cottages at Eaton Bray, and failing that recommends closure.

General Sanitation.—In a review of the sanitary condition of the whole district, Dr. Sandell refers to the exceptionally high death rates, and mentions the local circumstances which account for them. He states that "various means conduce "to this unsatisfactory state of things—undrained subsoil that "keeps a stagnant, malarial moisture just below the surface, more "particularly in heavy soils, ofttimes accompanied with a low "moist atmosphere; insanitary cramped dwellings, rear premises "and surroundings of many of the poor with no regard to healthy "ventilation, negligent habits as to their clothing, thrift, personal "cleanliness, and in too many instances want of proper nutritious "food, and in consequence their offspring being prematurely born, "dying at birth, or becoming a prey soon after to tuberculosis, or "infantile infectious diseases, from want of sufficient vitality and "stamina to resist their influences; the baneful and inveterate "system of gossiping amongst neighbours where there is infection; "public schools that disseminate diseases broadcast, unless closed "on their first appearance; polluted drinking water from the "leakage of pestiferous privies, middens, dumb-wells, and make-"shift inadequate drains, constitute some of the principal causes "of a high preventible death rate."

Sanitary Inspector's Report for the year ended December 31, 1894:—

Number of nuisances reported	50
Number of notices issued	50
Number of pumps and water supplies repaired	3
Number of dairies, bake-houses, and slaughter-houses inspected	5
Number of drains repaired	3
Number of infectious diseases under notice	17
Plans submitted	4
Number of breaches of bye laws	1
Number of seizures of meat, fish, &c., as unfit for food	1

EATON SOCON.

Medical Officer of Health.—J. POYNTZ-WRIGHT, M.R.C.S., L.S.A.

Area in acres, 16,684. Estimated population, 3,744.

Corrected general death rate, 17·48 per 1,000 of the population.
Zymotic death rate, 1·3 per 1,000.
Death rate from phthisis, 2·4.
Respiratory death rate, 3·4 per 1,000.

Under the Local Government Act, 1894, the St. Neots Union has been divided into the St. Neots Rural and the Eaton Socon Rural Districts, the latter district being entirely composed of parishes which are within the county of Bedfordshire. As, however, these alterations and changes did not come into operation until the end of the year, the Medical Officer presents a joint report upon the two districts, but has been able to furnish nearly complete annual statistics for the area now entirely within the jurisdiction of the Bedfordshire County Council.

Infectious Diseases Notification.—The Act is in force, and works well, but its advantages are almost nullified by the absence of any means of public isolation. By far the greater proportion of the cases notified were attributable to scarlet fever.

Infectious Hospital.—The Medical Officer again urges the provision of an isolation hospital which shall be common to each council, or one small building separately set apart for each district. The advantages of a joint institution with respect to efficiency, economy, and administrative simplicity are obvious. He mentions that an isolation hospital is the natural complement of the Notification Act, neither being perfect without the other, and he refers to the impossibility of checking the spread of infectious diseases unless the first cases can at once be separated.

Prevalence of Disease.—The diseases which caused the greatest number of deaths were constitutional, developmental, and local.

Influenza was epidemic in the first quarter of the year, and scarlet fever was unduly prevalent in the months of August and December.

Public Disinfection.—All houses where infectious disease had existed were cleansed and fumigated. Presumably infected bedding and clothing are subjected to steam or other efficient means of disinfection free of charge.

Water Supply.—In 1893 this was reported as derived from shallow wells sunk in a polluted subsoil. The importance of a good water supply continues to be ably advocated by the Medical Officer, who states that this subject has engaged the attention of the local authority. Improvement has been effected in every case where possible.

Drainage and Disposal of Excrement.—The drainage of the villages, the removal of excremental matter, and the abolition where possible of the old privy middens are referred to.

Schools.—In several instances the closure of schools for outbreaks of scarlet fever is reported.

An earlier resort to this procedure and the placing of all private schools under the jurisdiction of sanitary authorities is advocated.

House Sanitation.—Many houses were repaired and rendered habitable uuder the Housing of the Working Classes Act during the year.

Premises Regulated by Sanitary Authorities.—Bake-houses, slaughter-houses, cowsheds, and dairies have been duly visited, and the various regulations enforced.

General Sanitation.—Dr. Poyntz-Wright mentions that "the sanitary work during the year has consisted as usual in special attention to water supply, the removal of existing nuisances, and in endeavouring to find means for the disposal of slop water in cottages situated in positions where there is no sewerage."

Sanitary Inspectors' Report for the joint district for the year 1894 :—

Number of complaints received during year	91
Number of houses, premises, &c., inspected	443
Number of re-inspections of houses, premises, &c.	475
Orders issued for sanitary amendments of houses and premises	122
Houses, premises, &c., cleansed, repaired, and whitewashed	71
Houses disinfected after illness of an infectious character ...	39
House drains repaired, cleansed, trapped, &c....	83
Privies and water-closets repaired, &c.	43
Ditto new provided	3
Water supply. New cistern erected	1
Ditto cisterns cleansed, repaired, and covered	4
Dustbins repaired, covered, &c.	5
Dust removal	7
Removal of accumulations of dung, stagnant water, animal and other refuse	56
Animals removed, being improperly kept	12
Bake-houses inspected	24
Licensed cowsheds inspected	5
Licensed slaughter-houses inspected	19
Legal proceedings, *i.e.*, summonses	1

LUTON.

Medical Officer of Health.—A. MORCOM, L.R.C.S., L.M.

Area in acres, 37,950. Estimated population, 9,732.

	1892.	1893. Census.	1894.
Population estimated to middle of year ...	9,732	9,732	9,732
Birth rate per 1,000 of the population ...	26·2	24·7	27·01
General death rate	14·3	13·9	13·7
Zymotic death rate per 1,000	·61	1·7	1·1
Death rate from phthisis	1·02	1·2	·9
Death rate from respiratory diseases ...	3·4	2·3	2·05
Infantile mortality, deaths to 1,000 births ...	98·03	81·9	80

The population and data for the Parish of Kensworth have been eliminated from the returns of this Rural District, it being wholly in the County of Hertford.

Under the Local Government Act, 1894, the area of this District has undergone considerable change. As now constituted it contains the Hamlets of Hyde, Leagrave, Limbury, and Stopsley, which together form the Parish of Luton Rural and also the Parishes of Barton le Clay, Caddington, Houghton Regis, Humbershoe, Streatly, Studham. Sundon, Totternhoe, and Whipsnade.

The total area of the newly constituted Luton Rural District is 30,966 acres, and the population, according to the census of 1891, was 8,529.

Infectious Diseases Notification.—Only 29 certificates were received under this Act during the year, as against 115 in 1893. They included 24 notifications of scarlet fever, 2 of enteric fever, 2 of erysipelas, and 1 of puerperal fever.

Isolation Hospital.—The district continues without accommodation for the isolation of infectious cases. The subject has been under consideration for some time, and it is hoped that, in conjunction with the neighbouring Authorities, this necessary adjunct of the Notification Act will soon be provided.

Public Disinfection.—A proper system of disinfection of infected premises under the supervision of the Sanitary Authority, and an efficient disinfecting apparatus, are strongly recommended. This and hospital accommodation have become matters of urgent importance in the district, inasmuch as vaccination is reported as "practically in abeyance."

Prevalence of Disease—Scarlet fever and whooping cough are both reported as somewhat prevalent during the year, and an outbreak of measles necessitated the closure of schools for a short period. Happily, the mortality was very low, and consequently the zymotic death rate was not adversely affected.

Factories, Bakehouses, Dairies, and Slaughterhouses have been regularly inspected, and the sanitary conditions in nearly all of them found to be satisfactory.

General Sanitation.—The Medical Officer states that, "the drainage and water supply of the district are satisfactory, and the prompt removal of all refuse is particularly seen to. The sanitary condition of dwellings have greatly improved in recent years, but there is still a difficulty with a great many small owners of property. The various districts have been systematically inspected, and improvements needed carried out.

Sanitary Inspector's Report for the year ended December 31, 1894 :—

Number of complaints received during the year	14
Number of houses, premises, &c., inspected	272
Number of re-inspections of houses, premises, &c.	222
Orders issued for sanitary amendments of houses and premises... ...	181
Houses, premises, &c., cleansed, repaired, whitewashed, &c.	81
Houses disinfected after infectious illness...	19
House drains repaired, cleansed, trapped, and ventilated	46
Privies and waterclosets repaired	35
Privies and waterclosets supplied with water	4
Privies and waterclosets, new, provided	12
New dustbins provided	12
Repairs to wells, water supplied, &c., ...	8
Animals removed being improperly kept	2
Inspections of bakehouses	18
Inspections of licensed cowsheds	40
Inspections of slaughter houses	11
Legal proceedings	6
TOTAL	983

WELLINGBOROUGH.

Medical Officer of Health,—F. H. MORRIS, M.D.

Area in acres, 47,562. Estimated population, 20,100.

Birth rate per 1,000 of the population	31·34
Corrected general death rate per 1,000	15·02
Zymotic death rate per 1,000	1·9
Death rate from phthisis...	1·1
Respiratory diseases death rate	3·4
Infantile mortality, deaths to 1,000 births ...	123·8

Under the Local Government Act, 1894, the Parishes of Podington and Wymington, with a population of 504 and 336 respectively, which formerly comprised the Bedfordshire portion of this district, have now been transferred to the Bedford Rural Council, although they still form part of the Wellingborough Union for poor law purposes. In consequence of these changes, this Rural District will in future be entirely outside the jurisdiction of the Bedfordshire County Council.

Dr. Morris presents an able report upon the whole district, which shows that many sanitary reforms—particularly with respect to water supply, drainage, disposal of excrement and refuse, and the provision of hospital accommodation for infectious diseases—are urgently required, and call for immediate attention.

As, however, the Parishes of Podington and Wymington are not specially mentioned with reference to their sanitary condition and requirements, further comment upon his valuable report is unnecessary.

WOBURN.

Medical Officer of Health.—C. E. PRIOR, M.D., F.R.C.S.

Area in acres, 29,603. Estimated population, 9,230.

	1892.	1893.	1894.
Population estimated to middle of year ...	9,200	9,230	9,230
Birth rate per 1,000 of the population ...	23·3	23·8	24·38
Corrected general death rate	17·97	16·36	15·92
Zymotic death rate per 1,000	·9	·7	·8
Death rate from phthsis	·8	1·3	·6
Death rate from respiratory diseases ...	3·2	2·4	3·3
Infantile mortality, deaths to 1,000 births ...	111	100	97

Infectious Diseases Notification.—The Act continues unadopted, and the Medical Officer complains that his knowledge of the existence of infectious disease is incomplete and unsatisfactory.

Infectious Hospital.—There is no Isolation Hospital in the district, and no arrangement has been made for the reception of the infectious sick.

Prevalence of Disease.—No epidemic occurred during the year, but there was an increased prevalence of diphtheria at Tebworth, Wingfield, and Hockliffe. Its origin is attributed to importation and subsequent direct contagion. Measles appears to have been proportionately active. Twenty-eight cases and two deaths are reported.

Nuisances Requiring Attention of Medical Officer.—Proceedings were taken with regard to a slaughtering nuisance at Woburn Sands, and a prohibitory order was issued.

General Sanitation.—The sanitary condition of the district is described as "eminently satisfactory" and needing but "a little return of agricultural prosperity to arrest the decline of population," and to place the district on a par with the most prosperous of the rural localities.

No mention is made of other sanitary matters, and in their absence there is nothing in the report calling for further comment.

Sanitary Inspector's Report for the year 1894 :—

Foul accumulations	15
Defective drainage and privy accommodation ...	14
Slaughter-house nuisance	1
Defective water supply	7
Overcrowded houses	5
Houses requiring disinfection	3
Pigstye nuisance...	6
Other nuisances	7
TOTAL	58

Nuisances abated without notice	23
Nuisances abated after notice	18
In process of abatement	5
Remaining on the books	12
TOTAL	

APPENDIX.

COUNTY OF BEDFORD. *Year ending 31st December, 1894.*

TABLE A. (URBAN).

TABLE giving Area, Population, Births and Deaths in each of the Urban Sanitary Districts of the County.

Notification Act in force.	Infectious Hospital Provided.	URBAN SANITARY DISTRICT. (In Districts marked by an Asterisk the Rates are calculated, after correction for Non-residents.) 1	Medical Officer of Health. 2	Area (Acres). 3	Inhabited Houses. 4	Estimated Population 1894. 5	Births. 6	Deaths. 7	Annual Rates per thousand of estimated population. Birth Rate. 8	Death Rate. 9	Zymotic Death rate. 10	Phthisis Death rate. 11	Respiratory Death rate. 12	Infant Mortality Deaths under one year per 1,000 Births. 13
Yes	No	AMPTHILL	C. G. Stein, M.B., C.M.	1,742	517	2,294	66	41	28·7	17·9	·87	3·4	1·3	75
Yes	No	BEDFORD ...	C. E. Prior, M.D., F.R.C.S.	2,223	6,022	29,985	727	342	24·1	11·4	·8	1·	1·4	96
Yes	Yes	BIGGLESWADE	C. E. Prior, M.D., F.R.C.S.	4,310	1,075	4,860	143	64	29·4	13·2	1·8	1·6	1·02	126
No	No	DUNSTABLE	A. Morcom, L.R.C.S., L.M.,&c.	453	1,088	4,857	104	62	22·23	12·76	1·	·6	2·6	125
No	Yes	LEIGHTON BUZZARD	J. A. Hedges, M.R.C.S., L.S.A.	1,700	1,416	6,754	151	116	22·3	17·19	3·1	3·1	1·9	178·8
No	Yes	LUTON	H. Sworder, M.R.C.S., L.R.C.P.	2,613	6,141	31,000	984	502	31·7	16·1	1·6	1·4	2·6	144·3

TABLE B (URBAN).

TABLE OF DEATHS during the year 1894, in the Urban Sanitary Districts of Bedfordshire, classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

Urban Sanitary District.	Population at all Ages.		Registered Births.	Mortality from all causes at subjoined Ages.								Mortality from subjoined causes, distinguishing Deaths of Children 5 Years of Age.																				
	Census, 1891	Estimated to middle of 1894		At all ages.	under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards		Smallpox	Scarlatina	Diphtheria	Membranous Croup	Fevers. Typhus	Fevers. Enteric or Typhoid	Fevers. Continued	Fevers. Relapsing	Fevers. Puerperal	Cholera	Erysipelas	Measles	Whooping Cough	Diarrhœa & Dysentery	Rheumatic Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	All other Diseases	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
AMPTHILL	2,294	2,294	66	41	5	2	1	3	13	17	Under 5	...	...	...	...	...	...	..	...	...	...	...	...	2	...	...	...	...	1	...	...	4	7
											5 upwds.	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	7	2	9	1	15	34
BEDFORD	28,023	29,985	727	342	70	23	12	18	116	103	Under 5	...	...	...	...	...	...	...	...	..	...	...	3	9	6	...	...	...	18	...	1	56	93
											5 upwds.	...	2	...	...	...	2	...	...	...	...	...	1	1	...	4	...	30	26	15	9	159	249
BIGGLESWADE ...	4,943	4,860	143	64	18	10	2	4	13	17	Under 5	...	1	...	...	...	...	...	...	...	...	...	...	7	1	...	...	...	2	...	1	16	28
											5 upwds.	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	8	3	4	2	18	36
DUNSTABLE	4,513	4,857	104	62	13	5	2	1	21	20	Under 5	...	...	...	...	...	...	...	...	...	...	...	1	2	1	...	...	...	4	...	1	9	18
											5 upwds.	...	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	3	9	6	...	23	44
LEIGHTON BUZZARD	6,704	6,754	151	115	27	18	6	6	21	38	Under 5	...	...	4	...	...	...	...	...	...	...	...	9	1	1	...	...	9	4	3	...	10	41
											5 upwds.	...	...	3	...	...	1	1	...	1	...	1	1	...	...	...	...	12	9	7	2	36	74
LUTON	30,005	...	984	502	142	82	19	16	134	109	Under 5	...	5	6	1	...	...	...	...	...	...	...	14	10	11	...	...	1	54	...	2	120	224
											5 upwds.	...	...	...	1	...	1	...	...	3	...	...	1	...	1	1	...	43	27	43	6	151	278

COUNTY OF BEDFORD. *Year ending 31st December, 1894.*

TABLE C (RURAL).

TABLE, giving Area, Population, Births and Deaths in each of the Rural Sanitary Districts of the County.

Notification Act in force.	Infectious Hospital Provided.	Rural Sanitary Authority. (In districts marked by an asterisk the Rates are calculated after correction for Non-Residents.)	Medical Officer of Health.	Area (Acres).	Estimated Population 1894.	Births.	Deaths.	Annual Rates per thousand of estimated population.					Infant Mortality. Deaths under one year per 1,000 Births.
								Birth Rate.	Death Rate.	Zymotic Death Rate.	Phthisis Death Rate.	Respiratory Death Rate.	
No	No	AMPTHILL	J. Murray Smith, M.B., C.M.	40,809	12,842	328	192	25·5	14·9	1·6	·31	1·7	137·1
Yes	Yes	BEDFORD	C. E. Prior, M.D., F.R.C.S.	95,279	23,260	611	318	26	13·57	·94	1·2	1·9	113
Yes	Yes	BIGGLESWADE ...	C. E. Prior, M.D., F.R.C.S.	53,721	20,851	603	294	28·9	14·1	1·05	1·1	1·1	91
Yes	Yes	EATON BRAY	H. W. A. Sandell, M.R.C.S., L.R.C.P.	8,902	3,440	93	64	27·3	18·60	3·77	—	—	182·7
Yes	No	EATON SOCON	T. Poyntz Wright, M.R.C.S., L.S.A.	16,684	3,744 Census	—	64	—	17·48	1·3	2·4	3·4	—
Yes	No	LUTON	Augustus Morcom, L.R.C.S., L.M.	37,950	9,732	263	134	27·01	13·7	1·1	·9	2·05	80
Yes	No	WELLINGBOROUGH ...	F. H. Morris, M.D.	47,562	20,100	630	302	31·34	15·02	1·9	1·1	3·4	123·8
No	No	WOBURN*...	C. E. Prior, M.D., F.R.C.S.	29,603	9,230	225	147	24·38	15·92	·8	·6	3·3	97

TABLE D (RURAL).

TABLE OF DEATHS during the year 1894 in the Rural Sanitary Districts of Bedford, classified according to Diseases, Ages, Localities, and showing also the Population of such Localities, and the Births therein during the Year.

Rural Sanitary District.	Population at all Ages.		Registered Births.	Mortality from all Causes at Subjoined Ages.								Mortality from Subjoined Causes, Distinguishing Children under 5 Years.																				
	Census, 1891.	Estim'd to middle of 1894.		At all ages.	under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwrds.		Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Fevers. Typhus.	Fevers. Enteric or Typhoid.	Fevers. Continued	Fevers. Relapsing.	Fevers. Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa & Dysentery.	Rheumatic Fever	Ague.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	Total.
AMPTHILL	15,020	12,842	328	192	45	15	8	2	36	86	Under 5	...	5	...	1	...	...	...	...	...		...	...	6	...	...	..	...	12	...	1	35	60
											5 upwds.	..	1	2	...	...	...	...	...	2	...	1	1	...	3	1	...	4	10	18	4	85	132
BEDFORD	23,429	23,260	611	318	71	25	13	17	87	105	Under 5	...	...	1	...	.	...	...	...	...	...	...	1	13	2	...	...	2	29	...	...	48	96
											5 upwds.	...	2	2	...	..	2	...	...	...	...	...	...	...	2	2	...	26	17	20	7	142	222
BIGGLESWADE ...	21,864	20,851	603	294	55	21	23	13	73	109	Under 5	...	2	4	1	...	...	...	...	...	...	...	..	4	2	...	..	...	10	...	...	53	76
											5 upwds.	...	1	7	...	..	...	...	...	...	...	1	..	..	...	2	...	25	14	18	3	147	218
EATON BRAY... ...	3,440	...	93	64	17	10	2	4	14	17	At all ages	...	1	2	1	...	...	...	...	2	...	...	5	1	1	...	...	...	...	...	...	51	64
EATON SOCON ...	3,744	3,744	...	64	12	3	2	1	13	33	Under 5	...	...	..	..	...	...	...	...	...	...	...	...	3	1	...	...	1	3	1	1	5	15
											5 upwds.	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5	10	2	31	49
LUTON	9,732	32	263	134	21	15	7	7	38	46	At all ages	...	..	1	1	...	1	...	..	...	...	..	5	3	...	...	...	9	20	23	4	67	134
WELLINGBOROUGH..	19,370	20,100	630	302	78	43	10	13	69	89	Under 5	...	2		...	...	...		...	...	...	..	10	16	2	...	...	1	41	1	..	43	116
											5 upwds.	...	1	1	...	...	4	...	...	...	...	1	...	1	2	1	...	23	28	29	4	91	186
WOBURN	9,277	9,230	225	147	22	7	6	3	39	70	Under 5	...	...	1	...	...	...	...	...	...	...	...	2	1	...	...	...	...	7	...	1	17	29
											5 upwds.	...	...	3	...	...	...	...	...	1	...	...	...	...	...	...	...	6	24	19	4	62	118