

[Report 1882] / Medical Officer of Health, Combined Rural Sanitary Authorities of the County of Hereford and the Urban Sanitary Authority of the City of Hereford.

Contributors

Herefordshire Combined Rural Sanitary Authorities.

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NINTH ANNUAL REPORT
OF THE
MEDICAL OFFICER OF HEALTH
TO THE
COMBINED RURAL AND THE URBAN
SANITARY AUTHORITIES
OF THE
CITY AND COUNTY OF HEREFORD,
1882.

By H. VAVASOUR SANDFORD, M.D., &c.

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TO THE URBAN SANITARY AUTHORITY OF THE
CITY OF HEREFORD AND THE COMBINED
RURAL SANITARY AUTHORITIES OF THE
SAME COUNTY.

NINTH ANNUAL REPORT OF THE MEDICAL OFFICER OF
HEALTH.

(Pursuant to the Regulations of the Local Government Board).

THE URBAN SANITARY AUTHORITY OF THE CITY
OF HEREFORD.

Population (Census 1881) 19,822.

Area in Acres 2,417.

Houses 3,912.

Aggregate number of people to a house 5.

Parishes 6.

December 31, 1882.

MR. MAYOR AND GENTLEMEN,

Before the last Annual Report was presented to you, a new order, dated March, 1880, had been issued by the Local Government Board, and by the 18th article, section 14 of that order, it is prescribed that the Medical Officer of Health shall "prepare an annual report, to be made to the end of December in each year, comprising a summary of the action taken during the year for preventing the spread of disease, and an account of the Sanitary state of his district generally at the end of the year. The report shall also contain an account of the inquiries which he has made as to conditions injurious to health existing in his district, and of the proceedings in which he has taken part or advised under the Public Health Act, 1875, so far as such proceedings relate to those conditions; and also an account of the supervision exercised by him, or on his advice, for Sanitary purposes over places and houses that the Sanitary Authority have power to regulate, with the nature and results of any proceedings which may have been so required and taken in respect of the same during the year. It shall also record the action taken by him or on his advice, during the year, in regard to offensive trades, and to factories and workshops. The report shall also contain tabular statements (on forms

“to be supplied by the Local Government Board, or to the like effect), of the sickness and mortality within the district, classified according to diseases, ages, and localities.”

The report I now have the honour to place before you is made in compliance with the above-quoted order, and is of necessity somewhat lengthy.

It will, I think, be convenient, and conduce to uniformity, to adhere to the plan I have hitherto adopted in these annual reports, and the report is therefore commenced with the usual formal record of the births and deaths occurring in the city for the past twelve months.

During the year 1882 the number of deaths registered for the whole of the city was 368 ; this is inclusive of the 15 in the Infirmary and 50 in the Workhouse, and calculated on a population of 19,822 (Census 1881), will give a rate of mortality of 18·2 per 1,000.

The Births numbered 500, giving a birth-rate of 25· per 1,000.

With reference to sex 260 were males, and 240 females.

Of this 500 Births, 40 were illegitimate—the position in life of the mother being registered chiefly as “domestic servant.” The same as reported last year.

The following table epitomises the ages at which the deaths occurred throughout the city :—

*Deaths in the City, including Infirmary and Workhouse,
from January 1st to December 31st, 1882.*

Deaths under 1 year of age	66	} 133 under 5 years.
“ over 1 “ and under 5 years			67	
“ “ 5 “ “ 15 “			18	} 235 over 5 years.
“ “ 15 “ “ 25 “			16	
“ “ 25 “ “ 60 “			82	
“ “ 60 “			119	
Total at all ages			368	

The grouping into various ages in the above Table is in accordance with the ages fixed in the tables furnished by the Local Government Board, which are duly filled in and accompany this report, and taking as a standard the annexed Table, published by the eminent hygienist, Dr. Richardson, in his reports upon the death rates of Urban districts in the United Kingdom, it will be seen that the city of Hereford maintains an excellent position in the accompanying groups, the rate being between 16 and 20, or under group 3. Dr. Richardson’s remarks hereon are as follow :—

“At the present moment there are varying death-rates in

English towns from the model low to the unnatural or excessively high. These may be divided in groups as follows.—

Group 1.	Death-rate from 8 to 12	in the 1,000
„ 2.	„ „	12 to 16 „ „
„ 3.	„ „	16 to 20 „ „
„ 4.	„ „	20 to 24 „ „
„ 5.	„ „	24 to 28 „ „
„ 6.	„ „	28 to 32 „ „

There are very few towns as yet which have attained to the perfection shown in the first of these groups, perhaps none that through a series of years have attained to it. A few towns especially favoured in respect to population, situation, and wealth have attained to the position of the second group.”

By perusing the annexed Table it will be at once made manifest that the increase of the rate of mortality this year is entirely owing to the measles, scarlet fever, and whooping cough epidemic, over which I have, as yet, little control, there being no hospital for infectious diseases in this city, added to which there has been no less than 19 more deaths in the Union Workhouse this year than last, or close upon 1· per 1,000 of your population, which must be deducted as not existing as a population proper of your city, thus making your rate of mortality this year just 1· per 1,000 over group 2, which all must allow few towns can attain according to Dr. Richardson’s estimate.

Table showing the number of Deaths in each year for the last eight years ending 1882 from the eight chief zymotic diseases including those in Workhouse, Infirmary, and the whole of the City :—

The Eight Chief Zymotic Diseases in	1875	1876	1877	1878	1879	1880	1881	1882
Smallpox	—	—	—	—	—	—	—	—
Measles	1	12	6	8	5	1	—	29
Scarlet Fever	7	75	11	4	—	5	13	12
Diphtheria	1	—	—	4	4	1	2	—
Whooping Cough	3	12	2	7	27	1	—	9
Typhus Fever	2	—	—	—	—	—	—	—
Enteric Typhoid and Continued Fevers	3	2	—	—	2	—	2	—
Diarrhœa and Dysentery ..	8	9	5	15	5	28	4	6
	<u>25</u>	<u>110</u>	<u>24</u>	<u>38</u>	<u>43</u>	<u>36</u>	<u>21</u>	<u>56</u>

Table showing Total Number of Deaths from all causes for the eight years ending December 31, 1882, in the City of Hereford, including those in the Infirmary and Workhouse :—

	1875	1876	1877	1878	1879	1880	1881	1882
	401	447	342	335	456	352	307	368
Rate per 1,000	21·8	28·8	18·0	17·6	23·8	18·3	15·4	18·2

From this Table I would draw your attention to the following Table of deaths of infants and those under five years of age, wherein will be perceived an increase of not quite two per 1,000 for this year :—

Table showing the Number of Deaths of Infants and those under five years from all causes, for the eight years ending Dec. 31, 1882, in the City of Hereford, including those in Infirmary and Workhouse :—

1875	1876	1877	1878	1879	1880	1881	1882
119	160	85	100	158	141	93	133

Rate per 1,000 6·0 8·3 4·1 5·0 8·0 7·0 4·7 6·4

This increase of infantile mortality points to the fact that two-thirds of the increase of the rate upon your total number of deaths from all causes and at all ages for the year 1882 is dependent upon the mortality amongst infants and those under 5. The causes on analysis of Table A will be at once made visible, being no less than 44, viz., 29 from measles, 6 from scarlet fever, and 9 from whooping cough. This great increase being dependent upon a severe epidemic of measles and the balance or fag-end of the epidemic scarlet fever of 1881, of which further anon. In the mean time it will be observed by the accompanying Table of Births that there is a falling off of 32 compared with last years' returns :—

Table showing Number of Births for the last eight years, ending December 31, 1882, in the City of Hereford, including those in the Infirmary and Workhouse :—

1875	1876	1877	1878	1879	1880	1881	1882
400	446	386	480	555	553	532	500

I beg to submit with this report the tables furnished by the Local Government Board. These tables are not quite similar to those formerly supplied. The first, or table A, deals entirely with the mortality of the district, divided into localities and showing the deaths in detail for each separate disease classed over and under five years. Table B deals only with cases of sickness. For table A I can claim accuracy, but for table B I fear the results are less reliable, due to difficulties in the way of obtaining exact information.

On analyzing these tables of sickness and deaths and the cause thereof I will take first

MEASLES, from which 29 deaths are recorded, 28 of which are under five years of age. This disease predominated throughout the city in the months of May, June, and July, and in a large majority the cause of death was assigned to complications of bronchitis and pneumonia, many of the cases having no medical advice until too late to be of any avail, the parents and guardians assuring me it was a "severe cold" the children had taken and had settled upon their lungs after *their recovery from Measles*.

TABLE B.
TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1882, in the Three Divisions of the Urban Sanitary District of the City of Hereford; classified according to Localities and Diseases.

NAMES OF LOCALITIES.	NEW CASES OF SICKNESSES, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																	
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
	Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Whooping Cough.	Typhus.	Enteric or Typhoid.	Other or Doubtful.	Dysentery.	Cholera.	Rheumatic Fever.	Krysipelas.	Ryemia.	Fuerepal Fever.	Ague.	Other Diseases such as Chicken Pox, or Pneumonia, which the Medical Officer thinks well to record.	
1																		
City of Hereford.																		
Out-paupers ...	5	16	..	..	..	..	..	..	..	8	..	..	..	..	..	..	..	3
Workhouse Infirmary	5 upds.	15	..	..	..	2	..	..	..	4	..	1	3	..	..	..	..	7
Infirmery... (To January, 1882.)	5 upds.	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Private Practice ... (For 12 months ending July, 1882.)	5 upds.	80	100	..	..	12	..	..	..	7	..	4	..	1	..	..	..	2
Totals ...	5 upds.	93	62	..	10	9	..	1	3	15	..	16	5	3	..	..	..	7

SOURCES OF INFORMATION.

The figures of the columns following column 11 will have been derived from the returns of the Poor Law Medical Officers, from the practice of public institutions in or near the Sanitary District, and from other medical practices.

The Officer of Health making this report is desired to state below the numbers of persons belonging to this division or district, who have during the year newly come under treatment for ALL KINDS of disease and injury, and of whose cases he has had information.

100 in Workhouse and Workhouse Infirmary.
 270 among Out-door Paupers.
 530 as In-patients of Infirmary.
 (To January, 1882.)
 2930 as Out-patients ditto.
 (To January, 1882.)
 4548 as Out-patients of Hereford Dispensary.
 (For 12 months ending July, 1882.)
 285 in Other Practice.

* This refers to cases of sickness not included in the previous classes, if the Medical Officer of Health has information of such cases from other sources.

SCARLET FEVER is next to be taken into consideration: From this fearfully infectious disease eleven deaths are recorded on Table A, six under 5 years of age and five above, the source of infection being due to the residue of last year's epidemic and the want of the means of isolation and hospital accommodation.

CROUP has caused 7 deaths this year.

WHOOPIING COUGH is assigned as causing 9 deaths to children under five years of age, many of these cases being the residue of measles or complicated therewith.

DIARRHŒA AND DYSENTERY are brought out on the death table, six only having been recorded, all under five years of age.

RHEUMATIC FEVER is also set down as causing one death only ; needing no comment.

ERYSEPELAS caused two deaths, both being of a senile tendency.

PYÆMIA was the cause of one death in the Infirmary.

PUERPERAL FEVER OR PERITONITIS caused two deaths. One to a young lady consequent upon protracted labour.

PHTHISIS has proved very fatal this year, having carried off no less than 41 lives, whose ages were mainly between 15 and 25, and having an hereditary tendency traced to many.

BRONCHITIS, PNEUMONIA, AND PLEURISY are the cause of 48 deaths only, against 69 for last year, and need no remark.

HEART DISEASE killed 19 only this year, against 32 last year.

INJURIES proved fatal to 9, and

OTHER DISEASES caused 180 deaths, thus showing an increase of 26 against last year's return of this class of disease.

Referring to table B of *new cases* of sickness it will be seen that 197 cases of measles have come to light, the greater bulk of which existed in private practice or what is more correctly speaking, chemists and druggist's treatment, until serious pulmonary symptoms set in, when a qualified medical attendant was called in simply to give a death certificate, it being too late to attempt any treatment. This 197 cases, I believe, do not represent half the number of cases that has taken place in all parts of the city, but of which I can obtain no authentic information.

SCARLET FEVER also comes boldly to the front in table B of new cases, having had fair authentic information of 162 cases of so mild a type, that had it not been for the kindness of many medical gentlemen it would not have been recognised as such fever, many families perhaps having one so seriously ill as to require medical aid, whilst perhaps 4 or 5 in the same family passed through the disease with scarcely any diagnostic symptoms than slight throat

affections and slight rash, very many cases being amalgamated with measles.

CROOP also records 15 cases, many I believe not spasmodic.

WHOOPIING COUGH shows 23 cases, but very many more I am of opinion have taken place, but of which no true return can be obtained.

CONTINUED FEVERS follow in rotation, one only of an enteric type showing, the cause undoubtedly being from sewer gas passing up through an untrapped sink in a wash-house. Three other cases of a doubtful type and very mild, I had information of, but can trace no cause, as from defective sanitation in their houses.

DIARRHŒA AND DYSENTERY show a great decrease this year, these cases being connected principally with private practice.

RHEUMATIC FEVER AND ACUTE RHEUMATISM have been very prevalent owing to excessive humidity and wet.

ERYSIPELAS shows a few mild cases.

PYÆMIA also has three cases.

PUERPERAL FEVER AND PERITONITIS showed in three cases amongst private patients.

This ends the analyses of table B.

From the analysis I am requested to point out in my Annual Reports those matters existing conducive to the propagation of infectious disease, the most important being fever existing in houses where *milk is deposited* for sale. Late in the autumn of this year I found four cases of scarlet fever existing in a small house attached to a very small shop, wherein were deposited for sale cans of milk. Irrespective of this, the same woman that waited upon the customers also attended upon the children, and what milk was not disposed of was added to a fresh supply and carried and sold about the town. On making inquiry, I found the Inspector of Nuisances had been paid £10 per year extra for the last two years to carry out the order of the Privy Council (79), for the regulation and registration of all dairies and milk shops, but up to the time of my visiting this place no regulations or registration of the several premises had been instituted. On bringing so important a matter before this Sanitary Authority they at once ordered printed forms of registration and setting forth the order and the penalty if not at once complied with. This case is only illustrative of one of many which have come to light since. Another source of danger has had my attention, that of the rain-water shaft from the roofs of houses being made the soil pipe of the W.C.'s. When heavy rain takes place the pressure is so great down such pipe that in many instances sewer gas was driven through the joints and into the houses, and so caused danger to the inmates.

Isolation is another great and serious deficiency we are suffering from. The want of a hospital for such purposes is at length seriously entertained by the Corporation of this City, and active steps are being set on foot for the providing of such a building, the want of which being fully laid before the Authorities in my quarterly report to the City of Hereford, ending December 31st, 1882.

Another serious deficiency is Bedroom Accommodation. In very few cottages have I found three bedrooms provided, and many have only one. Of course a man may provide as many or as few bedrooms as he chooses, but since Providence usually bestows upon the agricultural labourer a very large family, it would be impossible for a sanitary authority to deal with overcrowding effectually if owners did not meet them half way in the difficulty. Again it is the exception to meet *with a cottage with fireplaces in its bedrooms. A fireplace in a bedroom is most desirable for two reasons; it assists ventilation, and in the case of infectious disease occurring, enables the infected children to be isolated upstairs, when the medical attendant orders them to be kept in a room with a fire. Windows too are frequently placed on one side only, so that the cottage has no cross ventilation, and becomes close and dangerous, vide my continued remarks in former reports upon "Paradise Place" and other buildings*

Routine work is at once made visible by perusing my four quarterly reports of this Sanitary Authority, herewith following:—

HEREFORD URBAN SANITARY AUTHORITY.

Hereford, 31st March, 1882.

MR. MAYOR AND GENTLEMEN,

My report for this quarter gives a total of 82 deaths from all causes. Of this total 20 are below five years of age, showing a decrease of eight infantile deaths this quarter compared with the corresponding quarter of 1881.

This total includes 18 deaths taking place in the Workhouse and 4 in the Infirmary, none of which were under five years of age. The causes registered for the total 82 are as follow.—Five from scarlet fever (two being under five years of age), two from croup, two from puerperal or child-bed fever, one from pyæmia (in the Infirmary), eight from phthisis, eighteen from pneumonia, bronchitis, and pleurisy, four from heart disease, two from accident, and the balance from other diseases of a non-zymotic type; thus showing a rate of 1 per 1,000 of infants, and those under five years of age, for the three months ending to-day, and for the balance 61 from all

causes, showing a rate 3·5 per 1,000 only for the before-mentioned quarter ending March 31st, notwithstanding having to contend against a prolonged epidemic of scarlet fever.

By uniting the rate upon the infantile deaths with the general rate upon the 61 it will give a rate of mortality from all causes and at all ages for the quarter ending March 31st of just 4 per 1,000, which, if calculating such rate for the year, only returns a total of 16 per 1,000 (within less than 1 per 1,000 of being the lowest on record).

As regards prevailing illness for this quarter, I have only to mention scarlet fever. From this fearfully infectious disease a large number have suffered, most of the cases being of a remarkably mild type—not necessitating the calling in of a medical attendant, which will, in a great measure, account for so large a distribution of the disease in all quarters, the same being produced by direct infection (in many instances) without the parties knowing of the disease being in their family.

Having so recently presented you with my annual report for 1881, wherein your city is proved to have a lower death-rate than any other inland town with a population of 20,000, and not *being increased one per thousand* for this quarter (notwithstanding the epidemic of scarlet fever), I now leave the mortality tables, and would mention, of general subjects to lay before you, that the purity of the water supplied by the Corporation to the public maintains its high standard of excellence, and varies little or nothing, from the analysis made and presented to you in December last.

The examination made by me of milk, food, and drugs does not warrant any interference from your Sanitary Committee this quarter.

I am, Mr. Mayor and Gentlemen,

Yours obediently,

VAVASOUR SANDFORD,

M.D., L.R.C.P., Lond., &c., &c.

April 22nd, 1882.

P.S.—I take this opportunity of informing you and the public that for the last two weeks and to the date of this postscript I have not been informed of a single fresh case of scarlet fever, leading me to the conclusion that we have heard of the last of the epidemic.

H. V. SANDFORD.

HEREFORD URBAN SANITARY AUTHORITY.

Hereford, June 30th, 1882.

MR. MAYOR AND GENTLEMEN,

My report for the quarter ending to-day upon the sanitary condition of your city and the rate of mortality therein for this

quarter shows a total of 91 from all causes, eleven taking place in the Workhouse and six in the Infirmary. Of these 91 deaths no less than 30 are amongst infants, and those under five years of age, eight being registered as from measles.

The causes registered for the said total 91 are nine from measles, four from croup, three from diarrhœa, one from erysipelas, thirteen from phthisis, twenty two from pneumonia, bronchitis, and pleurisy, three from heart disease, two from accident, and the balance from old age and disease of a non-zymotic type.

Of prevailing illness it is only necessary for me to call your special attention to measles. From this infantile disease a large number of cases have occurred, more particularly in the St. Owen's district of your city, extending down Scutmill and on to Tupsley parish, most of such cases not demanding the attendance of a medical gentleman. I consequently am unable to give you any authentic number of such cases.

Whooping cough has been prevalent this quarter also, causing four deaths, and a large amount of infantile sickness; both this disease and that of measles (I am of opinion) have been much aggravated and have assumed a serious pulmonary disease in consequence of the unusual, cold and humid weather we have for the last three or four weeks been subject to; no less than seven of the deaths returned as from measles, pulmonary congestion, and bronchitis, are recorded as following such, and truly speaking such pulmonary disease was the actual cause of the deaths, nearly all such deaths occurring during the latter end of June, and days and even weeks after measles making its appearance.

General subjects only demand my mentioning the character or purity of the water supplied by the Water Works; owing to very heavy storms occurring locally (up country) the water has assumed different degrees of colour and opacity at times, but in no instance of sufficient magnitude to lessen its use for dietetic purposes; and the total solids per gallon therein only showing an increase of three grains per gallon twice this quarter during such floods and without a trace of albuminoid ammonia.

I find no necessity to bring any other matter of importance before your committee this quarter, except the ordering your usual precautions to preclude stray dogs from being at large, and to state also that the house to house sanitary survey of your city is being continued by your Inspector of Nuisances to my satisfaction,

I am, Mr. Mayor and Gentlemen,

Your obedient servant,

VAVASOUR SANDFORD,

M.D., L.R.C.P., London, Surgeon, &c.

Bridge House, 28th July, 1882.

HEREFORD URBAN SANITARY AUTHORITY.

Hereford, September 30th, 1882.

MR. MAYOR AND GENTLEMEN,

My quarterly report ending to-day, shows a slight increase of deaths compared with the former ones for this year, there having been registered 94 deaths from all causes this quarter, against 91 for the June and 84 for the March quarters. Of these 94 deaths 12 occurred in the Workhouse and 4 in the Infirmary. This total of 94 gives a death-rate of a fraction over 4 per 1,000 for the last three quarters, or an annual rate of about 16 per 1,000, being 1 per 1,000 only, more for this year against the rate of mortality for the year 1881.

The registered causes of these 94 deaths this quarter point out a large infantile death-rate, there being no less than 43 deaths occurring to infants and those under five years of age out of this total of 94, such being assigned to twenty from measles, three from scarlet fever, three from whooping cough, one from diarrhoea, six from pulmonary diseases, and ten from other infantile ailments of a non-zymotic type, together making 43. Having accounted for this large rate of infantile mortality, it leaves me but little else of record to you bearing upon the balance of the aforesaid 94, all emanating (with the exception of one woman dying from scarlet fever) as from heart and pulmonary disease and two from accident.

Of prevailing illness this quarter, measles assumed a serious aspect during the months of July and August, many cases being amalgamated with or preceding scarlet fever, and of so mild a type as not to be recognised as such fever, and often not until too late for medical men to be called in for advice to be of any avail; hence the large rate of infantile deaths recorded as from measles. This complication of two highly-infectious diseases has predominated in many districts in this county, as well as in many others in the United Kingdom for the last nine months.

Of general subjects to lay before you it gives me pleasure to state that I can find no material alteration in the quantitative or qualitative analysis of the water supplied by the Water Works to your city, such water containing:

Total solids, 7·4 per gallon.

Oxydisable organic matter, 0·700 per gallon.

Hardness, 6 degrees.

Albuminoid ammonia, no trace.

Colour bright and free from taste or smell, maintaining its high standard for purity and excellence.

Touching upon the Food and Drugs Act, I would observe that

I have examined many samples, but in none can I detect sufficient adulteration to warrant further proceedings.

The house to house survey of your city is being continued (although slowly) by the Inspector of Nuisances.

I am, Mr. Mayor and Gentlemen,

Your obedient servant,

VAVASOUR SANDFORD, M.D.

Bridge House, Hereford, September 30th, 1882.

HEREFORD URBAN SANITARY AUTHORITY.

Hereford, 31st December, 1882.

MR. MAYOR AND GENTLEMEN,

I have pleasure in presenting you with my quarterly report, ending to-day, wherein you will find a considerable reduction in the rate of mortality from zymotic disease, compared with my former reports for this year, there being registered only one death from measles, against 19 for last quarter; two only from scarlet fever, six from whooping cough, one from croup, two only from diarrhoea, one from erysipelas, one from rheumatic fever, 13 from phthisis, 11 from bronchitis, pneumonia, and pleurisy, and from heart disease five, two from accident, the balance from old age and other natural causes, together making a total of 96, being two more only than the September quarter; of this total nine occurred in the Union Workhouse and one in the Infirmary.

This total embraces 36 deaths occurring in infants and those under five years of age, the balance ranging from five years to 96.

Of prevailing illness, scarlet fever, measles, and pulmonary disease following, have predominated, but, owing to the mildness of the season and the type of disease, I am thankful to say very few deaths have been the result, with the exception of the sudden and fatal termination of the servant at the hotel, King-street, over which case a coroner's inquest was held; and the four deaths in one family from malignant scarlet fever. The house where this dreadful occurrence took place, being in the parish of Holmer, and outside your city registration district, such deaths will not be numerated in your death returns, although virtually within the boundary of your city. Finding this house very small, and taking into consideration the horrible type of disease existing still at the house after the burial of the four children, the father then falling ill with the same fever, I deemed it desirable (to save the mother's life) to remove her into lodgings, she expecting every hour to be confined. By this timely removal I am in hopes of her safe confinement and her recovery eventually. I would remark your Sanitary Committee

fully concurred in my removing this poor broken-hearted woman to a safe place for such confinement, and have sanctioned the payment of the rent of the lodgings until her recovery. *This case before you is not overdrawn by me as given out*; they are plain honest facts, and although dreadful to read, at the same time have been of some good, they having induced your Sanitary Committee to recommend the desirability of the Town Council to at once either build an hospital for infectious diseases, or (better still) to buy a house suitable for such, and without loss of time to convert such house into a convenient resort for cases I have just laid before you, which although very painful, are perfectly true.

Of general subjects the first is the purity of the water supplied to the city, which, from the following analysis, will convince all of its value.

Total solids, eight grains per gallon.
 Albuminoid Ammonia, no trace.
 Oxydisable organic matter, a trace.
 Hardness, seven degrees.
 Colour bright, free from smell or taste.

From water I will just touch upon *food*, many samples of which I have examined, none of which warrant my interference with the sale of; at the same time, from twelve samples of milk I find the total solids of neither of such twelve to come up to the exact Government standard, viz, ten per cent. of total solids. This deficiency I do not attribute to *adulteration*, but to the washed-out roots and grass that have of late been compelled to be given to the cows, consequent upon the excessive rain and moisture, so unseasonable for the time of year. Going from food and water, let me continue to touch upon the remaining angle of the tripod of the means of existence. I allude to *air*. I am pleased to say, through the assistance of your able and scientific surveyor, Mr. Parker, many houses that were allowing foul air to escape from defective and badly constructed attachments to your main sewers have been rectified and are being continued to be put right wherever turning up. Having Mr. Parker's assistance in so important a question, one that is now made so patent to all classes to be of the greatest consequence, I am only too thankful Mr. Parker is with us.

I must not pass, also, the absolute necessity of the regular inspection of the dairies and milk shops being carried out at stated intervals and reported upon, the fact of my finding four cases of scarlet fever in a house where milk was being sold, and carried from thence to people's houses all over the city, was fraught with serious danger to those using such milk.

The house to house sanitary survey is being continued, although slowly in consequence of the Inspector's time being taken up in the registration and inspection of milk shops and dairies.

Being in a position shortly to lay before you my Annual Report, I will not trespass further upon your valuable time.

I am, Mr. Mayor and Gentleman,

Yours obediently,

H. VAVASOUR SANDFORD,
M.D., L.R.C.P., London, Surgeon.

Bridge House, January 7th, 1883.

It will be seen by this last quarterly report that the character of the water supplied to the City by the waterworks maintains its usual standard of purity, mainly owing to the unceasing energy of our excellent Surveyor and Engineer, Mr. Parker, insisting upon a rapid and continuous cleaning out of the filtering bed material.

The work of the Inspector of Nuisances is comprised in his following letter to me:—

January 6th, 1883.

To Dr. Sandford, Medical Officer of Health.

SIR,

I beg to submit to you my Report for the year ending the 25th day of December, 1882, and in so doing I regret to say that my *Fourth* house to house survey has not been quite completed, it having been delayed in consequence of the many cases of scarlet fever that have occurred, and to which I have had to attend when in existence, and also to attend to the disinfection necessary when recovered, and during which times I did not think it well to go on with my house inspection.

With regard to the Nuisances that have occurred during the year, I find there have been—

From Water Closets, Privies, and Drains	...	146
„ Pigs, Pigs' Wash, and Offal	... ..	61
„ Dung and Ashes...	... ..	101
„ Sundry other causes, such as Over-	} 86	
crowding, Poultry. Smoke, &c.		

Making a Total of 394

My casual inspection of the several Districts of the City, as may be seen by my diary, have been regularly attended to.

The Slaughter-houses and Lodging-houses have had my attention, all of which have been cleaned and limewashed by notice given twice during the year, as required by their special Acts of Parliament.

I have likewise inspected the Public Food and Provision Markets every market-day, and am glad that I have had no case of importance to complain of.

And as you are aware, the Dairies, Cow Sheds, and Milk Shops' Order of Council have had attention; public notices have been prepared, distributed and posted, of extracts from the same, as a guidance for the dealers in milk; and lists have also been posted of all persons licensed to sell milk under the said Order.

I would also mention that ten new water-closets have been fixed under notice in different parts of the City, and that I shall shortly have to bring to the notice of the Committee several cases where water-closet accommodation is not in accordance with these recent instructions to have one water-closet provided to every two houses.

I am, Sir, yours obediently,
 B. B. BRIDGEWATER,
 Inspector of Nuisances.

Having given all matters in detail relative to the prevention of disease it only remains for me to sincerely thank Alderman Cam, the chairman of your Sanitary Committee, and its members for the able assistance at all times rendered to me, more particularly to Alderman Cam, he being a medical gentleman.

I am, Mr. Mayor and Gentlemen,
 Yours obediently,
 H. VAVASOUR SANDFORD,
 M.D., L.R.C.P., Lond., &c.

Bridge House, Hereford, January 7th, 1883.

THE HEREFORD RURAL SANITARY AUTHORITY.

Population (Census, 1881), 17,482.

Parishes, 42.

Area in Acres, 70,974.

Aggregate number of people to acre, 246.

December 31st, 1882.

GENTLEMEN,—Keeping in view the order of the Local Government Board, dated March, 1880, and by direction of Article 18, Section 14, I now present you with my Annual Report, made the end of this year, wherein is set out a summary of all matters comprised in such order; but before going into it I am of opinion it would be more conducive to adhere to my plan in former reports to state that the total number of births amount to 455 this year throughout your 42 parishes.

The deaths in such parishes being 301, against 239 for last year, showing an increase of 62; and by perusing the following table it will be seen that no less than 42 deaths from zymotic disease are in excess of last year's return.

Table showing the number of deaths in each year for the last eight years ending December 31st, 1882, from the eight chief zymotic diseases:—

The Eight Chief Zymotic Diseases in	1875	1876	1877	1878	1879	1880	1881	1882
Smallpox	—	—	—	—	—	—	—	—
Measles	1	6	1	3	—	—	—	19
Scarlet Fever	7	45	11	1	2	—	2	18
Diphtheria	1	—	3	1	4	4	2	3
Whooping Cough	3	12	—	—	7	—	—	6
Typhus Fever	—	—	—	—	—	—	—	—
Enteric Typhoid and Continued Fevers	6	3	2	2	1	4	—	1
Diarrhoea and Dysentry	8	13	2	7	3	10	2	1
	26	79	19	14	17	18	6	48

Thus running the rate of mortality for the year 1882 up to 17 per 1,000 from all causes, as the accompanying table will show.

Table showing total number of Deaths from all causes for the eight years ending December, 31, 1882, in Hereford Rural Sanitary Authority:—

	1875	1876	1877	1878	1879	1880	1881	1882
	323	336	287	274	364	286	239	301
Rate per 1,000	21.3	22.7	19.3	16.0	21.0	14.8	13.6	17.0

This is a serious rise; but when you take into consideration that no less than 37 deaths are attributable to two highly infectious diseases, viz., scarlet fever and measles (the epidemic of which has spread throughout the length and breadth of the kingdom for nine months), and further, considering we have no hospital for the reception of such infectious cases, neither in the city or your Union district, bad as the increased rate of mortality is, we must be thankful it is no higher.

What is more to be regretted is the infantile rate of mortality doubles last year's, as the following table shows :---

Table showing number of Deaths of Infants and those under 5 years of age, from all causes, for the eight years ending Dec. 31, 1882 :—

	1875	1876	1877	1878	1879	1880	1881	1882
	69	107	70	54	92	64	54	108
Rate per 1,000	4.7	7.2	4.7	3.1	5.3	3.3	3.0	6.21

From this table I will proceed to analyse the Tables of Deaths and Sickness in the respective divisions or districts set out by order of the Local Government Board. Taking Table A first :—

Measles, from which are recorded two deaths in the Dewchurch district, seven in the Fownhope district, and 10 in the Burghill, making a total of 19, or just over one per 1,000 of the population of your Union district.

Scarlet Fever was the cause of 18 deaths in your three districts; Fownhope and Burghill having returned eight each. The want of isolation or Hospital accommodation being the chief cause, together with the want of timely information of infection existing until too late to be of any use. Three of the eight cases of Scarlet Fever occurred in one family, residing at Bainton Wood, in the parish of Tupsley, in the Fownhope district; the ages being five, seven, and nine. The cause of this serious mortality was entirely attributable to the fever assuming a typhoid type; owing to a filthy mixen pit being established, and full, only five feet from the back door, giving off most pernicious gases. The other cases in this district are distributed, and most of the deaths occurred from diseases following such fever.

In the Burghill district, four of the eight enumerated died in one house, all belonging to one family, residing at the Railway Bridge, Holmer, just without the Registration district of the city. The respective ages of the children were 8, 5, 4, and 3, all being down with this fearful fever, and all dying within the space of nine days, from 20th to 29th December

TABLE B.
TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1882, in the Four Divisions of the Rural Sanitary District of the Hereford Union; classified according to Localities and Diseases.

NAMES OF LOCALITIES.	NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.												Other Diseases such as Chicken Pox, &c. which the Medical Officer thinks well to record.					
	12	13	14	15	16	17	18	19	20	21	22	23		24	25	26	27	28
	under 5	Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Whooping Cough.	Typhus.	Euteric or Typhoid.	Other or Doubtful.	Diarrhoea and Dysentery.	Cholera.	Rheumatic Fever.	Krysipelas.	Pyæmia.	Puerperal Fever.	Ague.	
1																		
Dewchurch ...	under 5	...	19	17	...	2	7	...	...	...	11	...	2	...	...	...	...	7
Fownhope ...	5 upds.	...	20	30	...	...	12	...	...	...	12	...	...	1	...	...	...	4
Burghill ...	under 5	...	20	18	2	...	11	...	...	...	6	...	3	...	...	...	...	8
County Asylum ...	5 upds.	...	30	20	...	4	4	...	...	...	10	...	3	...	...	...	...	10
	under 5	...	40	40	...	2	20	...	3	2	7	...	2	...	...	...	...	9
	5 upds.	...	30	60	...	7	10	...	5	1	6	...	1	...	...	...	...	10
	under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	5 upds.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals ...	under 5	...	79	75	2	4	38	...	3	2	24	...	7	...	...	...	...	24
	5 upds.	...	80	110	...	11	26	...	5	1	28	...	4	...	...	...	...	24

SOURCES OF INFORMATION.

The figures of the columns following column 12 will have been derived from the returns of the Poor Law Medical Officers, from the practice of public institutions in or near the Sanitary District, and from other medical practices.

The Officer of Health, making this report is desired to state below the numbers of persons returning to this division or district, who have during the year newly come under treatment for ALL KINDS of disease and injury, and of whose cases he has had information.

..... in Workhouse and Workhouse Infirmary.
 590 among Out-door Paupers.
 as In-patients of Infirmary.
 as Out-patients ditto.
 as Out-patients of..... Dispensary.
 250 in Other Practice. *

* This refers to cases of sickness not included in the previous classes, if the Medical Officer of Health has information of such cases from other sources.

last. A more awful calamity it has never been my duty to report. And to make matters worse, the father took the fever and was for some days between life and death, the mother being very near her confinement, and in order to give her a chance, I took lodgings for her away from this pest house, and trust she may recover.

A more malignant type of fever I never witnessed. The house was simply an office in a timber yard, and lately converted into a dwelling, situated on the edge of a cutting of a railway, and sheltered by the road and bridge going over such. Badly ventilated and overcrowded. So much so, that I was obliged to obtain a magistrate's order for speedy interment of some of the children as they died. I have no hesitation in saying that had an hospital for infectious cases been available, or within a reasonable distance, in all human probability some of these lives might have been saved.

Two other cases occurred in the same parish of Holmer, at the County College, in February last, situated a mile away from the Holmer Bridge cases just alluded to. This College is new and fitted up with every sanitary device. The fever was, I believe, undoubtedly brought there by one of the boys returning from the Christmas vacation, whose home had been infected, and soon spread amongst them. By my advice, the College was closed, when a thorough disinfection was carried out; the boys assembling again in about two months afterwards.

The remaining two cases in this district died from the effects or after mischief of this disease.

Your Fownhope district returns two deaths from this fever, one at Holme Lacy, to a boy aged three. This case undoubtedly assumed a very malignant and typhoid type, killing the child in less than four days from the commencement. The typhoid symptoms emanated from the child inhaling dangerous gases from an uncovered cesspit which some months before had had six loads of filth taken out. The other case succumbed more from constitutional debility than from the fever.

Diphtheria comes next to be commented upon in table A., wherein will be perceived three deaths; one in the Dewchurch district dying in 24 hours, having no medical advice in time to be of any avail. The cause plainly pointing to the boy having drunk sewage polluted water out of a foul ditch. The two other cases were in the Fownhope district, one dying from "Pulmonary disease after Diphtheria." Whether (there having been a cess-pool emptied shortly before the child showed

symptoms of Diphtheria) was the cause, it is difficult to say. I am of opinion that it was, the other case in the same district and in the same parish I cannot account for; there being nothing about the house or premises where she died to indicate the slightest cause for Diphtheria to be propagated. One fact, however, must not be lost sight of; this girl went to the same school with the other that died; might she not have obtained latent poison from the first case; both having died within a short time of each other.

Whooping Cough was the cause of six deaths in your respective districts. It has been very prevalent.

Continued Fevers. This year we have only one death to record, as from *Typhoid* which happened to a cattle dealer, who unquestionably contracted the disease many miles away from his house, and simply reached there too late for any medical skill to be of any avail. This is the only death to be commented upon, but by perusing Table B, the table of sickness, will be seen further remarks upon *Typhoid*.

Diarrhœa, &c., only shows one death throughout the whole of your 42 parishes, and needs no comment.

Erysipelas only caused one death this year.

Puerperal Fever also with one death for the whole of your district needs no further remark.

Phthisis is less this year by six, Six cases occurred in the Dewchurch district, seven in the Fownhope, and six in the Burghill districts, very many of these deaths being traced to an hereditary predisposition.

Bronchitis, Pneumonia, and Pleurisy are not in excess.

Heart Disease contributes to swell the death-rate, 28 cases being recorded, two of which were under five years of age.

Injuries record four deaths less this year than last, and

Other Diseases contribute no less than 156 deaths, none of which I need touch upon, more than to state that 55 were under five years of age. Thus ends the summary of the causes of deaths as prescribed by the Local Government Board's Order.

Having fully accounted for all deaths as specified in Table A, to the best of my ability, I will now refer to Table B, wherein new cases of sickness for the last twelve months in the respective four Divisions of your Union District are specified. In presenting you with this statement, you must bear in mind that I apply the same reservation as to the *accuracy of these cases* on

Table B, as I have hitherto done. I believe in every district very many more cases in all classes of disease have taken place than I have been made acquainted with, but from whom I can get no authentic information; and until compulsory notification of infectious disease existing be enforced, so long will these Tables B be erroneous and misleading.

Dewchurch is the first locality presenting, and in it we find from *Measles* no less than 39 cases, ending in two deaths.

Scarlatina returns 47 cases, ending also in two deaths. All these cases are from direct communication, necessitating the closing of two public schools in this district for a time, in order to stamp out the infection, and the disinfecting and cleansing of these premises.

Whooping Cough has been so mixed up with *Measles* that it is an impossibility to give any accurate description of the number of the cases.

Diarrhœa presents about 23 cases, all very mild and no local cause attributable. These are all the cases in this district worthy of note.

Fownhope directs attention to its having had from *Measles* an epidemic, 50 cases of which have come to my knowledge, resulting in seven deaths, these deaths in nearly every case being caused by pulmonary affections afterwards.

Scarlatina shows 38 cases, causing eight deaths, emanating from direct infection, and also necessitating the closing of two public schools for disinfection and purification.

Diphtheria only states two to have occurred, both of which are fully accounted for in Table A.

Whooping Cough is so mixed up with the *Measles* cases that no accurate information can be obtained.

Diarrhœa, &c., needs no comment, nor any other disease in this locality.

Burghill shows a large amount of *Measles*, no less than 70 cases, causing ten deaths, and with few exceptions I obtained no information of such until after death had taken place, the majority of all deaths being registered as from pulmonary complaints as a sequence.

Scarlatina has been very prevalent also in this district, I having positive record of 100 cases, terminating in eight deaths. This district ramifies in a large segment of a circle near the City, and in some places densely populated, the want of Hospital

accommodation being fearfully felt ; in one instance the living having to lie in the same room with the dead, as represented in Table A.

Croup has been prevalent, as also *Whooping Cough*, both of which ran together with Measles in many cases.

Enteric or *Typhoid*, of which seven cases in one house, situated in the parish of Holmer, occurred, the cause being simply the filthy state of the premises, the over-crowded cottage having only a ditch to receive the excreta from ten people, which ran close to the house, and when in flood time blocked up the only drain by the side of it, causing it to overflow and percolating into the well, so poisoning the family. This family only entered on these premises last Candlemas, *i.e.* February 2nd. About the end of May following I ordered a survey to be made of the parish by the Inspector of Nuisances, but I regret to say that no mention is made of these premises whatever on such survey sheets, or the insanitary and overcrowded condition thereof. This I think a very serious oversight of the Inspector's, and fraught with great danger to the public, and one for which I will not be answerable. The balance of the ten cases under this class of disease I have already alluded to ; one, the cattle dealer, who died soon after reaching home, as set forth in Table A ; the other originating from sewer gas being allowed to find its way into a house through a drain in the slop stone in the back kitchen. Two other cases of continued fever need no comment, being very mild.

Diarrhœa, &c., needs little or no mention in this district.

Erysipelas is remarked upon by me in Table A.

This ends the analysis of new cases of disease. It only remains for me now to put before you the Inspector of Nuisances' returns of work done this year, which are as follow :—

Number of nuisances removed by the Inspector of Nuisances for the year 1882 :—

Offensive Ditches, Privies, and Pigsties...	...	141
Defective Drains .. .. .	...	17
Accumulation of Stale Wash and Off Soil	...	46
Bad Privy Accommodation Altered	...	14
Repairs and Ventilation to Cottages	..	11
Overcrowding Abated	... ..	3
Notices Unexpired	... ..	5
		<hr/>
Total ... ..	...	237

and to state that the fifth house to house Sanitary Survey is being made in your district, *but unless* made with more *truthfulness and accuracy* than hitherto done, in every instance, it will be of little use in preventing the propagation of disease. Take for instance the three deaths I have mentioned, from scarlet fever and typhoid, at Bainton Wood; these cases assuming their malignancy from foul gases emanating from a fermenting mixen pit only five feet from the back door! No mention was made on such survey sheets of this property being in this state until I *visited there*. Again, the death at Holme Lacy was unquestionably caused by the filthy cess-pit which was allowed to receive storm water and rain, and when receiving such rendering the fermentation thereof *deadly*, not only killing one little boy, but within an ace of taking off another fine little fellow. This property was returned as having defective sewage pipes! *The only sewage, if you might call it so*, that passed *into* the pipes was from the slop stone in the kitchen and wash house, *there being no w.c.* in the house, and this slopstone and kitchen pipe was severed from the sewer pipe to the cesspool by an intercepting open air service tank or chamber only six feet outside the house, so that it would be an utter impossibility for any gas generated in the cesspool to pass into the house, inasmuch as the pipes leading from such cesspool, *if they contained any gas*, it would at once escape in such open air intercepting chamber, and from thence into the air, both sides of which were trapped.

Again, on such survey sheets, nothing whatever is mentioned about the condition or sanitary state of the Cotts at Holmer, in which house seven cases of Typhoid occurred, and which I have before alluded to on table B. The excuse made by the Inspector of Nuisances for this omission is "he called at this house, but nobody was at home." I can only say that this statement must be accepted for what it is worth, when I tell you Captain Hereford, the owner of this property, on looking over the survey sheets with me at my house, pointed out to me, that not only had this cottage been omitted to be surveyed, but that the adjoining one was also omitted, and *two other cottages* higher up the lane, which the inspector asserts are in Lyde parish and entered on such sheets, *also a large farm house, outbuildings, and homestead with 300 acres of land, all of which no remark or account of any survey had been made on such sheets (made June 3, 1882.)* And so I could go on as your Boards are aware, and what is more to be regretted is (to excuse themselves) these Inspectors have always an excuse at hand, inducing the Board's

to doubt my veracity (in many instances), and placing me in a very unsatisfactory and unpleasant position with them, some of the members positively charging me with making "overdrawn" statements; other members telling me "I was going too fast." All these charges I have great difficulty to refute, as I stand alone unsupported at many of your Boards. The idea of being charged with "going too fast" where life is at stake! I candidly declare if I could save life by adopting railway speed, my conscience would tell me I was doing right.

I have had the honour of acting as Medical Officer of Health to your Board and for the City and County, now for close upon ten years, and I conscientiously declare that during that period, I have never swerved from truth and honour, in carrying out the responsible and unpleasant duties imposed upon me (be the cases ever so unpleasant), having the health of the people in my charge at heart more than pleasing the members at my respective Boards. I respect and am obliged to all such members, but I must be allowed to remark that I cannot think all as scientific sanitarians. If my judgment, or certificates upon this point are erroneous, every Board has the power of appeal to the Local Government Board for an enquiry into my shortcomings. At such enquiry I shall always be ready to vindicate my judgment on such matters.

In conclusion, I would suggest that at every house the Inspectors visit in making the sanitary survey, as soon as such has been inspected, the Inspector leave a card with the words "Inspected this day of 1883," such date to be filled in by ink or pencil. On my visiting these premises, I can demand to see these cards.

The fearful increase of the rate of mortality in your district compels me to state that I cannot be answerable for such unless I have better evidence before me that every house be carefully inspected for the future. When on visiting any house should I find such card and the premises in an *insanitary and unhealthy state my instructions are to serve your respective Boards with regulation notice to this effect.*

This course, will for the future, put a stop to my being compelled to bandy words and hold arguments with ignorant and non-scientific Inspectors of Nuisances, two of which were, a short time ago butchers only, who, to maintain their false statements on the survey sheets, have been allowed to bring the *people* complained of by me, to support them in such statements. Of course I stand alone at each of your Boards, and often is it most difficult and very unpleasant for me when I am told, "why

your own *Inspector says there is nothing the matter with my property.*" Besides which, it is most perplexing for a chairman and Sanitary committee at times to decide. *This card* of inspection, coupled with the survey sheets, and, if necessary, *my certificate*, will, I trust, put a stop to this sort of thing for the future.

I am, Gentlemen,

Your obedient servant,

H. VAVASOUR SANDFORD, M.D.

Bridge House, Hereford, January, 1883.

THE LEDBURY RURAL SANITARY AUTHORITY.

Population (Census 1881) 12,605.

Parishes, 22.

Area in acres, 48, 783.

Aggregate number of people to acre, 258.

December 31, 1882.

Gentlemen,—Pursuant to the order of the Local Government Board, London, dated March, 1880, I have pleasure in presenting you with my Eighth Annual Report of the Sanitary condition of your Town and Union district. In doing so hitherto, it has been my custom to first ascertain, by returns furnished me, the increase or decrease of the rate of mortality, and proceed to inquire personally the cause and influences of either such increase or decrease. This scrutiny leads me to the conclusion that the rate of mortality for the year 1882 has decreased 2 per 1,000 from all causes in your Union district, thus giving you a lower rate of mortality than hitherto ever recorded.

The annexed table shows the number of Deaths annually for the last eight years, as also the variable rate per 1,000 :—

Table showing total number of Deaths from all causes in the eight years ending Dec. 31, 1882.	1875	1876	1877	1878	1879	1880	1881	1882
	260	211	211	219	247	201	223	196

Rate per 1,000	...19·8	16·1	16·1	16·5	18·7	15·9	17·6	15·0
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From this table I would draw your attention to the rate of mortality from all causes in infants and those under 5 years of age hereto attached :—

Table showing Deaths of Infants and those under 5 years from all causes, for the eight years ending Dec. 31, 1882, in the Ledbury Rural Sanitary Authority.	1875	1876	1877	1878	1879	1880	1881	1882
	60	56	42	38	56	44	45	43

Rate per 1,000	. 4·6	4·2	3·2	3·0	4·2	3·3	3·5	3·0
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Having furnished you with these important facts, I now proceed to lay before you a table showing the number of Deaths in each year for the last eight years, ending December 31, 1882, from the eight chief zymotic diseases in the Rural Sanitary District of the Ledbury Union:—

The Eight Chief Zymotic Diseases in	1875	1876	1877	1878	1879	1880	1881	1882
Small Pox ...	0	0	1	0	0	0	0	1
Measles ...	2	1	0	0	3	0	0	0
Scarlet Fever ...	0	10	0	7	0	0	1	8
Diphtheria ...	1	5	2	3	5	2	8	3
Whooping Cough ...	0	4	1	0	3	0	1	0
Typhus Fever ...	0	0	0	0	0	0	0	0
Enteric Typhoid and Continued Fevers	0	0	2	0	0	0	0	0
Diarrhœa and Dysentery	0	4	2	1	0	1	2	3
	3	24	8	11	11	3	12	15

Having now gone through the Death rate, I beg to submit the Births for the eight consecutive years:--

Table showing the number of Births for the last 8 years, ending Dec. 31, 1882, in the Ledbury Rural Sanitary Authority.	1875	1876	1877	1878	1879	1880	1881	1882
	336	341	319	224	318	335	305	356

being the highest number of births on record.

Without further comment, I will proceed to analyze the Local Government Board's Tables A and B; but before doing so, permit me again to remark that I can only vouch for the accuracy of Table A. In Table B, the Table of cases of sickness, I have compiled the facts therein stated to the best of my ability.

Small Pox is the first to be enquired into, from which an infant died in the Workhouse. This child was taken ill with this disease in a common lodging house in your Town. The parents being hop-pickers came for work, but finding the child ill as they supposed from Nettle Rash, the mother brought it to the Union Workhouse, and entered with it as a tramp. On viewing the child, the surgeon at once pronounced it as a case of Confluent Small Pox. On being made aware of this fact, I immediately went over and found every precaution in the way of isolation adopted. The child (only seven months old), died in two days after admission. Vaccination had not been carried out. Every precaution in the way of purification and disinfection was promptly enforced by the master of the Union, and I am happy to say without another case following, the precautionary measures adopted being successful, and further, that by the timely intervention and

stringent sanitary precautions being taken at the lodging house, by burning the beds, sulphuring the rooms and other measures, no fresh case ensued from this serious importation.

Scarlet Fever caused eight deaths in your district, six in the Ledbury and two in the Yarkhill. Two of these at Happy Land, Ledbury, where the house was far from sanitary. Two others also in the town of Ledbury, the cause direct infection, another coming in contact with the first cases alluded to, and one of a doubtful nature. These, with the two in the Yarkhill district, both occurring at Woolhope Common, make the 8. I need only mention this Common, when from the wretched class of houses or huts, together with the total want of sanitation in nearly all, no surprise will be felt at death taking place there, and this brings me to mention

Diphtheria three deaths are recorded as emanating therefrom, all in this parish of Woolhope (Broad Moor Common), the same want of sanitation existing in the houses as on Woolhope Common.

Diarrhoea, &c., only caused three deaths throughout your whole district.

Erysipelas, also only one death.

Puerperal Fever, one death, needing no comment.

Phthisis is two deaths in excess of last year, being 13, six undoubtedly emanating from constitutional tendency.

Bronchitis, Pleurisy, &c., were also in excess of last year, being 35.

Heart Disease is less by 16 this year, being only 21 against 37.

Accidents only show one death this year, against six for last year.

Other Diseases make a total of 107, and needs no remark.

This is the analyses of the deaths on Table A.

Table B. produces :—

Small Pox, one case, already fully commented upon.

Measles has 139 cases, and all part and parcel of the epidemic over the country, but from which no death in the district occurred.

Scarlet Fever records 51 cases distributed over your Union district, resulting in eight deaths as fully described on Table A., the balance (in most cases being of so mild a type as scarcely to be perceptible), was the cause of spreading it, necessitating the closing of four public schools for purification and disinfection.

Whooping Cough being so amalgamated with Measles, prevents my giving any account of its propagation.

Diarrhoea, &c., only records 12 cases, all of a mild type, and not dependent upon local insanitation.

TABLE B.
TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1882, in the Three Divisions of the Rural Sanitary District of the Ledbury Union; classified according to Localities and Diseases.

NAMES OF LOCALITIES.	NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																	
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Other Diseases such as Chicken Pox, or Pesemonia, which the Medical Officer thinks well to record.
	under 5	Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Whooping Cough.	Typhus.	Kutis or Typhoid.	Other or Doubtful.	Diarrhoea and Dysentery.	Cholera.	Rheumatic Fever.	Krysipelas.	Pyæmia.	Puerperal Fever.	Ague.	
1																		
Ledbury	under 5	...	20	12	1	2	7	...	...	...	2	...	...	1	...	...	...	7
Workhouse	under 5	...	60	30	2	...	3	...	...	...	6	...	...	2	...	...	...	14
Yarkhill	under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
	under 5	...	19	3	1	1	3	...	...	...	2	...	...	...	...	...	...	4
	under 5	...	40	6	...	...	7	...	...	...	2	...	...	...	...	...	...	5
Totals	under 5	1	39	15	1	3	10	...	...	...	4	...	...	1	...	...	...	...
	under 5	...	100	36	3	...	10	...	...	...	8	...	...	2	...	...	...	20

SOURCES OF INFORMATION.
 The figures of the columns following column 12 will have been derived from the returns of the Poor Law Medical Officers, from the practice of public institutions in or near the Sanitary District, and from other medical practice.
 The Officer of Health making this report is desired to state below the numbers of persons ascertained to this division or district, who have during the year newly come under treatment for any form of disease and injury, and of whose cases he has had information.

74 in Workhouse and Workhouse Infirmary.
 1000 among Out-door Paupers.
 as In-patients of Infirmary.
 as Out-patients ditto.
 as Out-patients of Dispensary.
 70 in Other Practices. *

* This refers to cases of sickness not included in this previous classes, if the Medical Officer of Health has information of such cases from other sources.

Erysipelas produced three cases in your two districts, and only one death therefrom to an infant.

Having given you the exact analysis of these two tables, I proceed to make some few general remarks upon the sanitary requirements of your Town. I would urge upon you the desirability of obtaining Urban powers, by which you will have full control over trades of an offensive character being carried on. I would also recommend your taking into consideration the necessity of having another tank built the same size as the one now in use, to stow away water now so abundantly running to waste, and so provide for the hot weather and time of drought, that such new tank might be placed above the other, a space being allowed between each tank for air and oxidation. I would further advise that a fifth house to house sanitary survey be carefully made by your Inspector of Nuisances throughout every parish in your Union district.

Annexed is the official return of work for the last 12 months, carried out by your Inspector of Nuisances :—

Number of Nuisances found to exist this year	...	...	120
Consisting of Drains new and repaired	...	...	50
Earth Closets and Privies supplied	...	...	6
New pans to ditto	...	...	2
Overcrowding	...	...	8
Pigstyes removed	...	...	19
Houses disinfected	...	...	19
Cesspools cleansed, repaired and bricked, and removal of offal all and other nuisances	60

—
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The analysis of 27 samples of water obtained from different parishes in your Union have been made by me, six of which were totally unfit for dietetic purposes.

I am, Mr. Chairman and Gentlemen, yours obediently,

VAVASOUR SANDFORD,

M.D., L.R.C.P., London, &c.

Bridge House, Hereford, January 1st, 1883.

THE LEOMINSTER RURAL SANITARY AUTHORITY.

Population (Census, 1881), 9,840.

Area in Acres, 64,316.

Aggregate number of people to acre, 152.

December 31, 1882.

Gentlemen,—Pursuant to the order of the Local Government Board of March, 1880, I now present you with my ninth annual report of the sanitary condition of your Union district. In carrying out their order, it is necessary to attach Table A of the deaths that have taken place in your district, the cause and respective ages. In Table B I have to give an account of all new cases of sickness that have occurred for the last twelve months.

Touching first upon the deaths, it will be at once patent that with the exception of one death from Scarlet Fever, one from Croup, one from Simple Fever, one from Diarrhœa, one from Erysipelas, and one from Puerperal Fever, constitute the total of Zymotic Diseases to be commented upon by me by order of the Local Government Board for the whole of the Leominster Rural Sanitary Authority for the year 1882; and further, I beg to state that the total number of deaths from all causes is now reduced this year to 113 only.

The following table of the eight chief zymotic diseases throughout your Rural District for the last eight years, compiled by myself, will afford you and my readers pleasure on seeing that three deaths only for the whole year constitute the total from such zymotic disease.

Table showing number of deaths in each year for the last eight years ending December 31, 1882, from the eight chief zymotic diseases in the Rural District of the Leominster Union :—

Eight Chief Zymotic Diseases in 1875	1876	1877	1	1879	1880	1881	1882
Small Pox ... ..	...	...	...	...	...	...	...
Measles ... ..	...	...	1	...	2	...	...
Scarlet Fever... ..	4	1	4	...	6	4	1
Diphtheria ... ..	...	...	1	...	2	1	...
Whooping Cough ...	1	1	...	1	1	...	...
Typhus ... ..	...	...	...	...	...	...	...
Enteric, Typhoid, and Continued Fevers ...	...	...	1	1	...	...	1
Diarrhoea and Dysentery	5	2	1	5	3	4	1
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	10	5	5	8	5	15	5

From this table refer to the next, (the total from all causes), wherein will be seen a gradual decline in the Death rate, being now only 11·6 per 1,000 :—

Table showing total number of Deaths from all causes for the eight years ending December 31, 1882 :—

	1875	1876	1877	1878	1879	1880	1881	1882
	157	164	146	129	187	144	134	113

Rate per 1,000 ... 16·5 16·7 15·2 13·4 19·6 14·7 13·6 11·6

Again, by referring to the following Table of Infantile Mortality, it will also be made apparent that good work is taking place :—

Table showing the number of Deaths from Infants and those under five years, for the eight years ending Dec. 31, 1882.

	1875	1876	1877	1878	1879	1880	1881	1882
	22	34	40	35	40	39	31	26

Rate per 1,000 ... 2·2 3·4 4·0 3·5 4·3 4·3 3·1 2·5

These tables, with the one showing the Birth rate, must satisfy all that your Sanitary district is in a very fair condition.

Table showing number of Births for the last eight years, to December 31, 1882

	1875	1876	1877	1878	1879	1880	1881	1882
	280	285	310	274	212	227	231	217

Such statistical records being undeniable proof thereof, I now attach the Local Government Board's Tables A and B referred to, and to analyze same, take first.

Scarlet Fever, one death is recorded in the Bodenham district. The epidemic showed in this district in the end of the year about 27 cases in all, necessitating the closing of the public schools at West Hope Hill for a short time. This fever also made its appearance in two other districts, causing about 30 cases, but all unattended with fatal results, all being of a very mild type, and in order to stamp it out, I advised the closing of two public schools for the purpose of cleansing and disinfecting, which had the desired

effect. These cases of Scarlet Fever really constitute all remarks necessary for me to make relative to Table A.

Table B is of less importance, and only needs my stating that about 40 cases of

Measles were reported, from which no death occurred.

Diarrhœa this year was of so mild a type and of so little magnitude, that I close my analysis of these tables, and let them speak for themselves.

Annexed is the routine work done by the Inspector of Nuisances for the year ending December, 31, 1882 :—

Houses limewashed and repaired	...	...	...	21
Offensive Privies and Cesspools	...	...	...	9
Dilapidated Privies and too near houses	...	...	...	4
Pigs removed from near houses in filthy condition				4
Drains stopped up	...	...	...	8
Wells out of repair	...	...	...	2
Wells with bad water	...	...	...	2
Offensive wash and offal	3
Ash and slop pit near house	1
House unfit for habitation	1

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I am, Gentlemen,

Your obedient servant,

VAVASOUR SANDFORD.

Bridge House, Hereford, January 1, 1883.

TABLE B.
TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1882, in the Three Divisions of the Rural Sanitary District of the Leominster Union; classified according to Localities and Diseases.

NAMES OF LOCALITIES.	NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THESE IN CHILDREN UNDER FIVE YEARS OF AGE.																
	12	13	14	15	16	17	18	Continued Fevers.			23	24	25	26	27	28	
								19	20	21							
							Whooping Cough.	Scarlet Fever.	Typhoid.	Other.	Dysentery and Cholera.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Pneumonia.	Ague.	
1																	
Leominster	...	...	9	7	...	...	...	...	...	...	1	...	...	...	...	...	...
	under 5	...	11	6	...	...	...	...	...	...	1	...	...	...	...	...	4
Bodenham	...	...	7	4	...	...	...	...	...	...	1	...	...	...	...	...	...
	under 5	...	4	6	...	...	...	...	...	...	...	...	...	...	...	...	...
Kingsland	...	...	4	2	...	...	...	...	...	...	4	...	...	...	...	...	...
	under 5	...	3	4	...	...	...	...	...	...	...	...	...	...	...	...	...
	under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	under 5	...	20	13	...	...	...	...	...	...	2	...	...	...	...	...	4
	under 5	...	18	16	...	...	...	...	...	...	5	...	...	...	...	...	...

SOURCES OF INFORMATION.
 The figures of the columns following column 12 will have been derived from the returns of the Poor Law Medical Officers, from the practice of public institutions in or near the Sanitary District, and from other medical practice.
 The Officer of Health making this report is desired to state below the numbers of persons belonging to this division or district, who have during the year newly come under treatment for ALL KINDS of disease and injury, and of whose cases he had had information.

..... in Workhouse and Workhouse Infirmary.
 350 among Out-door Paupers.
 as In-patients of Infirmary.
 as Out-patients ditto.
 as Out-patients of..... Dispensary.
 100 in Other Practice. *

* This refers to cases of sickness not included in the previous classes, if the Medical Officer of Health has information of such cases from other sources.

THE BROMYARD RURAL SANITARY AUTHORITY.

Population (Census, 1881), 11,054.

Area in Acres, 61,659.

Aggregate number of people to acre, 163.

December 31, 1882.

Gentlemen,—Keeping in view the orders from the Local Government Board, of March, 1880, I now (by such order) beg to present to you my ninth annual report of the sanitary condition of your Town and Union district.

In doing so, I have pleasure, as by perusing the annexed table it will be at once made plain that your district is assuming its usual high character for salubrity.

Table showing the number of Deaths in each year for the last eight years ending Dec. 31, 1882, from the eight chief zymotic diseases in the Bromyard Rural Sanitary Authority.

The Eight Chief Zymotic Diseases in	1875	1876	1877	1878	1879	1880	1881	1882
Small Pox	0	No Returns for this year.	0	0	0	0	0	0
Measles	0		1	0	0	8	0	0
Scarlet Fever	0		1	0	0	0	5	2
Diphtheria	0		0	0	0	0	2	0
Whooping Cough	1		0	2	2	0	2	1
Typhus Fever	2		0	0	0	0	2	1
Enteric Typhoid and Continued Fevers...	0		0	3	0	0	1	0
Diarrhœa and Dysentery	7		2	1	1	6	2	1
	10		4	6	3	14	14	5

Having laid before you my calculations of the total deaths from zymotic disease. I now present you with a table showing total deaths in each year for the last eight years, less for the year 1875 :—

Table showing total number of Deaths from all causes in the eight years ending, Dec. 31, 1882.	1875	1876	1877	1878	1879	1880	1881	1882
	206	*	160	190	234	219	184	175

Rate per 1,000 ... 17·2 13·4 15·7 19·3 18·1 16·6 15·2

* No Return°.

I also present you with a Table of Infantile Mortality, and those under five years showing an increase therein for the last year:—

Table showing number of Deaths of Infants and those under 5 years from all causes for the eight years ending December 31, 1882.	1875	1876	1877	1878	1879	1880	1881	1882
	38	*	25	50	56	62	46	52
Rate per 1,000 ...	...3.1		2.0	4.1	4.6	5.1	4.1	4.5

* No Returns.

Having done this I proceed to lay before you the Births for the last six years, none having been furnished me for the years 1875-76.

Table showing number of Births for the last 6 years ending December 31, 1882.	1875	1876	1877	1878	1879	1880	1881	1882
	0	*	300	330	406	298	310	317

* No Returns.

These tables, compiled by myself, prove, although contending against zymotic disease, a less rate of mortality from all causes than hitherto for the past four years.

Referring now (by request) to analyze Table A, I will take

Scarlet Fever, from which two deaths are recorded in the Bockhampton District on Bringsty Common, in the Parish of Whitbourne. The Epidemic showed in this parish, causing about 27 cases, nearly all of a very mild type. I advised the closing and purification of the public schools, many of the children attending them undoubtedly had a touch of the fever, but not necessitating the services of a medical man, no positive evidence could be obtained.

Whooping Cough follows with one death only.

Typhus is returned as being the cause of death to an old man 62 years of age, residing at Fromes Hill, Bishop Frome District. The house he resided in being very unhealthy, would account for this fever.

Diarrhœa, &c., only produces one death in the whole of your districts, and needs no comment from me.

Erysipelas follows with four deaths. Two in the Bromyard district, one to a man 64 at Ullingswick, the other to a labourer 54, living at Bromyard. This case was coupled with *cystitis*, and needs no remark from me. The other two cases occurred, one in the Workhouse to an old man 75, simply from a senile condition; the other to a boy of a Phlegmonias character.

Puerperal Fever is returned as causing three deaths, one at Ullingswick, accompanied with "Peritonitis," another at Bromyard after confinement and "White Leg," the remaining case at Avenbury; this case was accompanied by profuse Diarrhœa.

TABLE B.
TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1882, in the Four Divisions of the Rural Sanitary District of the Bromyard Union; classified according to Localities and Diseases.

NAMES OF LOCALITIES.	NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																	
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Other Diseases such as Chicken Pox, or Pneumonia, which the Medical Officer thinks well to record.
	under 5	
Bromyard...	...	...	2	4	...	...	1	...	...	...	...	...	...	...	...	...	...	2
Bishop's Frome	5 upds.	...	7	3	...	...	2	...	...	...	...	...	...	...	...	...	...	1
Brockhampton...	5 upds.	...	16	2	...	...	3	...	...	...	...	...	...	...	...	...	...	1
Workhouse	5 upds.	...	4	4	...	...	4	...	...	...	...	...	...	...	...	...	...	3
Other Practice...	5 upds.	...	4	5	...	...	2	...	...	...	...	...	...	...	...	...	...	...
Totals	under 5	...	28	18	...	...	8	...	...	...	...	...	...	...	...	...	...	9
	5 upds.	...	30	20	...	...	11	...	...	...	...	...	...	...	...	...	...	10

SOURCES OF INFORMATION.

The figures of the columns following column 12 will have been derived from the returns of the Poor Law Medical Officers, from the practice of public institutions in or near the Sanitary District, and from other medical practice.
 The Officer of Health making this report is desired to state below the numbers of persons belonging to this division or district, who have during the year newly come under treatment for ALL KINDS of disease and injury, and of whose cases he has had information.

- 43 in Workhouse and Workhouse Infirmary.
- 407 among Out-door Paupers.
- as In-patients of Infirmary.
- as Out-patients ditto.
- as Out-patients of..... Dispensary.
- 77 in Other Practice. *

* This refers to cases of sickness not included in the previous classes, if the Medical Officer of Health has information of such cases from other sources.

Phthisis is only set down as causing seven deaths, against 11 for last year. Four are traceable to an hereditary predisposition.

Bronchitis, Pneumonia, &c., caused 29 deaths—slightly in excess of former years.

Heart Disease needs no comment from me, neither do Accidents, and Other Diseases are not in excess.

This being the Analyzes of the Table A, it only needs my mentioning Table B that

Measles showed in all your districts without proving fatal in a single case.

Scarlet Fever also threatened to be at one time a serious matter in all your districts.

Diphtheria occurred to a well-to-do patient, who recovered. No visible insanitation could be found on the premises to account for it.

Whooping Cough was very prevalent where Measles existed.

Continued Fevers produced four cases, one, as already mentioned by me, in the Bishop Frome District, and three others of a *Gastric* or doubtful type in the Bromyard District, the cause being in a great measure insanitation about the premises, which has been since rectified.

Diarrhœa showed in all districts during the summer months, all very mild.

Erysipelas was more prevalent than in former years.

Puerperal Fever was in excess this year, not that I can trace any direct or indirect communication from one case to the other.

Having minutely revised these Tables of Death and Sickness, it only remains for me to report the Inspector of Nuisances work for the last 12 months ending December 31st, 1882.

New Privies erected ..	...	...	...	...	15
Disinfection of houses where fever has been	...	...	...	...	23
Dilapidated houses repaired	...	...	...	...	15
Manure, Offal, &c., removed	...	...	...	...	25
Defective Drains put right ...	...	...	...	...	19
Pumps repaired	...	...	...	...	4
Overcrowding by order	1
Overcrowding in lodging house, fined 1s. and costs	1
11s.	1

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I am pleased to state that very great improvements have taken place in the sewerage of your Town, by which I feel convinced you will add considerably to the welfare of the place; the air surrounding, being of a remarkably pure and bracing character, will induce people seeking a health-giving locality to come and reside in your district.

I am, Gentlemen, your obedient servant,

VAVASOUR SANDFORD, M.D.

Bridge House, Hereford, Jan. 1st, 1883.

WEOBLEY RURAL SANITARY AUTHORITY.

Population (Census, 1881) 8,178.

Area in Acres, 48,959.

Parishes, 28.

Aggregate number of people per acre, 187.

December 31, 1882.

Gentlemen,—The same order from the Local Government Board, as I have before mentioned, will apply also to your Sanitary Authority, and for such purpose Tables A and B have to be filled up by me, but before doing so I would observe that your total of deaths from all causes I am sorry to say amount to 164 against 118 for last year. giving a death rate of over 17 per 1,000 as shown by the following.—

Table showing total number of Deaths from all causes for the eight years ending Dec. 31, 1882:—

	1875	1876	1877	1878	1879	1880	1881	1882
	150	123	113	145	170	153	118	164

Rate per 1,000	...16·4	13·6	12·5	16·0	17·7	16·9	14·4	17·1
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And by perusing the following Table showing the number of Deaths in each year for the last eight years ending December 31, 1882, from the eight chief zymotic diseases:—

Eight Chief Zymotic Diseases in	1875	1876	1877	1878	1879	1880	1881	1882
Small Pox	...	...	..	..	...	...	...	...
Measles	...	...	...	...	...	...	...	9
Scarlet Fever	...	1	5	5	...	3	6	16
Diphtheria...	...	1	...	...	8	5	7	1
Whooping Cough	...	...	...	...	...	...	...	5
Typhus	...	...	...	...	...	...	...	...
Enteric, Typhoid, and Continued Fevers	1	1	...	1	...	1	...	1
Diarrhœa and Dysentery	1	3	1	2	1	4	2	2
	4	9	6	11	9	18	3	33

Thus showing an increase of 30 Deaths from Zymotic Disease alone this year, and what is more to be regretted with the Table following, proves such increase to exist principally amongst Infants, and those under five years of age.

Table showing number of Deaths of Infants and those under five years of age, from all causes, for the eight years ending December, 1882.

	1875	1876	1877	1878	1879	1880	1881	1882
	47	34	21	28	42	41	21	45

Rate per 1,000...	...5·0	3·7	2·3	3·0	4·5	4·4	2·4	4·7
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TABLE B.
TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1882, in the Three Divisions of the Rural Sanitary District of the Weobley Union; classified according to Localities and Diseases.

NAMES OF LOCALITIES.	NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THEM IN CHILDREN UNDER FIVE YEARS OF AGE.																	
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Other Diseases such as Chicken Pox, or Measles, which the Medical Officer thinks well to record.
1																		
Weobley ...	under 5	...	7	10	...	...	2	...	...	...	1	...	...	...	...	...	...	7
Workhouse ...	5 upds.	...	21	42	...	...	8	...	...	...	1	...	...	...	...	...	...	2
Dilwyn ...	5 upds.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Practico... ..	5 upds.	...	...	26	...	...	3	...	...	...	...	...	...	...	...	...	...	3
	5 upds.	...	30	45	...	...	1	...	...	...	...	...	...	...	...	...	...	...
	5 upds.	...	30	15	...	...	2	...	...	...	...	...	...	...	...	...	...	...
	5 upds.	...	20	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	
Totals ...	under 5	...	57	81	...	...	6	...	...	...	4	...	...	...	...	...	...	7
	5 upds.	...	91	117	...	...	10	...	...	...	7	...	...	...	...	...	...	5

SOURCES OF INFORMATION.

The figures of the columns following column 12 will have been derived from the returns of the Poor Law Medical Officers, from the practice of public institutions in or near the Sanitary District, and from other medical practice.

The Officer of Health making this report is desired to state below the numbers of persons belonging to this division or district, who have during the year newly come under treatment for ALL KINDS of disease and injury, and of whose cases he has had information.

- 40 in Workhouse.
- 325 among Out-door Paupers.
- as In-patients of Infirmary.
- as Out-patients ditto.
- as Out-patients of..... Dispensary.
- 108 in Other Practice. *

* This refers to cases of sickness not included in the previous classes, if the Medical Officer of Health has information of such cases from other sources.

From this lamentable evidence I now produce Table of Births for the last eight years :—

Table showing number of Births for the last 8 years ending December 31, 1882.	1875	1876	1877	1878	1879	1880	1881	1882
	220	229	223	224	266	230	210	217

Giving an increase of seven births this year.

This evidence before you I will, without further remark, proceed to investigate, and, as far as practicable, account for such deaths on Table A, taking first

Measles from which nine deaths emanate, five in the Weobley and four in the Dilwyn districts ; this fearfully infectious disease has been very prevalent in all Parishes over which I have little control ; scores of cases having no medical advice until dangerous symptoms set in.

Scarlet Fever caused sixteen deaths, 10 in the Dilwyn district and six in the Weobley. In this district two occurred in one family residing at Bishopstone Common ; a more wretched hut there is not in the whole district ; both deaths were very sudden. In the same room that the eldest boy was dying in, four other smaller children were in bed with the fever, and just outside and only three feet from the dying boy, was his brother lying dead of the same fever. This hut in wet weather is entirely surrounded by water ; during such periods every sort of filth is washed back into a well of drinking water. This den of filth and fever is only one of many built on this most unhealthy Common. I have repeatedly brought this locality before your Sanitary Authority, condemning many of the houses built thereon as unfit for human habitation.

Three more deaths occurred in this district at Moorhampton in one family, all dying more from the effects of Scarlet Fever (Renal Disease) than the fever itself. The sixth death occurred in the parish of Kinnersley, it assuming a Typhoid Type. The water to this house was charged with sewage.

In the Dilwyn District of your Union, I have now to account for 10 deaths, which I can do by simply stating that 36 cases occurred to people residing on Dilwyn Common, this Common containing a large number of Squatters' huts and houses, nearly all of which, having been built by instalments, a century ago, having then only one room, and which has been gradually added to to, entirely without any system of drainage, and very inferior water supply. To isolate was simply impossible ; the fever spread right and left and extended into the village, which, being very low-lying, and having anything but perfect drainage, caused two deaths. From this source of infection, two deaths are also recorded at Pitch Farm, one also from the same source at Eardisland, and one at Blenheim Cottage, three on the Common, and the remaining one at

Birley. All are traceable to direct intercourse or communication with the infected. This Epidemic continued in this district from July until December in spite of closing the public schools for nearly four months, and every other known precaution adopted.

Whooping Cough caused four deaths, many of which were complicated with other infantile maladies.

Continued Fevers follow with a record of one as from Typhoid to a maiden lady, said to originate from butter having been washed in water from a disused well.

Diarrhœa, &c., only point to two deaths throughout your entire district, to two children under five years of age.

Erysipelas caused two deaths to old people.

Phthisis returns nine deaths this year, six above last year's returns.

Bronchitis, Pneumonia, &c., have a less rate of mortality.

Heart Disease an increase, and

Injuries need no remark.

Other Diseases a fraction only over last year.

Thus ends the analysis of Table A.

In commencing to examine Table B (cases of Sickness), I have compiled this Table to the best of my ability; but I must here enter my same precaution, that I cannot vouch for the following being the total number of cases. I believe that in many districts and parishes many more have occurred, but for want of compulsory powers of notification of Infectious Disease by parents and guardians and medical men attending, such cases this evidence has been withheld.

Measles have been fearfully prevalent in all districts and parishes, many having no medical attendant.

Scarlet Fever spread in the Stanton-on-Wye district, compelling the public schools to be closed. One district in this parish I must call your attention to. I am of opinion that Duck Street is in a fearfully unhealthy state, many cases of fever continually occurring, and most unhealthy to the people residing about there and the Common below. The fever made its appearance also at Letton, Kinersley, Almeley, Newton, Mansel Gamage, (wilfully sent there), for doing so I applied for a prosecution under Section 126, which resulted in a dismissal of the case for want of proof of Scarlet Fever existing, Weobley, Monington-on-Wye, Stocking, Dilwyn, Birley, Dilwyn Common, Bush Bank, Sollars, Eardesland, Ruston, Lower Burton, Pitch Farm, Canon Pyon, Henwood, Blenheim, Marsh Mire, Bishopstone, Moorhampton, and many other villages, all of which I gave my personal supervision, entailing no less than 45 visits from January 1st to December 31st, 1882.

Diphtheria is reported to have made its appearance in Burton. The cases I saw I cannot pronounce as true *Diphtheria*, the cause (if they were) being polluted water.

Whooping Cough I have before stated is so mixed up with Measles that it is impossible to mention the one without the other disease.

The *Enteric* case I have already alluded to in Table A.

Diarrhoea, &c., needs no remark, neither

Erysipelas, and with this I close the analysis of both Tables, never forgetting the epidemic of 1882 in your Union District.

It only remains for me to add the Inspector's routine work, which, in the Weobley district is as follows:—

Removal of General Nuisances	...	...	...	77
Cottages supplied with Privies	...	...	...	3
Overcrowding done away	...	...	...	4
Houses condemned as unfit	...	...	...	1
Disinfection where Fever	...	...	...	44
				—
				129

From the Inspector of Nuisances of the Dilwyn District I have returned as follows:—

Drains New and Repaired	...	...	...	29
Pigstyes removed	...	...	...	11
Privies repaired and altered	...	...	...	16
Pumps repaired	...	...	...	2
Farm yards cleaned, &c.	...	...	...	2
Disinfection at 74 houses supplied	...	...	...	74
Disinfected with Sulphur	...	...	...	22
				—
				156

It only remains for me to thank the Chairman and members of your Sanitary Committee for their continued help during this epidemic.

I am, Gentlemen,

Yours obediently,

VAVASOUR SANDFORD,

M.D., L.R.C.P., London, Surgeon, &c.

Bridge House, 7th January, 1883.

SANITARY HINTS.

PURE DRINKING WATER.—Avoid, as far as you can, every water which can even be *suspected* of contamination with the filth from sewers, house drains, privies, cesspools, and the like. See that cisterns and water butts are clean, and especially that the overflow pipes do not open direct into any drain. Water should be clear, colourless, and without smell. Water can only be really tested by a difficult and careful chemical analysis. Drinking-water is the better for being filtered. A costless filter may be thus made:—Take a flower-pot and plug the hole, not too tightly, with a piece of sponge; add a layer of powdered animal charcoal about one inch thick, then the same quantity of clean sand, and on that some coarse gravel. The charcoal should be occasionally re-baked or washed with Condy's Fluid; in epidemics of typhoid fever or cholera, the water should be boiled before filtration.

DRAINS, CLOSETS, &c.—Flush and, if possible, scrub and cleanse once daily with plenty of water, containing some disinfectant, as crude sulphate of iron, chloride of zinc, carbolic acid, or Cooper's Patent Salts. See that the traps are well charged with water, that they do not allow bad smells to escape in the house, and that the main house drain is ventilated by the rain water pipe, by charcoal air filters, or otherwise. The pan of every W.C. ought to have a tube or shaft attached to the soil pipe just below the trap of the pan; this tube ought to be carried rather above the roof or outside the house, not near any window or water cistern. A two-inch zinc pipe will answer every requirement to allow the gases to pass up such tube that may generate or be driven in the soil pipe from a main sewer or cesspool that the soil empties into; thus preventing any party using such W.C. from inhaling and being poisoned by such gas when the pan has been used and the handle is being pulled up for flushing, cleansing, and emptying.

ASH AND PRIVY PITS.—Cover, so as to keep them dry, well drained, thoroughly spread over with ashes or dry earth, frequently emptied, sprinkle with a disinfecting powder—(McDougall's or Cooper's)—and be careful that no slops are thrown in. Decaying animal and vegetable refuse are sources of danger, and should be buried or dug into the earth away from houses. Remove all pigs, poultry, and rabbits, some distance from living rooms.

VENTILATION.—Keep rooms and passages sweet by opening doors and windows for admission of air. Fires greatly promote ventilation. Overcrowding is exceedingly dangerous. Whenever

possible, 500 cubic feet of air breathing space should be allowed to each individual in any sitting-room, bedroom, or work-room. Gas lights contaminate the air very rapidly. Pure air is less dependent on cubic space than on efficient ventilation, which may be secured by the following simple and economical method:—Raise the lower sash of the window two or three inches, and fill in the opening underneath the bottom rail with a piece of wood; this leaves a corresponding space between the meeting rails in the middle of the window, through which a current of air enters and is directed towards the ceiling, whence it should escape by a valvular opening. The fewer persons and things in a sick-room the better. Beds should be freely exposed to the air during the day, and soiled linen should not be kept waiting for washing in unventilated closets.

CLOTHING, FOOD, &c.—While warmth is kept up, transpiration should be free; in summer and autumn a broad flannel bandage should be worn round the abdomen, and the linen should be constantly changed. The food should be plain, fresh, wholesome, and sufficient; avoiding intemperance in both eating and drinking. Bodily weakness favours cholera, typhus, typhoid, and other fever,—therefore, avoid exhaustion, over-fatigue, and fear as much as possible. Milk, rice, meat, soups, potatoes, beans, peameal, bacon, entire wheaten bread and cheese are the cheapest nourishing articles of food. One of the most frequent causes of the early death of young children is improper feeding. The proper food of children is breast milk. When the mother and child are both healthy no other food is required for the first six months. When the child is first born no other food is required, and the practice of giving gruel, butter, honey, and castor oil to new-born babes is prejudicial to their health. When the mother has a deficiency of milk, cow's milk or Swiss milk is the best substitute. It should be given with a third of warm water and a little sugar. For the first six weeks the child should be suckled every two hours in the day and every three or four hours at night. Gradually as it gets older the intervals of feeding may be prolonged. Children should not be fed to keep them quiet but at regular intervals. Mothers should never fall asleep when suckling their babes, as this is one of the most frequent causes of suffocation in bed. A child should not be weaned suddenly, but by degrees, and ought not to have the breast after the ninth month. When the child has cut its front teeth it may have some light food, such as bread, baked finely ground wheaten flour, or milk biscuits, added to its milk, or "Liebig's Food;" and once a day, meat broth or beef tea, with bread or biscuits soaked in it; or the yolk of an egg lightly boiled; when it is a year and a half old, some fine chopped meat—but milk should form the principal part of its food. Solid meat and potatoes, fat pork and fish, which form the food of grown-up people, should on no account be given to children.

In all probability there will be a serious scarcity of Potatoes this year ; therefore to meet this, I recommend

THE NUTRITIVE PROPERTIES OF RICE.—The increase in the consumption of rice has lately attracted the attention of several men of science in Germany, and, amongst other investigations, an attempt has been made by Professor Voit to discover the relative capacity which various forms of nourishment possess of being incorporated into the system. He has drawn up the following table of the percentage which remains in the body, and of that which leaves it :—

			Percentage incorporated.		Percentage which is not retained.
Meat ...	...	...	96·7	...	3·3
Rice ...	...	...	96·1	...	3·9
Eggs ...	...	...	94·8	...	5·2
White bread ...	...	...	94·4	...	5·6
Maize...	...	...	93·3	...	6·7
Potatoes ...	...	...	90·7	...	9·3
Milk ...	...	...	88·9	...	11·1
Black bread ...	...	...	88·5	...	11·5

According to these results (the *Bremer Handelsblatt* remarks) meat and rice leave the smallest amount of residuum, and occasion the smallest excessive exertion to the digestion, and in fact introduce the minimum quantity of ballast into the human frame. Dr. König, of Münster, considers that the fact of large masses of population living on rice is easily accounted for, and in summing up the information collected upon the subject, Professor Voit remarks that potatoes, when consumed in excessive quantity, fail to nourish the frame effectively, make the blood watery, and render the muscles weak. Apart from the subject dealt with in the table drawn up by Professor Voit, the question of the relative nutritive value of rice and potatoes has been investigated by Dr. König, who is of opinion that if similar quantities of both articles are compared, the former possesses four times the value of the latter in really nutritive properties. It is also remarked that the introduction of rice as a substitute for potatoes is facilitated by the fact that no such variation takes place in its quality as is the case with the potato, which is liable to be materially influenced by the effects of unfavourable weather.

THE SICK ROOM.—Keep sweet by a small fire and plentiful supply of fresh air, as above described. Remove bed-curtains, window-hangings, and carpets. Sweep rooms daily, and let the floor be frequently rubbed with a damp cloth or dry rubbed, and when necessary chloride of lime or acetic acid sprinkled from time to time on the floor. Keep within reach of the patient a basin charged with disinfectant for him to spit into; and have close at hand a tub or pail of diluted disinfecting fluid, into which should be immediately thrown any article of clothing removed from the patient. Instead of a pocket handkerchief use small pieces of rag, to be immediately burnt after use. A piece of mackintosh sheeting placed beneath the sheet or blanket of a bed prevents discharge soaking through. A tea-cup full of green copperas solution, 2lbs. to a gallon, put into the night pan before it is used by the patient renders the discharge harmless. Matters discharged from the body should be received in a vessel containing active disinfectants, as about half a pint of either of the following solutions, namely:—Of 2lbs. of sulphate of iron in a gallon of water; one quart of chloride of zinc to three quarts of water; four fluid ounces of carbolic acid (Calvert's No. 5) to a gallon of water. Glasses, cups, and other utensils of the sick room should be cleansed before they are used by other persons. Hang, outside door of room, a sheet or old counterpane, and keep it moistened with some disinfecting solution.

INFECTED CLOTHING AND BEDDING.—Soiled linen, bedding, and such woollen articles as admit of washing, on being removed from the patient should be plunged into boiling water before they are taken from the room, and, in addition, for an hour or two, into a tub of solution of four fluid ounces of carbolic acid (Calvert's No. 5) to a gallon of water; after this they can be boiled and washed. Cloth clothes, mattresses, beds, pillows, &c. (in the absence of a proper public disinfecting establishment, which should be so constructed that its temperature can be well regulated and maintained at from 240 dg. to 250 deg. Fahr. for four or five hours), should be disinfected by smoking with brimstone, exposure in the open air, to the sun, if possible, or if raining in front of a large fire. Washing and lime-whiting of premises should be attended to periodically.

THE PATIENT.—Separate the sick person from the healthy as soon as possible. In cases of scarlet fever, on the seventh and eighth days, anoint the surface of the body twice a day, with camphorated lard or palm oil, or wash with diluted Condy's Liquid. When the patient is sufficiently strong let him take a warm bath, and afterwards be well washed with carbolic acid-soap and water. During a week or ten days from this time he may be kept apart, repeating every two or three days the disinfecting ablutions; after which time he can, with safety, mix again with his family.

Scarlet Fever and Small Pox seldom spread beyond the sick-room when separation and disinfection have been properly used. Whenever children have sore throats or an eruption on the skin, they should be separated from the rest of the family until they have had medical advice or those symptoms have disappeared. Measles and Whooping-cough are contagious, and cases should be more carefully isolated and nursed than is usually done. In the event of death early burial is very desirable. Powdered charcoal, 2 lbs., Cooper's Patent Salts, or good Carbolate Powder, or sawdust nearly saturated with a solution of chloride or sulphate of zinc, placed in the coffin retards decomposition and putrefaction, or takes away offensive smells by absorbing noxious gases.

NURSES AND ATTENDANTS.—Woollen dresses are to be avoided, and preference given to washing materials. Prevent contact, as much as possible, between attendants and inmates of the house. After handling the sick or things connected with them, let the nurse be careful immediately to wash her hands in diluted Condyl's liquid, or with carbolic acid-soap.

DISINFECTANTS.—For *Nuisance Prevention*, as detected by the nose test, those most generally used are Chloride of Lime, Cooper's Salts, Condyl's Fluid, Burnett's Liquid, Chloralum, Carbolic Acid, and its compounds. Chloride of Lime and Chlorine require care and experience in management; when used too freely in inhabited rooms, they give rise to irritation of the lungs and air passages. Burnett's Fluid and Carbolic Acid are most efficacious but are poisonous, and the latter possesses a very strong smell, which to many persons is extremely offensive. Ten pounds of sulphate of iron, five gallons of water, and half a pint of common carbolic acid form a good and cheap disinfectant for drain. Iodine, volatilized on a heated surface, is an excellent disinfectant, but is expensive. Carbolic Acid, Chlorozone, or Condyl's Liquid improve the air when diffused by means of a large brush, a scent spray or the hydronette syringe with rose. For *Infection Prevention*,—should be thorough—not diluted, applied in considerable strength; while the room is occupied by the living it is impossible to use volatile or aerial disinfectants in such quantity as to be of real service. When the room is vacated, to disinfect thoroughly, close the windows, stop up the chimney and every aperture and outlet from the room, and use sulphur in the proportion of $1\frac{1}{2}$ oz. for every 100 cubic feet of space. The sulphur may be safely burnt in a shallow pipkin or coarse earthenware saucer containing some live coals or coke; the saucer should be supported on a pair of tongs laid across a pail of water, so that in case of accident the burning sulphur may fall into the water and do no injury. The room should be closed for twelve hours—then the wall papers should be removed, stripped off, and burnt; the walls, ceiling, floor, painted parts of the room and articles of furniture washed with

solution of a carbolic acid, and the ceilings and walls lime-washed, the room should be unoccupied and freely open to the external air for a fortnight, if possible, for plenty of fresh air is the truest, best, and cheapest disinfectant.

VACCINATION.—Every child should be vaccinated before the third month ; if delayed beyond that period, it may increase the irritation of teething. Skin rashes are often erroneously said to be caused by vaccination. All persons should be re-vaccinated after eight years of age,—and when Small Pox prevails in a family or neighbourhood.

Clergymen, medical practitioners, Scripture readers, and other persons interested in Sanitary reform living in the district, are invited to inform the Medical Officer of Health, and the Sanitary Inspectors, of any nuisances which they discover in their neighbourhood—such communications to be considered strictly confidential; Every ratepayer has a right of complaint, and it is only by such co-operation that Sanitary Officers have a power of remedying nuisances and of checking the ravages of epidemic disease,

