

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

ZYMOTIC MORTALITY IN LONDON.

THE accompanying diagram shows the prevalence of the principal zymotic diseases in London during each week of the fourth quarter of 1890. The fluctuations of each disease during the period under review, and its fatal prevalence as compared with that recorded in the corresponding weeks of recent years, can thus be readily seen.

Small-pox.—Not a single death from this disease was registered in London during the last three months of 1890, the average number in the corresponding periods of the preceding ten years, 1880-89, having been 103. During the whole of last year only 3 fatal cases of small-pox were registered in London. One small-pox patient was admitted to the Metropolitan Asylums Hospitals during last quarter, and no patient remained under treatment at the end of December last.

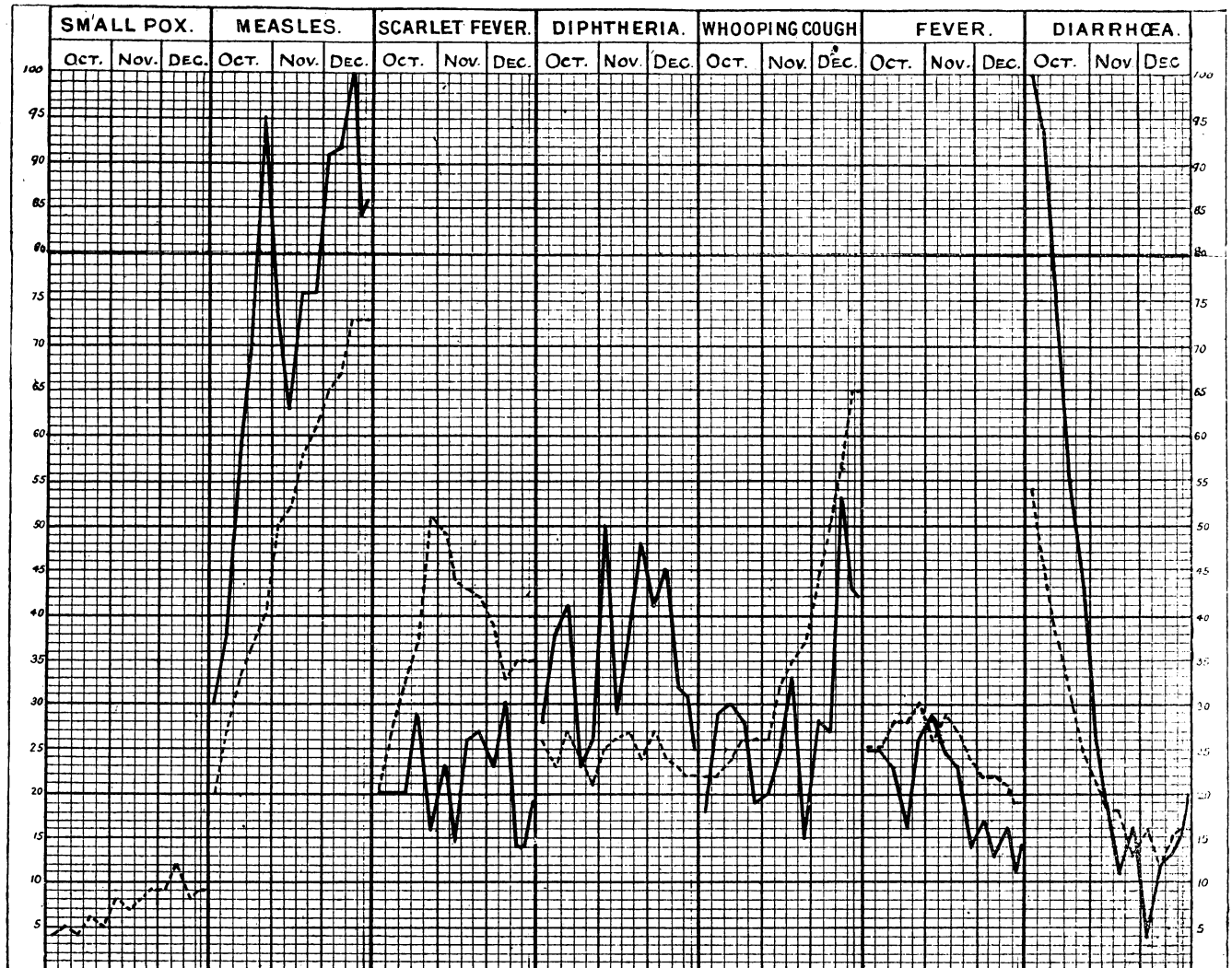
Measles.—The deaths referred to measles, which had increased from 218 to 937 in the preceding five quarters, further

rose to 1,034 during the fourteen weeks ending January 3rd last, and exceeded by 305, or more than 40 per cent., the corrected average number. Among the various sanitary areas of the metropolis the highest proportional fatality of measles was recorded in Hammersmith, Bethnal Green, St. George-in-the-East, Stepney, Mile End Old Town, Poplar, St. Saviour Southwark, Newington, Camberwell, and Woolwich.

Scarlet Fever.—The fatal cases of this disease, which had been 167 and 227 in the preceding two quarters, further rose to 296 during the period under notice, but were little more than half the average number in the corresponding quarters of the previous ten years. The number of scarlet fever patients in the Metropolitan Asylum Hospitals, and in the London Fever Hospital, which had been 1,083, 1,247, and 1,681 at the end of the first three quarters of 1890, was 1,593 at the end of December last. The number of cases admitted to these hospitals, which had risen from 1,082 to 2,162 in the preceding three quarters, further increased to 2,419 during the last three months of 1890. Among the various sanitary areas the mortality from scarlet fever was highest in St. Giles, St. Luke's, Bethnal Green, St. Saviour Southwark, and Bermondsey.

Diphtheria.—The deaths referred to diphtheria in London, which had been 227 and 308 in the preceding two quarters, further rose to 494 during the three months under notice, and

DEATHS FROM ZYMOTIC DISEASES IN LONDON DURING THE THIRD QUARTER OF 1890.



NOTE.—The black lines show the recorded number of deaths from each disease during each week of the quarter. The dotted lines show the average number of deaths in the corresponding week of the preceding ten years, 1880-89, corrected for increase of population.

exceeded by 153, or nearly 50 per cent., the corrected average quarterly number. The weekly deaths showed an excess almost throughout the quarter. The number of cases of diphtheria admitted into the Metropolitan Asylum Hospitals, which had been 185, 211, and 303 in the first three quarters of last year, further rose to 369 during the three months ending December, and 159 patients remained under treatment at the end of the year. Among the various sanitary districts diphtheria was proportionally most fatally prevalent in Paddington, Hammersmith, Chelsea, Pancras, Holborn, St. Luke's, Shoreditch, Bethnal Green, Whitechapel, and St. George-in-the-East.

Whooping-Cough.—The fatal cases of whooping-cough, which had declined from 1,227 to 588 in the preceding three quarters, further fell to 410 during the last three months of 1890, and were 121, or nearly 25 per cent., below the corrected average number. Among the various sanitary areas this disease showed the highest proportional fatality in Fulham, St. George Southwark, Bermondsey, and Rotherhithe.

Fever.—Under this heading are included deaths from typhus, typhoid fever, and simple and ill-defined forms of continued fever. The deaths referred to these different forms of "fever," which had been 92 and 175 in the preceding two quarters, further rose to 277 during the period under notice, but were 68, or 20 per cent., below the average, although they exceeded the number in the corresponding period of either of the preceding two years. Of these 277 deaths from "fever," 3 were referred to typhus, 265 to enteric fever, and 9 to simple and ill-defined fever. The Metropolitan Asylum Hospitals contained 151 cases of enteric fever at the end of December, against 51 and 140 at the end of the preceding two quarters; and 274 new cases were admitted during the last three months of 1890, against 80 and 204 in the previous two quarters. Among the various sanitary areas "fever" was proportionally most prevalent in Fulham, Hampstead, St. Giles, Bethnal Green, and Poplar.

Diarrhoea.—During the period under notice 508 deaths resulted from diarrhoea, exceeding the corrected average by 176, or more than 50 per cent. Among the various sanitary areas this disease showed the highest proportional fatality in Clerkenwell, St. George-in-the-East, Stepney, St. Saviour Southwark, St. Olave Southwark, Rotherhithe, and Greenwich.

In conclusion, it may be stated that during the fourth quarter of 1890 the 3,019 deaths referred to these principal zymotic diseases very slightly exceeded the average number in the corresponding periods of the preceding ten years, 1880-89. The mortality from measles, diphtheria, and diarrhoea showed a marked excess, whilst those of each of the other zymotic diseases was considerably below the average.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

The Registrar-General has just issued his quarterly return relating to the births and deaths registered in England and Wales during the fourth or autumn quarter of 1890, and to the marriages in the three months ending September last. The marriage-rate exceeded that recorded in the corresponding quarter of any year since 1883, and was considerably above the mean rate in the third quarters of the preceding ten years 1880-89. The mean temperature of the air last quarter at the Royal Observatory, Greenwich, was 40.8°, and was considerably below the average; it was slightly below the average in October, showed a slight excess in November, and was considerably below the average in December. The rainfall during the quarter amounted to 3.4 inches, and was less than half the average.

The births registered in England and Wales during the three months ending December last were 205,706, equal to an annual rate of 27.8 per 1,000 of the population, estimated by the Registrar-General to be nearly twenty-nine and a half millions of persons. This birth-rate was the lowest ever recorded in the last quarter of the year, and as much as 12 per cent. below the mean rate in the corresponding quarters of the preceding ten years. The birth-rate in the several counties during the quarter under notice ranged from 18.7 in Rutlandshire, 21.4 in North Wales, and 22.4 in Sussex to 32.5 in Northumberland, 32.7 in Durham, and 33.1 in Monmouthshire. In the twenty-eight large English towns for which the Registrar-General publishes weekly returns, the birth-rate

last quarter averaged 28.0 per 1,000, and was only slightly above the general English rate. In London the birth-rate was 27.2 per 1,000, while in the twenty-seven provincial towns it averaged 28.7, and ranged from 21.4 in Brighton and in Huddersfield, and 22.4 in Nottingham to 36.5 in Cardiff and 39.3 in Newcastle-upon-Tyne. The births registered in England and Wales during the quarter under notice exceeded the deaths by 58,280; this represents the natural increase of the population during that period.

From returns issued by the Board of Trade, it appears that 61,691 emigrants (including 18,229 foreigners) embarked from the various ports of the United Kingdom at which emigration offices are stationed: of these, 31,026 were English, 4,126 Scotch, and 8,122 Irish. The proportion of British emigrants to a million of the respective populations of the three divisions of the United Kingdom were 1,055 from England, 1,001 from Scotland, and 1,728 from Ireland. The proportion of emigrants from England and Scotland showed a considerable decline from the average proportions in the December quarters of recent years, while the proportion of Irish emigrants corresponded with the average.

During the fourth quarter of 1890 the deaths of 147,426 persons were registered in England and Wales, equal to an annual rate of 19.9 per 1,000 of the estimated population. This rate was 1.0 per 1,000 above the mean rate in corresponding quarters of the preceding ten years, and exceeded the death-rate in any December quarter since 1884. Among the urban population of the country, estimated at more than nineteen millions of persons, the rate of mortality during the quarter under notice was equal to 21.2 per 1,000; in the remaining and chiefly rural population of more than ten and a quarter millions, the rate was 17.5 per 1,000. The urban rate was 1.2, and the rural rate 0.7 per 1,000 above the mean rate in the fourth quarters of the preceding nine years. Among the twenty-eight large English towns the mean death-rate was 22.1 per 1,000; in London the rate was 21.3, while in the twenty-seven provincial towns it averaged 22.7 per 1,000, and ranged from 16.5 in Derby, 17.8 in Nottingham, and 17.9 in Hull, to 25.9 in Bolton, 31.4 in Manchester, and 31.7 in Preston.

The 147,426 deaths registered in England and Wales during the three months ending December last included 4,929 from measles, 4,110 from diarrhoea, 2,303 from whooping-cough, 2,038 from scarlet fever, 2,007 from "fever" (including typhus, typhoid, and simple fever), 1,678 from diphtheria, and only one from small-pox; in all, 17,066 deaths were referred to these principal zymotic diseases, equal to an annual rate of 2.30 per 1,000, against an average rate of 2.18 in the preceding ten corresponding quarters. The mortality from measles, diarrhoea, and diphtheria showed an excess, while that from each of the other zymotic diseases was below the average. Only one death from small-pox was registered during the quarter, making but 15 during the whole of the year. In the Metropolitan Asylum Hospitals only one small-pox patient was under treatment during last quarter.

The rate of infant mortality, or the proportion of deaths under one year of age to registered births, was equal to 170 per 1,000, and exceeded by 30 per 1,000 the mean proportion in the December quarters of the preceding ten years, 1880-89. In London the rate of infant mortality was 175 per 1,000, while it averaged 201 in the twenty-seven provincial towns, among which it ranged from 147 in Portsmouth, 154 in Derby, and 158 in Hull to 228 in Halifax, 248 in Oldham, 249 in Blackburn, and 286 in Preston.

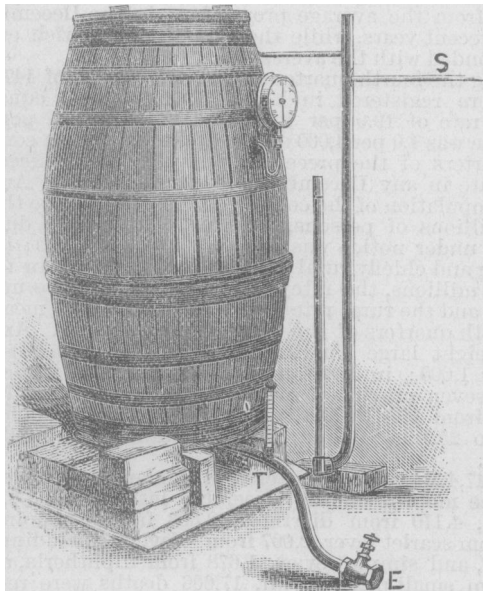
AN EXTEMPORISED DISINFECTOR.

SIR,—A note on a simple form of disinfectant in use here will be of interest in connection with the leading article published in the BRITISH MEDICAL JOURNAL of January 17th.

A case of scarlet fever occurred which rendered it necessary that we should possess some means of practical disinfection. Reference to the discussion on this subject at the recent annual meeting at Leeds made it clear that steam at low pressure gave unequivocal and satisfactory results. We, therefore, connected a large wine cask with the steam boiler in such a manner that the dry steam entered at the upper part and escaped at the bottom. A gauge registered the pressure at about 3 lbs., and a thermometer inserted into the outlet pipe showed a minimum temperature of 212°. In order that the

penetrating quality of the steam under these circumstances might be tested, a tightly rolled blanket was placed in the barrel. In twenty minutes it was removed, and the minimum thermometer, which had been wrapped in the innermost folds of the blanket, was found to have stood at 212°. The apparatus stands in the open air at a distance from the boiler, and it was, therefore, necessary to dry the steam by providing a U-tube of calculated length to maintain the pressure of steam by a column of condensed water, and to act as a safety valve.

The practical result of the employment of this inexpensive and easily provided apparatus was that the threatened epidemic did not extend, and that the articles disinfected suffered very little harm. For instance, a yellow covered novel showed only slight blisters on the boards after twenty minutes in the steam. The chemical disinfectant used was creolin.



The accompanying drawing shows the disinfecter ready for use—S, pipe conducting steam to cask; E, escape pipe; T, thermometer.—I am, etc., A. R. URQUHART, M.D.
James Murray's Royal Asylum, Perth.

MEDICAL OFFICERS OF WORKHOUSES.

LEX writes to ask if it is compulsory for the medical officer of a workhouse to reside in the district (*sic*) in which the workhouse is; and if not, what distance away is allowed.

. It is not necessary for a workhouse medical officer to reside in the Poor-law medical district in which the workhouse is; but it is, of course, expected that he should reside within easy reach. We are not aware that an actual distance for residence has been fixed.

THE CUBIC CAPACITY OF W.C.'S.

DR. B. JONES, D.S.Sc. Victoria University (Leigh, Lancs.), writes: The notice of Surgeon-Major McNamara's "new water-closet" brings strongly to mind my thoughts on the subject a few months ago. Being at that time studying sanitary subjects, I devised a similar plan, which I rejected on account of its unsightliness. There is one point about water-closets on which authorities are silent, and that is the cubic capacity of the room where the closet is fixed. I had a little discussion on the matter with one of my examiners for the diploma in sanitary science, and although I differed from his views, I naturally was backward in supporting my own opinion. The examiner said that it was best to have a small closet, and not more than 8 feet or so high, on account of the difficulty of dusting and keeping a lofty room clean. A little thought will, however, show that this view is wrong. The usual sojourn in such necessary apartments is probably not less than ten minutes, and at times is more. The necessity of ventilation is well known and generally provided for more or less efficiently, but during the temporary occupancy this is often interfered with, and if the sole means of ventilation be a window, it is disgusting to think of the abominations people breathe into their lungs whilst shut up in a cabinet perhaps not containing more air space than 100 cubic feet. So far from having small closets, the necessity for cubic space is quite as great as in any other room. Very few closets are quite (as they ought to be) odourless. In private houses the practice of having the water-closet in the bathroom, if this be a roomy one, is in my opinion a good one,

as any effluvium is diluted. It is quite true that cubic capacity, as laid down by Parkes, cannot take the place of efficient ventilation for living or sleeping rooms; yet for such temporary dwelling places it has a great importance. Without attempting to fix any special limit, I think that a minimum of 500 feet ought to be aimed at. I have consulted the usual textbooks, but they make no mention of this important point.

WORKHOUSE MILK.

ANALYSIS, who is a workhouse medical officer, wishes to know if it is his duty to analyse the milk supplied to the workhouse if ordered to do so by the guardians, and as he feels he cannot do it himself, whether he ought to apply to the guardians for a fee for getting it done.

. We do not consider it to be a duty of the workhouse medical officer to make any such analyses, and if, in consequence of an order of the guardians, he employs a skilled analyst, we believe he could claim a proper fee for the work.

CERTIFICATION OF PAUPER LUNATICS.

W. V. M., medical officer of No. 1 district in a country union, writes to ask if the medical officer of No. 4, an adjoining district, can certify to the lunacy of patients residing in No. 1 district.

. The medical officer of any district can certify to the lunacy of patients residing either in his own district or any other, if called upon to do so by the magistrate who acts in the case. Some magistrates prefer not calling on the medical officer of the district in which the patient resides to perform this duty, and in such cases the medical officer, as he does not certify, cannot of course claim any fee.

DUTIES OF MEDICAL OFFICERS OF HEALTH UNDER THE NOTIFICATION ACT.

H. writes: Who made the "Medical Officer of Health to a large District" (who writes in the *BRITISH MEDICAL JOURNAL* of January 31st) a ruler and a judge over the equally qualified certifying practitioner, or over the framers of the Act, by which he is, in "protecting the public health," directed to receive the certificate?

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns, including London, which have an estimated population of 10,010,426 persons, 6,215 births and 4,284 deaths were registered during the week ending Saturday, January 31st. The annual rate of mortality in these towns, which had declined from 28.7 to 25.1 per 1,000 in the preceding four weeks, further fell to 22.3 during the week under notice. The rates in the several towns ranged from 13.2 in Nottingham, 13.6 in Derby, 16.1 in Hull, and 18.0 in Portsmouth to 27.0 in Salford, 27.9 in Manchester, 29.5 in Halifax, and 32.9 in Preston. In the twenty-seven provincial towns the mean death-rate was 22.5 per 1,000, and slightly exceeded the rate recorded in London, which was 22.1 per 1,000. The 4,284 deaths registered during the week under notice in the twenty-eight towns included 379 which were referred to the principal zymotic diseases, against 404 in each of the preceding two weeks; of these, 113 resulted from whooping-cough, 93 from measles, 45 from scarlet fever, 45 from diphtheria, 43 from diarrhoea, 40 from "fever" (principally enteric), and not one from small-pox. These 379 deaths were equal to an annual rate of 2.0 per 1,000; in London the zymotic rate was 1.8, while it averaged 2.2 per 1,000 in the twenty-seven provincial towns, among which it ranged from 0.0 in Plymouth and in Wolverhampton, and 0.4 in Brighton and in Portsmouth to 3.9 in Salford, 4.4 in Manchester, 4.7 in Bristol, and 7.0 in Preston. Measles showed the highest proportional fatality in Birkenhead, Manchester, Bristol, Oldham, and Preston; scarlet fever in Preston; whooping-cough in Birmingham, Salford, and Huddersfield; and "fever" in Birkenhead. Of the 45 deaths from diphtheria recorded during the week, 25 occurred in London, 5 in Salford, 3 in Manchester, 2 in Preston, and 2 in Birmingham. No death from small-pox was registered during the week, either in London or in any of the twenty-seven provincial towns; and no small-pox patients were under treatment in the Metropolitan Asylum Hospitals on Saturday, January 31st. These hospitals contained 1,343 scarlet fever patients on the same date, against numbers steadily declining from 2,024 to 1,396 at the end of the preceding twelve weeks; 93 new cases were admitted during the week, against 106 and 99 in the previous two weeks. The death-rate from diseases of the respiratory organs in London was equal to 7.4 per 1,000, and considerably exceeded the average.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday, January 31st, 853 births and 690 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had declined from 28.8 to 24.9 per 1,000 in the preceding three weeks, rose again to 26.4 during the week under notice, and was 4.1 per 1,000 above the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest death-rates were recorded in Greenock and Aberdeen, and the highest in Paisley and Glasgow. The 690 deaths registered in these towns during the week under notice included 65 which were referred to the principal zymotic diseases, equal to an annual rate of 2.5 per 1,000, which exceeded by 0.5 the mean zymotic rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Edinburgh, Paisley, and Glasgow. The 361 deaths registered in Glasgow included 22 which were referred to whooping-cough, 6 to measles, and 6 to scarlet fever. Four fatal cases of whooping-cough were recorded in Edinburgh, and 2 of diphtheria in Greenock and in Paisley. The death-rate from diseases of the respiratory organs in these Scotch towns was equal to 7.1 per 1,000, against 7.4 in London.

HEALTH OF IRISH TOWNS.

IN the sixteen principal town districts of Ireland the deaths registered during the week ending Saturday, January 24th, were equal to an annual

rate of 34.2 per 1,000. The lowest rates were recorded in Kilkenny and Armagh, and the highest in Waterford and Lurgan. The death-rate from the principal zymotic diseases averaged 1.7 per 1,000. The 260 deaths in Dublin were equal to an annual rate of 38.4 per 1,000 (against 36.0 and 37.1 in the preceding two weeks), the rate for the same period being 25.7 in London and 19.7 in Edinburgh. The 260 deaths in Dublin included 8 which were referred to the principal zymotic diseases (equal to an annual rate of 1.2 per 1,000), of which 5 resulted from different forms of "fever," 2 from diarrhoea, and 1 from whooping-cough.

BRISTOL (Population, 229,361).—*Typhus Cases: Retrospective Statistics: Influenza.*—The death-rate of this city for 1889 (17.5 per 1,000) was but little above that of the previous year, the lowest ever recorded. Bristol stands well amongst the large towns, no other town with a population of 200,000 having so good a zymotic rate, only one having a better rate of infantile mortality, and two (Nottingham and London) having a more favourable general rate. The most prevalent diseases in 1889 were measles and whooping cough. Enteric fever showed a slight increase. For the first time in five years typhus fever made its appearance. The outbreak was small and confined to one locality, and everything pointed to the introduction of infection from outside the city. Two cases belonged to the first quarter of 1890, but as to a third case, reported on June 10th last, Dr. Davies had doubts as to its authenticity. A feature of the report for 1889, which is of some interest and considerable importance, is the table showing the prevalence of zymotic diseases during the last thirty-four years. A chart is also given which shows graphically the yearly variations of these diseases and their epidemic and inter-epidemic rises and falls. It is noticeable that influenza had a place in the returns up to the year 1880, when two deaths were recorded; but the total of deaths from that disease was only 102, whereas during the epidemic of 1890 no fewer than 48 deaths were either primarily or secondarily caused by it. The fatality from diseases of the lungs, brain, and heart increased enormously at the same time, and the death-rate was higher than has been recorded for any quarter during the past fifteen years. Dr. Davies points to the large number of deaths annually registered from phthisis, and thinks that some effort should be made to control the spread of that disease. He announces that he will be glad to undertake disinfection of clothes, bedding, and rooms in phthisical cases upon application by the medical attendants.

BEDFORD URBAN AND RURAL (Population, 26,338 and 22,858).—*Enteric Fever and Diphtheria spread by Careless Personal Intercommunication.*—Dr. C. E. Prior is able to give very satisfactory statistics in his reports for 1889. The public health was uniformly good, except for some prevalence of enteric fever in the rural district, and the persistence of diphtheria in certain localities. Dr. Prior discusses these subjects at some length, giving details of cases and the steps taken to control the spread of infection. He is of opinion that personal contagion was the main factor in the outbreak at Felmersham, and he gives several reasons in support of this belief. There was no community of either milk or water amongst those attacked; several cases occurred in one family and in succession; and contagion could be traced through four generations in two families. The respective death-rates of the two districts—13.3 and 17.5 per 1,000—show a slight increase upon the returns of 1888. Good and constant sanitary work appears to be in progress, but some of the rural localities are still in need of better supplies of water.

SALFORD (Population, 312,030).—*Use of Disease-Charts: Scarlet Fever and Diphtheria Epidemic: Outbreak of Enteric Fever: Hospital: Insanitary Dwellings.*—Mr. Paget's first annual report is a very careful and interesting production, and contains tables of statistics, maps and charts, which are most valuable for reference, and show readily the varying sanitary condition of the different localities. The year 1889 was marked by an exceptional prevalence of scarlet fever and diphtheria. These diseases spread all over the borough, and, together with a special outbreak of typhoid fever in the Regent Road district, had the effect of increasing the miasmatic death-rate beyond the average of the previous five years. During the year, 1,283 cases of scarlet fever were notified to the Health Department, as against 1,128 cases in

1888, 1,427 in 1887, and 1,536 in 1886. The deaths numbered 184. This disease, which apparently had become endemic in the borough, was most prevalent during the autumn, and was co-incident with a sharp epidemic of diphtheria. The fact that the disease spread with alarming rapidity in the most crowded parts of the borough, is suggestive of careless communication between the sick and the healthy. This intercourse was encouraged by the mildness of the disease in the summer months. Of diphtheria, 691 cases were notified during the year, as against 175 in 1888, 83 in 1887, and 41 in 1886. Mr. Paget's inquiries lead him to think that the prevalence of "sore throat" in the Pendleton and Weaste districts had been steadily on the increase during the last few years, and that, while many of these cases gave rise at the time to a suspicion that they might be diphtheritic, there was about the majority of them an insufficiency of marked symptoms which prevented their being notified as cases of true diphtheria. It is hoped that the rigorous disinfection to which infected clothing and premises are subjected may overcome the prevalence of the disease in the borough. Only three cases of typhus occurred during the year. The question of hospital accommodation has been satisfactorily settled, and important action is being taken to deal with insanitary dwellings. The death-rate of Salford for 1889 was about 25 per 1,000.

BACUP (Population, 25,600).—*Satisfactory Vital Statistics: Lead Poisoning by certain Soft Waters.*—It appears from Dr. John Brown's annual report that there was not an abnormal amount of infectious disease during 1889, though whooping cough was more prevalent than it has been for some years past. The borough was free from typhoid fever until November. Diphtheria and small-pox were entirely absent, and the attacks of measles were very few and slight. There were fewer deaths registered from all causes than in any of the past eleven years, and the death-rate, 17.0 per 1,000, is the lowest hitherto recorded. The infantile death-rate was, however, higher than the average, the chief causes of the mortality being bronchitis, pneumonia, and the prevailing zymotics. Plumbism is reported to have been less common, and it is, so far, satisfactory to find that the endeavours of the Health Committee to get lead service pipes replaced by iron ones have been attended with success. Dr. Brown points out that there are no by-laws which deal with this matter; and, as lead poisoning has occurred in some thirty towns and villages in Lancashire and Yorkshire alone, it is evident that the subject ought to be dealt with so as to reduce its dangers to a minimum. Such a comprehensive investigation has now been undertaken by the medical department of the Local Government Board. It is a matter of more than local importance.

BOURNEMOUTH (Population, 36,375).—*Low Death-rate: Diphtheria and Milk: Mortality from Consumption.*—This favourite health resort showed a very satisfactory record of health at the close of 1889, the death-rate having been only 10.5 per 1,000. Dr. Kinsey-Morgan states that the amount of infectious sickness last year was very trifling when the constant influx of visitors is considered; and the fatality was correspondingly small. Only 16 deaths were returned as due to zymotic diseases. Some interest attaches to some cases of diphtheria, which were undoubtedly connected with a particular milk supply; and, in this connection, Dr. Kinsey-Morgan urges the importance of guarding against all risks of contamination of milk by germs of disease. By far the largest proportion of deaths was due to chest affections. These amounted to 182, of which number 117 were attributable to pulmonary consumption. The proportion of deaths from consumption of the lungs alone was 3.21 per 1,000 per annum. Sanitary matters are well attended to at Bournemouth, and every effort is made to maintain the good conditions which are essential in so popular a health resort.

BRADFORD (Population, 240,515).—*Influenza.*—The very high death-rate recorded in this borough for the first quarter of 1890, 25.3 per 1,000, could not be attributed to the so-called preventable causes, the rate from which was only 0.9 per 1,000. Dr. MacLintock's report shows that there can be no doubt

but that the influenza epidemic injuriously affected a large proportion of the population and indirectly greatly increased the number of deaths, especially from pneumonia, bronchitis, and pleurisy, which were the most common of the maladies following in its train. Among the less fatal consequences were gastric troubles, and nervous depression, occasionally accompanied by neuralgia. In a large percentage of cases convalescence was greatly prolonged. The epidemic practically began and ended with the first quarter, and reached its greatest height towards the end of January. It is extremely difficult to form an idea of the number affected throughout the whole quarter, yet as a rough estimate it may be taken that something like from 10 to 12 per cent. of the entire population suffered. The deaths from consumption were also more than usually numerous. The death-rate for the second quarter ending June 28th was not above the average for that quarter.

RIVER TYNE PORT.—Sickness among Seamen: Overcrowding on Board Vessels: Filthy Cattle Ships.—Mr. H. E. Armstrong has made a new departure in his annual report for 1889, by giving particulars as to the amount of general sickness which prevails among seamen on board ships visiting the port. This has a practical interest in relation to the character and amount of the accommodation provided, and the exposure, etc., to which the men are subjected in the discharge of their duty. The space required under the Merchant Shipping Act is 72 cubic feet per person. As Mr. Armstrong remarks: "Anyone who considers what a very small amount of room this represents, namely, 6 feet by 3 feet by 4 feet, or not much more than that of a full-sized coffin, must see that it is utterly insufficient for the requirements of health, even in rooms above ground, where ample means of ventilation are provided. Among the ailments from which seamen suffered, no less than over 15 per cent were cases of consumption, colds, and disease of the lungs—a result not surprising under the circumstances." There is much room for improvement, or rather for reform, of accepted standards in regard to this matter. Cattle ships appear to enter this port sometimes in a filthy state, after having landed American cattle elsewhere. The Tyne sanitary officers secure the cleansing of such vessels, but undoubtedly the necessary cleansing and disinfection should have been done at the port of debarkation of the cattle. Sanitary administration in this port is carried on with commendable zeal in every department.

BILSTON (Population, 23,000).—High General Death-Rate and Infant Mortality: Defective Dwellings of the Poor: Consumption and its Causes.—Dr. T. Ridley Bailey reports an increased death-rate for 1889, which amounted to 22.5 per 1,000. About one-third of the total deaths were in children under 1 year of age, and more than half in children under 5 years. This is equivalent to an annual rate in children under 1 year, which is considerably above the average of infantile mortality for the whole of England and Wales. The deaths registered from diseases of the respiratory system were 109, as compared with 116 in the preceding year, 60 being children under 5 years of age. In 10 cases of death inquests were held by the district coroner, and in no fewer than 30 cases the certificate was not given by any properly qualified medical practitioner. The number of deaths from consumption was 24; and the total zymotic death-rate was 1.95 per 1,000 of population. Referring to the large mortality from consumption, Dr. Bailey attributes it in great measure to overcrowding and insufficient ventilation in the homes of the poorer inhabitants of the town. He points out that the breath and expectoration of patients are probably capable of conveying the disease to healthy persons, and he recommends that the patients when confined to the house should be isolated as far as possible in a well-ventilated, airy apartment; that the expectoration, which should be received into vessels that can be easily kept clean and disinfected, should be frequently destroyed; that pieces of linen rather than handkerchiefs should be used, as they can be readily burnt; and that all milk should be boiled before being used, in case the cows have been affected with tuberculous disease.

BOOTLE-CUM-LINACRE (Population, 52,000).—Measles and Diarrhoea Prevalent: Small-pox Outbreak: High Infantile Mor-

ality.—That the year 1889 was a healthy one in Bootle is evident from Mr. R. Sprakeling's report, for the death-rate, 17 per 1,000, was but slightly in excess of that of 1888, the most favourable on record. There was, nevertheless, an increase in the zymotic mortality, for which measles and diarrhoea were mainly responsible. Scarletina and typhoid fever showed a decrease. The necessity for revaccination is shown by the history of small-pox during the year. A very mild case was admitted to hospital, and the disease was thence communicated to the nurse and to a ward's maid, the former of whom, though showing good vaccination marks, contracted the disease in confluent form and died. Several cases of typhus had also to be dealt with in the hospital, but the majority of these cases were from outlying districts. Three deaths, however, had to be credited to the borough. The large amount of infantile diarrhoea, which characterises Bootle in the summer and autumn, makes Mr. Sprakeling specially urgent for effective and frequent flushing of the sewers, and he thinks also that the establishment of a *crèche* might help to diminish the mortality. When it is noted that half the total deaths are of children under 5, and that 16.5 per cent. of the births die during the first year of life, it is only too evident that his urgency is well founded.

BOLTON (Population, 114,670).—High Death-rate: Scarlet Fever: Diphtheria, Small-pox: Retirement of the Health Officer.—The annual mortality shown in Mr. Sergeant's report for 1889 was equal to 22.0 per 1,000, as compared with 21.6 in the preceding year. This is higher than the average of the past ten years, and renders the position of Bolton, among the large towns, less satisfactory than usual. The addition to the death-roll was chiefly attributable to fatalities from zymotic diseases, which showed an excess equal to 1.5 per 1,000. The amount of infectious sickness was unusually high, chiefly owing to the extensive prevalence of scarlet fever. Of those attacked with infectious disease, 8.3 per cent. died—a low percentage, but slightly higher than in 1888. The scarlet fever which prevailed was of a mild character; and, of the 1,256 persons attacked, 65, or about 5 per cent., succumbed to the disease. The mortality from fever was equal to 21 per cent. of the cases notified, while a third of the diphtheritic attacks had a fatal termination. Small-pox twice made its appearance, but caused no death, nor was there any fatal case of typhus fever. Diphtheria occasioned 29 deaths, as against 7 for the year preceding, and an average of 4.7 for the past decennium. The town has hitherto been comparatively free from this disease, but at the present time the tendency is to increase, and the greatest care will be required to ascertain the origin of the diphtheritic poison. An outbreak which occurred in Radcliffe Road illustrated how the disease might be contracted. The first patient attacked was a worker at a bleach works, who was seized with illness while working in an atmosphere laden with impurities given off from offensive river water used for driving power; and subsequent cases after the disease became existent in the neighbourhood, were due to direct infection. This is Dr. Sergeant's last report as health officer of Bolton, as he has been appointed medical officer of health to the County Council. During the sixteen years he has been health officer at Bolton he has done much good work, and the inhabitants of that town owe much to his efforts.

HACKNEY (Population, 246,114).—Decreasing Death-rate: Low Infantile Mortality: Prevalence of Diphtheria: Diphtheria Caught from a Cat.—The number of deaths in this metropolitan district during 1889 was the smallest recorded since 1880, and, whether the increase of population be accurately calculated or not, it is evident that the death-rate is much lower than formerly. Dr. J. W. Tripe calculated the death-rate for 1889 at 13.6 per 1,000, whilst the rate for the whole of London was 17.5 per 1,000. Zymotic diseases gave a rate of 1.63 per 1,000. As a proof of the healthiness of the locality, Dr. Tripe draws attention to the low infantile mortality. Since 1879 the death-rate has fallen 5.2 per 1,000, in spite of the increasing density of population, and Dr. Tripe fairly claims a large proportion of this improvement as a result of the active sanitary work that has been carried on for years past. The comparative absence of infectious diseases

was the cause of the marked reduction reported in 1889, diphtheria being the only disease of this class which has shown any increase in prevalence. Dr. Tripe discusses briefly the high mortality from this cause and the measures taken to trace out the sources of infection and to deal with insanitary conditions. He instances a noteworthy case in which the disease was without much doubt communicated by a cat. A girl, aged 13 years, took into the house, on April 13th, a stray cat which was affected with running at the mouth and nose, and which she nursed until it died on the 14th. On the 16th she sickened with sore throat, and died on the 22nd of the month. The medical certificate of death being "Diphtheria, 7 days." There was not any sanitary defect in the house, or any case in the neighbourhood, or at the school she attended.

JARROW (Population, 31,000).—*Measles Epidemic*.—In comparing the death-rate of Jarrow with the mean death-rate of England and Wales, and of other towns, it is necessary to take into account the very large fact that Jarrow must be regarded as a purely working-class and non-residential town. This alone implies considerable sanitary disabilities, as a large proportion of the population of Jarrow is composed of a migratory class, who of necessity acquire habits of carelessness in sanitary matters. Dr. Campbell Munro, therefore, considers it in some degree satisfactory that, in spite of an epidemic prevalence of measles, a hot early summer, with its sequent high death-rate from diarrhoea, and the untoward climatic conditions of the later part of the year, the gross death-rate of 1889 did not rise above 21.2 per 1,000 of the population. Everything possible was done to combat these adverse conditions. School closing was resorted to in the case of measles; the condition of the privy middens was subjected to the strictest investigation, and the hospital was opened free of charge for the reception of all cases of infectious disease requiring isolation. The zymotic death-rate amounted to 3.6 per 1,000.

WALLASEY, INCLUDING NEW BRIGHTON (Population, 33,000).—The statistics given by Dr. Craigmile for 1889 do not compare favourably with those for 1888, which was an exceptionally healthy year, but they are better than those for 1887. The fluctuations amongst the zymotic diseases are mainly responsible for these variations, and the sanitary condition of the district need not be called into question. Dr. Craigmile admits, however, that the typhoid mortality is too large, and considers very closely the distribution and causes of the disease. He reiterates his opinion that the cases are always associated with sanitary defects, and have therefore been probably caused by them. Scarletina and whooping-cough were more than usually fatal. Amongst the remaining classes of disease there was a considerable increase under constitutional and developmental, but a slight decrease under local, diseases, the latter being the class under which by far the greatest number of deaths always occurs. The general death-rate amounted to 16.0 per 1,000.

WALTHAMSTOW (Population, 44,000).—*Low Death-rate: Isolation Hospital required*.—There is not much to be gathered from Mr. St. Clair Shadwell's annual report for 1889 beyond the fact of a very low death-rate and a favourable zymotic rate. It is noteworthy that the epidemics of the year were entirely different from those of 1888; whooping-cough and diphtheria, then so fatal, seem to have spent their force and caused few deaths in 1889, whilst their places on the death-roll were taken by scarlet fever and measles. The general rate amounted to 13.5 per 1,000, and the zymotic rate to 2.18, both being much below the average. A hospital for infectious cases is greatly needed for the district.

WARRINGTON (Population, 49,000).—*Epidemic of Measles: Increase of Diphtheria and Croup*.—Judging by the increased death-rate which Mr. J. H. Gornall reports for 1889, the year was not altogether favourable to the public health of this district; and this is further borne out by the heavier infantile mortality recorded, and a slightly increased zymotic rate. An extensive prevalence of measles was responsible for these last-named items, yet the fatality was less than in the former epidemic years—1882, 1884, and 1887. There is

nothing in the incidence of the other infectious diseases to call for remark. A summary of cases of fever is interesting as showing the source of infection and the association of dirt and insanitary surroundings with the cases of sickness. Diphtheria caused 8 deaths against 5 in 1888, and there was concurrently a considerable increase in cases of croup.

HANLEY (Population, 56,587).—*Measles Epidemic*.—An epidemic of measles had a serious effect upon the statistics of both 1888 and 1889, no fewer than 174 and 107 deaths respectively being registered from this disease. The death-rate was thereby kept high. Dr. Swift Walker states, however, that the 1889 death-rate—19.6 per 1,000—showed a decline of 1.1 from the rate of the preceding year, and was below the decennial average. There was also a consequent decline in the rates of zymotic and infantile mortality. Of the total deaths in 1889 as many as 3.1 per cent. were "uncertified."

LYTHAM (Population, 4,573).—An average death-rate of 13.9 per 1,000, extending over nine years, marks this district as a healthy one, and the average zymotic rate, 0.9 per 1,000, strengthens this opinion. Mr. Eason's report for 1889 shows a death-rate of 13.5, while for the second year in succession only one death was recorded from zymotic disease, namely, a case of diphtheria. Fourteen deaths were due to diseases of the respiratory organs, a higher ratio than usual. Nine deaths were registered as from phthisis. The health officer has to recommend some improvement of the water supply.

HOSPITAL AND DISPENSARY MANAGEMENT.

ULSTER HOSPITAL, BELFAST.—The report read at the annual meeting of this institution was satisfactory. In the children's department 209 cases were treated during the year, with 3 deaths. In the extern department there were 2,358 new cases treated, with a total attendance of 4,118. In the women's department 64 cases were treated during the year, and in the extern gynæcological department 265 new cases were treated, with a total of 929 attendances. The mortality after operation was very small, and in no case was there serious surgical fever. The inadequacy of the present building has long been apparent, and the Committee have determined to erect new premises, and a special Committee has been appointed for the purpose. It is proposed to hold a bazaar in the month of December of this year.

BELFAST HOSPITAL FOR SICK CHILDREN.—The medical report presented to the annual meeting of this institution showed that during 1890, 371 patients were admitted to the hospital, of whom 193 were medical and 178 surgical. There were also 15 eye and ear cases. During the same period there were 8,536 cases treated in the extern department. In the eye and ear department there were 356 extern cases, and in the dental department 682 cases. Since the last annual meeting the hospital has been recognised as a teaching institution by the senate of the Royal University, and a large number of senior students have received instruction in the wards. The Queen Victoria Convalescent Home, opened during the year, proved a most valuable and welcome addition to the resources of the institution. During the year Dr. St. Clair Boyd had resigned the position of assistant surgeon, and had been succeeded by Dr. John Campbell.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BELFAST.—The annual report of this institution states that intern patients had been received for the first time during the past year, the new intern department having been inaugurated by the Countess of Shaftesbury on October 3rd, 1890. Since that time 17 cases had been admitted. In the extern department 865 new cases had attended, making a total out-patient attendance of 3,369. With the inauguration of the new intern department, the following additions had been made to the staff, namely, Surgeon Fagan, F.R.C.S.I., Consulting Surgeon; Dr. H. L. McKisack, Visiting Surgeon; Dr. Cecil Shaw, Laryngeal Surgeon.

GLASGOW ROYAL INFIRMARY.—The annual report of the Glasgow Royal Infirmary has just been issued. It shows a total of 42,818 cases dealt with during the year, a