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Contributors

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CITY AND COUNTY OF NEWCASTLE UPON TYNE.



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

Sanitary Condition of the City

DURING THE YEAR

1932.

CITY AND COUNTY OF NEWCASTLE UPON TYNE

ANNUAL REPORT

MEDICAL OFFICER OF HEALTH

Sanitary Condition of the City

1891

1892

1892.

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Members of Council who served on the

HEALTH COMMITTEE.

The Lord Mayor

(Councillor J. W. LEECH, M.D., M.S., D.C.L., M.P., J.P.).

Alderman DAVID ADAMS, J.P., Chairman.

Councillor WALTER THOMPSON, J.P. Vice-Chairman.

Alderman J. J. FORSTER, J.P. (died 21st January, 1932).

„ WALTER LEE, J.P.

J. CHAPMAN, J.P.

„ W. LOCKE, J.P.

Councillor CATHERINE A. AULD, J.P. Councillor MAY NEWTON.

„ W. C. PERCIVAL, J.P.

„ J. E. SCANLAN,
O.B.E., J.P.

„ H. MOAT, Junr.

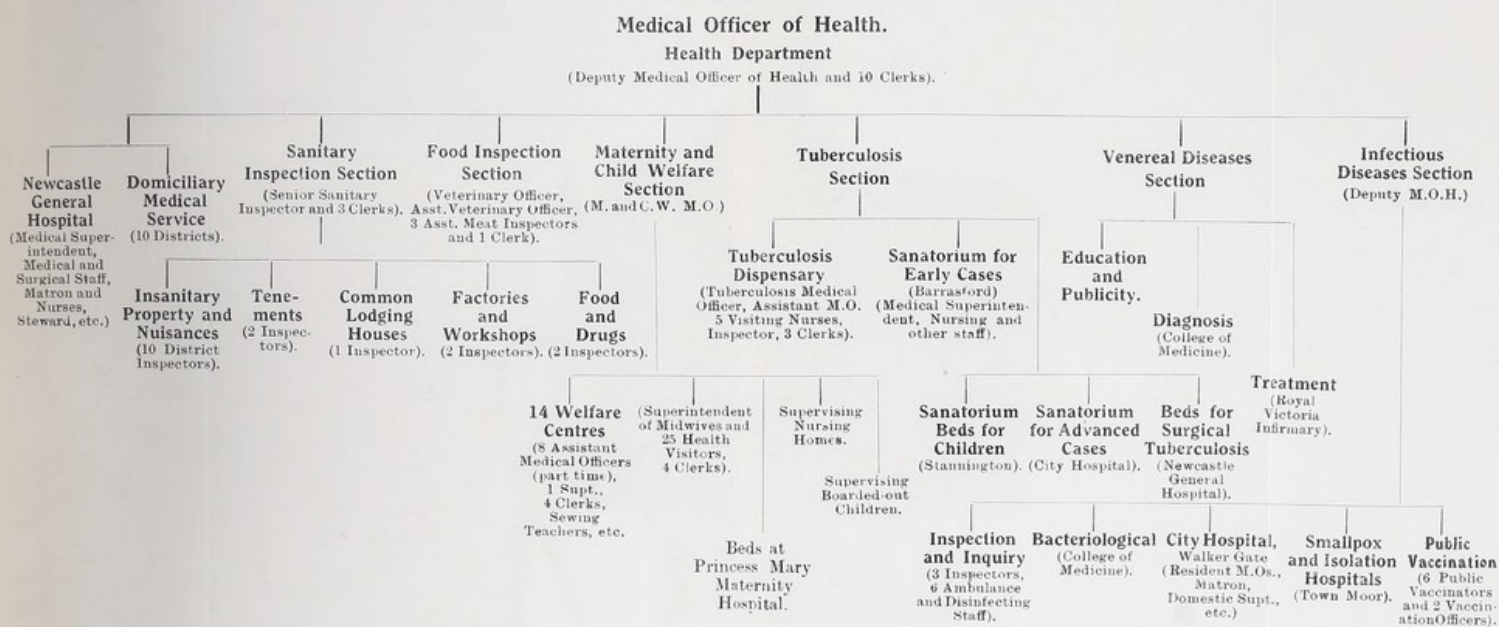
„ J. LEADBITTER, J.P.

„ A. LOUVRE.

„ D. POLSON.

„ J. PEARSON, J.P.

Table showing the various Sections of the Health Committee's work which is under the direct charge of the Medical Officer of Health.





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MATERNITY AND CHILD WELFARE COMMITTEE.

*Alderman JOHN CHAPMAN, J.P., Chairman.

*Councillor CATHERINE A. AULD, J.P., Vice-Chairman.

*Alderman DAVID ADAMS, J.P.

*Councillor WALTER THOMPSON, J.P. †Dr. R. P. RANKEN LYLE, J.P.

* „ H. MOAT, Junr. †Miss G. ROWELL.

* „ D. POLSON. †Mrs. E. I. LEACH.

* „ J. E. SCANLAN, O.B.E., †Councillor JEANIE L. GIBBIN,
J.P. O.B.E., J.P.

* „ MAY NEWTON. † „ CATH. A. LOCKE.

‡ „ FRANCES E. TAYLOR.

* Member of the Health Committee.

† Co-opted member.

‡ Appointed by City Council.

STAFF.

HAROLD KERR, O.B.E., M.A., M.D., Ch.B., D.P.H., Medical Officer of Health and Medical Superintendent of the City Hospitals for Infectious Diseases (died 10th November, 1932).

J. A. CHARLES, M.D., B.S., M.R.C.P., D.P.H., Deputy Medical Officer of Health (appointed M.O.H. December, 1932).

CHRISTOPHER RAIMES, Senior Sanitary Inspector.

JAS. McNICHOL, Chief Assistant Inspector and Assistant Workshops Inspector.

ISAAC CLARK, Assistant Workshops Inspector.

JAS. HUNTER and A. KIRSOP, Assistant Inspectors under the Food and Drugs Acts.

W. F. BACON, JAS. McKENDRY, L. W. JOHNSON, WM. GRAY, WM. E. PERKINS, J. BROWN, W. STEWART, M. SWALES, A. FRENCH, W. A. PILSON, District Inspectors.

F. GALTON, L. WADE, Tenement Inspectors.

ADAM FLOCKHART, Assistant Inspector of Common Lodging Houses.

WM. BEAN, H. W. GRIEVES, A. IBBITSON, Infectious Diseases Inspectors.

JAS. ROBSON, JAS. BRUCE, JNO. R. CRAGIE, J. W. ROBSON, THOS. MOORE, J. ROBSON, Jun., Ambulance Drivers and Disinfectors.

WM. MILNE, *GEO. CUTHBERTSON, *ALFRED HEDLEY, M.S.M., *ALEC. M. WALKER, JOS. GILHESPY, H. G. OLIVER, *ROBT. LAWSON, *D. H. MACPHERSON, *R. DOBBIN, H. G. COATES, *F. PELLATT, L. SMALLEY, IVY GOODHALL (Typist), Clerks in the Health Department.

Those marked * hold the Sanitary Inspector's Certificate of the Royal Sanitary Institute.

THOS. PARKER, F.R.C.V.S., Veterinary Officer and Inspector of Provisions,

H. THORNTON, M.R.C.V.S., B.V.Sc., D.V.H., Assistant Veterinary Inspector.

JAS. M. ANDERSON, W. COCKBURN, GEO. PHILLIPS, Assistant Inspectors of Provisions. ***NORMAN DICKSON,** Clerk.

A. F. G. SPINKS, M.D., Maternity and Child Welfare Medical Officer.

a GEORGINA B. CAMERON, M.B.E.*, Chief Health Visitor and Supt. of Midwives.

f CATHERINE M. THEXTON†, b MARION MOODY*, c LIZZIE ISA PRITCHARD, c LOUISE SHELL, d FLORENCE MARTHA HATFIELD*, d NORAH B. WILLSON*, b E. HISCO*, b E. JOHNSON*, b N. E. CARR*, b T. MASON*, b E. M. HASTIE*, b C. R. WORRALL*, b N. LEWIS*, b M. A. SIMPSON*, b N. THOMPSON*, g C. N. PHILLIPS, b D. A. ATKINSON, b M. BATTY, b A. CRAGGS, b M. W. LAING, b P. E. PEARSE, b R. ROXBY, b M. SCORER, b E. G. SAYER, b L. YOEELL, Health Visitors. **EDITH ROGERS, AMY RODGERS, MARION S. BATT, ALICE FENWICK,** Clerks.

(Qualifications of those marked **a** C.M.B., General and Fever Nursing and R.S.I. Certificates. **b** C.M.B., General Nursing and R.S.I. **c** C.M.B. and R.S.I. **d** C.M.B. and General Nursing. **f** C.M.B., Fever Nursing and R.S.I. **g** C.M.B.).

* State Registered Nurse. † State Registered Fever Nurse.

ANNIE G. BAINBRIDGE, Superintendent of Welfare Centres.

GLADYS PATTISON, IRENE GAWMAN, CATH. BARNES, MARY E. MUSE, Clerks.

H. GLEN DAVISON, M.D.	} Assistant Medical Officers (part time) Welfare Centres.
L. MABEL R. CAMPBELL, M.B., Ch.B.	
H. HARVEY EVERS, M.B., F.R.C.S.	
OLGA ALCOCK, M.B., B.S.	
ISABELLA LANE, M.B., Ch.B. (resigned).	
GERTRUDE H. G. HICKLING, M.D., Ch.B., B.Sc., D.P.H.	
C. N. ARMSTRONG, M.B., B.S., M.R.C.P., B.Hy., D.P.H.	
A. G. OGILVIE, M.B., B.S., M.R.C.P.	
ANNE FAIRWEATHER, M.D., B.S., B.Hy., D.P.H., D.P.M. (Psych. and Ment. Def.).	

G. HURRELL, M.D., B.S., B.Hy., D.P.H., Tuberculosis Medical Officer.
J. B. TILLEY, M.B., B.S., B.Hy., D.P.H., Assistant Tuberculosis Medical Officer.
WM. H. DICKINSON, O.B.E., M.D., Ch.B., M.R.C.P.(Ed.), D.P.H., Tuberculosis Medical Officer (part time).

c CONSTANCE M. BAYNE, **d** ANNIE BOOTH, **a** W. E. DALE*, **b** J. P. KENMIR*, **e** M. YOUNG, Tuberculosis Visiting Nurses.

(Qualifications of those marked **a** General Nursing. **b** General Nursing, C.M.B. and R.S.I.
c General Nursing and Health Visitors and School Nurses Certificates of R.S.I. **d** Fever Nursing. **e** Fever Nursing and C.M.B.)

* State Registered Nurse.

A. TAYLOR, Assistant Inspector.

GEO. MAGNAY, **PAMELA E. THORATT** (resigned 3rd Dec., 1932), **GERTRUDE GILLENDER**, **M. PRINGLE** (appointed 19th Dec., 1932), Clerks.

BARRASFORD SANATORIUM.

C. G. R. GOODWIN, M.R.C.S., L.R.C.P., Medical Superintendent.
FRANCES BAGULEY, A.R.R.C., Matron. Sister, Nurses, Servants.

CITY HOSPITAL FOR INFECTIOUS DISEASES.

E. F. DAWSON-WALKER, M.D., B.S., B.Hy., D.P.H., Senior Resident Medical Assistant.

B. A. DORMER, M.B., B.S., B.Hy., D.P.H., Resident Medical Assistant.

W. FRANK WILSON, M.B., B.S., Consulting Oto-Rhinologist.

J. L. WATT, Matron.

A. M. STEEDE, Domestic Superintendent.

JESSIE LAING, Assistant Matron. Sisters, Nurses, Clerks, Domestic Staff.

M. BURRILL, Dispenser.

GEO. COCKBURN, Engineer.

J. SAUNDERSON, Assistant Engineer.

Lodge Keepers, Firemen, Porters, Gardeners, Joiner and Handyman.

SMALLPOX AND ISOLATION HOSPITALS.

JOS. W. and JANE STEPHENSON, **MATTHEW and ISABELLA ROBSON**, Care-takers.

NEWCASTLE GENERAL HOSPITAL.

G. P. HARLAN, M.D., Ch.B., B.Hy., D.P.H., Medical Superintendent.

G. F. DUGGAN, M.B., B.Ch., M.A.O., F.R.C.S. (Edin.), Deputy Medical Superintendent.

JAMES COOK, L.R.C.P., (Edin.), F.R.C.S. (Edin.), Resident House Physician.

JUNIOR RESIDENT HOUSE PHYSICIANS AND SURGEONS (5).

A. BARON, Matron.

S. LAKE and **M. C. TAYLOR**, Assistant Matrons. Sisters, Nurses, Domestic Staff.

N. M. SHILSTON, Dispenser (resigned).

N. H. HERDMAN (appointed 12th Dec., 1932).

JAMES MATTHEWS, Steward. Ambulance Drivers, Porters, Male Nurses, Clerks.

CONSULTING STAFF.

THOMAS BEATTIE, M.D., B.S., F.R.C.P., Medical Director.

F. J. NATTRASS, M.D., B.S., F.R.C.P., Assistant Physician.

ELSIE B. WRIGHT, M.D., B.S., M.R.C.S., L.R.C.P., Medical Registrar.

JOHN CLAY, C.B.E., M.B., B.S., F.R.C.S., Surgical Director.

J. C. STEWART, M.S., F.R.C.S., Assistant Surgeon.

W. E. WARDILL, M.B., B.S., F.R.C.S., Deputy Assistant Surgeon.

A. R. D. PATTISON, M.B., B.S., F.R.C.S., L.R.C.P., Surgical Registrar.

S. W. DAVIDSON, M.D., B.S., M.R.C.P., Radiologist.

A. MACRAE, M.A., M.D., Ch.B., D.O.M.S., Consultant, Diseases of the Eye.

D. R. MACGREGOR, B.Sc., M.B., Ch.B., D.L.O. (R.C.P.S.), Consultant, Throat, Nose and Ear.

DISTRICT MEDICAL OFFICERS.

DR. R. L. BELL, **DR. J. MACRAE**, **DR. E. P. TULLOH**, **DR. W. SIMPSON**, **DR. R. W. NEVIN**, **DR. W. T. HALL**, **DR. T. J. RYAN**, **DR. J. B. SINSON**.

PUBLIC VACCINATORS AND VACCINATION OFFICERS.

DR. J. MACRAE, **DR. RICHARD DAGGER**, **DR. T. J. RYAN**, **DR. H. R. SMITH** (appointed 3rd March, 1932), **DR. A. M. PATERSON**, **DR. G. D. NEWTON**, **DR. G. P. HARLAN** (Newcastle General Hospital).

VACCINATION OFFICERS—EASTERN DISTRICT—W. H. F. GARRETT.

WESTERN DISTRICT—W. W. CUMMINGS.

**To Alderman DAVID ADAMS, J.P., Chairman of the
Health Committee of the Corporation of Newcastle
upon Tyne.**

SIR,

The first Annual Report of the Medical Officer of Health on the Sanitary Condition of the City had reference to the year 1873. The publication of the present report, the sixtieth of the series, may serve as an occasion to review the many alterations and improvements which have been brought about in the health and well-being of the citizens of Newcastle during a period of six decades and two generations. These changes, the visible signs of great works achieved in secret, are a permanent memorial to the two Medical Officers of Health, Henry Edward Armstrong and Harold Kerr, and to the several Chairmen and innumerable members of the Health Committee who supported and encouraged them so wholeheartedly.

The nomination of Dr. Armstrong in 1873 as Medical Officer of Health was not accepted by the Borough Council in any spirit of unanimity and concord. One Alderman, himself a member of the medical profession, contended that the new officer "would be a walking gentleman; he would perambulate the streets, and, having a nose he would smell whether there was anything which was disagreeable or not." Another Councillor was of the opinion that the appointment would be of no more use to the town than an umbrella to a duck. But that there was need for such an appointment had been evident to certain members of the Council for some time, and a recommendation to this effect had been included in the monumental "Report of the Public Health" presented by the Public Health Committee to the Council six years previously.

This Report of 1867 was not the first published commentary on the state of Newcastle's health. It had been preceded in 1845 by a "Report on the state of Newcastle and other towns" prepared on behalf of "The Health of Towns Commission" by its peripatetic Commissioner, Dr. D. B. Reid. Later, in 1854, the highly critical Cholera Commission had castigated the City Fathers for their neglect of duty.

All these documents are of extreme interest to the student of Newcastle's historic, and at times insanitary, past.

The Report of "The Health of Towns Commission," 1845.

The earliest report, that of 1845, is the least comprehensive and valuable of the three, and has as its chief concern such environmental matters as drainage and sewerage, cleansing and nuisances, water supply, the prevention of fires, and the need for stricter building bye-laws. The health of the community and of the individual receives relatively less attention. After paying tribute to "an active spirit of improvement" which appeared to have directed certain works, the Commissioner draws attention to the fact that no fewer than 33 streets, some of them in the most densely populated portions of the town, and all paying rates, lacked both drainage and sewerage. He notes that the "town is not supplied with water of such quality as to be free from considerable objections." The only "trustworthy" source of supply was the River Tyne, and the alternatives, which included old pit-workings at Coxlodge, the drainage and surface water of the Town Moor, and the rainfall, were described by him as "uncertain." The Joint Stock Company which provided such organised water supply as there was charged from 18/- to 30/- per house, while the poor paid one farthing for a tub or large pailful "which is four or five times more than the rate to the richer inhabitants." For the very poorest the Corporation provided some twenty free fountains or "pans" in different parts of the town.

Dr. Reid's doubts as to the quality of the water were more than justified. The years 1846, 1853 and 1865, each saw a local epidemic of cholera, for which the Tyne-derived and sewage contaminated water supply was undoubtedly responsible.

The Section on the General Health of the Town and the condition of the Labouring Classes is the most disappointing in the report. Dr. Reid appears to have been more concerned with the Physics of Ventilation (he includes in the body of the report twenty-one plates illustrative of the principles of that science) rather than with the facts of life and death. His introduction to the subject is in the following words:—

"It has been frequently represented to me, that notwithstanding the high rate of mortality evinced by the mortuary registers, the town of Newcastle ought not to be considered by any means unhealthy, and that the apparent excess of mortality arises principally from that portion of the population which does not, strictly speaking, belong to the district."

A tabular statement of fever cases and deaths therefrom is appended, and the Commissioner quotes and apparently accepts the opinion of the Sub-Committee which had given evidence before him in the following terms :—

“ The fever statistics among the most exposed class, and decidedly most numerous victims, are therefore annually, 772 cases, and 38 deaths ; and many of the former being removed into the fever-house and consequently counted double, the only true criterion must be in the latter.”

We are not told to what year, or series of years, these figures relate. Subsequent events have cast doubt upon their reliability, for in 1846, the year after the publication of the report, there were outbreaks of typhus, scarlet fever and cholera of such considerable dimensions that the deaths for the year exceeded the births by 226. This reversal of the ordinary order of natural increase, which is only to be found twice in the recorded vital statistics of Newcastle was repeated in 1853, the year of the greatest of the cholera epidemics.

Some account is given of the appalling housing conditions in certain of the poorer areas of the town, and the inevitable question is propounded as to whether the tenant or the tenement is the more blameworthy. Dr. Reid transcribes, but does not refute, evidence regarding the tenement dwellers as biassed as this :—

“ If such places exist not, they will make them. Place them in an airy habitation, they will turn it into a noisome hovel. If they have drains, they will allow them to become obstructed ; if free ventilation, they will close it up ; if the clearest sunshine, they will shut it out by negligence and filth.”

Except in the case of the water supply, Dr. Reid rarely allows himself to venture upon any observations which could be interpreted as reflecting upon the sanitary services of the town. One cannot but feel that in the preparation of his precise and pedantic commentary vision and courage played but little part.

The 474 pages of the Report of the Cholera Commission bear witness to an entirely different spirit.

The Report of the Cholera Commissioners, 1854.

Joseph Burnley Hume and John Frederic Bateman were members of this Commission, and with them came, as their medical colleague, the greatest Public Health Administrator of the 19th Century, John Simon himself. The Commissioners assembled in

Newcastle on 5th January, 1854. They had as their object an enquiry into the causes which had led to or aggravated the great cholera epidemic of September and October, 1853, in which more than 1,500 persons perished. And from this purposeful investigation nothing diverted them. The old arguments were marshalled, dusted and paraded before them. Witnesses from the Borough Council proclaimed the comparative healthiness of the town, the adequacy of the sanitary supervision and administration, the inevitability of overcrowding and congestion in the houses of the labouring classes, and even the water supply was given some sort of a testimonial. But there was an abundance of evidence to the contrary, and certain of the Borough's witnesses did not contribute materially to their validity of the municipal case. The evidence, both oral and documentary, of the Superintendent of Police was ordered to be expunged from the record "except in so far as may suffice to exhibit his contumacious behaviour, and his determination not to afford to the Commissioners that information which they have good reason to suppose he must have possessed." The Town Clerk, who apparently had been instructed to indicate the Council's mild disapproval of the objects of the Commission, was loquacious but hardly persuasive. It is only necessary to quote one of the conclusions of the Commission to appreciate how directly its members had attacked their problem. They begged to report :—

"That, beside the interest arising in connection with the Corporation property, the ownership of house property by individual corporators and citizens is acknowledged to constitute an important element in the Town Council, and to have exercised an influence fatal to the enactment of certain clauses in the last local Act of 1853, which would have been of the highest sanitary advantage; and that under these circumstances it seems difficult to avoid a conclusion as to what has caused, or conduced to, the obvious neglect by the Town Council of the various powers conferred upon them for the improvement of the house property, and the suppression of many sanitary evils, throughout the town."

Ultimately, though slowly, certain good things came from the work of the Commission. There was a further epidemic of cholera in 1865 due to the sewage-infected water of the Tyne still forming part of the town's supply, but in 1867 the river ceased to serve as the periodic vehicle by means of which cholera was disseminated

amongst the inhabitants. In addition, the number of water-closets gradually multiplied and the use of the water carriage system was tardily developed. But the memory of the forthright outspokenness of the Cholera Commission rankled, and in 1866 a member of the Council attributed the high death rate to the fact that "they had converted the town with their new-fangled water-closets into a sort of subterranean gasometer." Whereupon another member pertinently added that the water-closets dated from the visit of the Cholera Commission.

It is true to say that the report of the Cholera Commission brought under review the greater part of Newcastle's sanitary administration, and that from its pages one can picture vividly the dreadful conditions of overcrowding which prevailed in the tenements and courts of the old town, and the mud lanes which passed for streets in the newer industrial suburbs.

The Report of the Public Health, 1866-1867.

For a scientific and dispassionate statement of the conditions under which the citizens of Newcastle for the great part lived and died in the sixties of last century one must turn to the "Report of the Public Health during the year 1866." Within the 128 pages of this document are comprised the results of a careful, painstaking scrutiny of every factor which could influence the health and mortality of the inhabitants of the town. It is interesting to know how this report had its being. The Sanitary Authority for this Borough had been delegated by the Council to the Town Improvement Committee. Much of the time of this latter Committee was undoubtedly absorbed in the planning of new streets, and the regulation of buildings, but other matters—the abatement of nuisances—the anticipation and prevention of cholera—the ravages of fever—came within its province, and during the year 1865 the attention of the Committee had been drawn to the presence of typhus by a memorial from the Medical Society of Newcastle upon Tyne.

With a wisdom not at all characteristic of the period the members of the Town Improvement Committee believing "that as the medical care of the poor is chiefly by law vested in the Board of Guardians, and falls largely into the charge of the various Medical Societies of the town, appointed a certain number of their own body to act, along with a specific number of the Guardians, and the medical authorities of the town in an associated Committee, called "The Public Health Committee." This Public Health Committee with eight members co-opted from the

Board of Guardians, and six representatives of the local medical profession, became the author and begetter of the report already referred to. As regards this masterpiece of frank criticism and diligent research, it is impossible to do anything but summarise in the very briefest fashion some of its main features, conclusions and recommendations.

The section on overcrowding indicates the thoroughness of the investigation. In all 23,158 rooms, mostly in one and two-roomed holdings, were inspected and reported upon. Of these, 2,594 rooms inhabited by 7,862 persons, were entirely without water supply, and did not even have convenient access to the free "pans" provided by the Corporation. Where water was available the position of the tenement holder was but little improved, for the source was generally a stand-pipe, "necessitating that in wet, snow or frost, and in sickness, every drop of water should be fetched, sometimes a considerable distance."

Again, 4,171 rooms, in which were living 13,747 persons, neither possessed nor shared a water-closet or privy accommodation of any kind. 3,052 rooms were entirely devoid of drainage, and 2,631 tenements had imperfect systems of ventilation, or scarcely any means of ventilation at all.

We are more than accustomed to hear of Newcastle's persistent reputation for overcrowding, and wonder not a little at the apparent permanence of that reproach. Even to-day, taking the Census figures for 1931 as the authority, 29% of our fellow inhabitants live in one and two-roomed dwellings. In 1866 this was the fate of 39% of the population. But the one-roomed holding was three times commoner in those days than it is now, and on a rough estimate 21% of the citizens possessed or shared one room and no more. Let us read what the report has to say of these one-room tenements:—

" 'The Englishman's house is his castle,' and in this case it has to be his kitchen, scullery, wash-house, laundry, living-room, lodging-room, and hospital, all in one; and when he dies, it is his dead-house. These are the abodes of fever, the centres of contagion, where children pine and die, or drag out a weary and feeble existence, and where adult life is ever in the shadow of the grave. A child dies of scarlatina, and the living lie on the same pallet with the dead. An adult dies of typhus, and so intense is the poison, in the exhausted air of the single room, that scarcely a

mourner who enters escapes. Thus, not only the diseased and healthy, but the living and the dead are lodged in one room, where the sanctities of life and death disappear."

Such then were the conditions under which many of the people of Newcastle passed their days, in the presence of life-destroying evils, and under the burden (as the report has it) of an "accumulation of sanitary wrongs."

An investigation of the causes of death confirmed the general conclusion that much of the mortality had resulted from insanitary conditions. The death rate as a whole, as also certain of the separate rates for the various heads of disease, were above the average for the entire country. These facts were illustrated in the following table in which a number of the Newcastle rates for 1866 were contrasted with the corresponding English averages for the fifteen years 1850-1864 :—

TABLE I.

	MORTALITY FROM								
	All Causes.	Measles.	Scarlatina.	Whooping Cough.	Typhus.	Diarrhoea.	Tabes Mesenterica.	Phtisis.	Ulceration of Intestines. (? Typhoid Fever).
ENGLAND, 1850-1864.									
Rate per 100,000 living	2,219	43	106	77	91	80	26	267	4
NEWCASTLE, 1866.									
Rate per 100,000 living	3,237	86	409	48	183	100	140	327	85
NEWCASTLE.									
ACTUAL DEATHS IN 1866	3,950	105	500	58	224	123	172	400	104

On only one or two points are any comments necessary. The 500 deaths from scarlet fever constituted a record which happily it is improbable that we shall ever exceed or even reach again. It was estimated that no fewer than 9,000 cases of the disease occurred in the borough, though these latter figures must be accepted guardedly in view of the fact that notification of this infectious disease had not been introduced. Nevertheless, the number of deaths can be regarded as approximately accurate, even though it probably included some fatal cases of diphtheria. These mortality figures should be compared with the seven deaths from scarlet fever, and five from diphtheria, which occurred amongst Newcastle children in 1932.

Ulceration of the intestines is a somewhat vague diagnosis, and the Newcastle mortality from this condition was twenty times

greater than the average for England as a whole. It is probable that some local Novocastrian idiosyncrasy of nomenclature cloaked a number of cases of typhoid fever under the alias of ulceration of the intestines.

The report, however, is not so preoccupied with the ravages of infectious disease as to omit from its survey entirely the question of child life and welfare. Its comment on this important subject is as follows :—

“ One of the most sensitive tests of the sanitary condition of a town is the rate of its infant mortality. Occupation, habits, passions, and vices do not obscure the statistics relating to the mortality of children as they do in the case of adults; while, on the other hand, their susceptible constitutions are more easily influenced by the various causes of disease.”

Out of every 100 children born in Newcastle only 61 survived to complete the first five years of life. The risk to the life of a child under five was greater in Newcastle than in most of the countries of Europe, excepting Italy, and was 13 per cent. in excess of the average for England.

Let us now turn to infant mortality proper, by which we mean the death rate of children during their first year of life. The 1866 statistics shewed that 191 out of every 1,000 children born in Newcastle failed to see their first birthday. For England as a whole the comparable infantile mortality rate was 159 per 1,000.

The causes of this dreadful destruction were discussed in detail. Overcrowding, the want of proper food, excessive, injudicious and irregular feeding were all indicated as influences which helped to swell the lists of youthful mortality. The use of teats, sometimes made of bread and sugar tied in a bag, and the practice of drugging with “ Dalby,” “ Godfrey,” and other opiates and quack medicines were subjected to such angry criticism as this :—

“ That instinctive act, so perfect from the first, and so admirably adapted for the sustenance of the young being, when prostituted by its nurse to the love of ease, becomes a source of disease and death.”

Lastly, it was noted that lack of education and a high infantile mortality were correlated evils.

It was in the spirit of the age that a section of the report should deal with the economics of disease. An estimate was

given of the cost of the typhus epidemics of 1863-1866, and the various heads of this were summarised as follows :—

Actual expenditure of Boards of Guardians	Treatment of cases at the Fever Hospital	£1,686	8	6
	Cost of funerals	... £210	10	0
	Temporary relief	... £1,540	0	0
Future expenditure of Boards of Guardians	Provision for widows and orphans	... £9,230	0	0
Direct cost to the com- munity	...Loss of weekly wages	£14,000	0	0

It would be unjust to the authors of the report to suggest that they were obsessed by the purely financial aspect of the cost of the disease. They regarded this expenditure as a "mere money fine" for the neglect of these higher offices of Christian Charity, which teach that "if it is noble to restore life, it is still nobler to guard it."

The industry, determination and courage which characterise the critical pages of the report shewed no signs of fatigue or failure when the time came to discuss remedial measures. Each section of the community, for one and all had been responsible, was separately addressed. The poor were told how they could help themselves, and were given plain hints on personal and domestic cleanliness, ventilation, overcrowding, and the elements of disinfection. The owners of property were admonished thus :—"Drawing their rents through agents, they never came in contact with the physical horrors disclosed by the recent sanitary inspection. Could they for once be induced by personal inspection of their property to get more than a dim abstract idea of its condition, many well-meaning proprietors would feel the responsibility of their ownership."

To the Guardians of the Poor it was suggested that in addition to fulfilling their function of providing treatment for the sick, they should seek how they might prevent infectious disease, and various methods were indicated whereby they might assist to this end. But it was in the advice tendered to the Town Council that the most thorough-going recommendations were incorporated. No fewer than twenty paragraphs were occupied by specific proposals for improvement, while the twenty-first was appropriately entitled "encouragement to proceed." To recount in detail the contents of these twenty articles of the Committee's faith

would be to describe a Programme of Health Services as broad and as complete as that to which we subscribe to-day. Amongst these recommendations are the following :—

the daily removal of refuse,
 drafting of more stringent building bye-laws,
 provision of open spaces and playgrounds,
 erection of public abattoirs,
 establishment of model lodging houses by the Corporation,
 provision of improved dwellings for the people,
 constitution of a public health committee, and
 the appointment of a medical officer of health.

From this perfection of good counsel we still fall short in certain details, but for the great part all these recommendations are comprised in the civic organisation of to-day. The Public Health Committee (or Sanitary Committee as it was then termed) came into existence in 1874, and the first Medical Officer of Health (despite very considerable opposition from the Poor Law Medical Officers and their champions on the Council) took up the duties of his office on 1st August, 1873.

The First Medical Officer of Health.—

Dr. H. E. Armstrong.

The foregoing will have shown the nature of the kingdom into which Henry Armstrong entered. It was a kingdom over which he was to exercise a guiding influence for nearly forty years, and which he was to leave in a state very different from that in which he found it.

Armstrong was a great hygienist of the environment, and the results of his work in the application of bye-laws, the systematic control and inspection of lodging houses, the introduction of disinfection, the organisation of the campaign against infectious disease were not slow in appearing.

His achievements would have been even greater if it had not been his lot to serve the City during one of the most infertile periods of its administration. Both in the Council and in the Borough there was little zest for sanitary improvement, and only the slightest anxiety for the welfare of the crowded labouring classes, while everywhere there prevailed a smug Victorian self-sufficiency in close allegiance with the inborn Novocastrian belief that

municipal expenditure is probably municipal extravagance. That he did so much is itself a tribute to his persistence and perseverance, and to his powers as a teacher. In great part his task was to create an informed opinion amongst his Committee, and thereafter to fire its members with a little of his irresistible spirit. To read his reports and the articles which he contributed to the medical press is to realise that one of the great pioneers of preventive medicine, a man at least one if not two generations in advance of his time, presided over the health services of this City at a most crucial period in its history. A smaller man would have been baffled by the apathy around him. Armstrong fought on, and the sound of some of his battles, particularly the tumult which arose from his epoch-making report on "The Hygiene of Merchant Ships," a document which he supported by resigning from the post of Medical Officer to the Tyne Port Sanitary Authority, gave his name an international currency.

Dr. Harold Kerr.

Armstrong retired in 1912, but lived on for fifteen years to see his work carried even further by his successor, and earlier assistant, Harold Kerr. If in his stout Northumbrian fashion Armstrong merited the designation of a "character," his successor as worthily could be described as a "personality."

Inheriting from Armstrong that keen interest in the hygiene of the environment which shewed itself in the meticulous attention he paid to such matters as the bacteriological control of the water and milk supplies, the problem of atmospheric pollution and other similar questions, Kerr was nevertheless in tune with the times in his devotion to that great section of public health work which deals with the health and welfare of the individual. The City's scheme for the treatment of tuberculosis, the Maternity and Child Welfare Service, if not founded by him, at any rate reached full development at his hands. But it will be by his interest in the prevention of maternal mortality, and his efforts in the re-organisation of the City's health services consequent upon the transfer of the Poor Law functions to the Council, that Kerr will be remembered. At both these problems, difficult and intricate beyond belief, he laboured, prodigal of time and strength and self.

Kerr died on November 10th, 1932, still in harness, a man compact of every grace that makes the human spirit loveable. So surely will his memory rest upon his achievements that words are not needed here to give lustre to that record.

The Record of Sixty Years—1873–1932.

In the remaining sections of this report it is intended to show quite briefly the scope of the changes which have taken place in the past sixty years. The most useful introduction will probably be to compare the functions of the Health Department of 1873 with those performed by the same organisation to-day.

1873.

Routine administrative duties of Health Department.
Collection, compilation, and interpretation of Vital Statistics.
Preparation of Annual Report.
Control of Infectious Diseases.
Administration of Fever and Smallpox Hospital (48 beds).
General Sanitary Supervision of Districts. Prevention of Nuisances.
Inspection of Meat, Provisions, etc.

1933.

Routine administrative duties of Health Department.
Collection, compilation, and interpretation of Vital Statistics.
Preparation of Annual Report.
Control of Infectious Diseases.
Administration of City Hospital for Infectious Diseases, Walker Gate (Infectious Diseases 202 beds; Advanced Tuberculosis 136 beds), and the Smallpox Hospital (172 beds).
Provision of Bacteriological Services.
Bacteriological control of Water and Milk supply.
General sanitary supervision of Districts.
Prevention of Nuisances.
Inspection of Common Lodging Houses.
Slum Clearance.
Inspection of Factories and Workshops.
Administration of Food and Drugs Acts.
Inspection of Meat and Provisions.
Rats and Mice Destruction Act.
Maternity and Child Welfare Scheme (14 Centres).
Tuberculosis Scheme. Dispensary. Barrasford Sanatorium (90 beds).
Venereal Disease Scheme.
Domiciliary Medical Services.
General Hospital Services (Newcastle General Hospital, 680 beds).
Vaccination.
Educational Functions (Propaganda. Instruction of students).

There remains, outside the sphere of the Health Committee's administration but nevertheless complementary to its many activities, the School Medical Services of the City. These, under the wise supervision of the Education Committee, have played a

great part in obtaining for the population as a whole, those increased years of life and capacity, which are now its portion.

The School Medical Services.

Probably no legislative enactment has ever exercised a more profound influence on the health of the nation than the Education Act of 1870. It did this not directly, but indirectly, and there can be no question that the growth of education facilitated the introduction of those new health efforts which were directed towards the individual human being, and were not limited to the abatement of nuisances, or the eradication of sanitary defects. The Newcastle Education Authority was one of the earliest to realise its intimate concern with the health of the teachers and pupils under its care. In 1892 its first Medical Officer was appointed, but the history of the School Medical Services really dates from 1902 when Dr. George Foggin assumed office. Under his aegis a start was made towards controlling infectious disease among the school population; attention was paid to the various defective children brought to notice by the head teachers, and arising from this came the establishment of special educational facilities for short-sighted children, a work in which Newcastle set, and still sets an example to the rest of the country. Since 1907, there has been a steady extension of the field covered by the School Medical Department as a result of the introduction of the Elementary Education Act in that year. The Act enlarged the duties and responsibilities of Education Authorities by making the routine medical examination of school children compulsory.

Sir George Lunn, Chairman of the Education Committee, has described in his historical survey, "These Twenty-five Years," the multitudinous activities of the service and enumerated the many benefits which year by year have been brought in increasing numbers to aid and remedy the disabled child. In addition, through the Provision of Meals Act, which actually preceded the Education Act of 1907, there is now no reason why any child should be educated on an empty stomach or find school days a period of hunger rather than of joy. It is impossible to indicate how greatly the School Medical Services have contributed to that improvement of the health of the community, which has been the crowning glory of the past thirty years.

Even without the School Medical Services the work of the Health Committee comprises a number of undertakings which

touch human life at many points and in many ways. Let us examine how the health of the City's inhabitants has fared during the half century and more of steadily increasing attention. This can be done by a scrutiny and comparison of certain of the so-called vital statistics.

The Marriage Rate.

The tendency towards accepting the obligation of matrimony, which is expressed by stating the number of marriages in any year per thousand of the population, is known as the marriage rate, and has some claim to be regarded as an index of the national prosperity. In 1847, George Graham, the Registrar General, expressed such an opinion in the following eloquent phrases :—

“In fine, the great fluctuations in the marriages of England are the results of peace after war, abundance after dearth, high wages after want of employment, speculation after languid enterprise, confidence after distrust, national triumphs after national disasters.”

A study of Figure 1 which shows the average marriage rate in Newcastle for each five year period since 1881, will make clear the fall in the rate which has occurred since that time, despite the fact that occasional “peaks” are visible. Specially noticeable is the effect of the war and early post-war years, which were associated with a veritable flight into matrimony.

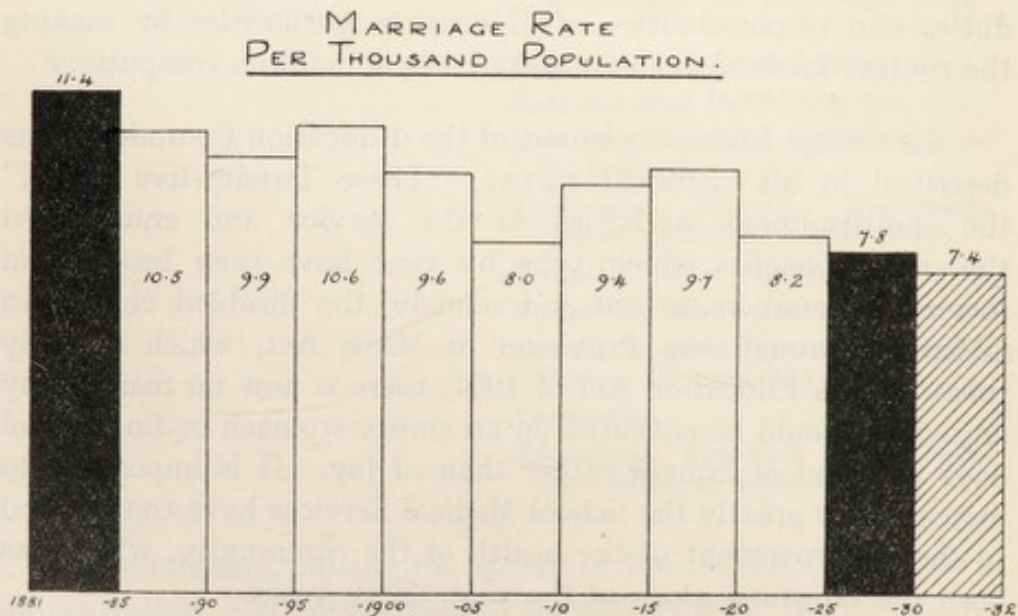


Fig. 1. Diagram shewing the average marriage rate per 1,000 population in Newcastle for each quinquennium from 1881-1930. The hatched column indicates the average rate for the two years 1931-1932.

Another interesting but melancholy fact which can be gathered from the Census figures is the present surplus of women between the ages of 20 and 45. At the recent Census in 1931 there were in Newcastle 6,450 more women than men between the ages of 20 and 45. Sixty years ago when the 1871 Census was recorded women were actually in a minority of 449 in these same age groups.

The Birth Rate.

In logical sequence one must next consider the birth rate, which is a statement of the number of births occurring amongst each thousand of the population during the year under review. It is interesting to note that there were more births in 1873 than in 1932. In the latter year 4,883 babies were born, as compared with 5,652 in the former. The birth rate in 1932 was 17.1 per 1,000 of the population or considerably less than half of the rate for 1873, which was 42.8.

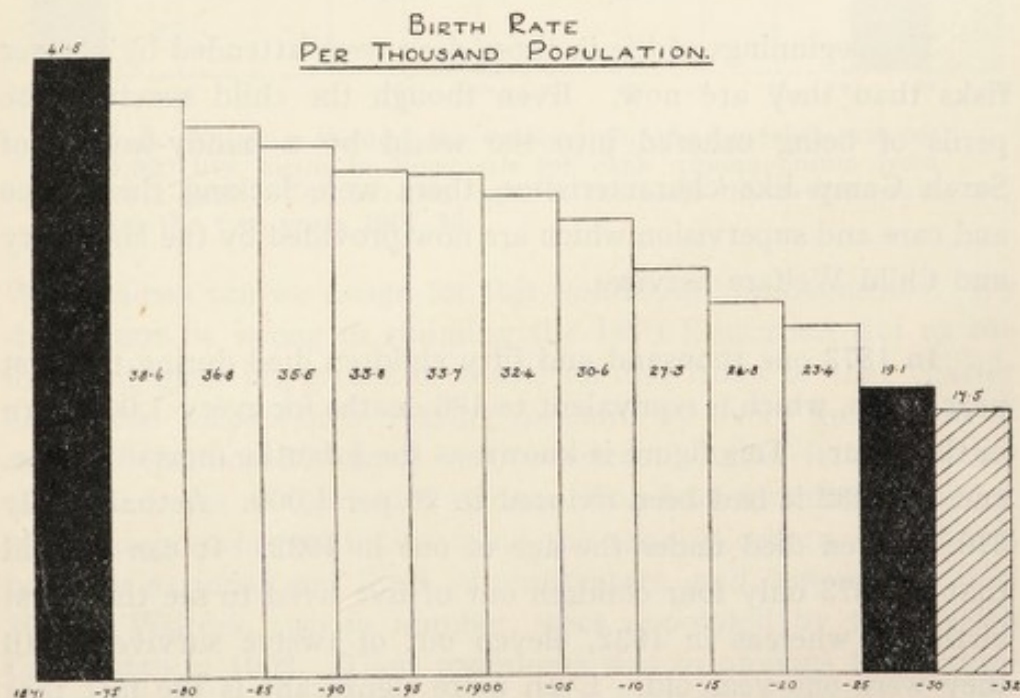


Fig. 2. Diagram shewing the average birth rate per 1,000 population in Newcastle for each quinquennium from 1871-1930. The hatched column indicates the average rate for the two years 1931-32.

Figure 2 demonstrates the progressive nature of this decline since 1871, a decline which, slow and gradual up to 1910, has rapidly accelerated—the post war years alone excepted—since that date. It is not intended to discuss the causation of the declining birth rate. We are all aware of and deplore the economic factors which are responsible for the small modern family. But it is also debatable whether an increased birth-rate would be an altogether acceptable thing to those who control the national and municipal finances. Supposing for a moment that we suddenly reverted to the birth-rate of the seventies, when a rate of 40 per 1,000 was not uncommon. In five years, provided the child welfare services continued their beneficent work, we would have to find in Newcastle school accommodation for more than 5,000 additional children, and year by year this number would increase until in fifteen years time, the school population would be double its present total of 45,000.

Infantile Mortality.

The beginnings of life in those days were attended by greater risks than they are now. Even though the child survived the perils of being ushered into the world by a handy-woman of Sarah Gamp like characteristics, there were lacking the advice and care and supervision which are now provided by the Maternity and Child Welfare Services.

In 1873 one thousand and fifty children died during the first year of life, which is equivalent to 186 deaths for every 1,000 born in that year. This figure is known as the infantile mortality rate, and by 1932 it had been reduced to 76 per 1,000. Actually only 370 children died under the age of one in 1932. It can be said that in 1873 only four children out of five lived to see their first birthday, whereas in 1932, eleven out of twelve survived until they were one year old. Even more significant is the fact that one death out of every thirty infant deaths occurring in 1873 was due to neglect or violence, often by way of suffocation or over-laying. In 1932 only one death in 74 (or five in all), was due to these causes.

The progressive reduction in the infantile mortality rate which has been effected since 1871 is graphically demonstrated in Figure 3.

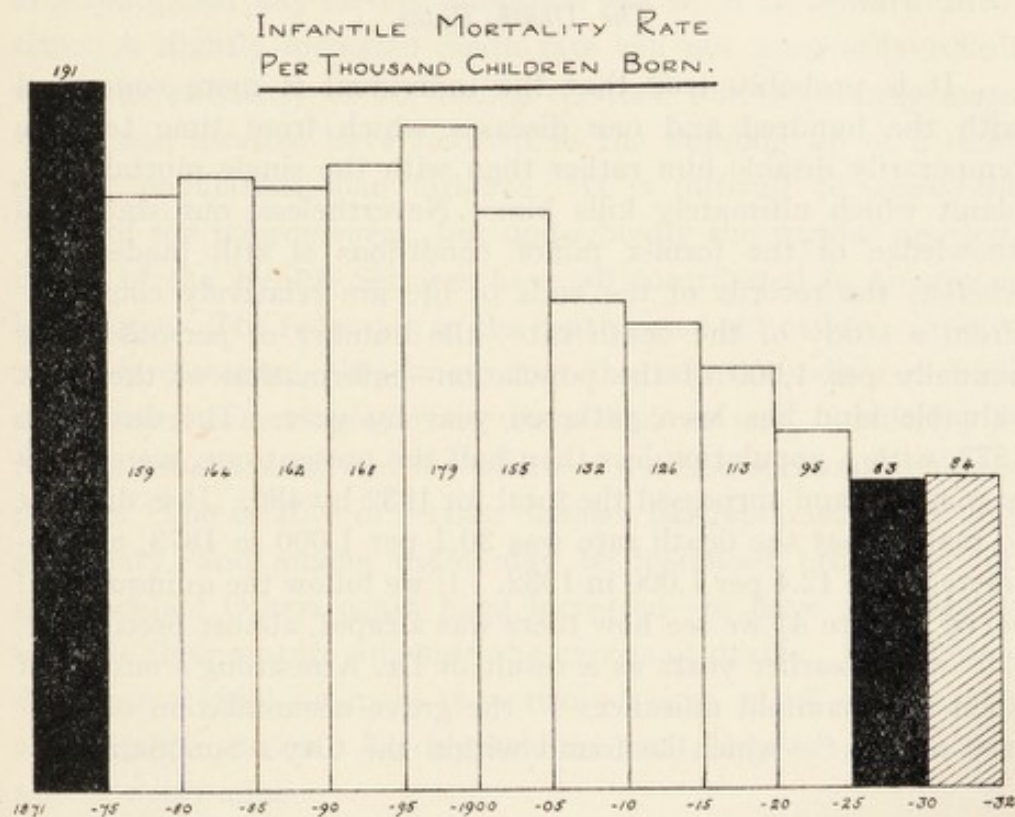


Fig. 3. Diagram shewing the average infantile mortality rate per 1,000 live births in Newcastle for each quinquennium from 1871-1930. The hatched column indicates the average rate for the two years 1931-32.

What causes can we assign for this wonderful improvement? We should not be wrong in claiming the 1870 Education Act as the first and most important of these, for the fruits of that charter have been reaped in increasing measure by every generation of mothers, particularly from 1900 onwards. Again it is probable that the losses of the South African War had stimulated interest in the importance of maintaining the race. Concern was shown both by national and local administrators, and Newcastle's first Health Visitors, two in number, were appointed by the Health Committee in 1902. Their usefulness was so obvious that subsequently four more were appointed, but in 1907, during the course of one of those periodical waves of economy which descend upon the City like an epidemic manifestation, the establishment of six was reduced to the original two. Nor were any additions made for several years. Nevertheless, the war-years taught their lesson, and with the passing of the Maternity and Child Welfare Act of 1918 the service began to assume its present form. To-day, 10

doctors, 27 nurses and 8 clerks constitute an organisation of the greatest medical and sociological importance.

The Death Rates.

It is probably true that the individual is more concerned with the hundred and one diseases which from time to time temporarily disable him rather than with the single mortal complaint which ultimately kills him. Nevertheless, our statistical knowledge of the former minor conditions is still inadequate, whereas the records of the ends of life are relatively complete. From a study of the death rate—the number of persons dying annually per 1,000 of the population—information of the most valuable kind has been gathered year by year. The deaths in 1873, with a population less than half the present one, were 4,059 in number, and surpassed the total for 1932 by 480. It is difficult to realise that the death rate was 30.1 per 1,000 in 1873, as contrasted with 12.4 per 1,000 in 1932. If we follow the quinquennial curve (Figure 4) we see how there was a rapid, almost precipitate, fall in the earlier years as a result of Dr. Armstrong's onslaught upon the manifold nuisances—"the grave accumulation of sanitary wrongs"—which he found within the City's boundaries.

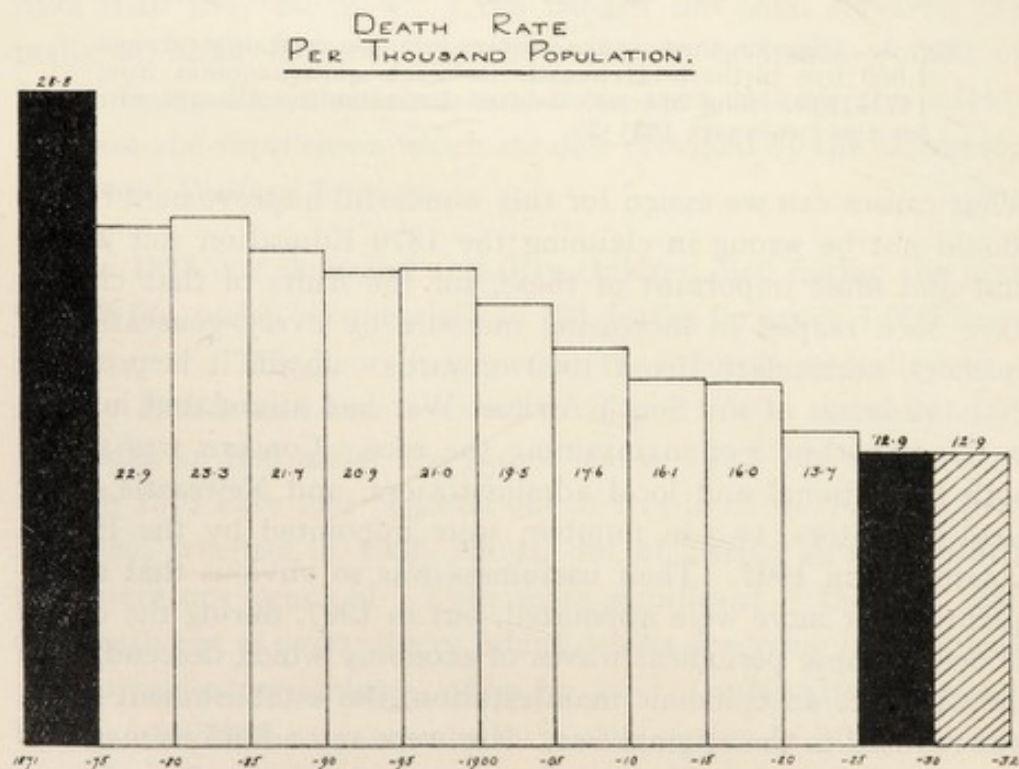


Fig. 4. Diagram shewing the average death rate per 1,000 population in Newcastle for each quinquennium from 1871-1930. The hatched column indicates the average rate for the two years 1931-32.

From that time the decline in the curve has been slower, until now it is almost stationary, and we can almost certainly anticipate that any further alteration will be in an upward direction. A slightly increased death rate will not necessarily reflect upon the efficiency of our health services, but will simply mean that these services have resulted in the building up of a more elderly population than hitherto. It is difficult to assess the cause of the improvement, but undoubtedly the various developments of the Health Services have all contributed in greater or less degree. The reduction in the death rate has not been uniform in every direction. We know that the infectious diseases have one victim where previously they had seven. Similarly, as regards tuberculosis, two die where of old five succumbed to the disease. The fatality of certain diseases has remained practically stationary, and among these may be instanced bronchitis and pneumonia. Others again have increased—or have appeared to increase their stature amongst the causes of death. In the early days (*circa* 1880) no more than two per cent. of all deaths were attributed to cancer. To-day it is the final diagnosis in one case out of every nine.

Diseases of the heart, and the more recently recognised condition which is commonly associated with the stress and strain of modern life—arterio-sclerosis, are responsible for 27 per cent. of deaths, whereas sixty years ago their share was approximately 6 per cent. of the total.

It will be of advantage to consider certain of these conditions at greater length.

The Infectious Diseases.

We still preserve as a relic of the olden days the adjective Zymotic, which, for all practical purposes, is equivalent to our term infectious. The Zymotic death rate refers to the deaths from seven of the more important diseases of this class, scarlet fever, smallpox, diphtheria, typhoid fever, measles, whooping cough and diarrhoea. This rate was as high as 6.8 per 1,000 persons in 1873. At present (*i.e.*, in 1932) the mortality from these diseases is 0.43 per 1,000 of the population. And the remarkable way in which these diseases have been eliminated as important causes of

death can be seen in the downward trend of the curve since 1873 (Figure 5). These diseases now kill only one, where previously fifteen died.

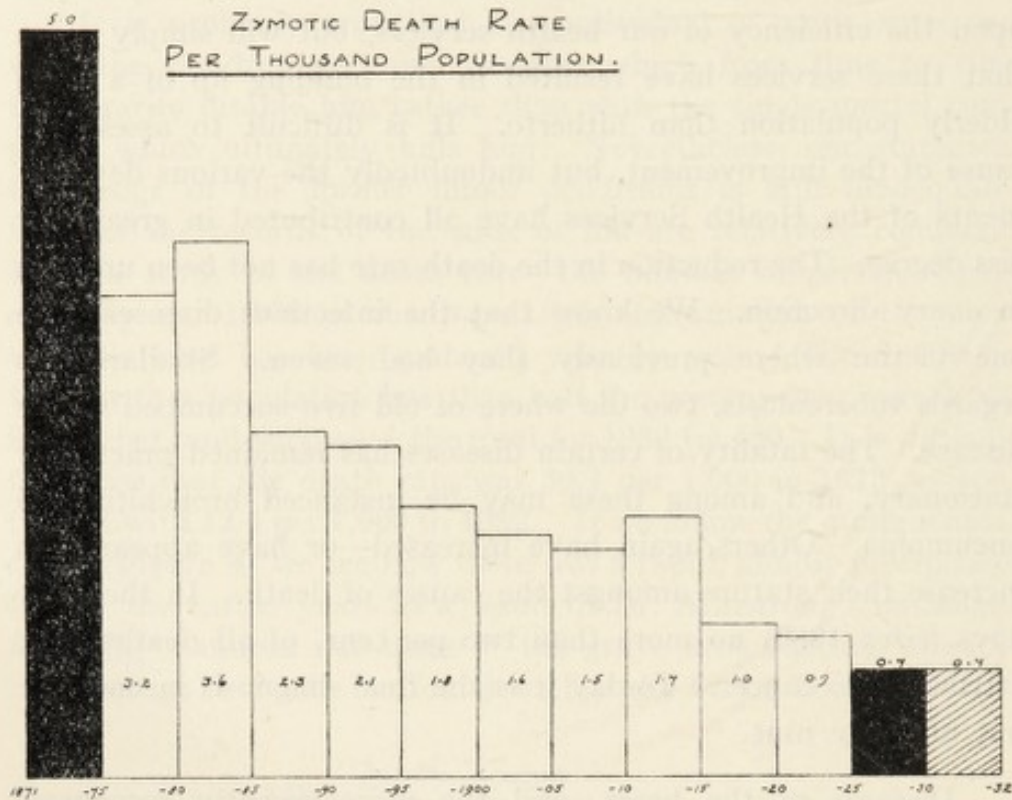


Fig. 5. Diagram shewing the average zymotic death rate per 1,000 population in Newcastle for each quinquennium from 1871-1930. The hatched column indicates the average rate for the two years 1931-32.

Many things have helped to bring this about. Some of the diseases have disappeared entirely. Typhus which was one of the most dread visitants has not been seen in the City for 17 years; cholera has not raised its head for nearly 70. Other diseases are milder. Scarlet fever which in 1866 killed 500 persons, and 450 more in 1873, was responsible for no more than seven deaths in 1932. Lastly, for certain diseases, such as diphtheria and typhoid fever, potent new weapons both for treatment and for prevention have been added to the armoury of the physician.

Again, it is highly probable that administrative interference has played a part in the reduction of this death rate. In 1873 it was not obligatory upon the family doctor to notify the presence of infectious disease to the Health Department. The only regular

and dependable source of information as to the prevalence of the infectious fevers in the City was the Newcastle Dispensary, the medical officers of which provided daily lists of the cases under their care. Here are the words of Dr. Armstrong's report of 1880 on this subject :—

“ Smallpox or fever may spread from house to house, and, until the registration of a death, no intimation may reach the Health Department. When a disease breaks out in a household those most endangered (to wit, the healthy members of the household), instead of giving information to the authorities, conceal the fact as though the family affliction were some punishable offence ; and the medical adviser, apparently with the same idea, declines to report it unless compelled to do so.”

This was the condition of affairs until 1882 when powers were obtained under a local Act to rectify it, and now as a result of this and national legislation on the subject, we have complete information of the movements of over twenty infectious diseases, which are compulsorily notifiable to the Health Authorities.

Incomplete notification of the infectious diseases went hand in hand in those days with inadequate hospital provision for their treatment. The old hospital in Bath Lane, which had been founded originally as a House of Recovery, possessed 48 beds, and its amenities, unless one can regard a portion of the City wall as such, were negligible. Nor could it be described as popular. The number of cases seeking admission each year averaged about 120, and of these usually 20 died. Removal of an infectious case to hospital could be suggested by the doctor or the medical officer of health, but was not compulsory, because everyone, not actually a pauper, who entered the institution was obliged to pay for treatment. (This restriction was modified in 1880, when all tenement dwellers were granted treatment free of charge, and was removed entirely in 1900, when the facilities of the infectious diseases hospital were made free and open to every inhabitant of the City). In consequence practically every infectious case was nursed at home, and it was not uncommon to have patients suffering from smallpox, typhus, scarlet fever, typhoid fever, lying and dying in adjacent houses in the same street.

The administration of the hospital was never easy, for difficulties were constantly being encountered in obtaining and

retaining adequate and competent nursing personnel. To quote Dr. Armstrong's own words :—

“ There is great difficulty in filling the places of those disabled by fever. Anyone appointed to a vacancy is taken on duty with the almost certainty that in a week or two she will herself become a patient and her place be taken by another. The knowledge of this is exceedingly depressing to the nurses themselves, and unfits them for their dangerous duty.”

Frequently the problem was solved by retaining the services of recovered female patients, who had acquired immunity to one or other of the severer diseases as a result of an actual attack. Many of the nurses so recruited did excellent work. Others merely added to the administrative and medical worries of the Superintendent.

The new hospital at Walker Gate came into existence in 1888, after a number of other sites, including that of the present St. Mary Magdalene Home, had been reviewed. It has grown from a hospital of 105 beds, to one in which 338 beds hardly serve the many needs of the community.

Our conception of the infectious diseases has altered materially in the past thirty years, and the so-called “ Fever Hospital ” now provides treatment and nursing for tuberculosis, pneumonia, the severer types of measles, and other similar conditions—diseases which in a crowded city can rarely receive adequate attention at home. The lot of the nursing staff is also a happier one. Following upon the introduction of inoculation against typhoid and immunisation against diphtheria and scarlet fever, it is now possible to give almost complete protection to those working amongst these diseases. In Figure 6 are set out the experiences at the City Hospital, shewing the remarkable degree of efficiency as regards protection which has now been attained. Cases of infection in the domestic and nursing staff are exceptionally rare, and are generally to be explained by special circumstances.

STAFF CASES OF

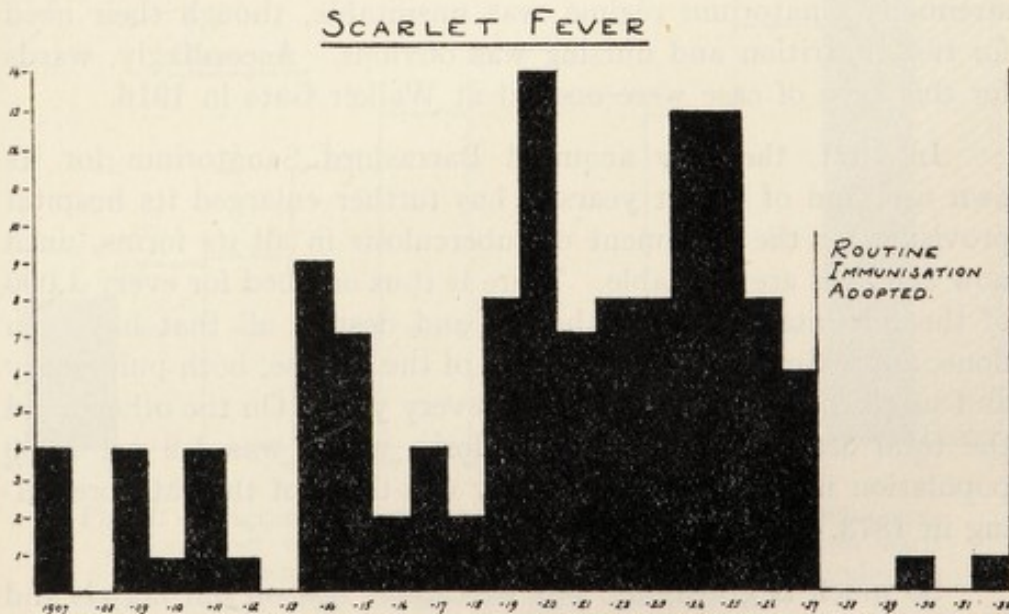
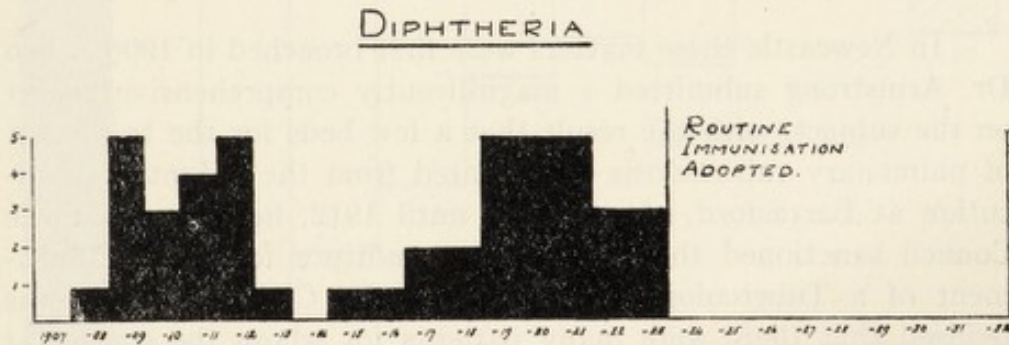
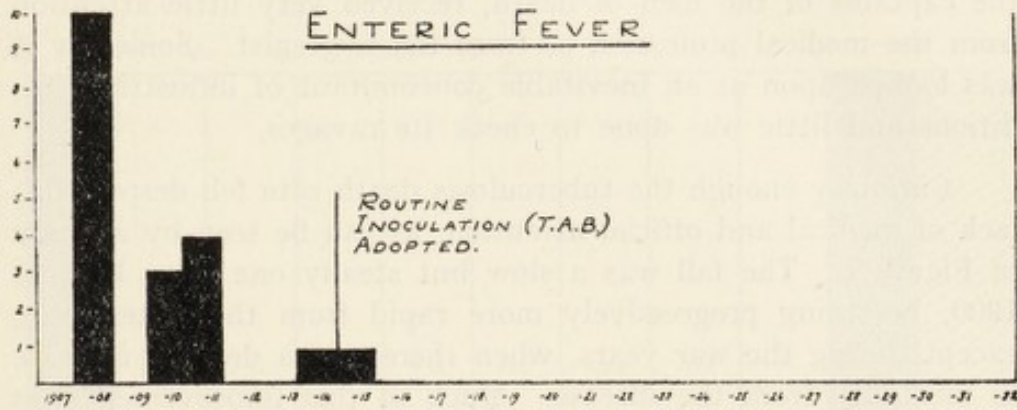


Fig. 6. Diagram showing the actual cases of enteric fever, diphtheria and scarlet fever occurring amongst the nursing and domestic staff at the City Hospital for Infectious Diseases, Newcastle, during the period 1907-1932.

Tuberculosis.

Tuberculosis, which for many years was accepted as one of the captains of the men of death, received very little attention from the medical profession or from the hygienist. Somehow it was looked upon as an inevitable concomitant of industrial conditions and little was done to check its ravages.

Curiously enough the tuberculosis death rate fell despite this lack of medical and official attention, as can be seen by a study of Figure 7. The fall was a slow but steady one from 1881 to 1900, becoming progressively more rapid from the latter date, except during the war years, when there was a definite increase in mortality from the disease. Much of this improvement has followed upon the recognition of the importance of early diagnosis of the patient's condition, and of the value of sanatorium treatment.

In Newcastle these matters were first broached in 1906, when Dr. Armstrong submitted a magnificently comprehensive report on the subject, with the result that a few beds for the treatment of pulmonary tuberculosis were rented from the voluntary institution at Barrasford. It was not until 1912, however, that the Council sanctioned the necessary expenditure for the establishment of a Tuberculosis Dispensary in the City. Later it was realised that there were many patients for whom the somewhat strenuous sanatorium régime was unsuitable, though their need for rest, nutrition and nursing was obvious. Accordingly, wards for this type of case were opened at Walker Gate in 1916.

In 1921, the City acquired Barrasford Sanatorium for its own use, and of recent years it has further enlarged its hospital provision for the treatment of tuberculosis in all its forms, until now 280 beds are available. There is thus one bed for every 1,000 of the inhabitants. Nevertheless, and despite all that has been done, approximately 700 new cases of the disease, both pulmonary and surgical, are brought to notice every year. On the other hand the total death rate from tuberculosis, which was 1.2 per 1,000 population in 1932, is now exactly one third of the rate prevailing in 1873.

So much is gratifying, but we cannot rest on our laurels and review the surrounding scene complacently. Newcastle's death rate from pulmonary tuberculosis, despite its manifest improvement is still 40 per cent. higher than the average for England and Wales, and while it remains so, there is obviously room for increased effort and enquiry.

TUBERCULOSIS AND CANCER DEATH RATES
PER THOUSAND POPULATION.

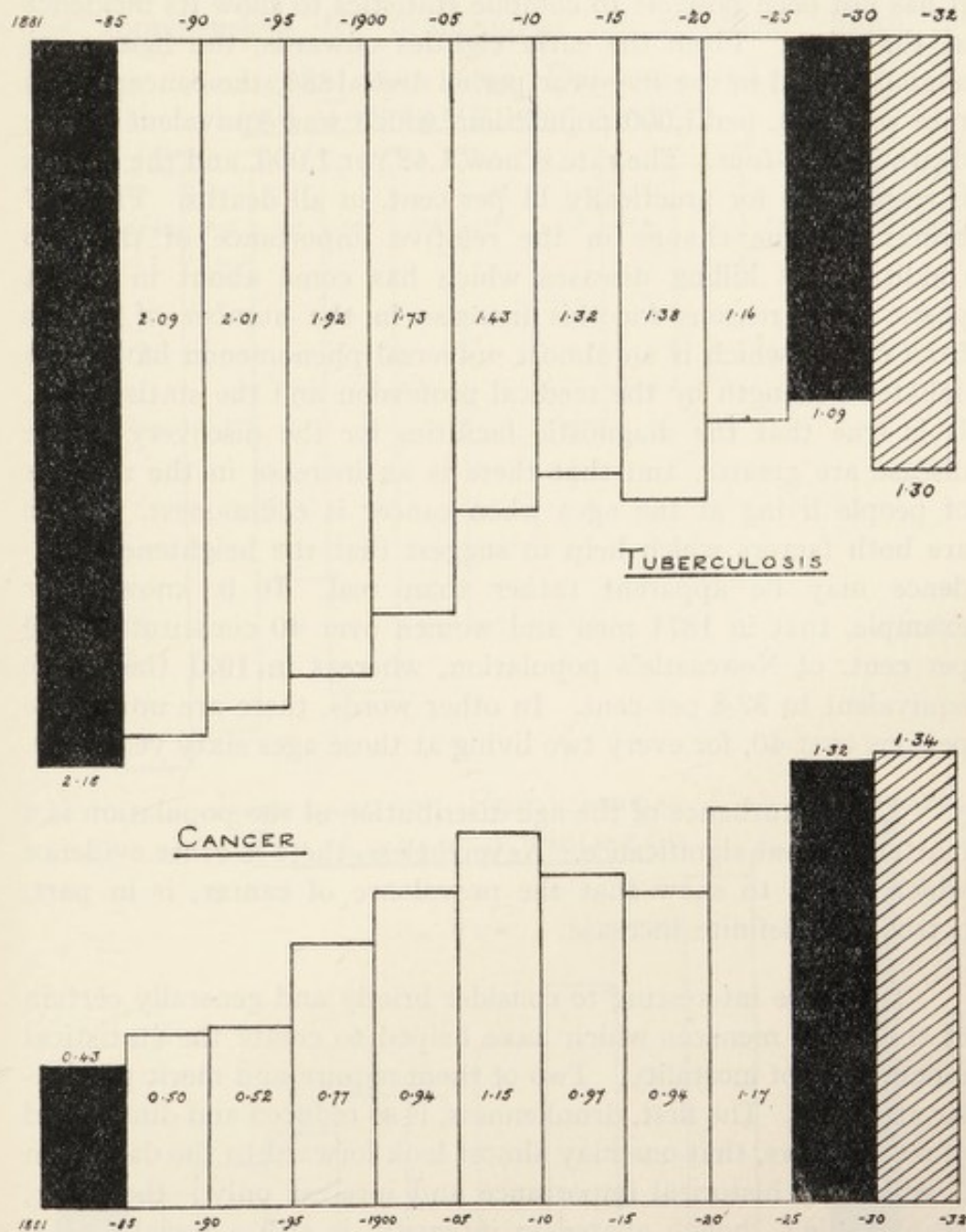


Fig. 7. Diagram shewing the average death rates per 1,000 population from tuberculosis and cancer in Newcastle for each quinquennium from 1881-1930. The hatched column indicates the average rates for the two years 1931-32.

In Figure 7 the death rates from two diseases are contrasted; tuberculosis, where there has been a definite reduction in mortality, and cancer where there has been a comparable increase.

Cancer.

In the early seventies, little was said or written of cancer, and it has not been possible to compile statistics to show its incidence at that time. From the early eighties onwards, the figures are available, and in the five-year period 1881-1885, the cancer death rate was 0.43, per 1,000 population, which was equivalent to one death in fifty-four. The rate is now 1.42 per 1,000, and the disease is responsible for practically 11 per cent. of all deaths. Figure 7 brings out the change in the relative importance of the two conditions as killing diseases which has come about in recent years. The reasons for this increase in the number of deaths from cancer which is an almost universal phenomenon have been debated at length by the medical profession and the statisticians. It is true that the diagnostic facilities for the discovery of the disease are greater, and that there is an increase in the number of people living at the ages when cancer is commonest. These are both factors which help to suggest that the heightened incidence may be apparent rather than real. It is known, for example, that in 1871 men and women over 40 constituted 21.9 per cent. of Newcastle's population, whereas in 1931 they were equivalent to 32.8 per cent. In other words, there are now three persons over 40, for every two living at those ages sixty years ago.

This disturbance of the age distribution of the population is a matter of great significance. Nevertheless, there is other evidence which serves to show that the prevalence of cancer, is in part, a true and definite increase.

It will be interesting to consider briefly and generally certain of the social menaces which have helped to create the statistical monuments of mortality. Two of them require and merit particular attention. The first, drunkenness, is so reduced and diminished of recent years, that one may almost look forward to the day when it will be of historical importance and interest only; the other, overcrowding, though abated in intensity, is still a social evil of the first dimension.

Drunkenness.

Sufficient time has not elapsed as yet to enable the statistician to marshal the effects of our post-war temperance, and express them in terms of increased length of days, and freedom from a variety of pathological states.

Nevertheless, the common and besetting drunkenness of the two preceding generations has gone, and survives only in the occasional spectacle of the solitary rolling inebriate. The fact of this improvement in our sobriety is shewn in Figure 8, where the apprehensions for drunkenness are recorded. Since the

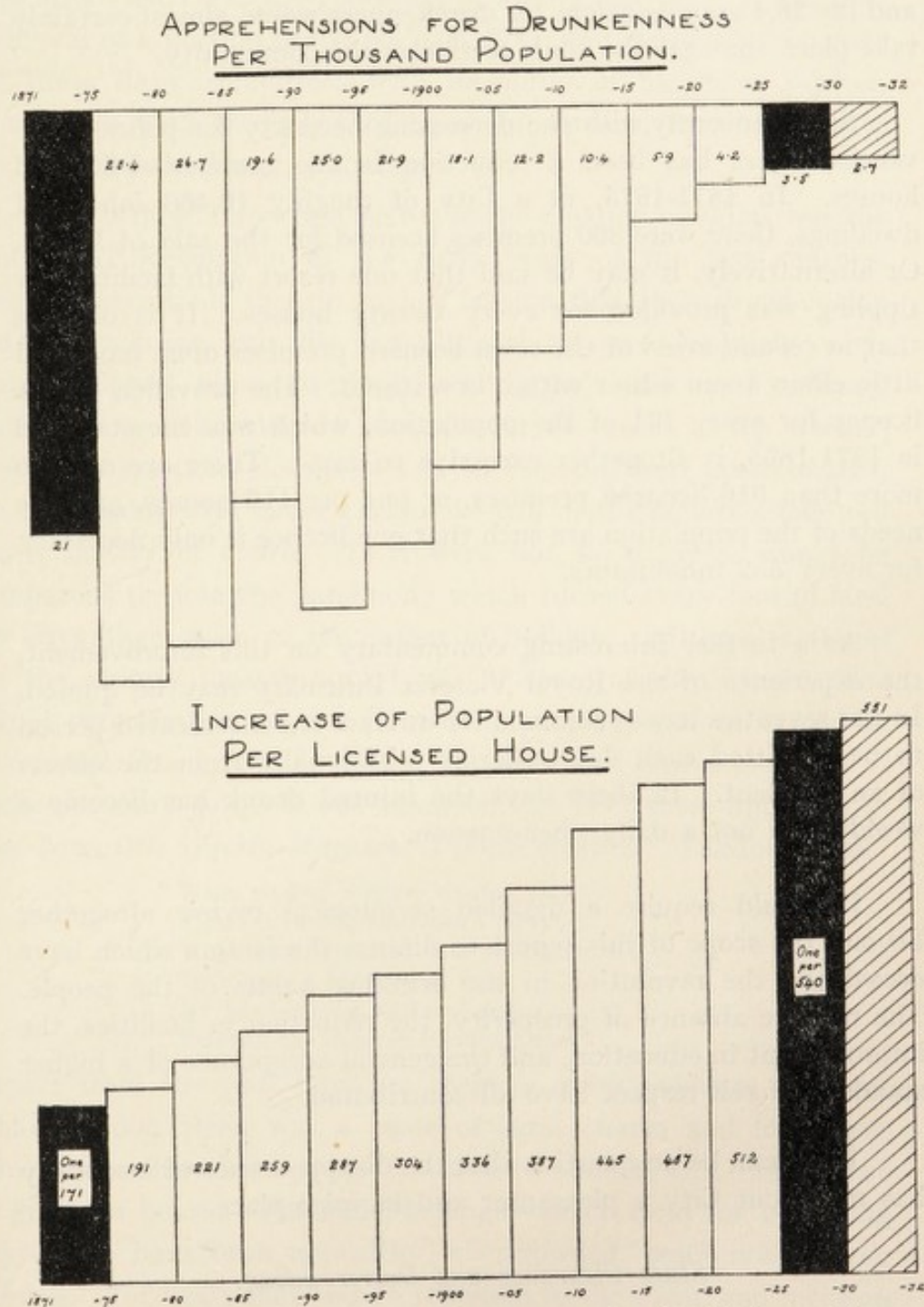


Fig. 8. Diagram shewing the average apprehensions in Newcastle for drunkenness per 1,000 population, and the increase of population per licensed house during each quinquennium from 1871-1930. The hatched column indicates the average rates for the two years 1931-32.

quinquennium 1876-1880 they have fallen from an average of 28.4 per 1,000 of the population per annum to less than one-tenth of that number, namely, 2.74 per 1,000 in 1931-1932. The former figure is as astounding as the latter, for in 1871 there were not more than 543 adults over the age of 20 per 1,000 of the population, and the 28.4 apprehensions for drunkenness would almost certainly take place amongst the adult section of the community.

Simultaneously with the decreasing necessity for police intervention there has been a reduction in the number of licensed houses. In 1871-1875, in a City of roughly 16,460 inhabited dwellings, there were 800 premises licensed for the sale of liquor. Or alternatively, it may be said that one resort with facilities for tippling was provided for every twenty houses. It is obvious that in certain areas of the town licensed premises must have had little elbow room either within or without. The provision of one licence for every 171 of the population, which was the standard in 1871-1875, is altogether excessive to-day. There are now no more than 516 licensed premises, or one per 116 houses, and the needs of the population are such that one licence is only necessary for every 552 inhabitants.

As a further interesting commentary on this improvement, the experience of the Royal Victoria Infirmary may be quoted. In the seventies it was common for at least one intoxicated person to be admitted each day suffering additionally from the effects of an accident. In these days the injured drunk has become a weekly and not a daily phenomenon.

It would require a detailed sociological review altogether beyond the scope of this report to discuss the factors which have occasioned the revolution in the drinking habits of the people. The relative absence of prosperity, the reduction in facilities, the improvement in education, and the general acceptance of a higher standard of self respect have all contributed.

There can be no question that the disappearance of insobriety has made our City a pleasanter and happier place.

Slum Clearance and Overcrowding.

One of its old worthies has said, "Newcastle was always an ancient town." No less truthfully could he have laid claim to an almost immemorial reputation for its slums.

There can be no question that our modern city has inherited many of its problems and responsibilities from the days when the town walls enclosed a population of some 30,000 souls, huddled together in 2,400 houses, twelve persons to the house or 180 to the acre. This was the condition of affairs just prior to the first removal of a portion of the walls in 1781, and many of the houses of those days, sometimes with memories of merchant princes, sometimes with traditions of age-long squalor, remain with us as the slum dwellings of to-day.

But a more important factor in the creation of slums was the Industrial Revolution of the early years of the last century. Houses were built then in such a fashion that their degeneration and degradation into vile and filthy slums was absolutely inevitable. Cheap, mean dwellings, without even the most ordinary amenities were considered adequate for the needs of the worker, and their erection, closely packed on the narrowest possible area, in the shadow and under the smoke-pall of the factories followed as a matter of course. If it were not so tragic it would be humorous to note the parsimony which turned every foot of land to advantage, even to the extent of building additional cottages in the already meagre back-yards of some of the houses. The rapid deterioration of this jerry-built property can be traced to its completion in the course of two or three generations. It is only necessary to quote one example. In 1777 there appeared in the *Newcastle Weekly Magazine* a poem entitled "Pandon Dean."

"When cooling zephyrs wanton play,
Then oft in Pandon Dean I stray;
When sore depressed with grief and woe,
Then from a busy world I go;
My mind is calm and soul serene
Beneath the bank in Pandon Dean."

Apart from the poet's praises there is other evidence to show that Pandon Dean was a place of rural charm and loveliness. But it was invaded by the speculative builder, and there arose a group of houses—Pandon Dwellings—which from the beginning appear to have been unhealthy, overcrowded, pestilence-stricken hovels. For years they were a reproach to the town, and mention was made of them in each of the three historical reports already referred to. In 1875 this slum was so advanced in decrepitude, so fatal to its inhabitants whose annual death rate was 50 per 1,000

population, that at the instance of the Borough Council and the Medical Officer of Health, a Local Government enquiry was held, and the order for its demolition confirmed. Nevertheless the cost of this demolition and the subsequent rehousing, together with the expense of compensating the owners (whose rights were more strictly regarded than now) weighed somewhat heavily upon the Corporation, and in the lifetime of Dr. Armstrong no other clearance scheme was ever attempted. It would be unfair to lay the blame for this entirely upon the Council. The legal powers of the time were exceedingly difficult to operate, and it was easier to pass a local Parliamentary Bill through both Houses, than to obtain the confirmation of a clearance order.

From 1875 onwards Dr. Armstrong had to rely upon his gifts of argument and moral suasion, rather than upon legal powers. Working within these limitations, however, he achieved wonders in clearing and cleansing many of the oldest parts of the town.

Several of the areas which were the fine flower of the Industrial Revolution also received his attention but with these, vested interests prevailing, he was less successful. It is of supreme interest to realise that many of the areas scheduled to be dealt with under the 1930 Housing Act—Elswick East Terrace, George Street, Buckingham Street—have not recently attained the status of slums, but were so regarded forty and fifty years ago.

Here, for example, are the observations of the Medical Officer of Health in 1880, regarding Elswick East Terrace :—

“ It is apparent that the health of Elswick East Terrace as regards disease indicating sanitary defect, is considerably below that of the borough, and that the mortality from infectious diseases is excessive. Such areas as this form hot beds and foci of disease, from which charwomen, errand boys, school children, etc., convey infection over the town.”

It is a far cry from 1875 to 1924, but those 49 years had to elapse before the times were again propitious for slum clearance in Newcastle. The old Acts had been amended, but the procedure was still unduly elaborate, and though the owner no longer reaped his unmerited compensation, the burden upon the ratepayers was inequitably heavy. As a result of the representations of Dr. Kerr, proceedings were taken in 1924 under the Housing of the Working Classes Acts, 1890-1924, and three areas

—Lower Pilgrim Street, Liverpool Street, and Prudhoe Street—were dealt with. The inhabitants, 2,209 in number, were rehoused to a large extent on the new Cowgate Estate and in Leazes Dwellings, where after a lapse of six years 58 per cent. are still in occupation of the houses to which they were transferred. It was hoped that progress would be accelerated under the Housing Act, 1925, but faulty drafting rendered its legal powers unworkable. In fact further schemes for slum clearance which had been put forward by the Health Committee were deferred on the advice of the Ministry of Health until the new Charter of Slum Liberation, the Housing Act of 1930 became law. The inauguration of the present campaign for slum clearance is present in the minds of all of us.

In all fairness to yourself, Sir, and the Chairman of the Insanitary Property Sub-Committee, Councillor Walter Thompson, it should be said that the cry for action raised by the Ministry of Health had been anticipated by the Health Committee and the City Council. Under the original five year programme put forward in 1930 at the request of the Ministry, much has already been done in Newcastle, as can be seen from the following summary :—

TABLE 2.

First Five Year Programme.

Clearance Areas regarding which action had been taken
prior to June 30th, 1933.

Areas.	Houses.	Holdings.	Population.
30	733	1,552	6,302

Much remains to do, but the completion of the programme outlined below, which represents the City's second five year plan, cannot but help us to attain a little nearer to that vision so dear to the heart of its prophet, Harold Kerr—the vision of "The City Healthful and Beautiful."

TABLE 3.

*Summary of Five Years Programme submitted to the
Ministry of Health, September 30th, 1933.*

	Areas.	Houses.	Holdings.	Population.
Clearance Areas ...	41	2,023	5,103	18,973
Improvement Areas ...	8	505	1,234	4,896
Individual Unfit Houses	—	104	265	1,166

Leaving aside the improvement areas as being places not wholly bad, where by planning and contrivance much may be done to bring light and air and reasonable amenities to the inhabitants, let us enumerate the population living in the clearance areas, and the drab hovels which are designated individual unfit houses. These are the real slum dwellers, and the total of souls living in such places is 20,139. There is no need to catalogue the intolerable and often indescribable conditions under which their lives must perforce go on. They are familiar to all of us. But the slum dweller is not the only member of Newcastle society whose lot is a pitiable one. These, who in perhaps somewhat better surroundings have to put up with the inconvenience, the congestion, and frequently the indecency of overcrowded dwellings are deserving of consideration. There are many yard-sticks by which overcrowding may be measured. One of the simplest, though neither the best nor the most logical, is that of the Registrar-General, which recognises overcrowding as present when premises are occupied by more than two persons per room. This standard is hardly stringent enough, if we recollect that the Ministry of Health basis for rehousing is four persons to a three-roomed house, and five persons to a four-roomed one. Yet on this relatively low standard Newcastle has been for long one of the most densely overcrowded areas in the country. With the exception of the other Tyneside towns, Sunderland, and one or two of the most insalubrious of the London boroughs, there has been, during the present century, no record comparable to our own.

Whereas in 1911 the percentage of the entire population of England and Wales living in conditions of overcrowding was but 9.1, the comparable percentage in Newcastle was 31.6. The details from the last three Census returns are tabulated below :—

TABLE 4.

Year.	ENGLAND AND WALES.	NEWCASTLE UPON TYNE.	
	Percentage of Population overcrowded.	Percentage of Population overcrowded.	Population living under overcrowded conditions.
1911	9.1	31.6	81,141
1921	9.6	33.6	88,295
1931	6.9*	23.3	63,216

*This information has been made available by kind permission of the Registrar General.

There has been a definite improvement in the last decade, but it is of paramount importance that the improvement should continue and be progressive. In obtaining this the rehousing of the 20,139 slum dwellers will undoubtedly assist, but even assuming that they are all to be numbered amongst the 63,216 "overcrowded," there will still remain a population of 43,000 whose claims for space and air and privacy will not have been met. Some of the details revealed by the 1931 Census make appalling reading. What are we to think of the 117 families living eight or more in one room, or of the 834 families each composed of at least eight members whose only habitation consists of two rooms? Some of the most scandalous cases are recorded in the following table :—

TABLE 5.

Details of Overcrowding in Newcastle. (Extracts from Census Report, 1931.)

There were living—

8 in 1 room 79 families of 632 persons.					8 in 2 rooms 449 families of 3,592 persons.				
9	"	29	"	261	"	9	"	251	" 2,259 "
10	"	7	"	70	"	10	"	82	" 820 "
11	"	2	"	22	"	11	"	39	" 429 "
						12	"	10	" 120 "
						13	"	3	" 39 "

The mode of life and domicile of the overcrowded 63,216 of our population remains a potential menace to the health of the entire City. That quarter of the populace which lives in these circumstances supplies as much of the tuberculosis, pneumonia, broncho-pneumonia, typhoid and dysentery as the remaining three-quarters put together. One half of the admissions to the City Hospital for Infectious Diseases come from these houses.

The infant entering upon life in a one-roomed tenement has only three-quarters of the chance of surviving to the age of one which is possessed by the child born in a three-roomed house. The individual, the City, and the Nation, all pay dearly for this too dense aggregation of bodies and souls.

Conclusions.

It is time now to make such comparisons as may be relevant, to deliberate over our conclusions, and if the survey of the past is to be of benefit to us, to set out prudently both our apprehensions and our plans for the future.

Let us revert again to the statistical signposts. At an earlier stage in this report certain of the death rates for England during the fifteen years 1850-1864 were contrasted with those of Newcastle for the year 1866. It will help us if we set alongside one another the English death rates for the earlier era and the similar statistical information for the quinquennium 1927-1931. This has been done in Table 6, and that the comparison may be simplified a calculation has been made to show the percentage relationship between the two series of figures.

TABLE 6.

	MORTALITY FROM										
	All Causes.	Measles.	Scarlatina.	Whooping Cough.	Typhus.	Diarrhoea.	Tabes Mesenterica.	Phthisis.	Bronchitis.	Pneumonia.	Ulceration of Intestines (Typhoid)
England, 1850-64. Rate per 100,000 ...	2,219	43	106	77	91	80	26	267	134	124	4
England and Wales, 1927-31. Rate per 100,000 ...	1,223	9.5	1.6	9	—	15.4	3.1	76.5	67.9	87.5	0.9
Rates for 1927-31 as percentage of Rates for 1850-64 ...	55.1	22.1	1.5	11.7	—	19.2	11.9	28.7	50.7	70.6	22.5

To a certain extent the smaller child population of the present day accentuates the fall in the death rate from the infectious diseases, but the effect of this is relatively insignificant. The reduction in every death rate, both general and specific, is a sufficient indication of the triumphs of sanitation and preventive medicine.

A similar comparison in respect of Newcastle, though yielding the same results, will not be of equal statistical value, as the death rates available for the earlier period refer to the single year 1866, which was undoubtedly a year of heavy mortality.

Nevertheless, with the reservation that the improvement is somewhat overstated on that account, the contrast has been made and is shown in Table 7.

TABLE 7.

	MORTALITY FROM										
	All Causes.	Measles.	Scarlatina.	Whooping Cough.	Typhus.	Diarrhoea.	Tabes Mesenterica.	Phthisis.	Bronchitis.	Pneumonia.	Ulceration of Intestines (Typhoid).
Newcastle upon Tyne, 1866. Rate per 100,000 ...	3,237	86	409	48	183	100	140	327	235	110	85
Newcastle upon Tyne, 1927-31. Rate per 100,000 ...	1,306	21.4	1.6	12.6	—	29	5.7	107.4	70	103	1
Rates for 1927-31 as percentage of Rates for 1866 ...	40.3	24.9	0.4	26.2	—	29	4.1	32.8	29.8	93.6	1.2

Every cause of death there recorded save one shows considerable abatement. Pneumonia alone is practically as formidable as ever. But setting aside for the moment these historical contrasts, it is more particularly our duty to concern ourselves with the present position of Newcastle relative to the country as a whole. The same range of mortality rates which has been used hitherto can again be employed, and in Table 8 are set out the averages, national and local, for the five years 1927-1931.

TABLE 8.

	MORTALITY FROM										
	All Causes.	Measles.	Scarlatina.	Whooping Cough.	Typhus.	Diarrhoea (under 2 years).	Tabes Mesenterica.	Phthisis.	Bronchitis.	Pneumonia.	Typhoid Fever.
England and Wales 1927-31. Rate per 100,000...	1,223	9.5	1.6	9	—	15.4	3.1	76.5	67.9	87.5	0.9
Newcastle upon Tyne, 1927-31. Rate per 100,000	1,306	21.4	1.6	12.6	—	29	5.7	107.4	70	103	1.0
Newcastle rates as percentage of England and Wales rates ...	106.8	225.3	100	140	—	188.3	183.9	140.4	103.1	117.7	111.1

TABLE 9.

Average Death Rates per 100,000 in England and Wales and Newcastle-upon-Tyne during the Five Year Period 1927-1931. (Based upon the Registrar-General's Abridged List of Causes of Death.)

No.		England and Wales.	Newcastle upon Tyne.	Newcastle as a percentage of England and Wales.
	All causes... ..	1,223	1,306	106.8
	*Infantile mortality	67.1	84.2	125.5
1.	Typhoid and paratyphoid fevers ...	0.9	1.0	111.1
2.	Measles	9.5	21.4	225.3
3.	Scarlet fever	1.6	1.6	100.0
4.	Whooping cough... ..	9.0	12.6	140.0
5.	Diphtheria	7.9	3.2	40.5
6.	Influenza	39.7	28.2	71.0
7.	Encephalitis lethargica	2.6	3.3	126.9
8.	Cerebro-spinal fever	1.8	4.4	244.4
9.	Tuberculosis of respiratory system ...	76.5	107.4	140.4
10.	Other tuberculous diseases	26.6	27.4	103.0
11.	Syphilis	3.6	7.0	194.4
12.	General paralysis of the insane, tabes dorsalis	5.3	7.4	139.6
13.	Cancer, malignant disease	143.5	136.2	94.9
14.	Diabetes	13.7	12.7	92.7
15.	Cerebral hæmorrhage, etc.	66.8	56.8	85.0
16.	Heart disease	220.4	210.3	95.4
17.	Aneurysm... ..	3.2	3.3	103.1
18.	Other circulatory diseases	60.7	97.4	160.5
19.	Bronchitis... ..	67.9	70.0	103.1
20.	Pneumonia (all forms)	87.5	103.0	117.7
21.	Other respiratory diseases	13.6	14.5	106.6
22.	Peptic ulcer	10.3	10.5	101.9
23.	Diarrhœa, etc. (under 2 years) ...	15.4	29.0	188.3
24.	Appendicitis	7.2	5.6	77.7
25.	Cirrhosis of liver... ..	4.4	3.0	68.2
26.	Other diseases of liver, etc.	6.2	7.4	119.4
27.	Other digestive diseases	†	†	†
28.	Acute and chronic nephritis	38.3	42.3	110.4
*29.	Puerperal sepsis	1.7	1.6	94.1
*30.	Other puerperal causes... ..	2.5	2.3	92.0
*31.	Congenital debility, premature birth, etc.	32.6	27.9	85.6
32.	Senility	50.4	33.7	66.9
33.	Suicide	12.6	11.5	91.3
34.	Other violence	41.9	38.7	92.4
35.	Other defined causes	†	†	†
36.	Causes ill-defined or unknown ...	†	†	†

* The rates for these headings are per 1,000 live-births.

† Not extracted.

The crescendo of self-congratulation may be somewhat checked by a study of these figures, for the City's record as regards measles, whooping cough, diarrhoea, tuberculosis and pneumonia, is not a satisfactory one.

But it may be said quite fairly of the diseases set out in the table, that largely though they bulked in the records of the past, they are now much smaller contributors to mortality. In all they contribute but 22 per cent. of the total death rate of England and Wales, and despite the fact that their importance in Newcastle is somewhat greater, they do not comprise more than 27 per cent. of the City's deaths. How then does Newcastle stand in comparison with England and Wales as regards that large remainder of causes of death, which together make up approximately three quarters the death roll?

The Registrar-General furnishes an annual table, known as the Abridged List of Deaths, in which the well-nigh innumerable medical diagnoses appearing on the death certificate are grouped into 36 classes. This list is compiled not only for England and Wales as a whole, but for each of the County Boroughs and for the aggregated districts of County areas. Minor modifications were made in the list in 1931, but as far as possible these have been allowed for in Table 9, which is based on the actual deaths occurring in England and Wales and Newcastle respectively during the five year period 1927-1931. The table gives the average annual death rate per 100,000 persons in the two areas for each of 33 stated, grouped causes of death, three omnibus groups (*e.g.*, "other digestive diseases") being omitted.

In addition the Newcastle rates have been expressed as a percentage of the national experience, and those individual City rates which would appear to be notably in excess have been indicated in italic.

Certain of the outstanding features in this table (measles, whooping cough, diarrhoea, pulmonary tuberculosis and pneumonia) have already been noticed. To their company we must now add two of the acute infectious diseases of the central nervous system (encephalitis lethargica and cerebro-spinal fever), syphilis (together with its late manifestations, general paralysis of the insane and tabes dorsalis or locomotor ataxia), and two miscellaneous collections of diseases which affect respectively the circulatory system and the liver. These are conditions which *prima facie* appear to have an undue prevalence in our City. As

regards encephalitis lethargica and cerebro-spinal fever it is probably true to say that the epidemics of these diseases have borne more heavily on the North of England than on the country as a whole. But the ravages of syphilis and its sequelæ and of the arterial and venous diseases cannot be explained away so easily, and only by research and investigation shall we be able to determine how and why our tribute to them is so high.

Such then are a few of the problems which confront us. There are many others, and these include not only enquiries as to how men may die, but also challenging questions as to how best they may live. Nor need we be alarmed or downcast by our difficulties. The methods which have effected the astounding reductions in infantile mortality and the death rates from infectious diseases and tuberculosis and have helped to bring about those radical alterations in the habits of the people are still available. The forces of good-will, self-sacrifice and determination at our disposal are as potent as ever. Our technical and scientific equipment improve year by year. The plan of campaign may need to be modified a little from time to time, but the general principles of the warfare in which we are engaging remain the same.

We can remember the twenty clauses of the Health Programme put forward by the Newcastle Reformers in 1867. It would be easy to draw up a similar catalogue of the present requirements, and to set them forth as our aim and objective. But however detailed and elaborated the articles of that Programme might be, its completion and fulfilment will be achieved by attention to these three policies, which are the very kernel of the matter :—

Firstly.—The construction and maintenance of the surroundings of the community and the homes of its individual members so as to provide the essential environmental services at the maximum of efficiency.

Secondly.—The supervision, and where necessary, the conservation of the following—growth, nutrition, general physique and fitness, immunity and resistance—in short the whole personal and mental hygiene of each individual.

Thirdly.—The inculcation of knowledge and education in the ways of living, so that each may know—and live—the highest when they see it.

The usual details as to the work of the various sections of the Health Department are described in the body of the report by the officers responsible. A resumé of the vital statistics for the year 1932 is given on page 52. Attention is directed to the fact that the Birth Rate of 17.1 and the Death Rate of 12.4 per 1,000 persons are the lowest rates ever recorded for this City. The Infantile Mortality Rate, which as the result of a severe epidemic of measles, rose in 1931 to 92 per 1,000 births, has fallen abruptly to 76, and is thus only slightly higher than the lowest rate of 74 which was recorded in 1930. As regards the five chief causes of death which were in order of importance (1) diseases of the heart, (2) cancer, (3) bronchitis and pneumonia, (4) pulmonary tuberculosis, (5) diseases of the arteries, the only change is that cancer has displaced bronchitis and pneumonia as the second on the list. The incidence of pulmonary tuberculosis continues to decrease, only 432 definite cases being brought to notice, as compared with 507 in 1931. Of the various infectious diseases not already referred to, measles, chickenpox and scarlet fever were the most prevalent, the latter two being in excess of the previous year, while cerebro-spinal fever, with a mortality of 41.5 per cent. amongst 53 cases, and whooping cough with a total of 30 deaths, were the most serious.

The prevailing and prolonged unemployment has given rise to fears lest the nutrition of certain classes of the population should be adversely affected, and a special report on this subject has been commissioned by the Health Committee. The result of this investigation, which was entrusted to Dr. James C. Spence, F.R.C.P., will be available shortly.

This report would be incomplete without a tribute to the staff, whose unceasing labour, patience and loyalty have placed me in their debt to an extent which I cannot sufficiently acknowledge.

It is with feelings of gratitude for the very great kindness and consideration which you, Sir, and the Vice-Chairman and members of the Health Committee have shown to me at all times throughout a year of stress and anxiety that I beg to subscribe myself,

Your obedient servant,

J. A. CHARLES,

Medical Officer of Health.

Health Department,

Town Hall,

Newcastle upon Tyne,

August, 1933.

SUMMARY OF STATISTICS, 1932.

Population (estimated mid. 1932)	...	...	...	...	285,100
Area of City (acres)	...	...	...	...	8,458
Estimated number of houses	...	...	...	...	68,804
Rateable value	...	...	...	...	£2,291,351
Sum produced by ld. rate	...	...	...	...	£9,107
Births	...	...	...	...	4,883
Birth rate (per 1,000 population)	...	...	...	...	17.1
Marriages	...	...	...	...	2,168
Deaths	...	...	...	...	3,539
Death rate (per 1,000 population)	...	...	...	...	12.4
Infantile Mortality (deaths under one year per 1,000 live births)	...	...	...	...	76
Natural increase in population (excess of births over deaths in the year)	...	...	...	...	1,344

CHIEF CAUSES OF DEATH.

Cause.	Number.	Percentage of total deaths.
Diseases of the heart	711	20.1
Cancer	403	11.4
Bronchitis and pneumonia	369	10.4
Tuberculosis (all forms)	341	9.6
Do. (Pulmonary)	277	7.8
Diseases of the veins and arteries	265	7.5
Diseases of the nervous system	232	6.6
Diseases of the genito urinary system	188	5.3
Diseases of the early infancy, and congenital malformations under 1 year	180	5.1

INFECTIOUS DISEASES.

Disease.	Cases notified.	Number of deaths.	Death rate per 1,000 population.
Scarlet fever	1,164	7	0.024
Diphtheria	136	5	0.017
Enteric fever	26	2	0.007
Erysipelas	205	13	0.045
Cerebro-spinal fever	53	22	0.084
Measles	2,384	19	0.066
Tuberculosis (all forms)	639 (new cases)	341	1.196

Whooping cough, which is not notifiable, caused 30 deaths.

Influenza, which is not notifiable, caused 69 deaths.

CITY AND COUNTY OF NEWCASTLE UPON TYNE.

Health Report, 1932.

1.—GENERAL.

MORTALITY TABLES,
SOCIAL CONDITIONS, CLIMATOLOGY.
WATER SUPPLY, DISPOSAL OF REFUSE.

Health Report 1932

I. GENERAL

Population	100,000
Births	1,000
Deaths	500
Males	50,000
Females	50,000

II. MORTALITY

Infants	100
Children	200
Adults	300
Total	600

MORTALITY TABLE

Age Group	Male	Female	Total
0-1	50	50	100
2-4	100	100	200
5-14	150	150	300
15-24	200	200	400
25-34	250	250	500
35-44	300	300	600
45-54	350	350	700
55-64	400	400	800
65-74	450	450	900
75-84	500	500	1,000
85+	550	550	1,100

Population, Birth Rate, and Special Mortality Rates during the period of the Notification of Infectious Diseases.

GENERAL STATISTICS.

POPULATION.—As estimated by the Registrar General at the middle of the year 1932—**285,100.**

RETURN SHEWING THE ESTIMATED POPULATION OF THE DIFFERENT
WARDS IN THE CITY, ACREAGE, POPULATION PER ACRE, ETC.

Ward.	Population (estimated).	Gross Area in acres.	Less for Public Open Spaces in acres.	Net Area in acres.	Population per acre.	
					Gross.	Net.
St. Nicholas'	2,158	127	1	126	17	17
St. Thomas'	13,788	1,644	1,101	543	8	25
St. John's	13,551	169	3	166	80	82
Stephenson.....	18,179	212	...	212	86	86
Armstrong	14,385	176	31	145	82	99
Elswick	13,117	250	17	233	52	56
Westgate	13,547	90	1	89	151	152
Arthur's Hill	9,247	142	6	136	65	68
Benwell.....	19,387	551	31	520	35	37
Fenham	24,848	1,190	14	1,176	21	21
All Saints'.....	14,629	178	2	176	82	83
St. Andrew's	10,465	174	3	171	60	61
Jesmond	11,020	443	33	410	25	27
Dene	17,516	821	88	733	21	24
Heaton	13,178	225	27	198	58	66
Byker	15,688	139	...	139	113	113
St. Lawrence	17,651	180	7	173	98	102
St. Anthony's.....	15,456	598	12	586	26	26
Walker.....	27,290	1,149	35	1,114	24	24
CITY	285,100	8,458	1,412	7,046	34	40

INHABITED HOUSES.—68,804 inhabited houses, which, on the estimated population, shows an average of 4.14 persons per dwelling.

RATEABLE VALUE.—£2,291,351. A penny rate produced £9,107.

SOCIAL CONDITIONS.—The principal **Trades and Occupations** are of a healthy nature, being generally engineering and machine making; conveyance of men, goods, and messages; building and works of construction, *e.g.*, ship building; and connected with ships and boats, sea-faring and harbour work; food, tobacco, drink, and lodging; coal and shale mines; and commercial or business occupations.

The amount of **Public Assistance** granted during the year ended 31st March, 1932, was £249,068 for out-door relief, and £29,830 for indoor maintenance, making a total of £278,898, as compared with £227,219 in the previous year.

The number of registered male unemployed was 27,503 at the beginning of the year, and 28,408 at its close, whilst the figures for females were 3,644 and 2,854 respectively.

The City contains many **Hospitals** and other medical charities, but since wide surroundings districts are also served by them, figures as to patients treated are not of local value. A list of municipal and voluntary hospitals serving the city is given on page 64.

MARRIAGES.—2,168 marriages took place during the year, as compared with 2,062 in 1931, and 2,270 in 1930.

BIRTHS.—4,883, equivalent to a rate of 17.1 per 1,000 population.

DEATHS.—(All causes)—4,579, equivalent to a gross rate of 16.0 per 1,000 population, and, after deduction of the deaths of 1,174 non-citizens, and addition of 134 Newcastle residents who died elsewhere, to a net rate of 12.4 per 1,000 population. In 1931 the death rate was 13.4.

15 *Orders for Burial* (Newcastle-upon-Tyne Improvement Act, 1882, Sec. 47) were made, 3 being in respect of bodies lying in inhabited rooms, and 12 being cases from hospital.

TOTAL DEATHS DURING RECENT YEARS FROM CERTAIN CLASSES
OF DISEASE.

Classification in Table III. of Ministry of Health.

	Nervous System.	Circu- latory.	Respira- tory.	Digestive.	External Causes.
1912	410	435	603	204	152
1913	457	453	722	332	114
1914	448	505	863	465	142
1915	470	635	873	361	163
1916	477	448	856	281	117
1917	497	478	864	268	135
1918	498	503	957	252	135
1919	439	497	1,040	272	133
1920	384	534	861	275	124
1921	347	581	726	297	113
1922	363	689	913	181	92
1923	363	623	623	219	112
1924	376	667	749	206	110
1925	359	696	681	248	131
1926	335	742	596	220	158
1927	328	751	615	204	123
1928	331	796	480	247	153
1929	311	893	577	226	148
1930	256	874	469	227	137
1931	250	991	509	195	158
1932	232	976	413	201	161

INFANTILE MORTALITY.—370 infants died before completing the first year of life, representing a rate of 76 deaths per 1,000 live births.

ZYMOTIC DEATH RATE.—There were 124 deaths from the “Chief Zymotic Diseases”—smallpox, measles, scarlet fever, diphtheria, whooping cough, fever (typhus, simple continued, and enteric) and diarrhoea (all ages)—equivalent to 0.43 deaths per 1,000 population.

TUBERCULOSIS.—341 persons died from various forms of tuberculosis, 277 being from pulmonary, and 64 from non-pulmonary. The equivalent death rates are: *all forms* 1.20, *pulmonary* 0.98, and *non-pulmonary* 0.22 per 1,000 population.

For comparison of death rates with previous years see large table page 54A.

For particulars as to deaths as to site of disease, age, etc., see table page 60A.

GEOLOGY.—The geological formation of the area consists of heavy clay on the top of hard sandstone, which overlies coal seams.

CLIMATOLOGY.—The following is a brief summary of the main features of the weather in 1932, as recorded on the "Newcastle Chronicle's" instruments :—

The mean barometer reading was 29.8 inches. The mean maximum and minimum temperatures were 56.4 F. and 40.8 F. respectively.

The rainfall for the year was 24.32 inches, 5.45 inches less than that of 1931 (29.77).

During the six months April to September the rainfall was 14.41 inches, as against 9.91 inches during the winter months.

The following table shows the frequency of the directions of the wind :—

W	on	48	days.
N.W.	on	124	"
N.E.	on	45	"
E.	on	17	"
S.E.	on	41	"
S.W.	on	76	"
S.	on	9	"
N.	on	6	"

Sunshine.

Sunshine records have been available by the courtesy of Professors G. W. Todd and J. A. Hanley, of Armstrong College. The observations are taken at Cockle Park Farm (fifteen miles north of the City, and in a rural area), and at the College itself. During the year 1,158 hours of sunshine were registered in the City, as compared with 1,256 at Cockle Park.

WATER SUPPLY.—The City is served by the Newcastle and Gateshead Water Company with a plentiful supply of pure upland surface water, collected from large catchment areas at Catcleugh, close to the Cheviots, and in lower Northumberland. It is stored in large impounding reservoirs at Catcleugh, Hallington, and Whittle Dene, and passes through filters at Whittle Dene and Throckley. It was found, however, that filtration did not secure the degree of freedom from bacteria which was desirable, and during the last few years it has been supplemented by chlorination, with marked improvement.

In the vast majority of cases the household taps are served directly from the mains without intervening cisterns. A separate trade supply is piped to some of the great riverside works from a point above the filters.

The bacteriological reports upon the water are given on page 120.

SEWERAGE.—There are 337 miles of sewers discharging directly into the Tyne, which is tidal, at various points along the $8\frac{1}{4}$ miles of river frontage.

CLEANSING AND SCAVENGING.—A weekly collection of refuse is made from 75 per cent. of premises and twice weekly from the remainder.

There are 71,599 dry ashtubs and galvanised iron bins, 105 dry ashpits, and 350 conservancy system closets in the City. Conversion of the latter is proceeding steadily and during 1932, 118 pail-closets, 4 combined privies and ashpits, and 1 cell privy were removed and water closets substituted. 25 dry ashpits were also removed and dustbins substituted. All the schools are served by the water-carriage system.

ADOPTIVE AND LOCAL ACTS IN FORCE.

Adopted Acts.—Infectious Disease (Prevention) Act, 1890. Section 4.

Public Health Acts Amendment Act, 1890.—Part III.—Whole of ; Part IV.—Whole of.

Public Health Acts Amendment Act, 1907.—Part II.—Sections 20, 22, 23, 26, 27, 28, 29, 30, 31 and 33 ; Part III.—Sections 34, 35, 36, 37, 38, 43, 45, 48, 49, 50 and 51 ; Part IV.—Sections 52, 53, 56, 58, 59, 61, 62, 63, 64, 65 and 68 ; Part X.—Whole of.

Public Health Act, 1925.—Part II., Sections 15, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33 and 35 ; Part III.—Whole of ; Part IV.—Whole of ; Part V.—Whole of.

Local Acts.—Newcastle-upon-Tyne Improvement Act, 1837.

"	"	1846.
"	"	1853.
"	"	1865.
"	"	1870.
"	"	1882.
"	"	1892.

Newcastle-upon-Tyne Tramways and Improvement Act, 1899.

Newcastle-upon-Tyne Corporation Act 1911.

Newcastle-upon-Tyne Corporation Act 1926.

VITAL STATISTICS, YEAR 1932, AND INFECTIOUS DISEASES. COMPARISON WITH OTHER DISTRICTS.

DISTRICT.	Birth Rate.	General Death Rate.	Infantile Mortality Rate.	Death Rate per 1,000 from Enteric Fever, Smallpox, Scarlet Fever, Measles, Whooping Cough, and Diphtheria.	Tuberculosis (all forms) Death Rate.	ATTACK RATE PER 1,000 POPULATION.					ATTACK RATE PER 1,000 BIRTHS.	
						Small-pox.	Typhus.	Scarlet Fever.	Diphtheria.	Enteric Fever and Continued Fever.		Erysipelas.	Puerperal Fever.
England and Wales.....	15.3	12.0	65	0.23	†	0.05	...	2.12	1.08	0.06	0.36	3.3
118 Great Towns (includ. London)	15.4	11.8	69	0.27	†	0.09	...	2.52	1.46	0.05	0.43	4.01
NEWCASTLE-UPON-TYNE	17.1	12.4	76	0.22	1.20	...	...	4.11	0.48	0.09	0.72	3.28
Hull.....	18.9	11.8	68	0.60	1.00	...	...	1.43	5.36	0.07	0.26	2.29
Leeds	14.4	13.3	88	0.31	1.02	...	...	1.92	1.83	0.02	0.60	4.00
Bradford	13.6	13.9	75	0.18	0.93	...	...	2.64	1.08	0.16	0.44	6.22
Sheffield	14.4	11.6	73	0.21	0.82	...	...	1.64	0.79	0.03	0.54	7.30
Manchester	15.4	13.0	85	0.39	1.17	...	...	2.97	1.15	0.05	0.44	8.10
Salford	15.4	13.2	99	0.38	1.20	...	...	1.90	3.30	0.07	0.45	6.40
Liverpool	21.0	13.2	91	0.76	1.32	0.00	0.00	2.23	3.84	0.06	0.69	2.97
Nottingham	16.4	12.5	80	0.17	0.97	0.02	0.00	1.95	0.51	0.06	0.44	3.03
Leicester	14.9	12.5	70	0.14	1.13	0.76	...	1.92	0.31	0.00	0.37	3.62
Stoke-on-Trent	17.2	12.1	88	0.29	1.02	0.00	0.00	0.80	0.59	0.03	0.45	4.84
Birmingham.....	16.3	11.3	67	0.23	0.93	0.00	...	2.50	0.61	0.06	0.38	4.94
Cardiff	15.7	12.5	76	0.22	1.27	0.00	...	3.26	2.21	0.04	0.22	9.13
Bristol	15.0	11.5	51	0.15	0.83	0.05	0.00	2.12	1.08	0.04	0.36	3.30
Portsmouth.....	16.2	12.2	60	0.36	1.00	...	...	2.65	0.96	0.01	0.27	0.93
London (County)	14.3	12.3	67	0.36	0.94	0.26	...	3.25	1.86	0.04	0.51	3.51
Gateshead	19.3	13.3	94	0.38	1.57	...	...	5.06	0.54	0.01	0.66	2.11
South Shields.....	19.0	13.4	70	0.18	1.92	0.04	...	0.50	0.23	...	0.36	1.38
Tynemouth	18.9	11.4	69	0.20	1.43	0.44	0.00	1.97	0.49	0.03	0.52	0.00
Sunderland	21.4	13.7	95	0.31	1.25	0.00	0.00	5.09	0.61	0.05	0.53	3.79
Middlesbrough	20.5	13.0	84	0.39	1.60	...	...	2.19	0.49	...	0.57	7.39
*County of Northumberland.....	15.9	11.3	66	0.15	0.91	0.09	...	3.09	0.29	0.07	0.58	2.29
*County of Durham	19.4	11.9	82	0.23	0.96	0.00	...	2.64	0.61	0.08	0.50	1.84

* Administrative County.

† Not available.

CAUSE OF DEATH	AGE PERIODS										SEX										WASSES—SEX DEATHS										TOTALS		TOTALS IN CITY OF NEW BRUNSWICK	
	MALES					FEMALES					MALES					FEMALES					MALES					FEMALES					TOTALS	TOTALS		
	Under 1 year	1 year and under 2	2 years and under 5	5 years and under 15	15 years and under 45	45 years and under 65	65 years and under 85	85 years and over	Total	Under 1 year	1 year and under 2	2 years and under 5	5 years and under 15	15 years and under 45	45 years and under 65	65 years and under 85	85 years and over	Total	Under 1 year	1 year and under 2	2 years and under 5	5 years and under 15	15 years and under 45	45 years and under 65	65 years and under 85	85 years and over	Total	Under 1 year	1 year and under 2	2 years and under 5	5 years and under 15	15 years and under 45		
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES.																																		
Epidemic Fever.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Measles.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Scarlet Fever.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Diphtheria.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Epidemic Typhus.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Erysipelas.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Acute Poliomyelitis.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Encephalitis Lethargica.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cerebro-spinal Fever.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Tuberculosis of the Respiratory System.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Tuberculosis of the Central Nervous System.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Tuberculosis of the Vertebral Column.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Tuberculosis of the Genito-Urinary System.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Disseminated Tuberculosis.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Total Tuberculosis.....	9	14	12	34	128	22	13	465	4	7	22	103	117	70	11	341	1	2	24	23	6	1	16	11	13	14	5	69	229	5	69	229	5	69
II.—CANCER AND OTHER TUMORS.																																		
Cancer of the Digestive Tract.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Respiratory System.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Genito-Urinary System.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Skin.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Breast.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Uterus.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Ovary.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Cervix.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Vagina.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Penis.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Testis.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Bladder.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Kidney.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Adrenal Gland.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Pancreas.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Spleen.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Liver.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Gall Bladder.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Stomach.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Intestine.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Colon.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Rectum.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Esophagus.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Larynx.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Pharynx.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Trachea.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Bronchus.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Lung.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Pleura.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Peritoneum.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer of the Ovary.....	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1
Cancer																																		

[illegible]

Vital Statistics of Whole District during 1932 and previous Years.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS		NET DEATHS BELONGING TO THE DISTRICT.			
		Uncor- rected Number	Net.		Number	Rate.	of Non- resi- dents regis- tered in the District	of Resi- dents not reg- istered in the District	Under 1 Year of Age.		At all Ages.	
			Number	Rate.					Number	Rate per 1,000 Nett Births.	Number	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1911	267,261	7,089	7,082	26.5	4,667	17.5	448	165	973	137	4,384	16.4
1912	269,193	7,219	7,194	26.7	4,221	15.7	529	146	727	101	3,838	14.5
1913	271,295	7,480	7,460	27.5	4,611	17.0	560	141	908	122	4,192	15.5
1914	271,523	7,564	7,538	27.8	5,069	18.7	546	138	1,029	137	4,660	17.2
1915	278,107	7,575	7,545	27.8	5,257	18.9	693	207	1,007	133	4,771	17.2
1916	278,107	7,332	7,248	26.2	4,875	17.5	680	232	899	123	4,427	15.9
1917	278,107	6,548	6,495	23.4	4,646	16.7	718	246	732	113	4,174	15.0
1918	278,107	6,555	6,468	23.3	5,380	19.3	872	308	692	107	4,816	17.3
1919	275,099	6,793	6,674	23.3	5,358	19.5	737	234	806	120	4,855	17.6
1920	286,061	8,433	8,070	28.0	4,609	16.1	779	195	817	101	4,025	14.0
1921	278,400	7,720	7,284	26.2	4,602	16.5	817	142	699	96	3,927	14.1
1922	281,600	7,432	6,987	24.8	4,698	16.7	831	145	646	92	4,012	14.2
1923	283,800	6,961	6,367	22.4	4,298	15.1	789	150	623	98	3,659	12.9
1924	285,900	7,029	6,335	22.2	4,607	16.1	929	172	632	100	3,850	13.5
1925	286,300	7,031	6,215	21.6	4,732	16.5	989	165	550	88	3,908	13.6
1926	284,700	6,728	6,007	21.0	4,460	15.7	979	161	530	88	3,642	12.8
1927	288,500	6,215	5,395	18.7	4,468	15.5	1,058	178	474	88	3,588	12.4
1928	281,500	6,360	5,429	19.2*	4,683	16.6	1,178	179	447	82	3,684	13.1
1929	283,400	6,120	5,126	18.1	5,040	17.8	1,313	172	438	85	3,899	13.8
1930	283,400	6,190	5,223	18.4	4,665	16.5	1,232	133	384	74	3,566	12.6
1931	283,600	6,058	5,056	17.8	4,911	17.3	1,251	145	467	92	3,805	13.4
1932	285,100	6,006	4,883	17.1	4,579	16.0	1,174	134	370	76	3,539	12.4

* Calculated on a population of 282,200.

Corrected Death Rates in different Wards, 1932.

St. Nicholas'.	St. Thomas'.	St. John's.	Stephenson.	Armstrong.	Elswick.	Westgate.	Arthur's Hill.	Benwell.	Fenham.	All Saints'.	St. Andrew's.	Jesmond.	Dene.	Heaton.	Byker.	St. Lawrence.	St. Anthony's.	Walker.	City.
13.0	9.6	12.9	15.7	13.7	15.5	14.1	15.7	11.1	8.7	15.0	16.1	12.2	10.4	12.2	11.9	12.7	14.0	9.7	12.4

All deaths occurring in Public Institutions have been allotted to the Wards to which they properly belong.

CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE FOR 1932.

(REGISTRAR GENERAL'S RETURN.)

CAUSES OF DEATH.	Sex	All Ages	0-	1-	2-	5-	15-	25-	35-	45-	55-	65-	75-
All Causes	M. F.	1886 1663	218 154	51 41	44 35	67 47	96 90	78 80	123 113	193 152	339 252	421 352	256 347
1—Typhoid and Para- typhoid Fevers	M. F.	2 ...	... ...	... ...	1 ...	1 ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
2—Measles	M. F.	11 10	2 2	7 4	2 3	... 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...
3—Scarlet Fever	M. F.	4 4	... ...	1 2	1 ...	2 2	... ...	... ...	... ...	... ...	... ...	... ...	... ...
4—Whooping Cough	M. F.	13 17	4 8	3 7	6 1	... 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...
5—Diphtheria	M. F.	4 1	... ...	1 ...	1 1	2 ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
6—Influenza	M. F.	37 32	1 2	... 2	... 1	3 ...	1 ...	2 ...	6 6	8 2	6 6	6 4	4 9
7—Encephalitis Lethargica	M. F.	5 5	... ...	... ...	... ...	... ...	1 1	1 1	1 1	1 ...	... ...	1 2	... ...
8—Cerebro-spinal Fever	M. F.	13 9	2 ...	... ...	4 2	3 3	3 2	1 1	... ...	... 1	... ...	... ...	... ...
9—Tuberculosis of respiratory system	M. F.	156 123	1 ...	1 ...	... 1	5 4	36 51	26 26	28 21	33 12	20 5	6 3	... ...
10—Other Tuberculous diseases	M. F.	42 22	3 ...	4 2	4 2	8 5	11 5	6 4	2 3	2 ...	1 ...	1 1	... ...
11—Syphilis	M. F.	11 8	1 1	... ...	... ...	... ...	... ...	... 1	1 1	4 2	3 3	2 ...	... ...
12—General paralysis of the insane, tabes dorsalis	M. F.	16 3	... ...	... ...	... ...	... ...	... ...	1 ...	1 1	6 ...	7 1	1 1	... ...
13—Cancer, malignant disease	M. F.	200 213	... ...	... ...	1 ...	... 1	1 ...	5 3	3 18	32 45	59 61	71 53	28 32
14—Diabetes	M. F.	19 26	... ...	... 1	... ...	... ...	... 1	1 ...	1 1	1 1	9 7	4 13	3 2
15—Cerebral hæmorrhage, etc.	M. F.	43 84	... ...	... ...	... ...	... ...	1 ...	1 1	1 1	7 7	10 25	17 32	6 18
16—Heart disease	M. F.	373 325	1 ...	... ...	... ...	3 2	4 5	3 9	20 15	28 23	91 53	143 112	80 106
17—Aneurysm	M. F.	9 4	... ...	... ...	... ...	... ...	... ...	... ...	2 ...	3 1	3 2	1 ...	... 1
18—Other circulatory diseases	M. F.	109 111	... ...	... ...	... ...	... ...	... ...	... ...	1 1	5 5	19 16	45 34	39 55

Causes of Death at different periods of life
for 1932—*continued*.

CAUSES OF DEATH.	Sex	All Ages	0-	1-	2-	5-	15-	25-	35-	45-	55-	65-	75-
19—Bronchitis	M. F.	67 73	9 9	1 2	1 1	... ...	... ...	1 2	3 1	3 3	11 8	10 17	28 30
20—Pneumonia (all forms)	M. F.	141 104	33 25	21 11	12 11	8 2	9 7	4 2	6 10	12 5	15 8	13 13	8 10
21—Other respiratory diseases	M. F.	17 14	1 1	... ...	... ...	... ...	... 1	1 ...	3 1	3 1	4 1	5 5	... 4
22—Peptic ulcer	M. F.	31 6	... ...	... ...	... ...	... ...	2 ...	1 1	7 ...	6 1	7 2	8 1	... 1
23—Diarrhoea, etc.	M. F.	31 26	23 12	4 3	... 1	2 ...	... 1	... 1	1 2	... ...	1 1	... 2	... 3
24—Appendicitis	M. F.	12 3	... ...	... ...	2 ...	3 1	... 1	... ...	3 ...	2 1	1 ...	1 ...	... ...
25—Cirrhosis of liver	M. F.	5 3	... ...	... ...	... ...	... ...	... ...	... ...	1 ...	... 1	2 2	2 ...	... ...
26—Other diseases of liver, etc.	M. F.	9 14	... ...	... ...	... ...	... ...	... ...	1 ...	2 1	... 3	3 3	2 3	1 4
27—Other digestive diseases	M. F.	36 36	7 3	1 1	2 1	4 2	1 ...	... 3	3 1	2 8	5 6	5 9	6 2
28—Acute and chronic Nephritis	M. F.	66 72	... ...	... ...	... ...	... 1	3 1	1 2	2 6	12 9	18 14	18 22	12 17
29—Puerperal Sepsis	F.	10	...	...	...	...	3	7	...	...	...	...	...
30—Other Puerperal causes	F.	14	...	...	...	...	2	8	4	...	...	...	...
31—Congenital Debility, Premature Birth, Malformations, etc.	M. F.	105 75	103 74	2 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
32—Senility	M. F.	14 37	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	5 7	9 30
33—Suicide	M. F.	30 7	... ...	... ...	... ...	... ...	... ...	4 ...	8 2	6 2	9 2	3 1	... ...
34—Other violence	M. F.	83 39	4 2	3 1	1 5	10 8	12 1	11 1	8 1	5 3	8 4	12 2	9 11
35—Other defined diseases	M. F.	170 131	23 15	2 4	6 5	13 14	11 8	7 6	9 15	12 16	25 22	39 15	23 11
36—Causes ill-defined, or unknown	M. F.	2 2	... ...	... ...	... ...	... ...	... ...	... 1	... ...	... ...	2 ...	... ...	... 1

UNDER 1 YEAR.

	<i>Legitimate.</i>	<i>Illegitimate.</i>
(M.)	196	22
(F.)	140	14

HOSPITALS.

Name.	Purpose.	No. of Beds.	For Newcastle Cases.	For Cases from outside City.
MUNICIPAL.				
City Hospital for Infectious Diseases	Infectious Diseases, Tuberculosis ...	338	338	...
Smallpox and Isolation Hospitals	Smallpox and Isolation	172	172	...
Newcastle General Hospital	General, Medical, and Surgical	Men 244 Women 244 Children 192	680	...
Barrasford Sanatorium, Barrasford	Tuberculosis	90	70	20
Newcastle Mental Hospital, Gosforth	Mental	1,060	1,060	...
Shotley Bridge Colony, Shotley Bridge	Mental Defec- tives	400	400	...
St. Mary Magdalene Hospital, Newcastle	Chronic Sick ...	96	96	...
VOLUNTARY.				
Royal Victoria Infirmary, Newcastle	General, Medical and Surgical, Venereal Diseases, etc.	642	180	462
Do.	Convalescents	35	...	...
Fleming Memorial Hospital, Newcastle	Children.....	85	30	55
Princess Mary Maternity Hospital, Newcastle	Maternity	90	40	50
Eye Infirmary, Newcastle	Eyes.....	32	8	24
Throat, Nose and Ear Hospital, Newcastle	Throat, Nose and Ear	33	...	...
Hospital for Diseases of the Chest, Newcastle	Diseases of the Chest	Out patients	only.	
Catherine House, Newcastle	Maternity	21	...	...
Babies' Hospital and Mothercraft Centre, Newcastle	Children.....	24	12	12
Stannington Sanatorium, Stannington	Tuberculosis (Children)	308	30	278
Dental Hospital, Newcastle	Dental	Out patients	only.	
Walker Accident Hospital	Shipyard Accidents	20	20	...
Newcastle Dispensary Hospital for Diseases of the Skin	General, Medical Skin Diseases ...	Out patients 6	only. ...	...
Hospital for Women Sanderson's Home for Crippled Children, Gosforth	Women	Out patients	only.	...
	Children.....	134	67	67

REPORT OF THE
MATERNITY AND CHILD WELFARE
MEDICAL OFFICER.

II.—THE CHILD.

INFANTILE MORTALITY, MATERNITY AND
CHILD WELFARE, NURSING HOMES.

REPORT OF THE
NATIONAL CHILD WELFARE
COMMISSION

THE CHILD.

REPORT OF THE NATIONAL CHILD WELFARE COMMISSION
CHILD WELFARE BOARD

INFANTILE MORTALITY.

SUMMARY OF BIRTHS AND DEATHS, 1932.

	LEGITIMATE.			ILLEGITIMATE.			Grand Total.
	M.	F.	Total.	M.	F.	Total.	
Total Births in the year ...	2,894	2,785	5,679	172	155	327	6,006
Net „ „ „ ...	2,361	2,305	4,666	112	105	217	4,883
Net Deaths under 1 year...	196	137	333	24	13	37	370
Death Rate per 1,000 births	83	59	71	214	124	171	76

BIRTHS AND DEATHS (NET), 1932.

WARD.	Births.	Deaths under 1 year of age.	Children under 1 year of age—Death rate per 1,000 births.	Birth rate per 1,000 population.
St. Nicholas'	16	...	...	7.5
St. Thomas'	146	8	55	10.6
St. John's	330	20	61	24.4
Stephenson	430	35	81	23.6
Armstrong	302	33	109	21.0
Elswick	192	13	68	14.6
Westgate	243	12	49	17.9
Arthur's Hill	84	9	107	9.1
Benwell	359	22	61	18.5
Fenham	328	17	52	13.2
All Saints'	303	22	72	20.7
St. Andrew's	196	20	102	18.8
Jesmond	80	3	37	7.3
Dene	161	16	100	9.2
Heaton	145	4	28	11.0
Byker	279	23	82	17.9
St. Lawrence	367	36	98	20.8
St. Anthony's	432	38	88	27.9
Walker	490	39	80	18.0
CITY	4,883	370	76	17.1

All births and deaths occurring in Public Institutions have been allotted to the Wards to which they properly belong.

ANALYSIS OF INFANTILE MORTALITY.

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
Death-rate of Infants under 1 year per 1,000 births.....	98	100	88	88	88	82	85	74	92	76
Death-rate of Infants under 3 months per 1,000 births...	54.4	59.0	53.4	52.9	55.6	50.8	52.5	46.7	48.1	51.2
Death-rate of Infants from Premature Birth, per 1,000 births	21.2	26.7	19.0	20.6	22.6	20.6	24.5	17.8	20.2	20.7
Death-rate of Infants under 1 year per 1,000 births, from Premature Birth, plus all Congenital Causes*	41.5	45.5	38.6	38.6	38.6	35.4	38.8	33.7	34.2	37.3
Death-rate of Infants under 1 year per 1,000 births, from Diarrhoea and all other Digestive Diseases†...	11.5	9.6	11.6	13.1	9.3	13.4	15.0	11.3	12.5	9.2
Death-rate of Infants under 1 year per 1,000 births, from Infantile Atrophy, Debility and Marasmus ...	11.5	9.5	10.3	7.7	6.5	4.4	3.7	4.6	2.2	4.9
Death-rate of Infants under 1 year per 1,000 births, from Measles.....	4.87	1.10	1.9	1.7	0.6	2.2	3.7	0.5	5.7	0.8
Death-rate of Infants under 1 year per 1,000 births, from Whooping Cough.....	5.3	1.9	4.2	3.8	1.3	3.9	1.4	2.5	2.6	2.5
Death-rate of Infants under 1 year per 1,000 births, from Respiratory Diseases	23.6	27.9	22.7	18.1	27.1	16.6	16.4	16.8	24.7	16.0
Death-rate of Infants under 1 year per 1,000 births, from Tuberculosis (all forms).....	2.2	1.6	0.6	2.0	2.4	1.3	1.0	1.1	2.0	0.8

For particulars of deaths, as to causes, etc., see Table on page 68A.

* "All Congenital Causes" includes Syphilis, Congenital Defects and Diseases of Early Infancy.

† "Diarrhoea and all other Digestive Diseases" includes Diarrhoea, Dysentery, Epidemic or Zymotic Enteritis, Rickets, Diseases of the Stomach, Enteritis, Obstruction of Intestine, Peritonitis and other Diseases of the Digestive System.

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 31ST DECEMBER, 1932.

CAUSE OF DEATH.	AGE PERIODS.																				Deaths in Institutions in the City of "Residents" or "Non-Residents."
	GROSS.										NET (after allowing for transfers).										
	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 Year of Age.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 Year of Age.	
EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES.																					
Measles	...	...	...	1	1	...	1	2	...	4	...	...	...	1	1	...	1	2	...	4	1
Whooping Cough.....	...	...	...	...	...	1	4	3	4	12	...	...	...	...	...	1	4	3	4	12	6
Diphtheria	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	1	2	3	1
Influenza	...	...	...	...	...	...	1	1	2	3	...	...	...	...	...	...	...	1	2	3	...
Dysentery	...	...	...	...	...	...	1	1	1	2	...	...	...	...	...	3	...	...	...	3	1
Erysipelas	...	...	...	1	1	3	...	1	...	5	...	...	...	...	...	3	...	...	...	3	3
Cerebro-Spinal Fever.....	...	...	...	...	...	...	4	2	1	7	...	...	...	...	...	2	...	...	...	2	5
Tuberculosis of the Respiratory System.....	...	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	1	1	...	1	1
Tuberculosis of the Central Nervous System.....	...	...	...	...	...	...	1	1	2	4	...	...	...	...	...	...	1	1	1	3	1
Tuberculosis of the Peritoneum and Intestines...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of the Lymphatic System	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1
Disseminated Tuberculosis.....	...	...	...	...	...	...	1	...	1	2	...	...	...	...	...	...	...	...	...	...	2
TOTAL TUBERCULOSIS	...	...	...	...	...	...	2	2	5	9	...	...	...	...	...	...	1	2	1	4	5
Syphilis	...	...	...	...	...	2	...	1	...	3	...	...	...	...	...	1	...	1	...	2	2
Pyæmia Septicæmia.....	...	...	1	...	1	1	...	...	...	2	...	...	1	...	1	1	...	...	...	2	1
Pink Disease.....	...	...	...	...	...	1	1	...	...	2	...	...	...	...	...	1	...	...	...	1	2
GENERAL DISEASES NOT INCLUDED ABOVE																					
Diabetes.....	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Diseases of the Thyroid and Parathyroid Glands.	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...
Diseases of the Thymus.....	1	1	...	...	2	1	1	...	...	4	1	1	...	...	2	1	1	...	4	...	...
Diseases of the Adrenals.....	...	1	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS.																					
Hæmorrhagic conditions.....	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS.																					
Encephalitis	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1
Meningitis	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	1	1
Epilepsy.....	...	...	...	...	...	2	...	...	...	2	...	...	...	...	...	...	2	...	...	2	...
Infantile Convulsions	3	3	1	...	7	4	...	2	1	14	3	3	1	...	7	4	...	2	1	14	...
Other Diseases of the Nervous System	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...
Diseases of the Ear and Mastoid Sinus	...	...	...	...	...	1	...	2	...	3	...	...	...	...	...	...	1	...	1	...	3
DISEASES OF THE CIRCULATORY SYSTEM.																					
Other Diseases of the Heart	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	...
Diseases of the Arteries.....	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	1	...	...	1	...
Diseases of the Lymphatic System	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1
DISEASES OF THE RESPIRATORY SYSTEM.																					
Diseases of the Larynx	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	1	...	...	1	...
Bronchitis	...	2	...	1	3	6	5	3	3	20	...	2	...	1	3	6	3	3	3	18	3
Broncho Pneumonia	1	...	1	1	3	20	15	14	12	64	1	...	1	...	2	18	13	12	9	54	21
Lobar Pneumonia.....	1	...	...	...	1	2	1	2	1	7	...	...	...	...	...	1	...	1	1	3	2
Pneumonia (not otherwise defined).....	...	...	...	...	...	2	...	...	...	2	...	...	...	...	...	1	...	...	...	1	1
Congestion and Hæmorrhagic infarct of Lung	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1	...	...	1	...
Carried forward	6	7	3	5	21	45	40	37	35	178	5	6	3	2	16	39	31	29	22	137	63

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 31ST DECEMBER, 1932.

CAUSE OF DEATH.	AGE PERIODS.																				Deaths in Institutions in the City of "Residents," or "Non-Residents."
	GROSS.										NET (after allowing for transfers).										
	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 Year of Age.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 Year of Age.	
<i>Brought forward</i>	6	7	3	5	21	45	40	37	35	178	5	6	3	2	16	39	31	29	22	137	63
DISEASES OF THE DIGESTIVE SYSTEM.																					
Diseases of the Buccal Cavity, Pharynx, etc.	...	...	...	...	...	1	1	1	...	3	...	...	...	...	...	1	1	...	...	2	1
Other Diseases of the Stomach.....	...	...	...	1	1	...	...	1	...	2	...	...	...	1	1	...	...	1	...	2	...
Diarrhoea and Enteritis	...	1	3	2	6	20	10	11	5	52	...	...	1	2	3	15	9	7	3	37	22
Hernia, Intestinal Obstruction.....	...	...	...	...	...	1	5	3	3	12	...	...	...	...	...	1	1	1	...	3	10
Peritonitis without stated cause.....	...	1	...	...	1	...	...	...	...	1	...	1	...	...	1	...	...	...	...	1	...
NON-VENEREAL DISEASES OF GENITO-URINARY SYSTEM AND ANNEXA.																					
Acute Nephritis	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Kidney and Annexa.....	...	...	...	...	...	...	2	1	...	3	...	...	...	...	...	...	1	...	...	1	1
Cystitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
DISEASES OF SKIN AND CELLULAR TISSUE.																					
Cellulitis—Acute Abscess	...	...	...	1	1	...	1	...	...	2	...	...	...	...	...	...	1	...	...	1	2
DISEASES OF THE BONES, Etc.																					
Acute Infective Osteomyelitis and Periostitis.....	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Diseases of the Joints.....	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
MALFORMATIONS.																					
Congenital Malformations	17	1	4	3	25	16	12	4	...	57	13	...	2	2	17	6	5	1	...	29	21
DISEASES OF EARLY INFANCY.																					
Congenital Debility.....	13	1	2	...	16	7	4	1	...	28	14	1	2	...	17	4	2	1	...	24	12
Premature Birth	94	13	4	6	117	8	...	...	...	125	78	10	2	4	94	7	...	...	...	101	40
Injury at Birth.....	19	4	1	...	24	1	...	...	...	25	14	1	1	...	16	...	...	...	...	16	13
Atelectasis.....	6	1	1	...	8	...	...	...	...	8	3	1	...	...	4	...	...	...	...	4	2
Icterus Neonatorum	3	...	...	...	3	...	...	...	...	3	2	...	...	...	2	...	...	...	...	2	1
Other Diseases of Early Infancy.....	1	...	...	...	1	2	2	...	...	5	2	...	...	...	2	1	1	...	...	4	2
AFFECTIONS PRODUCED BY EXTERNAL CAUSES.																					
Burns (Conflagration excepted)	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1
Accidental Mechanical Suffocation	1	...	...	...	1	1	...	2	...	4	1	...	...	...	1	1	...	2	...	4	...
Unstated forms of Accidental Violence	1	...	...	...	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	1	...
TOTAL.....	161	29	18	18	226	103	78	62	44	513	133	20	11	11	175	75	52	43	25	370	193

Report of the Maternity and Child Welfare Medical Officer.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I have the honour to submit to you my thirteenth annual report.

General.

From a Maternity and Child Welfare point of view the year 1932 was a good one, for not only was there a fall in the maternal mortality rate, but also nearly all the causes of deaths among infants showed a decrease when compared with corresponding figures for the previous year. The maternal mortality rate dropped to 4.5 at which figure it will probably compare favourably with that for the country as a whole, and the infantile mortality rate fell from 92 in 1931 to 76 in 1932. As usual the latter rate is kept artificially high by the heavy mortality among the illegitimate babies. Although there were only 217 of the latter born during the year, enough of them were lost by death to raise the infantile mortality rate from 71 to 76. Still, even at the latter figure the rate is the second lowest recorded for the City. Increased attendances both of expectant mothers and of children are reported from all our Centres, and one very gratifying feature is the high percentage of toddlers attending. Nearly 50 per cent. of the 100,658 attendances were made by pre-school children.

MATERNITY.

4,883 live, and 215 still-born births occurred in the City during the year. 22 women died as a result of childbirth, a death-rate of 4.5 per thousand live births.

The following table gives the causes of these deaths with a five year comparison :—

CAUSES.	1932	1931	1930	1929	1928	1927
Abortions	2	...	1	1	2	...
Accidents of Pregnancy.....	...	1	2	2	2	3
Puerperal Hæmorrhage	3	5	3	4	3	2
Other Accidents of Childbirth	4	2	4	5	4	5
Puerperal Fever	9	9	14	11	9	4
Puerperal Albuminuria and Con- vulsions.....	2	4	2	6	4	4
Puerperal Phlegmasia.....	1	2	2	1	1	2
Puerperal Insanity	...	...	...	...	1	...
Puerperal Disease of Breast.....	...	...	...	...	1	...
Ectopic Gestation	1	...	...	...	...	...
	22	23	28	30	27	20

As will be seen from the above table, there is a slightly lower maternal mortality rate.

Ante-Natal Supervision.

1,747 expectant mothers attended the City Centres 5,502 times.

The following table shows the attendances at the ante- and post-natal clinics :—

CENTRE.	ANTE-NATAL.		POST-NATAL.	
	Attendance.	Individuals.	Attendance.	Individuals.
Benwell	789	262	90	13
Byker	1,448	389	18	...
Cowgate	329	105	9	...
Diana Street	816	314	1	...
Elswick	664	244	26	1
Walker	453	208	...	...
Wharnccliffe Street ...	1,003	225	25	4
	5,502	1,747	169	18

WOMEN ATTENDING ANTE-NATAL CENTRES.

The following details refer to the confinements of 1,446 expectant mothers who attended the municipal ante-natal centres during 1932, and whose children were born during that year.

These mothers were sent to the ante-natal centres by :—

	Cases.	Percentage.
Doctors	137	9.5
Midwives	335	23.1
Health Visitors on Districts.....	146	10.1
Welfare Centres and Voluntarily.....	828	57.3
	1,446	

The result of the subsequent confinements were :—

Type of Confinement.	Number of Cases.	Resulting in		
		Living Children.	Still-born Children.	Sets of Twins.
Normal.....	1,106	1,069	26	11
Instrumental	184	148	32	4
Cæsarian Section	11	10	1	...
Induction.....	11	11	...	...
Abortion	33	...	...	...
Not Pregnant	70	...	...	...
Left City	31	...	...	...
Total.....	1,446	1,238	59	15

Abnormalities were found in 61 or 4.2 per cent. of the cases, and the ultimate results were as follows :—

Abnormality.	No.	Normal Confinements.			Instrumental Confinements.			Cæsarian Sections.			Induced Labour.		
		No.	Living Children.	Still-born Children.	No.	Living Children.	Still-born Children.	No.	Living Children.	Still-born Children.	No.	Living Children.	Still-born Children.
Breach Presentation	34	22	18	4	11	10	1	1	...	1	...	...	...
Deformed Pelvis	5	1	1	...	1	1	...	3	3	...	...	...	...
Albuminuria	13	6	4	2	7	4	3	...	...	...	...	...	...
Placenta Prævia ...	9	6	4	2	3	1	2	...	...	...	...	...	...

3 mothers subsequently died :—Septicæmia, 1 ; Ruptured uterus, 1 ; Heart disease, 1.

MIDWIVES ACTS.

During the year 38 midwives notified the Local Supervising Authority of their intention to practise in the City, and of these 35 held the examination certificate of the Central Midwives Board, and three were registered as having been in *bona fide* practice before the passing of the 1902 Act.

Inspections.—The Superintendent of Midwives carried out the usual routine inspection of midwifery bags, appliances, and records kept by practising midwives, and investigated all cases of ophthalmia neonatorum and puerperal septicæmia occurring in their practices. For these purposes 411 visits were made.

Through contact with puerperal or other infectious it was necessary to disinfect the clothing and appliances of midwives on thirteen occasions.

Births attended by Midwives.—1,893 (net) living births (an increase of 202 on the previous year) and 53 (net) still-births (five more than in 1931) were attended by midwives during the year. Midwives attended 38 per cent. of the net births in the City, a higher percentage than in 1931. In addition midwives attended in the capacity of maternity nurses with doctors in 341 cases, as compared with 455 in 1931.

A post graduate course of ten lectures with practical demonstrations was given at the Princess Mary Maternity Hospital and arrangements were made for all the midwives practising in the City to attend.

Notices for medical help sent to Local Authority by the midwives :—

FOR THE MOTHER.		<i>During Puerperium—</i>	
<i>During Pregnancy—</i>		Rise of Temperature	17
Ante Partum Hæmorrhage...	23	Eclampsia	3
Abortions	9	Undefined Illness of Mother	32
Illness	13		52
Albuminuria	13		
	58	Total calls for mother.....	407
<i>During Labour—</i>			
Uterine Inertia	121	FOR CHILD.	
Malpresentations	54	Prematurity	29
Retained Placenta	6	Discharging Eyes.....	18
Post Partum Hæmorrhage...	14	Cyanosis	3
Ruptured Perineum.....	99	Congenital Defects	11
Placenta Prævia	3	Convulsions	...
	297	Illness of Baby.....	13
		Still-births.....	5
		Rashes	6
			85
		Total calls for mother and child	492

In 25 per cent. of the midwives' cases the services of a doctor were requisitioned.

Claims from doctors for fees in respect of calls from midwives :—

	<i>Cases.</i>
For forceps delivery	183
For post partum hæmorrhage...	26
For illness of mother.....	56
For illness of child.....	48
For premature birth	10
For discharging eyes.....	15
Other	77
Specialists called in	9
Total cases	424

There was a total number of 492 calls for medical aid from midwives, and 86 per cent. of these calls were paid for by the Local Supervising Authority.

One claim for *payment of midwife's fee* was received.

Ophthalmia Neonatorum.

The number of cases notified was 57, of which 45 were City cases. All of these were visited. This number is a decrease of 7 on that for 1931. The confinements were attended by :—

Doctors	17
Midwives	14
Maternity Hospital.....	24
Newcastle General Hospital.....	1
Cases resident outside the City sent into R.V.I. for treatment	1
	57

267 calls were made on the 45 visited cases in the City, and the ultimate results were :—

Recovered completely	42
Died	1
Defective sight	1
Removed from City.....	1
	45

The *ophthalmia incidence* per 1,000 births for the last five years has been as follows :—

1928	12.9
1929	14.0
1930	16.6
1931	10.4
1932	9.2

Puerperal Septicæmia and Puerperal Pyrexia.

195 cases were notified during the year—51 puerperal fever, and 144 pyrexia. 137 were from outside the City area and were admitted to hospitals in the City. Of the remaining 58, 52 were visited. The following table shows the attendance at birth :—

	<i>Puerperal Septicæmia.</i>	<i>Puerperal Pyrexia.</i>
Doctors.....	5	8
Doctors and Midwives	2	6
Midwives	3	5
Princess Mary Maternity Hospital Staff	1	19
Newcastle General Hospital.....	3	...
	14	38

VISITED CITY CASES TREATED IN HOSPITALS.

	<i>No.</i>	<i>Deaths.</i>
Puerperal Septicæmia	12	6
Puerperal Pyrexia	29	...

Nursing Homes Registration Act, 1927.

The maternity and nursing homes in the City were inspected during the year. The standard of conduct generally was good, and the essential requirements, such as sufficient air space and efficient sanitation, a trained staff numerous enough to meet all reasonable needs, scrupulous cleanliness, good book-keeping, and suitable appliances for dealing with fire, were found, without exception.

CHILDREN.

Births.—There were 4,883 children born alive in the City in 1932, and of these 2,473 were boys and 2,410 girls—that is, there were 63 more boy babies than girls. As usual, death claimed more boys than girls—88 per 1,000 of the former, compared with 62 per 1,000 of the latter, dying during their first year.

19.3 per cent. of the City's births occurred in institutions, as shown in the following table :—

Nursing Homes	43
Maternity Hospital (inside)	627
Gables Maternity Home.....	113
Newcastle General Hospital.....	160
	943

Illegitimate Births.—217 illegitimate children were born—10 more than in the previous year. These died at the rate of 171 per 1,000 (compared with 71 per 1,000 legitimate births).

Birth Rate.—The birth rate for the year 1932 was 17.1 per 1,000 of the population. This is a decrease on the previous year, and the lowest on record.

Deaths.—There were fewer deaths in 1932 (370) than there were in the previous year (467).

As usual, the premature, multiple, and illegitimate births resulted in an excessive number of deaths, as will be seen from the following table :—

	1928	1929	1930	1931	1932
Deaths of children during first week of life	157	145	117	120	133
Deaths of children during first month.....	205	207	177	180	175
Deaths from prematurity.....	112	126	93	102	101
Deaths of twins and triplets	36	49	29	42	32
Death-rate of illegitimate children (per 1,000 illegitimate births).....	157	133	101	106	171

The Pre-School Child.—The children of pre-school age are still receiving the closest and most careful consideration, and, as will be seen from the following table, parents are responding to our interest and are bringing the children in larger numbers to the Centres yearly. Actually nearly 50 per cent. of the total attendances at the Centres is made by children of pre-school age.

TODDLERS ATTENDING THE CENTRES.

<i>Year.</i>	<i>Number of Children.</i>
1927	2,542
1928	2,591
1929	2,779
1930	3,418
1931	4,257
1932	4,422

At most of the Centres these children are now seen every week at a special session devoted entirely to them, and a big step forward in dealing with them has been the dental treatment provided.

Play Centres.

The three play centres (or nursery schools, as they are usually termed) at Diana Street, Wharncliffe Street and St. Peter's, continue to flourish, and are especially valued in wintry weather. The numbers attending are satisfactory, and once again public recognition is made of the kindness and self-sacrifice of the ladies who voluntarily conduct these centres.

Municipal Training Course for Health Visitors.

The third Training Course for Health Visitors began in October, fourteen students being enrolled.

Welfare Centres.

The following table shows the geographical position of the Centres in the City, together with details of Centre days :—

Centre.	Address.	Women and Children.	Medical Officer.	Health Visitor.	Ante-Natal Sessions.
Benwell	Y.W.C.A. Club, Buddle Road	Monday.....	Dr. Olga Alcock	Miss Willson	Friday, 2 p.m. Mr. Harvey Evers.
Byker.....	Corner of Dalton Street and Shipley Street	Thursday	Dr. Anne Fairweather	Miss Johnson ...	Friday, 2 p.m. Dr. Mabel Campbell.
City.....	Princess Mary Maternity Hospital, Jubilee Road	Monday.....	Dr. Gertrude Hickling	Miss Pritchard ...	Thursday, 2 p.m. Mr. Harvey Evers.
Diana Street, Westgate.....	25, Diana Street.....	Tuesday.....	Dr. A. F. G. Spinks...	Miss Hastie	Wednesday, 10 a.m. Mr. Harvey Evers.
Elswick	Elswick Wesleyan Church Hall, Malvern Street	Friday	Dr. Olga Alcock	Miss Hatfield ...	Tuesday, 2 p.m. Mr. Harvey Evers.
Scotswood	Denton Road	Monday.....	Dr. Glen Davison.....	Miss Carr	Monday, 10 a.m. Mr. Harvey Evers.
Shieldfield	St. Jude's Parish Hall, Dinsdale Road	Thursday	Dr. Anne Fairweather	Miss Mason	Tuesday, 2 p.m. Mr. Harvey Evers.
Spital Tongues	Dunn's Cottages	Tuesday	Dr. A. F. G. Spinks..	Miss Carr	Benwell (see above).
*St. Peter's	Corner of Glasshouse Street ...	(Afternoon only)	Dr. Mabel Campbell	Miss Simpson ...	Byker (see above).
Walker	Presbyterian Church Hall, Church Street	Wednesday ...	Dr. C. N. Armstrong	Miss Hisco	Diana St. (see above), or Wharnccliffe Street (see below).
Wharnccliffe Street, Scotswood Road	18, Wharnccliffe Street	Friday	Dr. Glen Davison.....	Miss Thompson	Byker (see above).
Fenham and Cowgate.....	Church Hall, Grange Road ...	Monday.....	Dr. A. G. Ogilvie.....	Miss Shell.....	Tuesday, 10 a.m. Mr. Harvey Evers.
Walkergate	St. Oswald's Mission Room, Walpole Street, Walkergate	Thursday	Dr. C. N. Armstrong	Miss Worrall	Tuesday, 10 a.m. Dr. Mabel Campbell.
Heaton	St. Gabriel's Parish Hall, Chillingham Road	Wednesday ...	Dr. Mabel Campbell	Miss Phillips.....	Monday, 10 a.m. Mr. Harvey Evers.
			Dr. Gertrude Hickling	Miss Lewis	Tuesday, 10 a.m. (see Walker above).
			Dr. A. F. G. Spinks...		(See Byker above).

* Removed to Harbottle Street in October.

MATERNITY AND CHILD WELFARE CENTRES, 1932.

CENTRE.	Ante-Natal Sessions.		Ante-Natal.		Post-Natal.		New Children.			Individuals.			Attendances.			Medical Sessions.		Illegitimate		Individuals.	
	Attendances.	Individuals.	Attendances.	Individuals.	Under 12 months.	Over 12 months.	Total.	Under 12 months.	Over 12 months.	Total.	Under 12 months.	Over 12 months.	Total.	Number.	Average Attendce.		Boys.	Girls.			
Benwell.....	48	789	262	90	13	248	61	309	381	445	826	3989	5471	9460	190	49.8	13	402	424		
Byker	48	1448	389	18	...	344	96	440	498	445	943	5023	4893	9916	186	53.3	18	504	439		
City	...	...	...	...	...	172	37	209	263	270	533	2513	3621	6134	96	63.9	19	251	282		
Cowgate.....	46	329	105	9	...	179	26	205	274	278	552	2797	2636	5433	96	56.6	6	267	285		
Diana Street	49	816	314	1	...	316	64	380	478	520	998	4709	5639	10348	190	54.5	38	482	516		
Elswick.....	47	664	244	26	1	429	70	499	650	439	1089	6631	3646	10277	190	54.1	20	557	532		
Heaton.....	...	...	...	...	...	154	34	188	245	175	420	2493	2114	4607	96	48.0	1	227	193		
Scotswood	...	...	...	...	...	106	12	118	164	194	358	1884	2383	4267	94	45.4	11	167	191		
Shieldfield	...	...	...	...	...	277	51	328	375	354	729	3965	4675	8640	190	45.5	22	345	384		
Spital Tongues.....	...	...	...	...	...	84	22	106	128	88	216	1344	663	2007	47	42.7	1	106	110		
*St. Peter's	...	...	...	...	...	279	44	323	418	475	893	4409	4296	8705	194	44.9	15	459	434		
Walker	47	453	208	...	...	250	47	297	402	340	742	4318	5187	9505	190	50.0	22	363	379		
Walkergate	...	...	...	...	...	120	37	157	200	183	383	2457	2148	4605	98	47.0	4	187	196		
Wharnciffe Street	47	1003	225	25	4	258	34	292	353	216	569	4144	2610	6754	98	68.9	17	301	268		
Total	332	5502	1747	169	18	3216	635	3851	4829	4422	9251	50676	49982	100658	1955	51.5	207	4618	4633		

* Removed to Harbottle Street in October.

Sewing and Knitting Classes.

The attendances at these are well maintained, and the facilities offered and instruction given are much appreciated.

SEWING AND KNITTING CLASSES, 1932.

CENTRE.	SUBJECT.	TEACHER.	DAY.	Attend- ance.	Sessions.	Average.
Benwell.....	Sewing and Knitting	Miss Crawford.....	Tuesday.....	501	47	10.7
Byker	Sewing and Knitting	Mrs. Churnside	Friday.....	571	48	11.9
City	Sewing and Knitting	Mrs. Churnside	Thursday	730	48	15.2
†Cowgate	Sewing and Knitting.....	Mrs. Dalton.....	Alt. Fridays.....	87	7	12.4
Diana Street	Sewing and Knitting	Mrs. Churnside	Wednesday	737	49	15.0
Elswick	Sewing and Knitting	Mrs. Churnside	Tuesday.....	494	47	10.5
Scotswood	Sewing and Knitting	Mrs. Dalton	Tuesday.....	649	47	13.8
Shieldfield	Sewing	*Mrs. A. Holmes.....	Tuesday.....	365	47	7.8
Spital Tongues	Sewing and Knitting	Mrs. Churnside.....	Monday.....	697	46	15.2
‡St. Peter's	Sewing and Knitting	Miss Crawford	Wednesday	349	50	7.0
Walker.....	Sewing and Knitting	Miss Crawford	Thursday	499	48	10.4
†Walker Gate	Sewing and Knitting	Mrs. Dalton.....	Alt. Thursdays.....	18	6	3.0
Wharnccliffe Street...	Sewing and Knitting	Miss Crawford	Friday	480	48	10.0

* Voluntary Worker.

† Commenced November.

‡ Removed to Harbottle Street in October.

Attendances at Maternity and Child Welfare Centres.

It will be noted from the following table that the number of individuals attending the Centres continues to increase yearly.

(CHILDREN ONLY.)

YEAR.	No. of Attendances.	No. of Individuals.	Average Attendance per Individual.	Average Attendance at each Session.
1920	22,596	3,751	6.0	44.2
1921	32,538	4,734	6.8	40.7
1922	36,020	4,835	7.4	44.9
1923	42,515	5,153	8.2	46.5
1924	45,766	5,587	8.2	45.5
1925	45,476	5,744	7.9	43.6
1926	50,697	6,467	7.8	46.2
1927	46,672	6,522	7.1	42.4
1928	53,960	6,532	8.3	49.3
1929	52,460	6,574	7.9	48.2
1930	67,626	7,776	8.7	44.2
1931	83,561	8,927	9.4	43.1
1932	100,658	9,251	10.9	51.5

Dried Milk.

The following table shows the quantity of dried milk distributed each month during the year 1932 :—

MONTH.	FREE.	AT COST PRICE.
	lbs.	lbs.
January	6,120	2,742
February	5,753	2,425
March	7,570	2,523
April	6,427	2,975
May	5,747	2,105
June.....	6,990	2,240
July	6,893	2,353
August.....	5,968	2,236
September.....	7,594	3,173
October	5,614	1,414
November	5,545	2,283
December	6,526	1,472
	76,747	27,941

Children attending Centres	9,251
Children given free milk	2,976
Percentage	32.2
Expectant mothers given milk.....	355
Free milk given to children (lbs.).....	74,121
Free milk given to expectant mothers (lbs.).....	2,626

Boarded-out Children.

The three boarded-out children in the City—now the concern of the Maternity and Child Welfare Committee—were all carefully and regularly supervised during the year, and were reported on as being satisfactorily cared for. As these children were all of school age the supervision of them was transferred by delegation of the City Council to the Education Committee.

CHILDREN ACT, 1908 (PART 1).

At the beginning of the year there were 42 nursed-out children in Newcastle, and 36 at the close of the year. All these children were regularly supervised and kept under observation, and without exception the reports by our Supervisor concerning them were good.

Important alterations affecting the above Act are contained in Part V. of the Children and Young Persons Act, 1932, and taking effect on January 1st, 1933.

In future, the age of children concerned will be nine years instead of seven as at present, and it will be necessary for persons desirous of taking such children to give seven clear days notice of their intention beforehand, in place of notifying within 48 hours of receiving the child as at present.

Further, the new Act deems a gift in kind to be an "undertaking for reward," so that the provisions of the Act will include for the first time people who have or intend having children for other than financial considerations.

Several other sections of the Act are also amended or altered.

NOTIFICATION OF BIRTHS ACTS.

Of the 6,006 live, and 364 still-births (gross) which were registered in the City in 1932, 5,463 or 90.1 per cent. were notified as follows :—

<i>Notified by.</i>	<i>Gross Living Births.</i>	<i>Gross Still- Births.</i>
Medical Practitioners.....	405	20
Medical Practitioners and Midwives ...	334	14
Midwives	1,913	55
Maternity Hospital	2,105	207
Newcastle General Hospital	145	13
Gables Maternity Home	238	10
Parents.....	4	...
	5,144	319

Still-Births.—Of the total net notifications of births received, still-births were in the following proportion :—

<i>Year.</i>	<i>Percentage.</i>	<i>Year.</i>	<i>Percentage.</i>
1923	2.9	1928.....	3.8
1924	2.6	1929.....	3.7
1925	2.8	1930.....	4.2
1926	3.1	1931.....	4.2
1927	3.7	1932.....	4.3
Still-births Registered Net.....			215
Still-births Notified Net			174
Percentage Notified Net			81.0
Still-births Visited Net.....			186

<i>Duration of Pregnancy.</i>	<i>No.</i>	<i>Percentage to Total.</i>
At or under 7 months.....	22	11.8
At 7-8 months	53	28.5
At full time.....	111	59.7

Suggested causes of the still-births :—

	<i>Cases.</i>
(a) Ill-health of the mother.....	49
(b) Fœtal deformities and malpresentations and uterine inertia	52
(c) Premature delivery, ante-partum hæmorrhage, etc....	22
(d) Other causes, including albuminuria.....	63

Syphilis was returned as the cause of death in two children below the age of 1 year.

WORK OF HEALTH VISITORS.

26 Health Visitors, including the Chief Health Visitor, were engaged solely in Maternity and Child Welfare work during 1932.

4,580 births were visited, and 28,138 re-visits were paid, an average of 6 re-visits per child. These give a total of 32,718 visits to children under 1 year.

SUMMARY OF VISITS.

	Primary.	Subsequent.	Total.
Births	4,580	28,138	32,718
Measles	2,229	2,742	4,971
Pneumonia	789	1,223	2,012
Diarrhœa	7	12	19
Children over 1 Year.....	.....	.....	50,720
Hospital Cases .....	.....	.....	387
Expectant Mothers .....	.....	.....	2,354
Special Visits .....	.....	.....	408
Visits to Boarded-out or Nursed-out Children .....	.....	.....	654
Unsuccessful Visits (Outs and Removals).....	.....	.....	8,255
	.....	.....	102,498

The addresses of 262 children who left the City were sent to the Medical Officers of Health for the districts to which they had gone.

Infants on Visiting List.

Of 4,803 children born in the City in 1931, 3,989 completed their first year in 1932, and of the remainder :

331 died,
244 left the City,
191 could not be traced,
48 were visited only once.

The following figures are therefore based on the 3,989 who completed the first year, *plus* the 331 who died, making in all a total of 4,320, and of that total 2,843 or 65.8 per cent., attended the Welfare Centres.

Of the number (2,843) attending the Centres 114 died, a rate of 40.1 per 1,000, as compared with 76 per 1,000 for the City.

Illnesses.—Among the children visited 171, or 4 per cent., contracted measles ; 223, or 5.2 per cent., contracted whooping cough ; 185, or 4.3 per cent., contracted diarrhoea ; 734, or 17. per cent., contracted bronchitis or pneumonia.

The mortality per 1,000 births in 1932 was as follows :—

1 roomed dwellings	75.8
2 roomed dwellings	78.6
3 roomed dwellings	72.9
Dwellings over 3 rooms.....	78.9

Details as to the stated **Feeding** of the 4,320 children under supervision during the year are given in the following table :—

	FEEDING.					
	BREAST.		MIXED.		ARTIFICIAL.	
	No.	Per-centage.	No.	Per-centage.	No.	Per-centage.
At First Visit	3,966	91.8	49	1.1	305	7.1
Deaths in First Year of above Children	248	6.5	14	28.6	69	22.6
At time of Death.....	176	4.4	28	57.1	127	41.6
Surviving Children (3,989) at 9 months	2,410	60.4	159	3.9	1,420	35.6

Details as to children who should have attained the age of 5 years during 1931 :—

Well and attending school.....	2,872
Well and not attending school.....	39
Ill and not attending school.....	41
Left City or failed to trace.....	1,237
Died in 2nd year	136
Died in 3rd year	32
Died in 4th year	24
Died in 5th year	10
Total surviving	2,952
Total deaths	202
Total reported on	4,391

Voluntary Workers.

As in other years the lady members of the Voluntary Association, under the presidency of Mrs. Leach, rendered valuable services, not only at the Centres, but also in the districts.

I am, Sir,

Your obedient servant,

A. F. G. SPINKS, M.D.,
Maternity and Child Welfare Medical Officer

*Health Department,
 Town Hall,
 Newcastle upon Tyne,
 10th May, 1933.*

INCLUDING REPORTS OF THE
RESIDENT MEDICAL OFFICER OF THE
INFECTIOUS DISEASES HOSPITAL
AND THE BACTERIOLOGIST.

III.—INFECTIOUS DISEASE.

FEVERS, FOOD POISONING,
CITY HOSPITALS FOR INFECTIOUS DISEASES,
DISINFECTION, BACTERIOLOGY.

REPORT OF THE RESIDENT MEDICAL OFFICER OF THE

INFECTION DISEASE HOSPITAL	
AND THE BACTERIOLOGICAL	
1917	100
1918	100
1919	100
1920	100
1921	100
1922	100
1923	100
1924	100
1925	100
1926	100
1927	100
1928	100
1929	100
1930	100

W. W. W.

As a result of the investigation of the various diseases of the city, it is found that the most common diseases are the following: ...

1930

III. INFECTIOUS DISEASE.

...

REPORT OF THE
RESIDENT MEDICAL OFFICER OF THE
CITY HOSPITAL FOR INFECTIOUS DISEASES
DISTRICT OF COLUMBIA, D. C.

DEATHS (CORRECTED) FROM NOTIFIABLE INFECTIOUS DISEASES
AND NON-NOTIFIABLE ZYMOTIC DISEASES, EXCLUSIVE OF TUBERCULOSIS.

WARD.	Diph- theria.	Ery- sipelas.	Scarlet Fever.	Enteric Fever.	Pneu- monia.	Cere- bro- spinal Fever.	Enceph- alitis Lethar- gica.	Polio- myelitis.	Measles and Rubella	Puer- peral Fever.	Small- pox.	Whoop- ing Cough.	Diarr- hoea (under 2 years of age).	Dysen- tery.
St. Nicholas'	...	...	...	...	...	...	...	...	...	...	...	...	...	...
St. Thomas'	...	...	...	...	9	4	...	...	...	1	...	1	...	...
St. John's	1	...	...	...	12	...	...	...	1	3	...	2	3	...
Stephenson	1	...	1	...	23	1	...	...	9	...	...	3	6	...
Armstrong	...	...	1	...	20	2	1	...	2	...	...	4	5	...
Elswick	...	1	...	...	13	4	...	...	...	...	...	...	4	...
Westgate	2	1	1	...	9	2	...	...	1	...	...	...	2	1
Arthur's Hill	...	2	...	...	6	...	2	...	...	1	...	...	...	...
Benwell	...	1	...	...	16	1	1	...	...	...	...	2	2	...
Fenham	...	1	...	...	14	3	1	...	...	1	...	1	...	...
All Saints'	...	1	1	...	14	1	...	...	1	...	...	1	1	...
St. Andrew's	...	...	...	...	9	2	...	...	1	...	...	5	...	...
Jesmond	1	...	...	...	9	...	...	...	...	...	...	...	...	...
Dene	...	...	...	...	7	...	...	...	...	...	...	1	...	...
Heaton	...	1	...	...	10	...	1	...	...	...	...	...	...	...
Byker	...	1	...	...	11	...	1	...	...	...	...	...	6	...
St. Lawrence	...	1	1	1	19	...	...	...	1	1	...	2	5	1
St. Anthony's	...	...	1	...	12	1	1	...	...	1	...	4	5	1
Walker	...	3	1	1	28	1	...	1	3	1	...	4	4	...
CITY	5	13	7	2	241	22	8	1	19	9	...	30	44	3

Note :—All deaths in Public Institutions have been allotted to the Wards to which they properly belong.
For particulars of deaths from **TUBERCULOSIS** see Section IV.

NOTIFIED CASES OF INFECTIOUS DISEASE AND DEATHS (GROSS).

EXCLUSIVE OF TUBERCULOSIS.

AGES OF CASES OF INFECTIOUS DISEASE NOTIFIED AND DEATHS REGISTERED DURING THE YEAR 1932.

NOTIFIABLE DISEASE.	AT AGES—YEARS.												GROSS TOTAL.				NET TOTAL.		Cases admitted to Hospital				
	Under 1.		1 to 5		5 to 15.		15 to 25.		25 to 45.		45 to 65.		65 and upwards.		Ages not known.		1932.			1931.		1932.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.							
Diphtheria (including Membranous Croup)	2	1	32	3	92	2	24	...	4	...	3	1	...	...	157	7	117	6	136	5	152		
Erysipelas	14	5	4	...	14	1	19	...	54	1	85	3	...	2	218	14	242	13	205	13	99		
Scarlet Fever.....	11	...	276	4	764	3	99	...	40	...	5	...	...	...	1195	7	1106	5	1164	7	1152		
Enteric Fever	1	...	4	1	8	2	9	...	2	...	2	1	...	...	26	3	19	4	26	2	26		
Cerebro-Spinal Fever	8	7	24	8	12	8	10	5	4	4	1	1	...	...	59	33	60	47	53	22	54		
Acute Poliomyelitis.....	1	...	2	...	1	1	1	...	...	...	...	...	...	...	5	1	1	...	3	1	1		
Acute Polioencephalitis	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	...	...	1	1	...		
Encephalitis Lethargica	...	...	...	...	...	...	...	3	...	2	...	1	...	...	...	9	3	9	...	8	...		
Puerperal Fever	...	...	...	...	...	...	14	8	37	24	...	...	...	...	51	32	45	32	16	9	12		
Puerperal Pyrexia	...	...	...	...	1	...	58	...	85	...	...	...	...	...	144	...	127	...	42	...	29		
Ophthalmia Neonatorum...	57	...	...	...	...	...	...	...	...	...	...	...	...	...	57	...	64	...	45	...	1		
Pneumonia	102	73	315	60	177	15	92	20	108	27	68	44	26	44	889	283	1115	284	852	241	174		
Malaria	...	...	...	...	...	...	...	...	7	...	2	...	...	...	9	...	6	...	8	...	...		
Dysentery	4	2	20	3	16	2	2	...	2	...	...	...	...	...	45	7	86	6	41	3	41		
† Measles and Rubella.....	175	4	1204	15	998	1	14	...	3	...	...	...	...	...	2394	20	5991	130	2384	19	64		
‡ Chickenpox	95	...	578	...	1263	...	25	...	10	...	...	...	...	...	1980	...	1088	...	1978	...	...		
	470	92	2459	94	3347	36	367	36	356	58	166	50	52	51	7230	417	10070	536	6954	331	1805		

* Cases from outside the City excluded for the purpose of calculating Net Death Rates.

† Ministry of Health Regulations, 1920. ‡ Temporarily notifiable.

WARD DISTRIBUTION OF INFECTIOUS DISEASES (NET).

WARD.	Diphtheria.	Erysipelas.	Enteric Fever.	Scarlet Fever.	Cerebro-Spinal Fever.	Polio-myelitis.	Acute Polio-encephalitis.	Encephalitis Lethargica.	Measles.	Rubella.	Puerperal Fever.	Puerperal Pyrexia.	Ophthalmia Neonatorum.	Acute Primary Pneumonia.	Acute Influenza Pneumonia.	Smallpox.	Chickpox.	Malaria.	Dysentery.	TOTAL.
St. Nicholas'	1	1	...	5	...	...	...	...	5	...	1	...	...	2	...	...	...	...	...	17
*St. Thomas'	7	7	20	41	9	...	...	...	56	1	1	...	...	26	36	...	...	...	1	208
St. John's	8	6	...	34	4	...	...	...	88	2	2	2	...	62	52	...	...	...	1	270
Stephenson.....	9	17	...	63	1	...	...	...	289	3	...	3	...	68	154	...	...	1	3	616
Armstrong	8	11	1	69	3	...	...	...	102	2	1	1	...	48	130	...	...	1	6	392
Elswick	18	7	...	36	5	...	...	...	93	4	...	2	...	23	58	...	...	...	1	253
Westgate	16	8	...	64	3	...	...	...	93	2	1	2	...	40	49	...	...	...	1	284
†Arthur's Hill	3	8	...	35	...	...	...	...	60	1	4	...	...	10	21	...	...	...	...	139
Benwell.....	5	17	...	65	5	...	...	...	134	3	2	1	...	48	171	...	...	...	3	466
Fenham	13	15	...	91	4	1	...	...	216	6	1	...	2	44	185	...	...	1	3	590
All Saints'	3	10	...	89	5	...	...	...	114	3	...	16	2	41	72	...	...	1	...	358
St. Andrew's	1	8	...	45	2	...	...	...	66	2	...	2	...	27	56	...	...	...	2	215
Jesmond	5	6	...	27	...	...	1	...	5	...	...	3	...	7	25	...	...	...	1	84
Dene	2	14	...	54	...	...	...	...	33	3	...	2	...	15	133	...	...	...	...	263
Heaton	8	3	...	51	1	...	...	...	47	...	...	...	...	18	43	...	...	1	...	174
Byker	10	14	2	69	3	...	...	...	151	3	1	1	...	40	130	...	...	...	1	431
St. Lawrence.....	3	9	2	92	...	...	...	...	186	7	...	2	4	54	92	...	...	...	4	455
St. Anthony's	10	15	...	78	2	...	...	...	326	1	1	2	3	87	145	...	...	1	6	683
†Walker.....	6	29	1	156	6	2	...	...	275	2	1	3	5	132	424	...	...	...	7	1056
CITY	136	205	26	1164	53	3	1	...	2339	45	16	42	45	792	60	...	1978	8	41	6954

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children.

† Elswick Grange and Newcastle General Hospital.

‡ City Hospital for Infectious Diseases, Walker Gate.

For particulars of cases of **TUBERCULOSIS** see Section IV.

HOUSEHOLDS AFFECTED WITH INFECTIOUS DISEASES,
EXCLUSIVE OF TUBERCULOSIS, MEASLES AND CHICKENPOX.

DISEASES.	HOUSEHOLDS WITH						Insti- tutions. *	TOTAL CASES (Gross).	Cases from outside of City. †	NET CASES.
	Single Cases.	2 Cases each.	3 Cases each.	4 Cases each.	5 Cases each.	6 Cases and over.				
Diphtheria (including Mem- branous Croup).....	109	5	3	...	...	...	29	157	21	136
Erysipelas	185	2	...	...	...	...	29	218	13	205
Scarlet Fever.....	843	92	25	1	1	1	76	1195	29	1164
Enteric (or Typhoid Fever).....	6	...	...	...	...	...	20	26	...	26
Cerebro-Spinal Fever	44	1	...	...	...	...	13	59	6	53
Poliomyelitis	3	...	...	...	...	...	2	5	2	3
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	...
Polioencephalitis	1	...	...	...	...	...	...	1	...	1
Puerperal Fever.....	13	...	...	...	...	...	38	51	35	16
Puerperal Pyrexia	24	...	...	...	...	...	120	144	102	42
Ophthalmia Neonatorum.....	40	...	...	...	...	...	17	57	12	45
Pneumonia.....	761	43	1	...	...	...	39	889	37	852
Malaria	8	...	...	...	...	...	...	9	...	8
Dysentery	17	3	3	...	...	...	13	45	4	41
TOTAL	2054	146	32	1	1	1	396	2856	261	2592

* See next page.

INFECTIOUS DISEASES.

Schools and Infectious Disease.—It was not found necessary to close any school on account of infectious disease during the year.

PUBLIC INSTITUTIONS AND INFECTIOUS DISEASE.

The following notifications were received during the year :—

Institutions, &c.	Diphtheria.	Erysipelas.	Scarlet Fever.	Encephalitis Lethargica.	Measles and Rubella.	Puerperal Fever.	Puerperal Pyrexia.	Pneumonia.	Chickenpox.	Ophthalmia Neonatorum.	Enteric Fever.	Poliomyelitis.	Polio-encephalitis.	Cerebro-Spinal Fever.	Smallpox.	Malaria.	Dysentery.	Total.
Royal Victoria Infirmary	1	12	17	...	5	4	...	35	...	1	3	2	...	2	...	...	...	82
Fleming Memorial Hospital	25	5	21	...	5	...	...	1	2	...	17	...	...	7	...	...	5	88
Newcastle General Hospital.....	2	4	18	...	4	3	...	...	...	...	...	...	...	1	...	...	8	40
City Hospital for Infectious Diseases	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Deaf and Dumb Institution.....	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Maternity Hospital.....	...	2	1	...	...	30	116	1	...	16	...	...	...	...	...	...	...	166
Military Barracks	...	...	2	...	...	...	...	...	5	...	...	...	...	2	...	1	...	10
Barnado's Home.....	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Young Women's Christian Association.....	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Gables Maternity Home.....	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	1
Eye Infirmary.....	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Nursing Homes.....	...	1	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	3
National Children's Home.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Throat, Nose and Ear Hospital...	...	3	7	...	1	...	...	...	...	...	...	...	...	...	...	...	...	11
Common Lodging Houses.....	...	...	...	...	2	...	...	1	1	...	...	...	...	...	...	...	...	4
Nazareth House.....	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Royal Victoria School for the Blind	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Babies' Hospital, West Parade...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2
Home for Incurables.....	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Hostel, 13, Leazes Terrace	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Salvation Army Maternity Home	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
St. Vincent's Home.....	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
TOTAL	29	29	78	...	18	38	120	39	9	17	20	2	...	13	...	1	13	426

* Does not include any cases belonging to the City which could properly be assigned to their homes.

SCARLET FEVER.

Notifications of 1,164 cases were received during the year, and there were 7 deaths, equivalent to a mortality of 0.6 per cent.

DIPHTHERIA.

136 cases were notified during the year, and 5 died, a case mortality of 3.7 per cent., as compared with 5.2 in 1931.

MEASLES AND RUBELLA.

2,384 cases (including 45 of rubella) were notified, and there were 19 deaths (net) in 1932, representing a death rate of 0.07 per 1,000 population, as compared with 0.44 in 1931, and a case mortality of 0.8 per cent. of notified cases (net).

The following table shows the deaths in the various wards, and at different age periods :—

WARD.	Under 3 months.	3 and under 6 months.	6 and under 9 months.	9 and under 12 months.	1 and under 2 years.	2 and under 3 years.	3 and under 4 years.	4 and under 5 years.	5 and under 10 years.	Over 10 years.	TOTALS.
St. Nicholas'	...	...	...	...	...	...	...	...	...	...	...
St. Thomas'	...	...	...	...	...	...	...	...	...	...	...
St. John's	...	...	1	...	...	...	...	...	...	...	1
Stephenson	...	...	...	...	4	2	...	2	1	...	9
Armstrong	...	1	1	...	...	...	...	...	...	...	2
Elswick	...	...	...	...	...	...	...	...	...	...	...
Westgate	...	...	...	...	1	...	...	...	...	...	1
Arthur's Hill	...	...	...	...	...	...	...	...	...	...	...
Benwell	...	...	...	...	...	...	...	...	...	...	...
Fenham	...	...	...	...	...	...	...	...	...	...	...
All Saints'	...	...	...	...	1	...	...	...	...	...	1
St. Andrew's	...	...	...	...	1	...	...	...	...	...	1
Jesmond	...	...	...	...	...	...	...	...	...	...	...
Dene	...	...	...	...	...	...	...	...	...	...	...
Heaton	...	...	...	...	...	...	...	...	...	...	...
Byker	...	...	...	...	...	...	...	...	...	...	...
St. Lawrence	1	...	...	...	...	...	...	...	...	...	1
St. Anthony's	...	...	...	...	...	...	...	...	...	...	...
Walker	...	...	...	...	2	...	...	1	...	...	3
TOTAL	1	1	2	...	9	2	...	3	1	...	19

Each Health Visitor visited and revisited selected cases occurring in her district. By this arrangement each case is seen immediately on receipt of the notification, and advice is given regarding the nursing and isolation of the patient. The cases are kept under supervision until they recover, and should subsequent cases occur in the family they are recorded.

Measles Cases, including Rubella, notified during 1932.

Cases notified by Medical Practitioners.....	1,902
Cases found by Health Visitors	474
Cases notified by Parents.....	15
Cases found from Returns of Deaths.....	3
	2,394 gross.
	2,384 net.

Of the total number of measles cases notified, 2,229 in 1,729 households (or 93.1 per cent.) were visited by the Health Visitors, and 2,742 revisits were paid, a total of 4,971 visits.

The following particulars refer to the cases visited :—

	DWELLINGS OF					Total houses visited.
	1 room.	2 rooms.	3 rooms.	4 rooms.	More than 4 rooms.	
Families	161	627	533	317	91	1,729
Children	380	1,752	1,381	896	241	4,650
Cases	213	837	657	413	109	2,229
Percentage of Cases to						
Children	56.1	47.8	47.6	46.1	45.2	47.9
Cases developing Pneumonia	9	24	10	8	2	53
Percentage of Cases develop- ing Pneumonia	4.2	2.9	1.5	1.9	1.8	2.4
Deaths from Measles.....	4	10	2	1	...	17
Cases notified as Measles, Death certified as due to Pneumonia, Bronchitis or Diarrhoea.....	1	1	...	...	...	2
Case Mortality per cent.....	2.4	1.3	0.3	0.2	...	0.9

Total unvisited cases 165, including 150 in better-class houses, in which no deaths occurred, and 15 in institutions, with 3 deaths.

Medical Attendance.—In 95.2 per cent. of the cases visited a doctor was in attendance.

Condition of Patient.—In 83.3 per cent. of the cases visited the disease ran a normal course, but bronchitis, pneumonia or other complications developed in the remainder.

Attendance at Schools.—865, or 38.8 per cent of the affected children had previously attended school, and 1,364, or 61.2 per cent. had never attended school. In connection with 765 of the latter cases, however, other children in the infected houses were scholars, equivalent to 34.3 per cent. of the total cases.

The following were the ages of children (visited) suffering from measles :—

Under 1 year	170
1-2 years	283
2-3 years	311
3-4 years	283
4-5 years	287
5-6 years	530
Over 6 years	365
	2,229

WHOOPING COUGH.

30 deaths occurred from whooping cough. The particulars are as follows :—

WARD.	YEARS OF AGE.						Total.
	0-1.	1-2.	2-3.	3-4.	4-5.	5-10.	
St. Nicholas'	...	...	...	...	...	...	...
St. Thomas'	...	...	1	...	...	...	1
St. John's	1	1	...	...	...	...	2
Stephenson	1	2	...	...	...	...	3
Armstrong	3	1	...	...	...	...	4
Elswick	...	...	...	...	...	...	...
Westgate	...	...	...	...	...	...	...
Arthur's Hill	...	...	...	...	...	...	...
Benwell	1	1	...	...	...	...	2
Fenham	...	1	...	...	...	...	1
All Saints'	1	...	...	...	...	...	1
St. Andrew's	2	1	...	2	...	...	5
Jesmond	...	...	...	...	...	...	...
Dene	...	1	...	...	...	...	1
Heaton	...	...	...	...	...	...	...
Byker	...	...	...	...	...	...	...
St. Lawrence	2	...	...	...	...	...	2
St. Anthony's	...	1	3	...	...	...	4
Walker	1	1	...	...	...	2	4
CITY	12	10	4	2	...	2	30

The death rate in 1932 was equivalent to 0.11 per 1,000 population, as compared with 0.19 in 1931.

FOOD POISONING.

There were no cases of food poisoning reported during the year.

ENTERIC GROUP OF FEVERS.

During the year 1932, 38 cases of the enteric group of infections were brought to notice. The distribution of these cases, according to the months in which they were notified, the type of infection

(typhoid or para-typhoid), and their place of origin, is recorded in the following table :—

Distribution of Enteric Group Infections for 1932.

	EXTRA-MURAL.		NEWCASTLE.	
	Typhoid.	Para-typhoid B.	Typhoid.	Para-typhoid B.
January	...	1	...	...
February.....	...	...	2*(1)	...
March	1	...	...	...
April.....	...	...	...	...
May	...	...	...	...
June.....	...	...	1	2
July	...	2	...	...
August.....	2	...	1	4
September	...	2	...	10*(3)
October	2	1	...	5
November.....	...	...	...	...
December	1	...	...	1
Totals	6	6	4 (1)	22 (3)

The figures in parentheses, which are included in the numbers alongside which they stand, indicate fatal cases.

* Includes one carrier.

It will be seen that 12 of the 38 patients came from without the City's boundaries, the remaining 26 being Newcastle cases proper. Of the 12 extra-mural cases (six typhoid and six para-typhoid) 7 were admitted to the City Hospital, either at the request of the Port or Local Authorities concerned, or as a result of their discovery in various institutions in the City, and five were admitted to the hospitals of their own Local Authorities. The 26 City cases were made up of four cases of typhoid, one of which was not bacteriologically proved, and 22 para-typhoid B. infections. There was one carrier in each group.

In all there were 33 admissions to the City Hospital. Of the eight patients who were regarded as suffering from typhoid fever, one died—equivalent to a case mortality rate of 12.5 per cent. Amongst the 25 para-typhoid cases, there were three deaths—equivalent to a mortality rate of 12 per cent.

During the month of July cases of para-typhoid fever from a neighbouring area where an epidemic of the disease was in progress, found their way as mistaken diagnoses into the Royal Victoria Infirmary and the Fleming Memorial Hospital. In the former

the disease did not spread, but in the latter, owing doubtless to the greater difficulties in nursing children and to the overcrowded conditions in the wards, a number of cases, including some members of the nursing staff, were infected, finally necessitating the temporary closure of the hospital.

All the affected cases, 17 in number, were removed to Walker Gate Hospital, and of these three died, that is to say 17.7 per cent. of the number infected. Many of the children, however, were suffering from other serious diseases at the time of infection, and the high death rate cannot be entirely attributed to the infection with para-typhoid fever.

The other cases were of the sporadic type, and in every instance strenuous efforts were made to trace the source of infection, but without success.

DIARRHŒA.

There were in all 61 deaths from the disease, equal to a death rate of 0.21 per 1,000 population, and this number included 44 deaths of children under two years of age.

SMALLPOX.

No case of this disease occurred in the City during the year.

The following are the particulars of **Vaccination** during the last twenty-eight years :—

Year.	Births Registered.	Successful Vaccinations.	Unsuccessful Vaccinations.	Exemption Certificates.		Deaths, Removals and Postponements.
				Number.	Percentage to Total Births.	
1905	7,958	7,264	27	65	0.8	...
1906	7,721	6,733	28	92	1.2	...
1907	7,610	6,702	16	94	1.2	...
*1908-12	35,265	27,240	114	3,398	9.6	...
1913-17	34,296	21,251	33	7,144	20.8	...
1918-22	34,372	19,011	95	9,262	26.9	...
1923-27	31,290	19,658	30	5,542	17.7	...
1928	5,780	4,320	19	912	15.8	...
1929	5,638	3,555	33	1,092	19.4	...
†1930	†6,195	3,897	31	1,264	20.4	1,003
1931	6,059	3,754	39	1,343	22.2	923
°1932	6,009	3,484	27	1,398	23.3	...

* Vaccination Act, 1907, came into force.

† Walker District included.

‡ Supervision of Vaccination transferred from Guardians to Health Committee on 1st April, 1930.

° Provisional figures only.

The *Public Vaccinators* and *Vaccination Officers* for the various districts of the City are :—

Dene, Heaton and Byker Municipal Wards :—

DR. J. MACRAE, 4, Benton Terrace.

Deputy—DR. A. SUTCLIFFE, 1, Lesbury Road.

St. Anthony's and St. Lawrence Municipal Wards :—

DR. RICHARD DAGGER, 1, Rothbury Terrace.

Deputy—DR. ERIC C. DAGGER, 1, Rothbury Terrace.

Walker District :—

DR. T. J. RYAN, Welbeck Road.

Deputy—DR. P. J. BYRNE, Welbeck Road.

All Saints', St. Nicholas', St. Andrew's, Jesmond and St. Thomas' Municipal Wards :—

DR. H. R. SMITH, 126, Sandyford Road.

Deputy—DR. T. H. BLENCH, 12, Simonside Terrace.

Fenham, Arthur's Hill, Westgate and St. John's Municipal Wards :—

DR. A. M. PATERSON, 116, Elswick Road.

Deputy—DR. H. L. TAYLOR, 242, Westgate Road.

Stephenson, Elswick, Armstrong and Benwell Municipal Wards :—

DR. G. D. NEWTON, 24, Windsor Terrace.

Deputy—DR. J. B. SINSON, 105, New Bridge Street.

Newcastle General Hospital :—

DR. G. P. HARLAN.

Vaccination Officers :—

Western—W. W. CUMMINGS, 80, Northbourne Street.

Eastern—WM. GARRETT, 27, Melton Avenue, Walker Estate.

CHICKENPOX.

1,978 cases were notified. There were no deaths.

ERYSIPELAS.

205 cases of this disease were notified and there were 13 deaths.

PUERPERAL SEPTICÆMIA AND PUERPERAL PYREXIA.

58 cases were notified, with 9 deaths. Inquiries were made concerning 52 of these.

INFLUENZA AND PNEUMONIA.

These diseases accounted for 310 deaths as against 327 last year.

Total deaths at age periods.

Under 5 years.	5-15.	15-25.	25-45.	45-65.	65 and over.	Total.
120	16	14	35	59	66	310

As will be seen from the above figures, 120, or 39 per cent., of the deaths occurred below the age of 5 years.

889 cases of pneumonia, including influenzal-pneumonia, were notified, For the ages and ward distribution, see pages 88 and 89.

Of that number 789, or 88.7 per cent., were visited by Health Visitors. It was found that of these 789 visited cases, 578, or 73 per cent., were primary pneumonia, 94, or 12 per cent., were cases of influenzal-pneumonia, and 117, or 15 per cent., were cases of pneumonia following other diseases.

Sex.—58.3 per cent. of the cases were males.

Ages.—The ages of the 789 cases visited were as follows :—

Under 1 year.....	99
1-5 years	299
5-15 years	165
15-25 years	77
25-45 years	87
45-65 years	43
and over 65 years	19
	789

Of these, 146 were school children.

Housing.—110 cases occurred in 1 roomed dwellings, 278 cases occurred in 2 roomed dwellings, 200 cases occurred in 3 roomed dwellings, and 201 cases occurred in more than 3 roomed dwellings.

Type of House.—314 cases occurred in flats, 280 cases in tenements, and 194 in self-contained houses, and 1 in a common lodging house.

Previous History.—

There was a previous history of	Measles	in 351 cases.
"	"	" Whooping Cough in 241 cases.
"	"	" Influenza in 172 cases.
"	"	" Frequent winter Coughs and Colds in 687 cases.
"	"	" Pneumonia in 182 cases.
"	"	" Tuberculosis in 29 cases.

Hospital Treatment.—174 cases of pneumonia were treated in the Infectious Diseases Hospital. The majority of these were from houses where there was over-crowding or other unsuitable home conditions. 25 of these patients died, giving a case mortality of 14.4 per cent.

Deaths.—107, or 13.5 per cent. of the visited cases of pneumonia died.

VENEREAL DISEASES.

Syphilis was certified as the cause of death in 23 cases.

The work of the treatment clinic has been continued successfully. 1,379 old and new cases attended 21,503 times as out-patients. 13 cases accounted for 335 in-patient days. Of the 731 new cases, 222 were syphilis, 356 gonorrhœa, 6 soft chancre, and 147 were conditions other than venereal. 71 per cent. were males.

2,579 doses of salvarsan substitutes, 3,536 doses of mercury and 1,129 doses of bisoxyl were administered to out-patients and in-patients.

2,546 Wasserman reactions were carried out by the College of Medicine, and 129 microscopical examinations of pathological material were made by the College and 1,074 at the treatment clinic. The irrigation stations for males and for females in connection with the clinic have been in full use during the year.

51 medical practitioners in the City are qualified to receive free supplies of arseno-benzol compounds. 16 made application for these supplies during the year and 1,299 doses were given.

Newcastle Residents Notified as Attending other Centres.

Cases.—Syphilis, 10; gonorrhœa, 8; soft chancre, nil; conditions other than venereal, 5.

Attendances.—268.

Doses of salvarsan substitute given to in-patients and out-patients, 29.

In-patients.—In-patient days, 113.

Information as to ophthalmia neonatorum will be found in Section II. (The Child).

ENCEPHALITIS LETHARGICA.

During the year 1932 no notifications of encephalitis lethargica were received, but there were 9 deaths registered.

All of these referred to patients in the post-encephalitic state of the disease. Each case was investigated and the approximate dates of the original attacks in this series were found to be as follows :—one in 1923 ; one in 1924 ; one in 1926 ; one in 1928 ; one in 1929 ; two in 1930 ; and two in 1931.

During 1932 no proved case of encephalitis lethargica was admitted to the City Hospital.

Re-survey of all Cases of Encephalitis Lethargica.—It is now 14 years since encephalitis lethargica first appeared in Newcastle, and every other year since that date a re-survey of all cases of the disease known to have occurred in the City since the commencement of the epidemic in 1919 has been made. Post encephalitis cases have been placed, as far as possible, under the years in which their primary attack occurred.

A re-survey was made in 1932, and there is now a series of 382 cases of which records are available. These have been grouped in accordance with the classification employed by Dr. Allan C. Parsons in his report to the Ministry of Health, published in 1928.

Patients who recovered are shown as (*a*) totally incapacitated, (*b*) suffering from sequels which interfere with their old occupation, (*c*) suffering from sequels which do not interfere with their old occupation, and (*d*) completely cured.

The cases have been divided into two categories : (*a*) those admitted to the City Hospital, and (*b*) those treated elsewhere—a few in other institutions, the majority at home. The death, disability and recovery rates have been calculated for both groups of cases, but those for the City Hospital will prove more reliable,

as all non-encephalitic cases have been excluded from their totals, as the result of clinical, laboratory and post-mortem investigations.

The figures based on 115 traced and proved cases of encephalitis lethargica treated in the City Hospital from 1919 to 1932 are as follows :—roughly 48 per cent. are dead, 10 per cent. are totally incapacitated (including 4 per cent. who are or have been in mental hospitals), 6 per cent. are able to do some light work, 13 per cent., though still suffering from minor disabilities, can follow their old occupations, and from 22 to 23 per cent. are completely cured.

These figures are not encouraging, and those of the non-hospital cases are even worse, partly due, no doubt, to the inclusion of cases wrongly diagnosed as encephalitis lethargica, and partly in some cases to the lack of proper attention. The figures of both groups, set out in the following page, go to show how devastating and far reaching the results of this disease may be on the body and mind alike.

HOSPITAL CASES.										NON-HOSPITAL CASES.									
YEAR.	Notifications.	Admitted.	Proved to be Encephalitis Lethargica.	Cases otherwise diagnosed Encephalitis Lethargica.	Total Hospital Cases.	Not traced.	NUMBER OF PATIENTS.					Non-Hospital Cases.	Not traced.	NUMBER OF PATIENTS.					
							Dead.	Totally Incapacitated.	With Sequels interfering with usual occupation.	With Sequels not interfering with old occupation.	Cured.			Dead.	Totally Incapacitated.	With Sequels interfering with usual occupation.	With Sequels not interfering with old occupation.	Cured.	
1919.....	3	2	1	...	1	1	...	5	...	...	...	1	...	1	...	...	...	...	1
1920.....	12	5	4	3	7	...	...	1	...	1	7	1	4	1 (1M)	...	...	...	...	2
1921.....	22	6	4	1	5	1	1	1	...	1	16	1	7	4	...	...	2	2	2
1922.....	7	4	2	...	2	...	...	...	...	...	3	2	1	...	...	...	...	...	...
1923.....	14	2	1	...	1	...	...	1	...	...	12	2	6	2	...	...	...	2	2
1924.....	141	76	62	2	64	4	26	7	4	10	65	4	28	12	1	...	8	12	12
1925.....	59	26	16	3	19	...	11	1	1	1	33	6	13	7	4	...	...	3	3
1926.....	52	15	10	3	13	2	5	...	1	1	37	5	23	5	1	2	2	...	...
1927.....	26	13	5	...	5	1	2	...	1	1	13	1	10	...	...	...	1	2	...
1928.....	14	3	2	...	2	...	2	...	...	...	11	1	10	...	...	1	...	...	...
1929.....	20	5	2	2	4	...	1	...	...	...	15	1	9	2	1	...	...	2	2
1930.....	5	...	...	...	...	...	...	...	...	...	5	...	2	...	2	1	...	...	1
1931.....	7	2	1	1	2	1	1	...	...	...	5	1	...	1 (1M)	...	2	...	...	...
Total ...	382	159	110	15	125	10	55	12 (5M)	7	15	223	25	113	35 (9M)	9	16	25	25	25
Percentages based on 115 traced Hospital cases ... 47.8																			
Percentages based on 189 traced Non-Hospital cases 57.07																			

The figures in brackets, e.g. (1M), indicate the number of Patients who are, or have been, in Mental Hospitals as a result of Encephalitis Lethargica.

ACUTE POLIOMYELITIS.

5 cases were notified, 2 of which were resident outside of the City. One of the City cases died.

CEREBRO-SPINAL MENINGITIS.

During the past few years there has been a steadily increasing incidence of cerebro-spinal fever, and during 1932 59 cases were notified in Newcastle, 53 of which were removed to the City Hospital for treatment. In addition, 25 cases were admitted from surrounding areas, so that in all 78 patients have been treated in the City Hospital. There were 29 deaths amongst these 78 cases, equivalent to a case mortality rate of 37.2 per cent. The distribution of the cases according to the months in which they were notified, and their places of origin, is recorded in the following table :—

	Newcastle.	Extra-Mural.	Totals.
January	3 (2)	5 (2)	8 (4)
February	3 (1)	2 (1)	5 (2)
March	9 (3)	...	9 (3)
April.....	6 (2)	5	11 (2)
May	11 (4)	1	12 (4)
June	5 (1)	2 (1)	7 (2)
July.....	1	4 (1)	5 (1)
August	3 (2)	1	4 (2)
September	2 (1)	1 (1)	3 (2)
October	4 (2)	...	4 (2)
November.....	2	1	3
December	4 (4)	3 (1)	7 (5)
Totals	53 (22)	25 (7)	78 (29)

The figures in parentheses, which are included in the numbers alongside which they stand, indicate fatal cases.

The circumstances of all the Newcastle cases have been carefully investigated, but in no case has it been possible to trace the source of the infection.

No fewer than 25 cases of cerebro-spinal fever were admitted to hospital from extra-mural authorities in the neighbourhood, and wherever possible, it has been the policy of the Health Department to give assistance to authorities whose hospital accommodation is of such a character as to prevent them from giving adequate

treatment to patients suffering from this extremely dangerous disease. The following table shows the age and sex distribution of the 78 cases admitted to hospital :—

Ages.	0-1.	1-2.	2-5.	5-15.	15-25.	25-45.	45 and up-wards.	Totals.
Male	8 (5)	...	10 (4)	9 (3)	15 (3)	7 (3)	...	49 (18)
Female.....	4 (1)	3	4 (2)	10 (5)	5 (1)	2 (1)	1 (1)	29 (11)
Totals.....	12 (6)	3	14 (6)	19 (8)	20 (4)	9 (4)	1 (1)	78 (29)

Figures in parentheses indicate deaths.

It will be noted that the attack rate and mortality rate are particularly high under the age of 5, and that young persons and adults from 15 to 45 have the best chance of recovery from the disease.

BACILLARY DYSENTERY.

Bacillary dysentery has been prevalent in the City since 1928, and during the past year 109 cases were notified. In only 58 of these, however, was the diagnosis confirmed bacteriologically. Of the latter number, 6 were extra-mural cases, who were either admitted to one or other of the City's hospitals suffering from the disease, or contracted it while patients in these institutions.

Seven persons died from the disease, four of whom were Newcastle inhabitants. The majority of patients were isolated in institutions, and of the 58 proved cases 45 were admitted to Walker Gate, where six died. The remaining fatal case died at the Newcastle General Hospital.

There were three hospital outbreaks. The first occurred in one of the scarlet fever wards in Walker Gate, and eight cases were infected with the Flexner Bacillus. In this instance the disease spread with extraordinary rapidity. The whole of the cases were affected within 48 hours, suggesting that some food-stuff must have become contaminated. In spite of a searching investigation the source of the outbreak was never traced. There was a small outbreak in the Fleming Memorial Hospital, three cases being affected, and towards the close of the year the disease made its appearance in the Newcastle General Hospital, where five children were affected. In these latter two outbreaks the Sonne type of Dysentery Bacillus was the causal organism.

It is probable that the disease was introduced into the hospitals from outside, and that the infecting agents were patients who, though admitted with indefinite abdominal symptoms, proved on subsequent investigation to be suffering from dysentery.

The circumstances and history of all cases were carefully investigated with a view to obtaining information as to the probable sources of infection. The age, sex, and mortality incidence of the series of 58 cases are given in the following table :—

Ages.	0-1.	1-2.	2-5.	5-15.	15-25.	25-45.	45 and up-wards.	Total.
Males.....	3 (2)	7 (1)	10 (2)	13	1	2	...	36
Females	...	5 (2)	7	8	1	...	1	22
Total	3 (2)	12 (3)	17 (2)	21	2	2	1	58 (7)

The figures in parentheses indicate fatal cases.

The distribution of these organisms among the cases is as follows :—

	FLEXNER.						Sonne Bacillus.	Totals.
	V.	W.	X.	Y.	Z.	Atypical.		
Total No. of Cases	...	14	8	...	2	5	29	58
Fatal Cases.....	...	3	...	...	1	...	3	7
Non-Fatal Cases	...	11	8	...	1	5	26	51

CITY HOSPITALS FOR INFECTIOUS DISEASES.

Report of the Resident Medical Officer.

Accommodation.

NAMES AND SITUATION OF HOSPITALS.	TOTAL AVAILABLE BEDS.
City Hospital for Infectious Diseases, Walker Gate—	
Fever Pavilions..... Beds. 232	
(One of 30 beds temporarily appropriated for Tuberculosis)	
Tuberculosis Pavilions 106	
	338
Smallpox and Isolation Hospitals, Town Moor	172

City Hospital, Walker Gate.

YEAR.	Population of the City.	Number of Beds at Hospital for Fever Cases.	Total Admissions (exclusive of Phthisis and Smallpox).	Percentage of Scarlet Fever, Diphtheria and Enteric Fever Cases Admitted to Cases Notified.
1890	182,866	104	219	21.3
1900	213,039	104	290	38.6
1909	263,064	172	1,090	78.0
1910	265,077	172	912	83.0
1911	267,261	172	1,110	83.1
1912	269,193	172	1,542	86.4
1913	271,295	172	1,286	88.3
1914	271,523	172	1,835	78.9
1915	278,107	232	1,886	90.5
1916	278,107	232	1,380	87.0
1917	278,107	232	1,303	87.5
1918	278,107	232	1,245	87.5
1919	275,099	232	1,370	84.3
1920	286,061	232	1,710	86.4
1921	278,400	232	1,683	82.4
1922	281,600	232	1,032	86.3
1923	283,800	232	991	92.6
1924	285,900	232	1,502	90.5
1925	286,300	*232	1,711	86.4
1926	284,700	*232	1,397	89.1
1927	288,500	*232	1,493	89.7
1928	281,500	*232	1,294	92.9
1929	283,400	*232	1,713	89.1
1930	283,400	*232	1,649	96.4
1931	283,600	*232	2,347	95.6
1932	285,100	*232	2,143	96.4

* 30 of these beds temporarily appropriated for Tuberculosis patients.

**CITY HOSPITAL FOR INFECTIOUS DISEASES,
WALKER GATE.**

106A

Diseases Admitted—1932.

PROVED TO BE:—

SENT IN AS	Number.	Scarlet Fever.	Diphtheria.	Diphtheria Carriers.	Enteric Group Fevers.	Dysentery.	Measles.	Rubella.	Varicella.	Mumps.	Anthrax.	Pertussis.	Epidemic Cerebro-Spinal Meningitis.	Other forms of Meningitis.	Poliomyelitis.	Encephalitis Lethargica.	Pneumonia.	Bronchitis.	Influenza.	Other Respiratory Diseases.	Erysipelas.	Skin and Septic Conditions.	Puerperal Pyrexia.	Tonsillitis.	Other Gastro-Intestinal Diseases.	Ophthalmia Neonatorum.	General Diseases.	Injuries.	Unclassified.
Scarlet Fever	1182	1106	...	...	...	...	7	3	4	...	...	...	1	...	...	...	1	4	1	...	...	29	...	19	...	...	...	...	7
Diphtheria	187	9	129	5	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	2	1	...	...	36	...	...	1	...	1
Diphtheria Carriers.....	26	...	4	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Enteric Group Fevers.....	44	...	...	29	...	...	...	...	...	...	...	...	1	...	...	...	4	...	3	...	...	...	...	...	4	...	...	3	
Dysentery.....	80	...	...	...	2	44	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	26	...	2	...	3
Measles.....	54	...	...	...	...	...	51	...	...	...	...	...	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	
Rubella.....	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Varicella	9	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	
Mumps	4	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Anthrax.....	3	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	
Pertussis	24	...	...	...	...	...	...	...	...	...	...	23	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	
Epidemic Cerebro-Spinal Meningitis.....	76	...	...	...	...	...	...	...	...	...	...	1	66	3	...	...	2	...	1	...	...	...	...	...	1	...	1	...	1
Other forms of Meningitis	27	...	...	...	...	...	...	...	...	...	...	...	7	6	1	...	5	...	2	...	...	...	...	...	2	...	3	...	1
Poliomyelitis.....	2	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	
Encephalitis Lethargica...	3	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	
Pneumonia	189	2	1	...	1	...	1	...	...	...	...	2	1	...	...	...	156	10	1	10	...	...	...	...	...	...	2	...	2
Bronchitis.....	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	
Influenza	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17	...	...	...	...	...	...	...	...	...	
Other Respiratory Diseases	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	
Erysipelas.....	108	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	99	9	...	...	...	...	...	...	
Skin and Septic Conditions	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22	...	...	...	...	...	...	
Puerperal Pyrexia	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	
Tonsillitis	32	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31	...	...	...	...	
Other Gastro-Intestinal Diseases	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	
Ophthalmia Neonatorum..	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	
General Diseases.....	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	
Injuries	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	
Unclassified	20	...	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	16	
TOTALS.....	2143	1120	134	27	33	45	61	3	10	3	2	27	78	10	2	...	174	15	25	14	100	66	4	86	41	1	19	7	36

CITY HOSPITAL, WALKER GATE.
(Fever Pavilions).

Admissions during the year—2,143.

The *average daily number* of patients in the hospital was 177, exclusive of 123 cases of Phthisis.

RATE PER CENT. OF CASES REMOVED TO HOSPITAL TO CASES NOTIFIED.

	1890	1895	1900	1905	1910	1915	1920	1925	1926	1927	1928	1929	1930	1931	1932
Scarlet Fever	18.4	33.0	35.0	50.1	84.5	91.3	85.7	85.0	86.6	88.6	91.9	94.7	95.9	95.2	96.3
Diphtheria	8.3	28.7	40.0	36.8	80.1	89.1	89.1	94.1	93.3	95.2	94.6	96.5	97.5	99.1	96.3
Enteric Fever.....	38.9	48.0	54.5	52.0	90.5	87.0	90.0	96.4	90.9	78.9	95.5	94.7	97.6	92.3	100.0
All cases of the above, together with Con- tinued and Typhus Fever and Cerebro- Spinal Fever, etc.	21.3	34.6	38.6	47.8	83.0	90.5	86.4	86.0	87.2	89.7	91.8	93.8	96.1	95.6	96.3

Diseases and Mortality Rates.

MORTALITY OF CASES TREATED IN HOSPITAL AS COMPARED WITH CASES
NOT REMOVED DURING 1932.

DISEASE.	HOSPITAL.			NOT REMOVED.		
	Total Cases. (Verified)	Deaths.	Case Mortality per cent.	Total Cases.	Deaths.	Case Mortality per cent.
Scarlet Fever...	1,120	9	0.8	43	1	2.3
Diphtheria.....	162	5	3.1	3*	...	...
Enteric Group of Fevers	33	4	12.1	...	...	...

* Does not include two cases which died in the Newcastle General Hospital (1)
and Fleming Memorial Hospital (1).

Present Death Rates compared with those of Previous Years.

RETURN SHOWING THE NUMBER OF CASES OF
SCARLET FEVER, DIPHTHERIA AND ENTERIC FEVER ADMITTED TO HOSPITAL
AND MORTALITY RATES PER CENT.
1891-1900.

YEARS.	NUMBER OF CASES ADMITTED TO HOSPITAL.			NUMBER OF DEATHS.			CASE MORTALITY PER CENT.		
	Scarlet Fever.	Diph- theria.	Enteric Fever.	Scarlet Fever.	Diph- theria.	Enteric Fever.	Scarlet Fever.	Diph- theria.	Enteric Fever.
1891-1895 ...	1,105	92	277	34	26	51	3.1	28.3	18.4
1896-1900 ...	1,087	103	442	41	21	86	3.8	20.6	19.5
1915-1929.									
1915-1919 ...	3,402	998	194	99	89	21	2.9	9.0	10.8
1920-1924 ...	3,919	1,037	78	37	73	9	0.9	7.5	11.6
1925-1929 ...	3,612	908	123	43	62	23	1.2	6.8	18.7
1930-1932.									
1930.....	584	158	66	4	4	2	0.69	2.5	3.0
1931.....	989	94	21	5	5	2	0.5	5.3	9.5
1932.....	1,120	162	33	9	5	4	0.8	3.1	12.1

Admissions and Deaths, 1932.

DISEASE.	ADMISSIONS.												DEATHS.														
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTALS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTALS.	
Scarlet Fever	103	85	95	85	71	64	56	65	107	123	111	155	1120	1	...	...	1	...	...	...	...	1	3	...	3	9	
Diphtheria	16	14	14	11	14	5	11	12	7	12	7	11	134	1	...	...	1	...	...	...	1	...	1	...	1	5	
Diphtheria Carriers.....	1	2	7	1	6	1	...	2	2	2	1	2	27	...	...	...	...	...	...	...	...	...	...	...	...	...	
Enteric Group Fevers.....	1	2	1	...	...	3	...	7	13	4	...	2	33	...	1	...	...	...	...	...	...	3	...	...	...	4	
Dysentery.....	3	8	8	3	1	2	2	5	2	3	3	5	45	1	...	...	...	...	1	2	3	1	2	...	2	6	
Measles	2	3	3	2	6	8	14	10	5	1	2	5	61	1	...	...	...	1	1	2	3	...	...	2	10		
Rubella.....	...	...	1	...	...	2	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	
Varicella	1	...	2	1	...	...	3	1	...	...	2	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mumps	...	...	...	1	...	...	...	...	...	...	1	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	
Anthrax.....	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	1	1	1	...	...	...	...	...	...	
Pertussis	5	6	2	4	1	2	1	3	1	...	1	1	27	2	3	...	...	1	1	1	...	...	...	1	9		
Epidemic Cerebro-Spinal Meningitis.....	8	5	9	11	12	7	5	4	3	4	3	7	78	4	2	3	2	4	2	1	2	2	2	...	5	29	
Other forms of Meningitis..	1	1	1	1	1	1	...	2	...	...	1	1	10	...	1	1	...	1	1	...	1	...	1	1	7		
Poliomyelitis.....	1	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...	...	1	1	...	...	...	...	3	25		
Pneumonia	17	6	16	25	17	12	12	7	7	7	17	31	174	7	1	3	3	1	1	1	...	1	1	3	4	...	
Bronchitis.....	...	2	1	...	3	2	1	...	1	...	4	1	15	...	...	...	...	...	...	...	...	...	...	...	...	...	
Influenza	2	2	3	3	...	3	2	...	1	2	1	6	25	...	...	...	...	...	...	...	...	...	...	...	...	...	
Other Respiratory Diseases	1	1	1	1	...	2	1	1	1	1	1	3	14	...	...	...	...	...	...	...	...	...	...	1	1	...	
Erysipelas.....	11	12	11	14	8	4	6	7	4	7	10	6	100	1	...	3	1	1	...	1	...	1	1	2	1	11	
Skin and Septic Conditions	6	5	9	4	1	4	7	4	7	3	13	3	66	...	...	...	1	...	...	...	1	1	...	...	2	...	
Puerperal Pyrexia	...	1	1	1	...	...	...	...	...	...	...	1	4	...	...	...	1	...	...	...	...	...	...	...	1	1	
Tonsillitis	8	8	6	4	7	4	11	11	7	9	7	4	86	...	...	...	...	...	...	1	...	...	...	...	1	...	
Other Gastro-Intestinal Diseases	5	3	2	4	1	3	1	5	7	4	6	...	41	...	...	...	...	...	...	...	1	...	...	...	1	...	
Ophthalmia Neonatorum ..	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	
General Diseases	...	2	2	1	...	3	3	3	2	3	...	...	19	...	...	...	...	...	...	...	...	1	...	...	...	1	...
Injuries.....	1	1	2	...	1	...	...	1	1	1	...	...	7	...	...	...	...	...	...	...	...	...	...	1	...	...	
Unclassified.....	...	2	2	2	1	3	1	3	12	1	4	5	36	...	...	...	...	...	...	...	...	...	...	...	...	1	...
TOTALS	193	171	199	180	151	135	137	153	190	187	195	252	2143	18	8	10	9	9	6	6	10	10	11	7	19	123	

Length of Stay in Hospital of Early Fatal Cases.—The following cases died within a short period after their admission to Hospital :—

	<i>Within 24 hours.</i>	<i>Within 48 hours.</i>
Scarlet Fever	1	3
Diphtheria	1	...
Dysentery	2	...
Measles	1	2
Pertussis.....	2	1
Epidemic Cerebro-Spinal Meningitis.....	3	1
Tuberculous Meningitis	1	1
Pneumococcal Meningitis	1	...
Pneumonia.....	6	1
Erysipelas	...	1
Anæmia Gravis	1	...
Cancer	1	...
Total.....	20	10

Average Stay in Hospital during the last Twenty-five Years.

YEARS.	All Cases.		Scarlet Fever.		Diphtheria (including carriers).		Enteric Fever.		Other Diseases.	
	Average.	No.	Average Stay in Days.	No.	Average Stay in Days.	No.	Average Stay in Days.	No.	Average Stay in Days.	No.
1908-12...	1,054	46.7	599	51.7	326	41.3	68	46.3	61	29.6
1913-17...	1,538	39.6	929	45.6	220	39.9	70	47.4	318	20.6
1918-22...	1,408	31.2	758	37.1	215	43.2	15	46.6	420	16.8
1923-27...	1,419	31.9	751	35.2	185	44.3	21	54.0	462	21.1
1928	1,294	22.5	452	29.3	205	33.6	25	44.5	612	12.9
1929	1,713	21.7	543	29.7	247	29.6	38	42.2	885	13.6
1930	1,649	23.9	584	32.5	194	34.7	66	44.3	805	13.5
1931	2,347	27.3	989	36.5	113	46.3	21	50.2	1224	17.8
1932	2,143	30.3	1120	35.2	162	57.5	33	47.0	828	17.7

DIPHTHERIA.

134 cases were admitted to hospital. 88 of these were simple faucial or tonsillar cases, and in nine others the infection was limited to the nose. All of these recovered. In a group of 25 faucio-pharyngeal cases, with varying degrees of nasal involvement, there were three deaths—equivalent to a case mortality of 12 per cent.

There were twelve cases of laryngeal or tracheal diphtheria of whom two, or 16.6 per cent., died. In three of these cases the obstruction was so considerable as to require tracheotomy shortly after admission to the City Hospital. One of these cases recovered and the other two died.

The case mortality of the whole series of 134 cases was 3.73 per cent., an improvement on last year's figure of 5.3 per cent., but higher than that for 1930, which was the lowest on record. There was again a comparatively high mortality among the faucio-pharyngeal cases with nasal involvement.

In thirteen cases, where virulent organisms persistently remained in the throat after recovery from the disease, tonsillectomy was performed. In every case this procedure rendered the patient free from infection after a short period.

SCARLET FEVER.

During the year 1932, 1,120 cases of scarlet fever were admitted to Walker Gate, as against 989 in 1931. This figure is the largest number of scarlet fever admissions for any year since 1915.

The prevailing type of scarlet fever remained mild, and the mortality rate was slightly higher than for the previous year—0.8 per cent., instead of 0.5 per cent. The complication attack rate was practically the same namely, 40.0 per cent., as contrasted with 40.4 per cent.

Scarlet fever antitoxin has been used to a somewhat less extent than in previous years. The numbers and relative proportions of patients receiving this form of treatment for the period 1926-1932, are as follows :—

	1926	1927	1928	1929	1930	1931	1932
Scarlet Fever Cases admitted.....	831	741	452	543	584	989	1120
Number treated with Antitoxin.....	78	172	177	169	249	483	380
Percentage treated with Antitoxin...	9.5	20.3	39.2	31.1	42.6	48.8	33.9

Scarlet fever antitoxin has now been in use for about seven years, and opinions as to its value and its limitations are becoming more definite.

It seems clear that while it is very efficacious in the treatment of severe cases showing signs of toxæmia, and of considerable value in true "toxic" cases, its power to prevent the onset of complications is negligible, and furthermore, it is of little value in the treatment of these complications or the septic sequelæ of scarlet fever.

The general consensus of opinion seems to be that it should be reserved for the treatment of the more severe cases, and that its routine use in mild cases of scarlet fever is not advisable.

In the following table is summarised the statistical information regarding all cases of scarlet fever treated during the year under review :—

SCARLET FEVER.	Num-ber.	Per-centage treated with Anti-toxin.	Per-centage with Compli-cations.	Mor-tality Rate.	Return Case Rate.	Average stay in Days in Hospital.		
						All Cases.	Com-plicated Cases.	Non-compli-cated Cases.
All Cases ...	1,120	33.9	40.0	0.8%	5.0%	35.2	45.8	28.1
Antitoxin Cases	380	100	40.2	1.3%	4.0%	37.0	51.3	27.3
Non-Anti-toxin Cases	740	Nil.	39.9	0.54%	5.4%	34.2	42.9	28.4

PERCENTAGE INCIDENCE OF COMPLICATIONS.

	Rhin-orrhœa.	Ot-orrhœa.	Adenitis.	Rheu-matism.	Album-inuria.	Neph-ritis.	Cardiac.	Other Compli-cations.
All Cases...	17.0	9.9	8.5	0.3	2.4	0.5	0.18	1.0
Antitoxin Cases ...	14.7	11.1	9.7	0.5	2.9	0.8	...	0.5
Non-Anti-toxin Cases ...	18.1	9.3	8.0	0.27	2.1	0.4	0.27	1.3

Otorrhœa and Rhinorrhœa.—The work of the Consulting Oto-Rhinologist to the Hospital (Mr. W. Frank Wilson), in the treatment and supervision of scarlet fever cases complicated by otorrhœa or rhinorrhœa has been continued along lines developed in recent years.

The incidence of these complications was high. 301 cases occurred in 1,120 admissions—a complication rate of 26.9 per cent., as contrasted with 18.8 per cent. in the previous year.

The distribution of these cases according to whether or not they were treated with scarlet fever antitoxin, and their respective stay in hospital, are shown in the following table :—

		Number of Cases.	Average stay in Hospital (days).
Non-Antitoxin Cases	Rhinorrhœa	134	40·3
	Otorrhœa	69	56·6
Antitoxin Cases	Rhinorrhœa	56	50·0
	Otorrhœa	42	61·0
	Total	301	48·8

The average stay per patient of cases in this group was 48·8 days, as contrasted with the figure given for 1931, namely, 49·2 days.

In the treatment of these patients it was found necessary to perform forty-five operations—nineteen for the removal of tonsils and adenoids, twenty-five for mastoidectomy, and one for retro-pharyngeal abscess. The operations were all successful, and the patients concerned recovered.

Subsequent Progress.—As in previous years, supervision of all cases of rhinorrhœa and otorrhœa has been maintained after their discharge from hospital, and every one of the 301 cases of this type has been visited at varying intervals. The result of these visits showed that amongst 290 cases of rhinorrhœa, four or 1·4 per cent., still had slight nasal discharge, whilst three, or 2·7 per cent., of the cases of otorrhœa had slight persisting deafness or discharge from the ear.

All the cases in which the nasal or aural discharge has persisted have been kept under observation by Mr. Wilson at the Out-Patient Department of the Royal Victoria Infirmary.

“ Return ” Cases.—The following are details of the “ return ” cases of scarlet fever during the year :—

SCARLET FEVER.	“ Infecting ” Cases.		“ Return ” Cases.		“ Infecting ” Cases.
Total Admissions.	No.	Per-centage.	No.	Per-centage.	Average Day of Disease when Discharged.
1,120	49	4·4	56	5·0	35

SEASONAL OCCURRENCE.

QUARTER.	Total Scarlet Fever Admissions.	" Infecting " Cases.		" Return " Cases.	
		No.	Percentage.	No.	Percentage.
January to March.....	283	14	4.9	16	5.6
April to June.....	220	6	2.7	8	3.6
July to September.....	228	3	1.3	3	1.3
October to December.....	389	26	6.6	29	7.4

Of the 49 " infecting " cases (a) 23 had no complications or discharges whilst in hospital, and remained " clean " after reaching home, (b) 10 had no complications whilst in hospital, but developed discharges after reaching home, while (c) 16 had complications whilst in hospital, but were " clean " on discharge.

Of these classes, the average day of disease on discharge from hospital of the supposed infecting cases, and the period elapsing after that discharge and the onset of illness in the " return " cases, were as follows :—

Class (a)—30 and 9 days.
 Class (b)—29 „ 12 „
 Class (c)—47 „ 10 „

" RETURN " CASES FOR YEARS 1906-1932.

YEARS.	Total Scarlet Fever Admitted.	" Infecting " Cases.		" Return " Cases.	
		No.	Percentage.	No.	Percentage.
1906-10 ...	2,203	63	2.8	82	3.7
1911-15 ...	5,185	217	4.2	251	4.8
1916-20 ...	3,202	104	3.2	112	3.5
1921-25 ...	3,850	93	2.4	105	2.7
1926.....	831	31	3.7	33	3.9
1927.....	750	25	3.3	26	3.5
1928.....	452	7	1.5	6	1.3
1929.....	543	31	5.7	29	5.3
1930.....	584	17	2.9	16	2.7
1931.....	989	37	3.7	39	3.9
1932.....	1,120	49	4.4	56	5.0

ERYSIPELAS.

Of recent years erysipelas has shown a tendency to become one of the commoner and severer infectious diseases prevailing in the City. Its incidence and mortality approximate roughly to

those of diphtheria, with the notable exception that while the latter is a disease of children and young people, erysipelas principally attacks the middle-aged and elderly.

In the following table the number of notifications of erysipelas, the deaths caused by the disease, and the case mortality rate are detailed for the years 1926-1932. In addition, similar information is given for such of these cases as were admitted to the City Hospital, together with the duration of their stay in hospital.

YEAR.	Total Notifica- tions.	Deaths.	Mor- tality Rate. per cent.	CITY HOSPITAL.			
				Admis- sions.	Deaths.	Mor- tality Rate. per cent.	Dura- tion of stay in Hospital Days.
1932	205	13	6.4	100	11	11.0	14.6
1931	218	11	5.0	91	4	4.4	14.0
1930	208	12	5.8	107	11	10.3	11.3
1929	220	11	5.0	85	8	9.4	13.0
1928	234	19	8.1	49	6	12.2	12.6
1927	212	12	5.7	51	2	3.9	14.5
1926	172	5	2.9	31	2	6.5	25.6

The mortality rate is comparatively high. In 1932 this was 11 per cent. for all cases of erysipelas treated in hospital—as contrasted with 4.4 per cent. in 1931 and 10.3 per cent. in 1930. Of the 100 cases admitted to hospital, 61 were given antitoxin, of whom 11, or 18 per cent., died. Among the 39 non-antitoxin cases there were no deaths.

Mixed Infections.

30 patients, or 1.3 per cent. of those sent into hospital were found, on or shortly after admission, to be suffering from or incubating two or more distinct infectious diseases, as follows :—

Scarlet Fever with Diphtheria	9
Scarlet Fever with Measles and Varicella	1
Scarlet Fever with Measles	6
Scarlet Fever with Varicella	6
Scarlet Fever with Pertussis	2
Diphtheria with Pertussis	3
Pneumonia with Varicella	1
Dysentery with Varicella	1
Dysentery with Pertussis	1
Total	30

Cross Infections.

During the year 26 patients, or 1.2 per cent. of the total admissions contracted a second infection in the wards of the hospital. The details are as follows, the primary infection being stated first :—

Scarlet Fever with Dysentery.....	1
Scarlet Fever with Measles	9
Scarlet Fever with Varicella	4
Diphtheria with Scarlet Fever	5
Diphtheria with Morbilli	1
Meningitis with Varicella	1
Pertussis with Scarlet Fever	1
Paratyphoid B. Fever with Dysentery.....	1
Paratyphoid B. Fever with Measles.....	2
Pneumonia with Measles	1
	—
Total	26
	—

It is gratifying to know that every one of the " cross infected " patients made a satisfactory recovery.

Staff Sickness.

The incidence of sickness amongst members of the nursing and domestic staffs was very high during 1932, as can be seen from the following figures :—

Nursing Staff.—95 of the nursing staff were off duty owing to sickness for a total of 2,123 days. 24 suffered from tonsilitis, 1 from scarlet fever, 16 from influenza, 15 from skin disorders or septic conditions, and one developed rheumatic fever. One who had previously been treated for pulmonary tuberculosis at Barrasford, had a relapse, and was re-admitted to the Sanatorium for a further period of treatment.

Domestic Staff.—85 were off duty through sickness, for a total of 1,207 days. 12 suffered from influenza, 9 from skin disorders or septic conditions, and 4 from tonsilitis.

This amount of sickness was probably attributable to the large number of patients in hospital, which in its turn necessitated an increase in the staff, and consequent over-crowding of the sleeping accommodation of the personnel. The additional accommodation

now being provided by the extension of the Nurses' Home should materially improve the conditions under which both nursing and domestic staffs are housed.

During the year the practice of immunising the staff against scarlet fever, diphtheria, and the enteric group of fevers has been carried out as previously. One nurse contracted scarlet fever, but she was an instance of one of the rare cases where repeated courses of inoculation had failed to render her immune to scarlet fever. Her infection was not acquired on a scarlet fever ward. No case of diphtheria or enteric fever occurred among the nursing or domestic staffs.

The practice, started in 1930, of subjecting all nurses and members of the domestic staff to an intradermal tuberculin test to determine their susceptibility to tuberculosis, has been continued in the past year. In addition, an X-Ray photograph of the chest of each individual is taken and filed. Should any condition at all suspicious of tuberculosis be discovered, the affected person is not employed on the Sanatorium.

SMALLPOX AND ISOLATION HOSPITALS, TOWN MOOR.

Owing to the disappearance of smallpox from the neighbourhood of Newcastle upon Tyne, it was not found necessary to bring the wards of the Smallpox Hospital into use for that disease at any time throughout the year.

The wards of both Hospitals, however, were utilised occasionally for the accommodation of convalescent scarlet fever and other cases from Walker Gate.

E. F. DAWSON-WALKER, M.D.,
Senior Resident Medical Officer.

*City Hospital for Infectious Diseases,
Newcastle upon Tyne,*

June, 1933.

DISINFECTION, Etc.

6,712 cases of notifiable infectious disease were inquired into by the Infectious Disease Inspectors and Health Visitors, and, with the exception of measles and chickenpox, the houses or rooms connected therewith disinfected by spraying with formalin. In connection with cases of tuberculosis, 743 houses, including 854 rooms, were similarly disinfected. 1,404 visits were made, and disinfection was also carried out in 848 special cases.

INFECTED ARTICLES TREATED IN THE DISINFECTING APPARATUS AT THE
CITY HOSPITAL FOR INFECTIOUS DISEASES, WALKER GATE.

ARTICLES FROM CITY.		ARTICLES—HOSPITAL PROPERTY.	
1932	1931	1932	1931
23,247	23,283	15,514	15,628

1,254 articles were also disinfected at the Smallpox Hospital.

The staff have thus dealt with 40,015 articles during the year.

Fluid disinfectant, in half-pint tins, was given out free on the order of the special inspectors, for home use in connection with infectious disease. Every precaution was taken to ensure that the disinfectant was properly and economically used.

DISINFECTANTS DISTRIBUTED—1932.

FROM	FOR INFECTIOUS DISEASES.	FOR PHTHISIS.
	FLUID ($\frac{1}{2}$ pint tins.)	FLUID ($\frac{1}{2}$ pints.)
Health Department	41	...
Tuberculosis Dispensary	...	640
Corporation Yard, Benwell	15	...
TOTAL	56	640

BACTERIOLOGICAL INVESTIGATIONS, 1932.

The following is a report on the bacteriological examinations carried out on behalf of the Health Department of the Newcastle Corporation, at the Public Health Laboratory (University of Durham College of Medicine), Armstrong College.

A total of 6,943 specimens were submitted for examination. The nature of the investigations and the results obtained are given under the various sections as follows :—

BACTERIOLOGICAL EXAMINATIONS :—

	DIPHThERIA.			PHThISIS.			SWABS FOR HAEMOLYTIC STREPTOCOCCI.		
	Total.	Posi- tive.	Nega- tive.	Total.	Posi- tive.	Nega- tive.	Total.	Posi- tive.	Nega- tive.
No. of Exam- inations ...	1,515	139	1,376	651	90	561	2	2	...
Percentage positive ...	...	9.2	...	...	13.8	...	...	100	...

AGGLUTINATION REACTIONS :—

	Agglutination Tests for the Enteric Fevers.			Agglutination Tests against Brucella Abortus and Brucella Melitensis.		
	Total.	Positive.	Negative.	Total.	Positive.	Negative.
No. of Exam- inations ...	178	*51	127	7	...	7

* Of these positive results :—

21 agglutinated *B. typhosus*,
4 " *B. paratyphosus* A.
26 " *B. paratyphosus* B.

MILK EXAMINATIONS :—

1. For tubercle bacilli by animal inoculation :—

Total.	Found.	Not found.	Percentage positive.
392	7	385	1.8

2. Bacterial content of organisms other than the tubercle bacillus (the colon bacillus being taken as the indicator) :—

Colon bacilli not found in 1.0 cc.	or less.....	45
" " found in 1.0 cc.,	but not in less	59
" " " in 0.1 cc.	" 	28
" " " in 0.01 cc.	" 	17
" " " in 0.001 cc.	" 	15
" " " in 0.0001 cc.	" 	8
" " " in 0.00001 cc.	" 	6
		178

In addition to the colon bacillus indicator as mentioned above, a total estimation of the number of organisms present was carried out on all the samples submitted during the year.

3. 226 samples of "Graded Milk" were examined during the year in accordance with the scheme of the Ministry of Health under the Milk and Dairies (Amendment) Act, 1922, and Milk (Special Designations) Order, 1923.

The following results were obtained :—

	Satisfied the Test.	Failed to satisfy the Test.
"Certified" Milk	50	4
"Grade A" Milk (T.T.)	138	22
Pasteurised Milk.....	9	3
	<u>197</u>	<u>29</u>

WATER EXAMINATIONS :—

(i) Routine Samples.

Class I. (Colon bacilli not found in 100 cc. or less)	164
Class II. (" " found in 100 cc. but not in less)	15
Class III. (" " found in 10 cc. but not in less)	15
Class IV. (" " found in 1 cc. but not in less)	2
	<u>196</u>

(ii) During the period April to October, 26 samples of water were examined from the several Corporation Swimming Baths in the City, and the following is a summary of the results obtained :—

Colon bacilli not found in 100 cc. or less.....	20
" " found in 100 cc., but not in less	6
" " found in 10 cc., but not in less.....	...
" " found in 1 cc., but not in less	...
	<u>26</u>

(iii) In addition of the above, the undermentioned samples of water were examined and detailed results were furnished at the time :—

From various sources at Barrasford Sanatorium.....	21
--	----

VENEREAL DISEASES :—

	Serological reactions.	Microscopical examinations.	Total.
From Treatment Centre.....	1,238	...	1,238
From Private Practitioners	1,308	129	1,437
TOTAL	2,546	129	2,675

OTHER EXAMINATIONS :—

(a) **Diphtheria.**—In addition to the daily examinations, virulence tests for suspected diphtheria bacilli from throat and nasal cultures were carried out in 75 cases :—

32 cases proved virulent,
38 cases proved non-virulent, and in
5 cases no diphtheria bacilli were isolated.

(b) **Enteric Fevers.**—The following specimens of faeces were received and examined for organisms of the enteric group :—

From the City Infectious Diseases Hospital.....	211 specimens.
From the Newcastle General Hospital	14 „
From the Fleming Memorial Hospital (by special arrangement)	32 „
	—
	257 „
	—

In this total of 257 specimens,

93 were positive, and
164 were negative.

Typhoid bacilli "H" being isolated.....	13 times.
Typhoid bacilli "O" being isolated.....	6 „
B. paratyphoid B. being isolated	74 „
including non-gas producing B. paratyphoid B.	7 „

Other organisms isolated were :—

B. Morgan No. 1	50 „
B. pyocyaneus.....	2 „
B. paracolon	38 „
B. proteus	1 „
Late lactose fermenting bacilli	18 „
Other non-lactose fermenting bacilli	4 „

The following specimens of urine were received and examined for organisms of the enteric group :—

From the City Infectious Diseases Hospital..... 8 specimens.

Of these specimens 2 gave "no growth," the remainder being negative.

B. Morgan No. 1 and B. proteus were also isolated from two specimens.

(c) **Bacillary Dysentery.**—Examination of faeces for dysentery bacilli from suspected cases has been continued throughout the year, and as previously done, one specimen was submitted after the patient was convalescent to determine freedom from infection before discharge from hospital.

The following results were obtained :—

	From City Infectious Diseases Hospital.	From City Health Depart- ment.	From New- castle General Hospital.	Total Speci- mens.
Total	185	20	50	255
Positive	65	4	9	78
Negative.....	120	16	41	177
Flexner bacillus	35	...	2	37
Sonne bacillus.....	30	4	7	41
Newcastle Dysentery bacillus	...	...	...	...
	65	4	9	78

The following is a list of the types of Flexner bacilli obtained :

	V.	W.	X.	Y.	Z.	Atypical Dysentery Bacillus.	Not typed.	Total.
<i>From—</i>								
City Infectious Diseases Hospital	...	15	10	1	3	4	2	35
Newcastle General Hospital	...	2	...	...	...	...	...	2
Total	...	17	10	1	3	4	2	37

Other organisms isolated were :—

B. Morgan No. 1	13 times.
B. paracolon	30 "
Late lactose fermenting bacilli	14 "
Other non-lactose fermenting bacilli.....	7 "

(d) **Food Poisoning** :—

From one specimen of faeces received from the City Hospital during the month of August, an organism of the Salmonella group was isolated and this proved to be *B. Aertrycke* (Mutton).

(e) **Cerebro-Spinal Meningitis** :—

48 specimens of cerebro-spinal fluid were examined during the year, and the following results were obtained :—

- 8 were positive meningococcal,
 - 4 were positive tubercle,
 - 1 was positive pneumococcal,
 - 1 was positive typhoid and staphylococcal.
 - 9 were negative, and
 - 25 were inconclusive.
- One post-nasal swab was examined and found negative.

(f) B. Anthracis :—

Specimens were submitted from two suspected cases of anthrax. The result of these examinations were :—

- (i) negative.
- (ii) positive (microscopically).

(g) Miscellaneous :—

The following specimens were also received and reports furnished :—

- 8. cultural examinations of blood.
- 11 specimens of sera for B. dysenteriae group.
- 1 specimen of serum against Weil Felix and Salmonella group.
- 1 specimen of serum against patient's own organism.
- 1 specimen of sputum for inoculation experiment.
- 1 specimen of pleural fluid for inoculation experiment.
- 1 specimen of pleural fluid for cultural examination.
- 1 specimen of urine for cultural examination.
- 1 section for organisms in tonsils.
- 1 autogenous vaccine prepared.

The following organs from post-mortems were also examined and reports furnished :—

- (a) throat.
- (b) intestines.

(h) Newcastle General Hospital :—

A number of bacteriological examinations for the above-named hospital have again been carried out in this laboratory during the year 1932, and the following is a summary of the various specimens received :—

The numbers and results of the faeces examinations (enteric-dysentery group) are given under the respective diseases.

Nature of Investigation.	No. of Specimens. 1932.
Abdominal fluid.....	2
Autogenous vaccines	4
Blood Cultures for organisms.....	18
Catgut for sterility.....	2
Cerebro-Spinal fluids	43
Faeces for tubercle bacilli	8
Faeces for worms	1
Pleural fluids.....	44
Post-mortem specimens	3
Pus from various sources	26
Swabs from various sources	1
Urine for organisms.....	48
Total	200

The following table gives a complete summary of the various examinations, including the year 1931, for comparison :—

Nature of Investigation.	1931.	1932.
Throat swabs for B. Diphtheria	1,309	1,515
Sputa for Tubercle Bacilli.....	804	651
Swabs for Hæmolytic Streptococci.....	16	2
Agglutination tests :—		
Against the Enteric Fevers	95	178
Against Brucella Abortus	12	7
Against B. Aertrycke.....	11	...
Milk Examinations :—		
For the Tubercle Bacillus.....	376	392
For Bacillus Coli and Count.....	188	178
Graded Milk	225	226
Special Examinations	12	...
Water Examinations :—		
For Bacillus Coli.....	188	196
For complete Examination.....	30	47
Other Examinations	28	...
Shell Fish	4	...
Venereal Diseases	2,676	2,675
Other Examinations :—		
(a) Diphtheria Virulence Tests.....	37	75
(b) Enteric Fevers—Fæces	120	257
Urine	5	8
(c) Bacillary Dysentery	331	255
(d) Food-poisoning—Fæces	30	1
(e) Cerebro-Spinal Meningitis—		
C.S. fluid	44	48
Post-nasal swabs	28	1
(f) B. Anthracis	1	2
(g) Miscellaneous	15	29
(h) Newcastle General Hospital	175	200
Total	6,761	6,943

(Signed) S. H. WARREN, M.R.C.S. (Eng.), D.P.H. (Lond.).

Director, Public Health Laboratory.

University of Durham College of Medicine,

Newcastle upon Tyne,

24th April, 1933.

REPORTS OF THE
TUBERCULOSIS MEDICAL OFFICER
AND
MEDICAL SUPERINTENDENT,
BARRASFORD SANATORIUM.

IV.—TUBERCULOSIS.

TUBERCULOSIS DISPENSARY,
BARRASFORD SANATORIUM.

REPORT OF THE
COMMISSIONER OF THE
BUREAU OF
HYGIENE
AND
VENTILATION
OF THE
ARMY
AND
NAVY
DEPARTMENT
WASHINGTON
D. C.

IV. TUBERCULOSIS

TUBERCULOSIS
BUREAU OF
HYGIENE
AND
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OF THE
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WASHINGTON
D. C.

TUBERCULOSIS.

Report of the Tuberculosis Medical Officer.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I, herewith, beg to submit my report on the Tuberculosis Section for the year 1932.

There has been no outstanding event or change in the work of this Section during the year, but the Tuberculosis Dispensary and the various sanatoria and hospitals have all been fully engaged in the work of diagnosis and treatment during the period.

There has been a decline in the total number of notifications. A point of interest with regard to these, is that out of 43 cases that were not notified until after death, 30 died in some hospital or institution. It is probable that in many of these the diagnosis was not completed until the time of death and that this accounts for the delay in their notification.

During the year 2 infectious cases of pulmonary tuberculosis who were handling and dealing with milk for sale to the public, came to my notice. They both voluntarily gave up this occupation on my advice and no action was, therefore, necessary under the Public Health Prevention of Tuberculosis Regulations of 1925.

It was not found necessary to make use of the powers in the Public Health Act of 1925 in order to compel a patient to go into hospital.

As in previous years I wish to acknowledge the assistance of the loyal and interested staff.

Yours faithfully,

GEORGE HURRELL, M.D., D.P.H.,

Tuberculosis Medical Officer.

*Tuberculosis Dispensary,
91, New Bridge Street,
Newcastle upon Tyne, 2.
6th May, 1933.*

REPORT.

Notifications.—684 notifications were received during the year but some were duplicates, so that the total number of new cases was 639, of whom 432 were certified to be suffering from “pulmonary” and 207 from “non-pulmonary” tuberculosis.

The details as regards sex and age are given in the accompanying table.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD, 1ST JANUARY TO
31ST DECEMBER, 1932.

(THE PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1930.)

AGE PERIODS.	Primary Notifications.												Total Notifications (including Cases previously notified by other doctors).
	0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and up- wards.	TOTAL.	
Pulmonary—													
Males.....	...	2	9	12	28	27	45	49	46	17	4	239	255
Females	1	5	10	10	39	43	36	22	15	10	2	193	212
Non-Pulmonary—													
Males.....	3	22	28	18	17	9	10	5	5	...	3	120	125
Females	1	13	19	19	8	9	10	5	1	...	2	87	92
TOTALS	4	42	66	59	92	88	101	81	67	27	11	639	684

As far as possible every notified case is visited by the nurses and urged to visit the Dispensary for examination and classification with a view to treatment.

Of the 639 cases notified, 504 attended the Dispensary and 47 others were visited in their homes by the Health Visitors in the course of the year. The names of the patients certified to have died from tuberculosis, but not previously notified, are entered in the notification register, so that if the 45 patients in this category, and 29 who died within one week of notification, and were not known to the Dispensary, be deducted, it will be seen that the Dispensary gets into touch with nearly all of the known cases of tuberculosis.

With reference to the 14 cases neither examined at the Dispensary nor visited by the nurses, some were living in institutions, or common lodging houses, and others did not wish to be visited.

A table has been prepared to illustrate these points, and also to show the nature of the institutional treatment afforded to the cases notified during 1932. 281 of the 432 patients notified as suffering from pulmonary tuberculosis were treated in beds belonging to, or controlled by the City Council, and 81 out of a total of 207 patients notified as suffering from forms of tuberculosis other than pulmonary were treated in such beds.

The number of patients dying in the year of notification is also given, and it will be seen that 166 (equal to 26 per cent.) of all the new cases died in the same year as they were notified.

NOTIFICATIONS OF TUBERCULOSIS DURING 1932.

Part Affected.	Noti- fications.	Attended Dispensary.	Visited by Nurse but not attended Dispensary.	Received Institutional Treatment.					Died during the Year.
				Barras- ford Sana- torium.	Sanat- Pav. Walker Gate.	Stann- ington Sana- torium.	New- castle Gen. Hosp.	Totals.	
Pulmonary—									
Male	239	203	16	60	92	3	...	155	59
Female.....	193	166	6	30	92	4	...	126	53
Non-Pulmonary—									
Male	120	78	13	...	1	5	50	56	34
Female.....	87	57	12	...	...	...	25	25	20
TOTALS	639	504	47	90	185	12	75	362	166

Cases re-admitted to the Sanatorium Pavilions, Walker Gate, and those transferred to Barrasford Sanatorium during the year, are counted as only receiving treatment on one occasion.

During the year 204 cases (over 32 per cent. of the total) were notified by the Dispensary Medical Staff.

Practitioners were written to by the Medical Officer of Health when notification appeared to have been neglected.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1930.
NUMBER OF CASES OF TUBERCULOSIS REMAINING ON THE NOTIFICATION REGISTER
AT THE END OF YEAR.

Year.	PULMONARY.			NON-PULMONARY.			Total Cases.
	Males.	Females.	Total.	Males.	Females.	Total.	
1925.....	855	608	1,463	340	312	652	2,115
1926.....	744	515	1,259	297	263	560	1,819
1927.....	644	441	1,085	236	204	440	1,525
1928.....	720	443	1,163	294	254	548	1,711
1929.....	744	501	1,245	319	270	589	1,834
1930.....	737	495	1,232	316	264	580	1,812
1931.....	767	501	1,268	298	251	549	1,817
1932.....	801	513	1,314	292	240	532	1,846

Deaths.—405 deaths were registered as due to some form of tuberculosis, and of these 301 were certified as due to pulmonary tuberculosis and 104 to other forms of the disease.

On these figures the death rates per 1,000 population were :—

	Number of Deaths.	Death Rate per 1,000 Population.
Pulmonary Tuberculosis	301	1·06
Non-Pulmonary Tuberculosis	104	0·37
Total Tuberculosis Death Rate (uncorrected).....	405	1·43

It must be noted, however, that 5 residents of Newcastle died in other parts of the United Kingdom from tuberculosis (1 pulmonary, 4 non-pulmonary), while 69 of the deaths (25 pulmonary, 44 non-pulmonary), registered in Newcastle, were those of temporary residents.

The corrected deaths and death rates per 1,000 of the population were :—

	Number of Deaths.	Death Rate per 1,000 Population.
Pulmonary Tuberculosis	277	0·98
Non-Pulmonary	64	0·22
All forms of Tuberculosis (corrected)	341	1·20

86 per cent. of the pulmonary cases were known to the dispensary staff, 215 having visited the dispensary and an additional 23 having been attended in their homes by the visiting nurses.

39 per cent. of the “ non-pulmonary ” were attended at or from the dispensary. This is not so high as the pulmonary cases ; the main reason being that 34 per cent. of the non-pulmonary cases were not notified before death.

Of 277 deaths from pulmonary tuberculosis the diagnosis was verified bacteriologically in 207 instances, *i.e.*, 75 per cent.

3 other dispensary patients who were known to be suffering from pulmonary tuberculosis, and in whose sputum tubercle bacilli had been found, died during the year. The cause of death being registered as : Tuberculosis of Hip, 1 ; Miliary Tuberculosis, 1 ; Influenza and Bronchitis, 1.

Duration of Illness.—Wherever possible, in pulmonary cases, enquiry was made as to the length of time the deceased had been ill, and the average duration of illness was found to be 53 months.

As in previous years, important differences were discovered when age and sex were considered, the figures being 62.9 months for adult males, 41.9 months for adult females, and 26 months for those below 15 years of age (both sexes).

The period between notification and death was, as one would expect, longer in the adult males than in the adult females and children, but averaged 29.6 months for all cases.

28.2 per cent. of the patients had either not been notified prior to death (7.6 per cent.), or died within 3 months of notification (20.6 per cent.).

Further details and comparative figures for previous years are submitted in the following table :—

RETURN OF DEATHS FROM PULMONARY TUBERCULOSIS OCCURRING IN :—

	Deaths which occurred in these years.										
	Average for 1913-17.	Average for 1918-22.	Average for 1923-27.	1928	1929	1930	1931	1932.			
								M.	F.	C.	Total.
Persons not notified	43	51	33	21	23	16	32	9	9	3	21
" notified under 1 mth.	35	47	50	43	40	37	44	18	4	2	24
" between 1 and 3 "	94	48	44	58	49	44	39	17	14	2	33
" between 3 and 6 "	53	30	38	30	39	40	34	18	17	...	35
Total under 6 months ...	226	183	166	152	151	137	149	62	44	7	113
Persons notified between—											
6 and 12 months	47	46	40	28	32	39	40	20	20	2	42
" 12 and 18 " ...	28	21	25	23	15	30	21	10	13	...	23
" 18 and 24 " ...	15	15	17	23	23	9	14	10	7	1	18
" 2 and 3 years.....	20	18	22	17	25	20	27	9	6	1	16
" over 3 years	21	47	53	52	63	63	52	39	25	1	65
TOTALS	357	331	324	295	309	298	303	150	115	12	277

The figures for non-pulmonary forms of tuberculosis were even worse, for in 22 instances out of the 64 deaths, the disease had not been notified prior to death.

The records show that 13 of the 21 fatal unnotified cases of pulmonary tuberculosis, and 17 of the 22 fatal unnotified cases of non-pulmonary tuberculosis, died in hospitals ; included in the 17 " other forms " were 9 cases of tuberculous meningitis.

Occupation.—The nature of the work done and the conditions under which it is carried on have an important bearing on the incidence of disease, and probably account for the excess of adult male over adult female deaths from pulmonary tuberculosis.

156 " insured persons " (112 males and 44 females) are included in the 277 deaths.

Family History.—In 89 instances amongst the 253 cases of pulmonary tuberculosis known to the Dispensary who died during the year, *i.e.*, in 35 per cent., there was a history that some near relation was suffering from, or had died of pulmonary tuberculosis. The figures were 35 per cent. for males, and 35 per cent. for females.

House Accommodation.—The home conditions of the working classes are intimately associated with occupation and family history as predisposing to tuberculosis. The numbers of rooms in the dwellings occupied by the above 253 persons were as follows :

Rooms in Dwelling.	1	2	3	4	More than 4	Common Lodging Houses.	Not Known.	Total.
Deaths	33	68	62	52	30	3	5	253

As regards the type of house occupied 118 were flats, 72 tenements, 55 self-contained, 3 were common lodging houses, and in 5 cases the particulars were not known.

Treatment in Institutions.—It is noteworthy that of the 229 patients suffering from pulmonary tuberculosis who attended the Dispensary and died in 1932, 214, or 93 per cent., had received institutional treatment on one or more occasions. This is a high percentage, and shows what a large proportion of the cases visiting the Dispensary avail themselves of the accommodation provided.

The Tuberculosis Dispensary.

The number of cases who attended the Dispensary for the first time was 1,010. In addition, there were 214 cases who had been discontinued previous to the year 1932, who returned for examination, and are also counted as new cases in accordance with instructions in Memo. 37/T. Revised, making a total of 1,224.

675 of these were sent by general practitioners, 146 were referred to the Dispensary by the Visiting Nurses, 120 by the Newcastle-upon-Tyne Dispensary, 27 by the Royal Victoria Infirmary, 51 by the School Medical Officer, 30 by the Tuberculosis Medical Staff, 66 by the Medical Staff of the Newcastle-upon-Tyne General Hospital, 9 by the Maternity and Child Welfare, 61 came of their own accord, and smaller numbers from other sources.

384 had been notified previously, and the balance, 840, of whom 204 were notified by the Dispensary Medical Staff, were suspects, or contacts of known cases. Of the new cases, 220 had lived with patients known to have tubercle bacilli in their sputum,

40 with patients who had not tubercle bacilli in their sputum, and 61 were home contacts of persons certified to have died of pulmonary tuberculosis. The following table gives the details of the new cases, including contacts :—

NEW CASES EXAMINED, INCLUDING CONTACTS, DURING THE YEAR 1932.
(First Schedule, Sect. A. & B., Memo. 37/T., Revised).

Diagnosis.	Males.		Females.		Totals.
	Over 15 yrs.	Under 15 yrs.	Over 15 yrs.	Under 15 yrs.	
Pulmonary Tuberculosis	178	15	140	12	345
Non-Pulmonary Tuberculosis ...	30	38	25	27	120
Diagnosis not completed.....	42	38	31	40	151
Non-Tuberculous	188	125	187	108	608
TOTALS	438	216	383	187	1,224

In respect of these new patients, at the end of the year it was found that 38 per cent. were suffering from active tuberculosis.

543 were "insured persons," and 587 were dependents of "insured persons," leaving only 94 of the uninsured classes.

Of the 214 cases who had been discontinued previous to the year 1932, and returned for examination, 49 were found to be suffering from tuberculosis. Details of these cases are given in the table which follows :—

CASES DISCONTINUED IN PREVIOUS YEARS, AND RETURNED DURING THE
YEAR 1932. (INCLUDED IN PREVIOUS TABLE.)

Diagnosis.	Males.		Females.		Totals.
	Over 15 yrs.	Under 15 yrs.	Over 15 yrs.	Under 15 yrs.	
Pulmonary Tuberculosis	24	3	15	1	43
Non-Pulmonary Tuberculosis ...	1	2	2	1	6
Diagnosis not completed.....	7	7	7	7	28
Non-Tuberculous	48	24	46	19	137
TOTALS	80	36	70	28	214

The Tuberculosis Medical Officer visited 41 patients in their homes.

2,371 persons visited the Dispensary during the course of the year, and registered 7,306 attendances, an average of over 3 per patient.

The total number of complete physical examinations made was 2,021, including 826 males, out of 3,033 attendances ; 639 females, out of 2,165 attendances ; and 556 children, out of 2,108 attendances.

In 33.5 per cent. of the cases attending the Dispensary tubercle bacilli were found in the sputum ; 48.7 per cent. of the males, 40.3 per cent. of the females, and only 3.6 per cent. of those under 15 years of age. The details are tabulated below :—

	Number of Patients and Cases who attended the Dispensary during the Year 1932.			
	Total.	Males.	Females.	Under 15 years of age.
"Sputum Positive Cases"...	795	473	298	24
"Negative Cases"	1,576	498	442	636
TOTALS.....	2,371	971	740	660

Sputum Positive Patients.—The number of living sputum positive patients on the Dispensary Register on January 1st, 1932, was 709 ; during the year 202 of these died, and 35 patients were written off the Dispensary Register (13 cured, 22 left the district).

The total at the end of the year was 723, consisting of 454 males, 248 females and 21 children. 623 of these patients visited the Dispensary during the year. Of the 100 who failed to attend, 71 were reported by the nurses to be working or fit for work ; 20 were moderately well, while 9 had relapsed, and were mostly confined to bed ; 83 of those who did not attend had been treated at Barrasford Sanatorium, or the Sanatorium Pavilions, Walker Gate. It should be noted that 44 of those who failed to attend were "disease arrested" and are, therefore, not expected to attend the Dispensary.

"Negative Cases."—The records of the patients in respect of whom no tubercle bacilli have been found in the sputum, together with non-pulmonary patients and suspects, are filed separately from those of the sputum positive patients, and 1,576 cases in these categories attended during the year. This number included 498 adult males, 442 adult females, and 636 children. The preponderance of male cases was nothing like so pronounced as in the sputum positive group, and it is noteworthy that children

MEMO. 37/T. REVISED. SCHEDULE III. PULMONARY TUBERCULOSIS.

135A

ANNUAL RETURN SHOWING IN SUMMARY FORM (a) THE CONDITION AT THE END OF 1932 OF ALL PATIENTS REMAINING ON THE DISPENSARY REGISTER AND (b) THE REASONS FOR THE REMOVAL OF ALL CASES WRITTEN OFF THE REGISTER. THE TABLE IS ARRANGED ACCORDING TO THE YEARS IN WHICH THE PATIENTS WERE FIRST ENTERED ON THE DISPENSARY REGISTER AS DEFINITE CASES OF PULMONARY TUBERCULOSIS, AND THEIR CLASSIFICATION AT THAT TIME.

Condition at the time of the last Record made during the year to which the Return relates.	Previous to 1926.					1926.					1927.					1928.					1929.					1930.					1931.					1932.					
	Class T.B. plus.					Class T.B. plus.					Class T.B. plus.					Class T.B. plus.					Class T.B. plus.					Class T.B. plus.					Class T.B. plus.					Class T.B. plus.					
	Class T.B. minus.	Group 1.	Group 2.	Group 3.	Total (Class T.B. plus).	Class T.B. minus.	Group 1.	Group 2.	Group 3.	Total (Class T.B. plus).	Class T.B. minus.	Group 1.	Group 2.	Group 3.	Total (Class T.B. plus).	Class T.B. minus.	Group 1.	Group 2.	Group 3.	Total (Class T.B. plus).	Class T.B. minus.	Group 1.	Group 2.	Group 3.	Total (Class T.B. plus).	Class T.B. minus.	Group 1.	Group 2.	Group 3.	Total (Class T.B. plus).	Class T.B. minus.	Group 1.	Group 2.	Group 3.	Total (Class T.B. plus).						
<i>Disease Arrested—</i>																																									
Adults—Male.....	12	5	5	5	15	1	...	2	...	2	3	...	...	...	...	9	...	4	...	4	6	2	3	2	7	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Female.....	1	3	8	1	12	1	...	...	1	1	...	...	...	...	...	3	...	1	...	1	5	...	1	1	2	4	...	1	...	...	...	...	...	...	...	...	...	...	...	...	
Children.....	7	...	1	...	1	2	...	...	...	...	2	2	...	1	1	1	...	...	...	...	5	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
<i>Disease not Arrested—</i>																																									
Adults—Male.....	10	21	36	21	78	1	2	6	1	9	3	3	11	6	20	4	1	32	4	37	21	...	35	1	36	23	5	37	25	67	27	2	38	41	81	61	...	37	51	88	
Female.....	5	...	23	6	36	3	...	8	1	9	2	...	4	1	5	2	2	12	...	14	9	4	16	4	24	16	1	25	5	31	22	1	21	14	36	47	...	20	42	62	
Children.....	7	...	6	...	10	...	1	1	...	2	3	...	...	...	...	...	...	...	1	3	8	...	4	...	4	13	1	3	...	6	17	...	...	...	...	...	...	...	...	...	
Total on Dispensary Register at 31st December.....	32	38	79	35	152	8	3	17	3	23	15	3	18	7	28	21	3	51	5	59	54	6	59	8	73	62	7	66	32	105	66	3	66	55	124	126	...	59	100	159	
<i>Discharged as Recovered—</i>																																									
Adults—Male.....	57	...	...	...	81	2	...	2	...	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female.....	27	...	...	...	43	4	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Children.....	18	...	...	...	3	3	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Lost sight of, or otherwise removed from Dispensary Register.....	25	...	...	...	129	14	4	15	3	22	27	1	11	6	18	15	2	8	2	12	18	...	15	6	21	24	1	9	7	17	16	...	4	5	9	2	...	2	1	3	
DEAD—Adults—Male.....	23	...	...	...	250	9	3	50	40	93	13	2	34	47	83	6	1	49	32	82	15	...	27	50	77	14	...	31	60	91	18	...	15	50	74	6	...	5	24	29	
Female.....	13	...	...	...	126	6	4	33	50	87	11	1	25	30	56	3	1	23	26	50	10	1	41	38	80	11	...	22	33	55	8	...	14	42	56	2	...	7	23	30	
Children.....	1	...	...	...	14	4	...	2	8	10	...	...	...	6	6	2	...	4	1	5	4	...	7	3	10	1	...	...	3	3	4	...	3	3	6	2	...	...	2	2	
Total written off Dispensary Register.....	164	...	...	...	646	42	11	102	101	214	59	4	70	89	163	26	4	84	61	149	47	1	90	97	188	50	1	62	103	166	46	...	36	109	145	12	...	14	50	64	
GRAND TOTALS.....	196	...	...	...	798	50	14	119	104	237	74	7	88	96	191	47	7	135	66	208	101	7	149	105	261	112	8	128	135	271	112	3	102	164	269	138	...	73	150	223	

(a) Remaining on Dispensary Register on 31st December.

(b) Not now on Dispensary Register and reasons for removal therefrom.

ANNUAL RETURN SHOWING IN SUMMARY FORM (a) THE CONDITION AT THE END OF 1932 OF ALL PATIENTS REMAINING ON THE DISPENSARY REGISTER AND (b) THE REASONS FOR THE REMOVAL OF ALL CASES WRITTEN OFF THE REGISTER.

		Previous to 1926.					1926.				1927.				1928.				1929.				1930.				1931.				1932.													
		Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total.													
(a) Remaining on Dispensary Register on 31st December.	Condition at the time of the last Record made during the year to which the Return relates.																																											
	<i>Disease Arrested—</i>																																											
	Adults—Male.....	...	...	...	1	1	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	3	...	1	1	5	...	...	...	1	1	...	...	...	...	...								
	Female.....	...	...	...	1	1	...	...	...	1	1	...	...	...	...	...	...	...	...	...	3	...	1	...	3	4	...	...	...	1	...	...	...	...	...									
	Children.....	...	...	...	12	12	...	...	...	3	...	...	...	4	12	...	...	...	...	5	8	...	...	...	6	...	3	...	1	4	...	...	...	3	3	...	...	...						
	<i>Disease not Arrested—</i>																																											
	Adults—Male.....	1	...	3	1	5	12	...	1	...	3	...	...	...	1	1	3	...	...	...	...	3	1	...	2	3	6	...	12	1	9	5	1	1	12	9	10	6	7	5	28			
	Female.....	1	...	...	12	13	...	...	...	...	...	...	...	...	...	3	...	1	...	...	1	...	...	3	6	1	1	12	10	12	12	...	1	5	7	7	4	5	23					
	Children.....	14	4	4	6	28	7	3	1	...	11	3	1	1	4	9	6	12	1	12	11	17	7	1	5	30	16	14	4	12	46	17	13	6	26	62	17	14	1	27	39			
	Total on Dispensary Register at 31st December.....	16	4	8	13	41	9	6	2	1	18	9	4	1	6	20	12	4	1	8	25	22	10	1	12	45	31	19	8	20	78	24	16	8	33	81	34	27	12	38	111			
(b) Not now on Dispensary Register and reasons for removal therefrom.	Transferred to Pulmonary.....	2	...	...	3	5	...	1	...	1	2	...	1	...	3	4	...	1	1	1	3	...	3	...	...	3	1	...	2	...	3	1	1	...	1	3	...	...	...	...	...	...	...	
	<i>Discharged as Recovered—</i>																																											
	Adults—Male.....	...	...	...	...	...	21	2	12	1	...	5	1	...	...	...	1	1	1	3	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Female.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Children.....	...	...	...	...	...	60	5	1	1	6	13	3	3	...	5	11	3	...	3	6	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Lost sight of, or otherwise removed from Dispensary Register.....	...	...	...	...	45	15	3	2	5	25	7	7	2	28	44	11	4	3	25	43	12	6	2	15	35	8	7	...	12	27	3	2	5	6	16	1	...	...	...	1			
	DEAD—Adults—Male.....	...	...	...	...	15	2	...	1	1	4	2	1	3	1	7	...	2	...	...	2	1	...	1	1	3	1	1	2	1	5	2	...	1	...	3	3	...	...	...	3			
	Female.....	...	...	...	...	7	...	1	...	7	8	...	1	1	...	...	...	2	12	...	4	1	3	1	1	6	...	1	1	...	2	1	4	1	...	6	1	...	1	...	2			
	Children.....	...	...	...	...	6	1	2	1	9	13	...	1	1	...	...	3	3	...	...	6	...	1	...	...	1	4	4	1	1	10	...	3	3	2	8	...	3	...	1	6			
	Total written off Dispensary Register.....	...	...	...	...	174	25	9	6	32	72	14	13	7	39	73	17	13	6	29	65	14	11	4	19	48	13	13	4	14	44	6	9	10	8	33	5	3	3	1	12			
GRAND TOTALS of (a) and (b) (excluding those transferred to Pulmonary).....		16	4	8	13	215	34	15	8	33	90	23	17	8	45	93	29	17	7	37	90	36	21	5	31	93	44	32	12	34	122	30	25	18	41	114	39	30	15	39	123			

were much more numerous, constituting 40.3 per cent. of the total, as opposed to 3 per cent. of the bacteriologically verified cases. The majority of these "negative cases" were "suspects" or "contacts."

889 cases were removed from the Dispensary Register, these included 35 patients with bacilli in sputum. The details are given in the following table :—

CASES AND PATIENTS WRITTEN OFF THE DISPENSARY REGISTER
DURING THE YEAR 1932.

(First Schedule, Sect. C., Memo. 37/T., Revised).

DIAGNOSIS.	MALES.		FEMALES.		TOTALS.
	Over 15 yrs.	Under 15 yrs.	Over 15 yrs.	Under 15 yrs.	
Pulmonary Tuberculosis, Cured..	22	...	14	...	36
Non-Pulm. Tuberculosis, Cured..	10	5	12	4	31
Non-Tuberculous.....	191	148	209	129	677
Left district, lost sight of, or will not attend Dispensary ...	57	24	50	14	145
TOTALS	280	177	285	147	889

The number of patients and cases on the Dispensary Register at the end of the year are tabulated below :—

NUMBER OF CASES AND PATIENTS ON DISPENSARY REGISTER
AT END OF YEAR 1932.

(First Schedule, Sect. D., Memo. 37/T., Revised).

DIAGNOSIS.	MALES.		FEMALES.		TOTAL.
	Over 15 yrs.	Under 15 yrs.	Over 15 yrs.	Under 15 yrs.	
Pulmonary Tuberculosis (T.B. in Sputum)	454	9	248	12	723
Pulmonary Tuberculosis (no T.B. in Sputum)	188	35	135	26	384
Non-Pulmonary Tuberculosis ...	98	128	85	108	419
Diagnosis not completed.....	46	49	33	47	175
TOTALS	786	221	501	193	1,701

The two tables which follow are self-explanatory, and are required by the Ministry of Health under Memo. 37/T., Revised.

Relations with other Departments, etc.—As in previous years the closest co-operation has been maintained between the Tuberculosis Dispensary and the other Hospitals, Medical Services, and charitable organisations in the City.

Sputum Examination.—Every effort is made to verify each notified case by bacteriological means, and during the year 1,185 specimens of sputum were examined at the Dispensary. Of this number, 284 were found to contain tubercle bacilli, while 901 gave negative results. In addition 651 samples of sputum were sent, for examination, to the University of Durham Bacteriological Laboratory by the medical practitioners of the City. Of these 90 proved positive, and 561 negative.

Work of the Nurses.—854 new patients were seen, as against 907 in 1931, and 10,499 subsequent visits were made, giving a grand total of 11,353 for the year. The number of patients on the nurses' lists on December 31st, 1932, was 1,710, comprising 750 males, 488 females, and 472 children.

In 695 cases tubercle bacilli had been found in the sputum, and special attention has always been paid to these infective cases. They are visited at least once monthly, and their contacts are kept under the closest possible supervision.

During the year, the names of 1,034 patients were removed from the nurses' lists; this total includes 256 deaths (188 sputum positive and 68 negative). Visits to 778 patients were discontinued on the instruction of the Tuberculosis Medical Officer; of these only 36 were sputum positive cases (16 of whom had left the district), while 742 were negatives. In 719 of the negative cases the names were removed because there was no evidence of active tuberculosis, while 23 had left the district.

The Work of the Sanitary Inspector.—This officer disinfects houses after deaths, or changes of address, of persons suffering from pulmonary tuberculosis, arranges for the removal and disinfection of patients' clothing and bedding, and reports on any insanitary conditions existing in the homes of dispensary patients, such as overcrowding, insufficient ventilation, or defective sanitary arrangements.

INSTITUTIONAL TREATMENT.

Approximately 70 beds were provided at Barrasford Sanatorium for early or moderately advanced cases of pulmonary tuberculosis from Newcastle; 136 beds were available for more advanced or emergency cases at the Sanatorium Pavilions at the

City Hospital, Walker Gate, 53 at the Newcastle General Hospital for the treatment of non-pulmonary tuberculosis, while at Stannington Sanatorium (a private institution) 30 beds were maintained for the treatment of tuberculous children.

Barrasford Sanatorium.—The following particulars refer only to Newcastle patients. The report of the Medical Superintendent of Barrasford Sanatorium will be found under a separate heading, and contains the complete statistics for that Institution.

126 patients (82 men and 44 women) were admitted in the course of the year, and were classified at the Dispensary in the following categories, in accordance with the classification in Memo. 37/T. : G.1 +, nil ; G.2 +, 55 ; G.3 +, 19 ; T.B. Minus, 46. (In the latter category 25 were pleurisy with effusion), 6 were sent for the purpose of observation.

Details of the admissions and discharges are given in the following table :—

PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM DURING THE YEAR 1932.

	Sex.	In Barrasford Sanat'm on 1st January, 1932.	Admitted during the Year.	Discharged during the Year.	In Barrasford Sanat'm on 31st December, 1932.
Patients	M.	34	50	77	37
Do.	F.	22	40	43	19
Observation Cases	M.	1	2	2	1
Do.	F.	1	4	*4	1
TOTALS		58	126	126	58

* 1 death is included in this number.

Of the 6 patients discharged who had been under observation, 4 were found to be suffering from tuberculosis.

The results of treatment in the institution were satisfactory, and the condition of the patients on discharge was as follows :—

RESULTS.	Males.	Females.	TOTAL.
Quiescent	13	10	23
Improved	47	26	73
Without Improvement	19	10	29
Died in Institution	...	1	1
TOTALS	79	47	126

The total number of days of those who received treatment was 24,822, giving an average length of stay of 197 days.

Discharged patients are visited at frequent intervals by the Dispensary staff and are encouraged to report periodically so that they can be examined and records kept.

STANNINGTON SANATORIUM.

The 30 beds were kept fully occupied throughout the year, and 46 patients completed treatment.

The details appear below :—

CHILDREN WHO RECEIVED TREATMENT IN STANNINGTON SANATORIUM DURING YEAR 1932.

	In Sana- torium on 1st Jan., 1932.	Ad- mitted during the Year.	Persons who completed Treatment during the year.			In Sana- torium on 31st Dec., 1932.
			Number	Total Number of Days.	Average length of stay in Days.	
Males.....	14	22	22	7,213	328	14
Females	16	24	24	6,386	266	16
TOTALS	30	46	46	13,599	296	30

In nearly every case great benefit accrued to the patient, as is shown in the following return :—

	Males.	Females.	Total.
Disease quiescent	6	7	13
Improved	16	15	31
Without Improvement	...	2	2
TOTALS	22	24	46

SANATORIUM PAVILIONS, WALKER GATE.

438 patients were admitted (261 males and 177 females), and included 30 transferred from Newcastle General Hospital who were found to be suffering from pulmonary tuberculosis.

Details of the number of patients admitted and discharged are given in the accompanying table :—

PATIENTS WHO RECEIVED TREATMENT IN THE SANATORIUM PAVILIONS,
WALKER GATE, DURING THE YEAR 1932.

		Sex.	In Institu- tion on 1st January, 1932.	Ad- mitted during the Year.	Dis- charged during the Year.	Died in Institu- tion during the Year.	In Institu- tion on 31st Dec., 1932.
Number of Patients.	Adults	M.	79	181	143	59	58
	Do. ...	F.	27	123	85	36	29
	Children...	M.	1	14	6	1	8
	Do. ...	F.	7	12	14	2	3
Observation Cases.	Adults	M.	5	52	35	9	13
	Do. ...	F.	2	32	25	4	5
	Children...	M.	1	14	13	...	2
	Do. ...	F.	4	10	12	1	1
TOTALS.....	...	...	126	438	333	112	119

N.B.—28 patients were re-admitted and are counted as 56 admissions.

1 patient was re-admitted twice, and is counted as 3 admissions.

Of the 99 patients discharged who had been under observation, 42 were found to be suffering from tuberculosis. The total number of days of those who received treatment was 46,416, giving an average length of stay of 104 days.

112 patients died in the institution; the condition of the other patients on discharge is given in the table below :—

	Males.	Females.	Total.
Improved	156	99	255
Without Improvement	41	37	78
Died in Hospital.....	69	43	112
TOTALS	266	179	445

Many of those discharged "improved" were fit for light work; 29 were transferred to Barrasford Sanatorium and 5 to Stannington Sanatorium. 7 patients were sent to the Newcastle General Hospital for special treatment.

Treatment has been on Sanatorium lines, modified to some extent in view of the type of patient; the essentials are the

same, however, namely, rest and good food under satisfactory hygienic conditions, with exercise graduated to the patient's tolerance.

Artificial Pneumothorax.—There were 30 initial inductions of artificial pneumothorax and 700 refills performed at Walker Gate Sanatorium during the year. Since the year 1922, 238 patients have received this form of treatment at Walker Gate Sanatorium, and 212 at Barrasford Sanatorium.

NEWCASTLE GENERAL HOSPITAL.

110 patients were admitted (72 males and 38 females). Details are given in the following table :—

PATIENTS SUFFERING FROM NON-PULMONARY TUBERCULOSIS WHO RECEIVED TREATMENT IN NEWCASTLE GENERAL HOSPITAL DURING THE YEAR 1932.

	Sex.	In Institu- tion on 1st Jan., 1932.	Ad- mitted.	Dis- charged.	Died in Institu- tion.	In Institu- tion on 31st Dec., 1932.
Adults.....	M.	15	46	34	11	16
Do.	F.	11	26	18	8	11
Children	M.	14	26	17	7	16
Do.	F.	17	12	17	3	9
TOTALS		57	110	86	29	52

The results of the treatment received are given in the table below :—

	Males.	Females.	Children.	Totals.
Improved.....	29	18	28	75
Without Improvement	5	...	6	11
Died in Hospital.....	11	8	10	29
TOTALS.....	45	26	44	115

The total number of days of those who received treatment was 19,455, giving an average length of stay of 169 days.

X-Ray Examinations.—During the year the following thoracic examinations were carried out, viz., 893 films and 1,800 screen

examinations. These include patients screened as a routine, especially during artificial pneumothorax treatment, and before discharge from hospital.

Deaths in Institutions.—171 of the deaths from tuberculosis (128 "lungs" and 43 "other forms") occurred in institutions. 107 patients (102 "lungs" and 5 "other forms") died in the Sanatorium Pavilions, Walker Gate, and the City Hospital for Infectious Diseases, 46 patients (21 "lungs" and 25 "other forms") in Newcastle General Hospital, 13 patients (4 "lungs" and 9 "other forms") in the Royal Victoria Infirmary, 2 patients (1 "lungs," 1 "other forms") in the Fleming Memorial Hospital, and 3 patients in other institutions.

GEORGE HURRELL, M.D., D.P.H.,

Tuberculosis Medical Officer.

BARRASFORD SANATORIUM.

Report of the Medical Superintendent.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I beg to submit a report on the work at Barrasford Sanatorium during the year 1932.

Accommodation.—The outstanding point of importance during the year, so far as the Sanatorium is concerned, has been the decision of the City Council to provide a Nurses' Home.

The site chosen is to the S.E. of the main building. The new building will provide 36 bedrooms on two upper floors, with the necessary bathroom, lavatory and w.c. accommodation; whilst on the ground floor will be the sitting and recreation rooms, together with cloakrooms, kitchenette and stores, etc. The work was commenced at the end of August, 1932.

The provision of this building will overcome the overcrowding and generally unsuitable conditions to which the female staff has been subjected for so long. In future the staff should secure the quietness and change of scene when off duty, which is essential for those working in institutions. The Sanatorium owes a debt of gratitude to the Health Committee for securing the establishment of what is by far the most important administrative improvement yet introduced at Barrasford.

The number of beds available for the treatment of patients is 90, being divided into 63 for males and 27 for females. On the release of rooms at present occupied by the staff, for the use of patients, there will be some increase in the number of beds available. There is a great lack of single rooms for very sick or critically ill patients, and some of these rooms will provide the single accommodation for patients who should be by themselves on account of illness which may be a cause of annoyance to others, or who themselves need quietness.

Water.—The bore hole sunk in 1930 has continued to give a supply of water adequate for all needs. The chlorination of the water before it is pumped to the reservoir apparently ensures its purity, as frequent bacteriological examinations after treatment have shown nothing abnormal. The water is very hard, but so far as the boilers and the hot water system in the Institution are concerned, it is adequately softened before use.

Dental Clinic.—This department, under the supervision of Mr. G. Hutchinson, L.D.S., has been widely used. A fortnightly clinic has been held throughout the year, and the following work has been completed :—

Extractions	309
Fillings	74
Temporary fillings.....	18
Scalings	32
Dressings	5
Attentions to dentures	12
Dentures supplied	1

The total number of attendances was 353.

Handicrafts.—The employment of patients has continued to be of the greatest service in the routine. The employment continues to be therapeutic ; that is, regarded as part of the treatment, and undoubtedly conduces to the contentment and happiness of the patients. The principles of treatment are thought to be those which place patients in the best circumstances for the healing by natural processes of their damaged tissues. The provision of handicrafts is so valuable because it helps to relieve the monotony of prolonged treatment whilst allowing the healing process to proceed.

The employment of patients is divided into two main classes. One in woodwork is under the supervision of the joiner (Mr. F. C. Gerdes). In this section, which is combined with the estate work, patients work either in a specially built workshop or out in the open. Most of the patients who are accustomed to the use of tools in their usual employment are drafted to the woodworking section. Their skill is thus turned both to the Institution's advantage and also to their own, in that they are kept in practice and are to that extent better prepared to return to work than they otherwise would be. In addition it is a distinct stimulus to newly admitted patients to know that the patients they see working around them were themselves, on admission, in an impaired working capacity, but have as a result of treatment, very largely recovered.

The other class of employment is handicrafts. The crafts are under the control of a whole time instructor (Mr. J. A. Caughey) and the work is carried out in suitable workshops.

Most of the women patients are employed at some time or another on handicrafts, whilst for all patients who cannot, for one reason or another, do the long walks, or to whom the walks have become monotonous in time, handicrafts come as a welcome relief and safety valve.

Many crafts are followed, including raffia and cane work, seagrass weaving, rug and basket making, tea cosies, lamp shades, and several others.

The attendances numbered 7,489, the women worked 7,374 hours, and the men 7,604. The cost of material is almost balanced by the receipts from sales.

X-Ray Plant.—The X-Ray set, despite its age, continues to be of the greatest service, though there is evidence that the constant use which it has had since 1923 is having its effect.

A film is taken of the chest of each patient on admission as a routine, and on discharge in many of the patients staying for a long period. Patients undergoing lung collapse treatment are examined by "screening" (that is, viewed by means of X-Rays without the exposure of a film) after each operation, and so the degree of collapse is supervised and the presence of any complications recognised.

During the year 209 films were completed and the interpretation entered up in the patients' notes. The "screenings" numbered 701, and were shown by a diagram in the patients' records.

Admissions.—Cases of limited disease continue to be uncommon—cases of moderately recent disease, judged by the time of onset of symptoms, are not so rare, but the distribution of disease is practically always considerable. Careful attention to the correlation of the onset of the symptoms and the extent of disease suggests irresistibly that the distribution of the lesion in the lungs is practically always of considerable extent from the first. It does not seem to be a question of a very small amount of damage occurring primarily and gradually extending to considerable involvement before it is detected. "Early" cases, that is, ones in which the disease is diagnosed early, are not uncommon, especially in young women, but cases of limited disease are very rarely seen, because the area of sowing is considerable from the first.

The total number of cases admitted to the Sanatorium during 1932 was 168, 17 less than in the previous year. The number of Newcastle admissions was more than in 1931, being 126 as against 112. Gateshead were unchanged as compared with 1931; Tynemouth Corporation had 3 as against 9; and West Hartlepool had only 9 as against 36 in 1931.

Of the 168 admitted cases, 10 had been in the Sanatorium previously, all being Newcastle cases and disposed as follows:—

1 case had been admitted twice previously.....	in 1926 and 1928
1 " " " "	in 1926 and 1932
1 of the re-admitted cases was first admitted in	1923
1 " " " "	1926
1 " " " "	1927
1 " " " "	1928
2 " " were	1929
2 " " " "	1931

Of these 10 re-admitted cases, 7 had had at some time or other tubercle bacilli demonstrated in the sputum, and in 3 cases tubercle bacilli had never been seen.

ADMISSIONS TO THE SANATORIUM DURING 1932.

Authority.	Male.	Female.	Total.
Newcastle Corporation	82	44	126
Gateshead Corporation	25	...	25
Tynemouth Corporation	...	3	3
West Hartlepool Corporation.....	5	4	9
South Shields Corporation.....	...	1	1
Private	2	2	4
	114	54	168
During 1931.....	125	60	185
During 1930.....	121	65	186
During 1929.....	124	54	178
During 1928.....	147	55	202
During 1927.....	151	65	216
During 1926.....	166	62	228
During 1925.....	182	59	241
During 1924.....	150	51	201
During 1923.....	155	52	207
During 1922.....	212	55	267
During 1921.....	220	60	280

Discharges.—The great majority of discharges were made with the approval of the Medical Superintendent. The younger, unmarried patients of both sexes stayed extremely well; but often there is a natural anxiety on the part of married patients to return home in order to improve either the financial position or the comforts of those left at home.

There were 171 discharges during 1932 as compared with 184 in 1931. One case died in the Sanatorium during the year—a case of bronchial carcinoma verified as a result of post mortem examination. There was no summary dismissal during the year, and the total of these is only 6 since 1921 when the Corporation acquired the Sanatorium.

DISCHARGES FROM THE SANATORIUM DURING 1932.

Authority.	Male.	Female.	Total.
*Newcastle Corporation	79	47	126
Gateshead Corporation	25	...	25
Tynemouth Corporation	...	3	3
West Hartlepool Corporation.....	5	8	13
Private	2	2	4
	111	60	171
During 1931.....	124	60	184
During 1930.....	131	59	190
During 1929.....	115	54	169
During 1928.....	142	45	187
During 1927.....	151	71	222
During 1926.....	172	61	233
During 1925.....	171	57	228
During 1924.....	152	46	198
During 1923.....	167	52	219
During 1922.....	229	65	294
During 1921.....	212	62	274

* 2 cases were each discharged twice during the year, and are counted as 4 discharges.

SUMMARY OF MOVEMENTS OF PATIENTS DURING 1932.

Authority.	In residence night of Dec. 31st, 1931.	Admitted during 1932.	Discharged during 1932.	In residence night of Dec. 31st, 1932.
Newcastle Corporation	58	126	126	58
Gateshead Corporation	10	25	25	10
Tynemouth Corporation	2	3	3	2
West Hartlepool Corporation ...	9	9	13	5
South Shields Corporation	...	1	...	1
Private.....	1	4	4	1
	80	168	171	77

Details in connection with Discharged Cases.

The particulars of patients, and the results of their treatment, which are set out later, are based on the completed cases discharged. Of these 171, 9 exhibited no definite signs or symptoms of clinical tuberculosis, and were discharged as soon as this fact was established, and are excluded from the particulars and results of treatment which follow. These details are, therefore, based on the 162 cases of definite tuberculosis.

(a) Length of stay—

The average duration of treatment of all cases was 186·9 days.
 Excluding the 9 non-tuberculous cases, 191·31 days.
 The 122 Newcastle cases alone averaged 200·5 days.
 The longest stay was 578 days, the shortest 7 days.

(b) Beds occupied and patient days—

Average number of beds occupied, 81·8. 50·49 by males, and 31·32 by females.
 Total number of patient days was 29,949. 18,480 male, and 11,465 female.

Below is given an analysis of the average number of beds occupied, and the number of patient days.

Authority.	Average Beds occupied daily.	Patient Days.
Newcastle Corporation	63·4	23,208
Gateshead Corporation	9·9	3,636
Tynemouth Corporation	2·0	732
West Hartlepool Corporation	4·5	1,654
South Shields Corporation.....	0·04	17
Private	1·9	698

(c) Social Status.

	Male.	Female.	Total.
Single	57	41	98
Married.....	44	15	59
Widowers	3	...	3
Widows	...	2	2
TOTAL	104	58	162

(d) Age—

Years.	Male.	Female.	Total.
16—20	19	14	33
20—25	20	22	42
25—30	16	11	27
30—35	11	5	16
35—40	11	2	13
40—45	9	1	10
45—50	10	3	13
50—55	5	...	5
55—60	2	...	2
60—65	1	...	1
TOTAL	104	58	162

(e) Occupations of 104 Male Patients—

Engineering and Metal Workers.....	12
Clerks	11
Labourers	7
Joiners	4
Locomotive Firemen.....	2
Policemen.....	2
Shop Assistants	2
Colliery Bank Hands.....	2
Motor Drivers and Mechanics.....	2
Warehousemen.....	2
Ex-Naval Men	2
Caretakers.....	2
Machinists.....	2
Commercial Travellers	2
Insurance Agents	2
Miners.....	2

and one each of the following :—hotel porter, mason, billiard marker, 'bus conductor, french polisher, parcels porter, seaman, lamp attendant, post office engineer, printer's assistant, errand

boy, surveyor's assistant, tramway motorman, tramway conductor, furnaceman, butcher, tramway cleaner, blacksmith, cart lad, schoolboy, plumber, electrician, stableman, cabinet maker, watch-maker, electric cable jointer, waiter, bookbinder, cinema operator, winding engine driver, lead worker, dentist, foreman in soap works, carpenter, handy boy in food factory, salesman, steam raiser, electric engineer, railway worker, mattress maker, motor trimmer, bill poster, shoemaker, draughtsman, works manager, coal teamer. Total 104.

(f) *Occupations of 58 Female Patients.*

Housewives	15
Domestic Servants.....	10
Domestic Work at home	8
Shop Assistants	5
Bar Attendants	4
Factory Workers—Packers and Sorters.....	4
Laundresses	2

and one each of the following :—clerk, nurse, dressmaker, cashier, despatcher in warehouse, laundry packer and sorter, cardboard box maker, warehouse assistant, land worker and waitress. Total 58.

Diagnosis.

The diagnosis of pulmonary tuberculosis was confirmed bacteriologically either before admission or during residence, in 110 cases ; 75 males and 35 females. 44 patients (28 males and 16 females) were apparently without tubercle bacilli in the sputum, and 1 male and 7 females said they had no expectoration ; making 52 cases of tuberculosis in whose sputa tubercle bacilli had never been demonstrated. The clinical findings in all sputum negative cases can be divided as follows :—

Not suffering from clinical tuberculosis.....	9
Definite pleural tuberculosis without evidence of lung tuberculosis	32
Definite physical signs and X-Ray evidence of lung tuberculosis without demonstrable bacilli	20

In the cases of the 20 patients in the last group, the radiographs all showed appearances suggesting the presence of deposit in the pulmonary situation for which tuberculosis shows a predilection. 259 sputum examinations were made in connection

with these 20 cases, or an average of 13 each. 1,062 sputum examinations were made at the Sanatorium during the year; of these 270 were positive as regards the presence of tubercle bacilli, and 793 were negative. 906 complete examinations of the chest were made during the year, together with routine examinations of the larynx and urine on admission of the patient, and subsequently when necessary.

During the year 9 cases were discharged as not suffering from pulmonary tuberculosis, and the diagnoses in these cases were as follows :—

Chronic Bronchitis.....	1
Bronchiectasis	2
Bronchial Carcinoma.....	1
No pathological condition detected.....	5

These 9 non-tuberculous cases were included in the 12 patients sent for observation for the purpose of making a diagnosis. Two were found to be suffering from pulmonary tuberculosis and one from pleural tuberculosis.

The period of observation for the purpose of diagnosis is set out below :—

	Under 1 week.		1 to 2 weeks.		2 to 4 weeks.		More than 4 weeks.	
	M.	F.	M.	F.	M.	F.	M.	F.
Tuberculous	...	2	...	1	...	...	...	...
Non-tuberculous	2	...	1	...	1	2	3	...
Doubtful	...	...	...	...	...	...	...	...

In connection with diagnosis, lipiodol was used in three cases. The material was introduced by the inter-crico-thyroid route in the usual manner in this country. In one of the cases no abnormal appearances were displayed, but in the other two the characteristic shadows associated with bronchiectasis made the diagnosis definite.

Treatment.

There has been no change in the principles of routine treatment. Patients are told that the utmost the Sanatorium can do is to place the diseased parts in the best possible conditions for

healing to take place by natural processes. Rest to the body as a whole, and to the lungs in particular, is by far the most important of these conditions.

If the bodily temperature is found to be raised, rest in bed is insisted on. When a normal temperature is attained by this means, or if a normally ranging temperature is present on admission, exercise is prescribed, and later occupational therapy, but always with the proviso that exertion, and any degree of breathlessness must be avoided.

The diet is as varied as it is possible to make it in an isolated institution. Butter is used, and fresh vegetables as frequently as can be.

The chief points of routine treatment are rest, diet and occupation.

72 of the 162 definite cases of tuberculosis were found to have normal temperatures during the whole of their residence, while 90 patients were feverish at some time or other of their treatment in the Sanatorium, spending amongst them 6,128 days in bed.

Afebrile throughout Treatment.	Febrile on Admission, Afebrile on Discharge.	Febrile Intermittently.	Febrile throughout Treatment.	Afebrile on Admission, Febrile on Discharge.
72	49	23	15	3

Special forms of treatment are available for those who need them. The most widely used special treatment used at Barrasford is lung collapse or artificial pneumothorax.

Artificial Pneumothorax Treatment.—This unquestionably is the brightest spot in the treatment of the disease. It is an undoubted fact that considerable disease with cavitation can be brought under control to a degree of clinical healing, with working capacity restored, in a large number of cases by lung collapse, especially if the treatment is terminated by phrenic evulsion.

It is extraordinary that a form of treatment that gives such excellent results in individual cases, is not reflected in a diminution in the death rate, in view of the fact that numerous individual successes are being gained in very many institutions.

Lung collapse brings lung rest, and with this comes the abolition, or great diminution of sputum and cough, for which the patient is more grateful perhaps than for anything else.

It would not be difficult to write at great length on this treatment, but let it suffice to state that, generally, it is not sufficient to treat a case of pulmonary tuberculosis by routine treatment alone if lung collapse can be performed, however small the extent of disease may be or however favourable the outlook may appear. For this reason immediate admission to the Sanatorium is essential as soon as a definite diagnosis is made, before changes take place that may prevent lung collapse being performed.

60 cases discharged during 1932 were found to be suitable for treatment by this means, but in 14 of them the lung could not be collapsed owing to changes in the chest in the course of the disease. Of the 46 discharged cases in whom lung collapse was employed, 31 were right sided and 15 were left. In addition to these, 10 cases had had an artificial pneumothorax induced before admission, bringing the number treated during the year to 56—36 right and 20 left. In 18 of the cases the induced pneumothorax was ineffective, and was abandoned after a fair trial. In the remaining 38 cases it was effective, that is to say cough, sputum, and raised temperatures were controlled and apparent health restored.

In connection with the above cases, all of whom were discharged during the year, 801 insufflations of air were performed, whilst during the year the total number of such operations was 636. On discharge, the lung collapse is maintained by the Tuberculosis Medical Officer in most cases.

Phrenic Evulsion.—This operation was performed in 3 cases, to terminate artificial pneumothorax treatment.

Sanocrysin.—20 cases were treated with this gold salt, which was injected into a vein in the ordinary manner. In 8 cases it was abandoned as diarrhoea occurred, and in 7 cases it was discontinued as ineffective. In 5 cases it was effective. These results may appear to be disappointing, but it should be noted that this treatment was used mainly in cases with widespread disease, when other forms of treatment had failed. At least 7 of the cases in whom it failed are known to have died. Nevertheless sanocrysin is a most valuable form of special treatment, as has been proved in other years.

Ultra Violet Radiation.—Only one case was suitable for this treatment. This patient had abdominal tuberculosis in addition to pleural tuberculosis, and received 127 exposures in addition to routine treatment, with great benefit.

RESULTS OF TREATMENT.

The immediate results of treatment compare favourably with those of previous years.

An increase of weight is of little real value in assessing the permanence of any improvement in health—but as a rough guide of general betterment, weight records are important.

The weight records of the 162 definite cases of tuberculosis of the lung or pleura, and those of the 9 non-tuberculous cases, are as follows :—

		Gained up to 7 lbs.	Gained 7 to 14 lbs.	Gained over 14 lbs.	Remained station- ary.	Lost up to 7 lbs.	Lost over 7 lbs.	Not weighed on dis- charge.	Total.
162 definite cases.	Gained weight...	44	55	37	...	...	...	...	136
	Lost weight.....	...	...	...	...	18	4	...	22
	Stationary	...	...	...	4	...	...	...	4
	Not weighed on discharge	...	...	...	...	...	...	...	...
	Total	44	55	37	4	18	4	...	162
9 non- tuber- culous cases.	Gained weight...	3	3	2	...	...	...	...	8
	Lost weight.....	...	...	...	...	...	...	...	...
	Stationary	...	...	...	...	...	...	...	...
	Not weighed on discharge	...	...	...	...	...	...	1	1
	Total	3	3	2	...	...	...	1	9

The best results of treatment are seen in the cases of pleural tuberculosis where there is no evidence of lung involvement. In every instance there has been recovery of normal health. No case of uncomplicated pleural tuberculosis that has completed 6 months uninterrupted sanatorium treatment during the past 12 years, has so far had to return to the Sanatorium for further treatment.

The majority of the pulmonary cases have improved, and this is especially shown in the cases treated by lung collapse, which often restores health and working capacity and which could be obtained by no other known form of treatment.

Under the classification of cases introduced by the Ministry of Health, patients suffering from pulmonary tuberculosis are divided into :—

Class T.B. Minus, or those cases in which tubercle bacilli have never been demonstrated in the sputum, and,

Class T.B. Plus, viz., cases in which tubercle bacilli have at any time been found.

The latter class is further divided into three groups—

Group 1.—Cases with slight constitutional disturbance, if any, and in which the obvious physical signs are of very limited extent.

Group 3.—Cases with profound systemic disturbance or constitutional deterioration, with marked impairment of function, and with little or no prospect of recovery.

Group 2.—All cases which cannot be placed in Groups 1 or 3.

To indicate results of treatment, the following terms are laid down :—

“ Quiescent.”—Cases which have no symptoms of tuberculosis and no signs of tuberculous disease, except such as are compatible with a completely healed lesion, and in which the sputum, if present, is free from tubercle bacilli.

“ Arrested.”—In pulmonary cases the term should be applied only to cases which have been “ quiescent ” for a period of at least 2 years.

“ Improved.”—Cases short of “ quiescent,” in which the general health is fair and the symptoms of tuberculosis have materially diminished.

“ No Material Improvement.”—All other patients who are alive.

When considered in these terms, the results of treatment of the 162 cases of lung or pleural tuberculosis can be set out as follows :—

T.B. Minus.			
	M.	F.	Total.
Quiescent	15	9	24
Improved	13	11	24
No material improvement...	1	3	4
T.B. Plus.			
	M.	F.	Total.
G.1 { Quiescent	...	...	...
{ Improved	...	...	...
{ No material improvement...	...	...	...
G.2 { Quiescent	1	...	1
{ Improved	45	25	70
{ No material improvement...	15	5	20
G.3 { Quiescent	...	...	...
{ Improved	1	...	1
{ No material improvement...	13	5	18

The comparatively large number of T.B. minus cases which improved to the degree of quiescence, is made up largely of cases of pleural tuberculosis, which had no evidence of disease in the lung itself. It will be seen that a large proportion of the cases sent for treatment had extensive disease on admission, and that the results of treatment are best in the sputum negative class.

I am greatly indebted to the Matron (Miss F. Baguley, A.R.R.C.), for her continued co-operation, and thanks are due to the whole of the staff for their valuable assistance.

Yours faithfully,

CECIL G. R. GOODWIN, M.R.C.S., L.R.C.P.,

Medical Superintendent.

Barrasford Sanatorium,

Northumberland,

7th April, 1933.

REPORT OF THE
MEDICAL SUPERINTENDENT,
NEWCASTLE GENERAL HOSPITAL.

V.—GENERAL DISEASES
HOME AND HOSPITAL.

DOMICILIARY MEDICAL SERVICE.
NEWCASTLE GENERAL HOSPITAL.

REPORT OF THE
MEDICAL SUPERVISOR
NEWCASTLE GENERAL HOSPITAL

V. GENERAL DISEASES
HOME AND HOSPITAL

NEWCASTLE GENERAL HOSPITAL
HOSPITAL MEDICAL SERVICE

DOMICILIARY MEDICAL SERVICE.

On the transfer of the Poor Law on 1st April, 1930, one of the matters delegated to the Health Committee by the City Council was the care of the sick poor. This work is carried on by District Medical Officers, each of whom is in charge of a specified district of the City, and in addition to giving attendance, supplies medicines. It is proposed, however, to gradually introduce a panel system, under which any poor person may have the choice of a doctor, while the Health Committee will be responsible for the provision and dispensing of medicines. A scheme on this basis, covering six of the districts which are at present temporary appointments, has been approved by the Health and Public Assistance Committees, and has received the general sanction of the Minister of Health.

The following table gives particulars of the work of the District Medical Officers during 1932 :—

District No.	District Medical Officer.	Number of Cases Treated.	Attendances by the M.O. at the Homes of the Patients.	Attendances by the Patients at the M.O.'s Surgery.
1	*Dr. R. L. Bell	886	2,448	2,145
2	*Dr. J. MacRae	882	1,548	1,442
3	*Dr. J. B. Sinson	2,714	706	1,278
4	*Dr. J. MacRae	1,374	2,183	2,735
5	*Dr. E. P. Tulloh	1,270	914	1,480
6	* Do. do.	2,120	875	1,849
7	Dr. W. Simpson	1,384	2,256	1,273
8	Dr. R. W. Nevin	1,625	2,948	3,507
9	Dr. W. T. Hall	1,055	2,837	3,100
Walker.	Dr. T. J. Ryan	849	2,763	2,321

* Temporary appointments.

NEWCASTLE GENERAL HOSPITAL.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

It affords me much pleasure to submit for your consideration this report on the year's work in the **Newcastle General Hospital**.

Last year I confessed to a certain degree of disappointment that greater progress had not been made, but this year I am pleased to be able to report that there has been a very decided advance in practically all departments in the Hospital.

The extra beds, fifty in number, so urgently needed, have been obtained, raising the Hospital accommodation to 700, and these will very greatly facilitate the admission and classification of patients.

Practically 1,000 more patients were admitted during the twelve months, and the same number discharged. An interesting fact is that the average length of treatment is very much reduced, giving, of course, a very much larger turn-over of patients.

The doctors in the City are taking advantage more and more of the facilities offered to them and I have had frequent expressions of satisfaction with the treatment.

There is no question of the advantages derived from the **Sunday Morning Lectures** to doctors, and the attendance at these has been very well maintained during the year.

The number of cases of tuberculosis requiring treatment is very much on the increase and it will be necessary at no late date to discuss the question of providing an increase in the accommodation for these cases. It is a type of patient in which it is quite impossible to have a rapid turn-over as practically every one requires a very prolonged period of rest in bed.

The year in the Maternity Ward has been a record one, 158 patients having been treated, compared with 93 in the previous year. The results have also been very good, the maternal mortality being less than 0.75 per cent. The number of married mothers admitted continues to rise.

In the Mental Wards 362 patients were treated, compared with 345 in the previous year. I would again place on record the excellent manner in which the charge attendants of both the Male and Female Wards carry out their responsible duties.

There is nothing outstanding to report as regards infectious diseases, except that there would appear to be an increase in the number of cases of meningitis of the various types developing in the City. A mild epidemic of scarlet fever also occurred during the year and we still had the sporadic cases of dysentery. Towards the end of the year an epidemic of influenza broke out and many members of the staff were affected. It reached its height early in the present year. The accommodation was severely taxed on account of the large increase in the number of admissions.

During the year 1,799 X-Rays were taken, an increase of practically 400, and there was also an increase in the Electrical and Massage Departments.

From the statistical return it will be seen that 1,428 operations have been performed in the theatres, an increase of over 300 on the previous year. The results obtained have been most excellent. Much has been heard recently in the public Press as regards the administration of anæsthetics. The Hospital, in this respect, is quite in line with modern methods and teaching. Practically all the abdominal operations, and many of the others, have been performed under Avertin and the results have been an unqualified success. As an indication of how it is looked on by the patient, I might say that I am being asked by those who have to undergo operations if they can have the new anæsthetic. The condition mental and physical of the patient, both before and after the operation, is infinitely better than what it was when ether and chloroform were used.

The treatment of children and particularly infants has been giving me considerable thought and worry and I would take this opportunity of referring to the urgent need for a properly built and equipped Children's Block.

During the year it was necessary to treat in the sick wards 55 members of the Nursing Staff. The majority of these were cases of minor ailments, septic throats as usual bulking most largely, and again occurring during the early months of training. The more serious complaints were the following :—

Scarlet fever (3), appendicitis (1).

Hernia (one strangulated and of recent development) (2).

Influenzal pneumonia (1).

Pulmonary tuberculosis (transferred to Barrasford Sanatorium) (1).

As I have already said, the influenza epidemic affected the nursing staff as well as the out-door staff, and I regret to report that the nurse who developed pneumonia died on January 3rd, 1933.

One of the porters was admitted to hospital suffering from an obscure form of anæmia, and I regret to say also died.

Along with this report are statistical returns, and included in them is a much fuller classification of the various diseases treated.

In conclusion, I will take this opportunity in thanking you and your staff for their valuable co-operation, and also to place on record my appreciation of the good work done during a difficult period by the hospital staff.

ADMISSIONS AND DISCHARGES, ETC., FOR THE YEAR ENDED 31st DECEMBER, 1932.

	<i>Males.</i>	<i>Females.</i>	<i>Children.</i>	<i>Total.</i>
Admissions.....	1,766	1,827	929	4,522
Discharges	1,739	1,823	885	4,447
Of the Discharges—Cured			1,463	
Relieved			2,217	
Died			767	
			Total	4,447

TABLE OF AGES OF PATIENTS TREATED.

Men over 60	577
Women over 60	416
Men under 60.....	1,162
Women under 60	1,407
Boys, 3-16	245
Girls, 3-16	211
Children under 3	429
	4,447

TRANSFERS FROM OTHER HOSPITALS, HOMES AND UNIONS.

Royal Victoria Infirmary.....	13
Cottage Homes	1
County Borough of Sunderland	1
Surrey County Council	1
Gateshead P.A.C.	1
Shotley Bridge Colony	10
South Shields	9
Prudhoe Hall Colony	8
Northumberland County Council.....	1
City of Salford	1
Gainford	1
Cumberland County Council.....	2
County Durham P.A.C.....	8
Durham County Council.....	1

Hospital deaths	767
Elswick Grange deaths.....	15
PRIVATE CASES ADMITTED.....	105
INQUESTS HELD :—	
Hospital cases.....	40
Elswick Grange cases.....	9

OPERATIONS.

FOR YEAR ENDED 31st DECEMBER, 1932.

Hernia	123	Pleural adhesions	1
Gastroenterostomy	22	Semilunar cartilages.....	9
Pyloroplasty	2	Amputations	9
Gastrectomy	2	Colpoperineorrhaphy	9
Appendicectomy	163	Complete Fothergill	3
Laparotomy.....	52	Carbuncle	7
Anastomosis	3	Excision of joints	6
Colostomy	8	Osteotomy	5
Cholecystostomy	12	Cæsarean section	3
Cholecystectomy	30	Skin grafting	3
Salpingo-oöphorectomy.....	15	Halstead	3
Ovariectomy.....	6	Ischio-rectal fistulae	13
Nephrectomy	2	Fractures reduced.....	4
Hysterectomy	10	Papilloma of bladder.....	3
Prostatectomy.....	11	Internal Urethrotomy	2
Supra-pubic cystostomy	35	Cystoscopy	40
Nephropexy	2	Circumcision	6
Intussusception	2	Sigmoidoscopy	2
Hydrocele	8	Tonsils and Adenoids	47
Orchidectomy.....	1	Teeth extractions	146
Varicocele	5	Rodent Ulcer.....	2
Hæmorrhoids	45	Tenotomy	3
Curettage.....	109	Ventricular estimation	2
Mastoidectomy	16	Ureteric calculus	1
Resection of rib.....	32	Rhinophyma	1
Strictures dilated	65	Trigeminal nerve injection	1
Incisions	216	Enucleation of eye.....	1
Excisions.....	5	Foreign bodies removed	4
Examinations	29	Aural Polypus	2
Scrapings	18	Deviated septum	1
Sequestrectomy	19		
Prepatella bursæ	2		
Astragalectomy	1		
		Total	1,410
Total Operations (Major and Minor) performed in Theatres.....			1,410
Minor Operations in Wards.....			18
		TOTAL.....	1,428

During 1932 the greater number of abdominal operations were performed under "AVERTIN" anaesthetic.

RETURN OF CASES TREATED IN X-RAY AND MASSAGE DEPARTMENT.

	Massage.	Medical Electricity.	X-Ray.	Sunlight.
Treatments	2,138	998	1,799	1,070

RETURN OF MENTAL CASES, 1932.

	<i>Men.</i>	<i>Women.</i>	<i>Total.</i>
Under treatment, January 1st, 1932.....	5	2	7
Admitted during 1932	200	155	355
	<u>205</u>	<u>157</u>	<u>362</u>
Cured	23	18	41
Improved	29	27	56
I.S.Q.	6	1	7
Transferred to :—			
Mental Hospital	78	65	143
General Hospital	42	33	75
A. and I. Wards	7	3	10
House (Able-bodied)	2	...	2
„ (Chronic)	8	1	9
Dead	4	4	8
Under treatment December 31st, 1932	6	5	11
	<u>205</u>	<u>157</u>	<u>362</u>

**ADULTS.—CLASSIFIED LIST OF DISEASES TREATED.
MEDICAL.**

RESPIRATORY.

Bronchitis	213	Infarction.....	2
Asthma	14	Neoplasm of Lung.....	3
Pleurisy	38	Gangrene of Lung.....	3
Bronchiectasis	8	Broncho pneumonia	22
Bronchitis and Emphysema.....	5	Lobar pneumonia	59
Pyo pneumothorax	1	Hypostatic pneumonia.....	6

DIGESTIVE.

Gastritis	45	Dyspepsia	10
Gastric Ulcer	24	Intestinal Colic	3
Constipation	17	Gastro-Enteritis	5
Septic Parotitis	1	Cirrhosis of Liver	7
Duodenal Ulcer	15	Others	9

NERVOUS.

Cerebral Hæmorrhage.....	98	Paralysis Agitans.....	6
Cerebral Thrombosis.....	20	Neuritis	4
Functional	34	Neurasthenia	22
Disseminated Sclerosis	11	General Paralysis	5
Paraplegia	5	Mental	25
Epilepsy	30	Others	22
Locomotor Ataxy	11		

DEFICIENCY DISEASE.

Scurvy	5
--------------	---

INFECTIOUS DISEASES.

Encephalitis Lethargica	23	Meningitis-Pneumococcal	
Influenza.....	23	Paratyphoid	1
Erysipelas	7	Cerebro-Spinal Meningitis	4

CIRCULATORY.

Valvular disease of Heart.....	114	Aneurism	4
Myocarditis.....	132	Pernicious Anæmia	10
Arterio-sclerosis	50	Leukæmia	3
Ulcerative Endocarditis.....	1	Secondary Anæmia	7
Acute Endocarditis.....	4	Purpura	1
Hyperpyæsia	1		

RHEUMATIC.

Acute Rheumatism	24	Osteo-Arthritis	13
Chronic Rheumatism.....	21	Chorea	7
Rheumatoid Arthritis	25	Others	9

EXCRETORY.

Acute Nephritis.....	10	Uræmia	7
Chronic Nephritis	32	Cystitis	6
Pyelitis	16	Others	5

INTERNAL SECRETORY.

Myxœdema	3	Pituitary.....	1
Exophthalmic Goitre.....	1	Goitre	3
Addison's Disease	1	Diabetes Mellitus	44

FOR OBSERVATION.....			35
Debility	37	Senility	32

TUBERCULOSIS.

Pulmonary	36	Non-Pulmonary	57
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ADULTS.—CLASSIFIED LIST OF DISEASES TREATED.

SURGICAL.

Carcinoma	152	Urethral Stricture	12
Rodent Ulcer.....	3	Urethral Calculus	2
Sarcoma	4	Extravasation of urine.....	3
Hernia	125	Retention of urine.....	5
Appendicitis	141	Other Diseases Male Organs.....	11
Cholecystitis	60	Pyæmia	2
Gastric Ulcer	22	Septic conditions	31
Duodenal Ulcer	24	Boils	8
Intestinal Obstruction	4	Ulcers	30
Volvulus	3	Cellulitis	24
Diverticulitis	2	Abscess	32
Meckel's Diverticulum	1	Gangrene.....	14
Mesenteric Thrombosis.....	1	Mastitis	22
Jejunal Ulcer.....	1	Carbuncle	15
Pyloric Stenosis.....	2	Varix	7
Gastroptosis.....	2	Phlebitis	4
Peritonitis	4	Hæmorrhoids	51
Oesophageal Stricture	2	Empyema	8
Liver Abscess.....	1	Diseases of Bone	16
Renal Calculus	8	Diseases of Rectum	23
Pyelo-nephrosis	5	Cystitis	8
Floating Kidney.....	3	Displaced Cartilage	11
Hypernephroma.....	1	Bursitis.....	9
Perinephritic Abscess	5	Synovitis	5
Fractures	42	Deformities	7
Dislocations	4	For Observation	27
Injuries, Wounds, etc.	42	Post operative	3
Burns	6	Mastoid	6
Sprains.....	2	Simple Tumours.....	10
Prostate.....	44	Glands	6
Hydrocele	10	Teeth	40
Varicocele	5	Others	19
Undescended Testicle.....	2		

PREGNANCY AND DISEASES OF WOMEN.

Pregnancy	180	Ectopic Pregnancy	5
Albuminuria of Pregnancy	5	Puerperal Sepsis.....	10
Hyperemesis Gravidarum.....	2	Ovarian Cyst	10
Pyelitis of Pregnancy	9	Salpingitis	10
Placenta Prævia.....	1	Uterine Fibroid.....	5
Retained Placenta.....	1	Pelvic Cellulitis.....	5
Chorea of Pregnancy.....	1	Diseases of Uterus.....	18
Contracted Pelvis	2	Disorders of Menstruation.....	15
Absence of Uterus.....	1	Nursing	7
Menopause	3	Others	4
Miscarriage	127		

DISEASES OF THE SKIN.

Dermatitis	15	Scabies	11
Psoriasis	8	Impetigo	6
Erythema	2	Eczema	6
Vermineous	6	Others	5
Sycosis	3		

VENEREAL DISEASES.

Syphilis	19	Gon. Rheumatism.....	5
Gonorrhœa	19	Late Syphilis	34

DISEASES OF THE EYE.

Keratitis	1	Corneal Ulcer.....	2
Conjunctivitis	7	Dacryocystitis	1
Glaucoma	1		

DISEASES OF THROAT, NOSE AND EAR.

Tonsilitis	25	Deflected Septum	2
Tonsils and Adenoids	10	Laryngitis	4
Otitis Media	6	Others	11

CHILDREN.—CLASSIFIED LIST OF DISEASES TREATED.

MEDICAL.

Bronchitis	59	Constipation	2
Pleurisy	8	Poisoning.....	2
Lobar Pneumonia.....	20	Catarrhal Jaundice	2
Broncho Pneumonia.....	92	Diabetes Mellitus	3
Endocarditis	1	Teething	2
Pericarditis	1	Epilepsy	6
Leukæmia	1	Jacksonian Epilepsy.....	1
Hæmophilia	2	Hydrocephalus	2
Acute Nephritis.....	8	Spastic Diplegia.....	1
Pyelo-Nephritis	2	Prematurity	6
Acute Rheumatism	14	Marasmus	3
Chorea	21	Rickets	3
Arthritis	2	For Observation.....	22
Myalgia	1	Nursing	187
Gastro-Enteritis	40	Others	7
Stomatitis	3		

SKIN.

Impetigo	18	Herpes	1
Scabies	11	Tinea	2
Dermatitis	3	Verrucous	1
Eczema	3		

DISEASES OF THE EYE.

Conjunctivitis	3	Blepharitis	1
Keratitis	1		

DISEASES OF THE THROAT, NOSE AND EAR.

Otitis Media	4	Tonsils and Adenoids	13
Foreign body in ear.....	1	Others	3
Tonsillitis	5		

SURGICAL.

Carcinoma	2	Burns and Scalds	6
Appendicitis	23	Injuries, Wounds, etc.	5
Hernia	8	Abscess	28
Intussusception	2	Septic conditions	3
Umbilical Hernia	3	Cellulitis	3
Empyema	16	Bursitis	2
Perinephritic Abscess	2	Mastoid	6
Arthritis	3	Osteo-Myelitis.....	9
Enlarged Glands	4	Phimosis	3
Fractures	7	Teeth	2
Dislocation	1	Others	7

INFECTIOUS.

Scarlet Fever	11	Meningitis	4
Influenza	4	Erysipelas	1
Pertussis	10	Dysentery	7
Varicella	12	Post Encephalitis	2
Measles	5	Scarlet Contact	1
Vaccinia	3		

TUBERCULOSIS.

Pulmonary	3	Non-Pulmonary	38
Syphilis Congenital	2	Gonorrhœa	3
Pregnancy	2	Miscarriage	2
Dysmenorrhœa	1		

GEO. P. HARLAN, M.D.,

Medical Superintendent.

Newcastle General Hospital,
10th May, 1933.

MAINTENANCE IN OTHER INSTITUTIONS.

Eight persons were being maintained in various special institutions in different parts of the country at the beginning of the year. One of these cases was transferred to the Elswick Grange in March, 1932, and the number at the close of the year was seven. The cases are as follows :—

Institution.	M.	F.	Type of Case.
Home for Epileptics, Maghull.....	*1	1	Epileptics.
St. Elizabeth's School for Epileptics, Much Hadham.....	...	1	Epileptic.
St. Vincent's Hospital for the Dying, Liverpool	...	1	Advanced Phthisis.
St. John's Institution for the Deaf and Dumb, Boston Spa.....	...	1	Blind, Deaf and Dumb.
St. John's Home, Birmingham.....	...	1	Deformity.
Hospital of St. John of God, Scorton...	2	...	Cripples.
TOTAL	3	5	

* Transferred to Elswick Grange, 29th March, 1932.

REPORTS OF THE VETERINARY OFFICER
AND INSPECTOR OF PROVISIONS,
AND OF THE INSPECTOR UNDER THE FOOD AND
DRUGS ACTS (SENIOR SANITARY INSPECTOR).

VI.—FOOD.

BOVINE TUBERCULOSIS.
INSPECTION OF MEAT AND PROVISIONS.
INSPECTION OF FOOD AND DRUGS.

REPORT OF THE COMMISSIONER OF THE
AND INSPECTION OF THE
AND TO THE SENATE AND HOUSE OF REPRESENTATIVES
OF THE UNITED STATES
IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE
MAY 10, 1906, AND BY THE HOUSE OF REPRESENTATIVES
MAY 12, 1906.

THE COMMISSIONER OF THE
AND INSPECTION OF THE
AND TO THE SENATE AND HOUSE OF REPRESENTATIVES
OF THE UNITED STATES
IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE
MAY 10, 1906, AND BY THE HOUSE OF REPRESENTATIVES
MAY 12, 1906.

VI. FOOD.

INSPECTION OF MEAT AND LIVESTOCK.
INSPECTION OF FOOD AND DRINK.

BOVINE TUBERCULOSIS, AND THE INSPECTION OF MEAT AND PROVISIONS AND FOOD AND DRUGS.

TUBERCULOUS MILK.

During the year seven samples were reported by the Bacteriologist to contain tubercle bacilli. The samples were from five different farms, two of which were situated in the City, and three in the County of Northumberland.

The results of the investigations at the farms may be summarised as follows :—

Cases in which tuberculous cows were found (subsequent check samples were negative).....	3
Cases in which tuberculous cows were not found on first examination, but subsequent check samples were positive (In one instance a second check sample was taken and found negative, but in the other this was impossible as the milk was no longer coming into the City).	2 (4 positive samples).

The following table shows the percentage of milk samples found to contain tubercle bacilli during the past 26 years :—

Year.	Percentage of Samples found Tuberculous.
1907	5.9
1908	3.8
1909	9.0
1910	5.4
1911	3.0
1912	10.4
1913	8.4
1914	6.7
1915	5.8
1916	8.7
1917	3.1
1918	2.9
1919	3.6
1920	6.3
1921	5.5
1922	7.0
1923	4.5
1924	3.2
1925	8.0
1926	4.0
1927	3.7
1928	3.7
1929	8.7
1930	4.2
1931	3.7
1932	1.8

Report of the
Veterinary Officer, Inspector of Meat, etc.

TO THE MEDICAL OFFICER OF HEALTH.

I have pleasure in submitting the following report which includes the work of inspection under the Public Health Acts during the year 1932.

Tuberculosis.

During the year six animals were found affected with one of the forms of the disease which requires them to be dealt with under the Tuberculosis Order of 1925.

In four of the cases, a microscopical examination of samples taken from the cows concerned proved their milk to be tuberculous, whilst a similar examination of throat swabs from each of the two remaining animals which, irrespective of other symptoms, were suffering from a chronic cough, proved one to be positive and the other negative. On every occasion, immediately the presence of disease was detected clinically, precautionary measures were taken by excluding the milk from the public supply.

The animals were subsequently slaughtered and the owners compensated according to the value of each animal before slaughter, as agreed upon by the Veterinary Officer, on behalf of the Corporation, and the owner, in accordance with the Order.

In two cases the disease was found to come within the category of "tuberculosis not advanced," whilst in the remaining four, the animals were found to have been suffering from "tuberculosis advanced," necessitating the condemnation and destruction of the entire carcass and internal organs of each as unfit for human consumption.

The Milk and Dairies Order of 1926.

Within the City there are 16 cow-keepers, who occupy 27 cowsheds on 17 premises, and possess a total of 246 milch cows. During the year, 193 visits were made to the cowsheds and dairies for the purpose of inspecting the animals, buildings, and the conditions as to cleanliness, etc.

DISEASED COWS FOUND IN REGISTERED PREMISES WITHIN THE CITY.

Year.	No. of Cow-keepers.	No. of Registered Cowsheds.	No. of Dairy Premises.	No. of Milch Cows in City.	No. of Diseased Cows.				
					Tuberculosis.		Other Diseases.		Destroyed. (under the Tuberculosis Order, 1925)*
					Of Udder.	Other than Udder.	Udder.	Other than Udder.	
1907	44	...	...	540	4	5	4	...	4
1908	43	...	...	528	3	7	4	1	6
1909	41	...	...	527	5	2	4	1	5
1910	38	41	...	503	1	1	8	...	1
1911	37	44	38	497	1	...	4	...	1
1912	37	44	37	465	2	...	1	...	...
1913	31	43	33	489	2	2	...	...	3
1914	31	43	33	510	1	1	1	...	...
1915	31	43	33	554	3	...	6	...	...
1916	30	44	32	536	2	2	12	...	1
1917	30	44	32	512	1	...	...	...	...
1918	29	43	31	622	...	...	...	...	...
1919	27	41	29	594	...	...	...	...	...
1920	26	40	28	565	...	...	...	...	...
1921	25	38	26	575	...	...	...	...	...
1922	25	39	26	489	...	...	...	...	...
1923	25	39	26	484	2	...	8	...	1
1924	22	34	23	436	3	2	2	...	4
1925	21	33	23	337	9	...	1	...	4*
1926	20	31	21	410	5	2	1	3	5*
1927	18	29	19	334	2	4	2	3	6*
1928	19	31	20	308	3	1	1	3	4*
1929	19	30	20	258	4	1	1	2	4*
1930	17	28	18	251	2	3	1	4	4*
1931	16	27	17	243	4	7	1	3	9*
1932	16	27	17	246	4	2	7	3	6*

INSPECTION OF MEAT AND OTHER FOODS.

The number of animals slaughtered within the City for food purposes during the year was 258,441, this being an increase of 75,051, as compared with the number slaughtered during the previous year.

ANIMALS SLAUGHTERED ON LICENSED PREMISES WITHIN THE CITY.

Year	1932.	1931.	1930.	1929.	1928.
Horses	1,266	1,983	2,784	2,107	1,747
Cows 1,480	18,895	18,246	19,823	18,059	17,513
Heifers 11,346					
Bulls 604					
Bullocks 5,465					
Calves	2,976	2,895	5,242	4,843	4,299
Sheep	186,662	127,106	107,997	103,497	121,005
Pigs	48,642	33,160	24,425	41,671	46,964
Total Animals	258,441	183,390	160,271	170,177	191,528

Of the carcasses and internal organs examined, including those dressed in other districts and sent into the City for disposal, tuberculosis was found present in those of 1,084 animals, an increase of 50.34 per cent. as compared with the previous year.

Four hundred and three animal carcasses, together with 1,994 lbs. of meat (excluding offal, etc.), were condemned and destroyed as being unfit for human consumption, as compared with 413½ animal carcasses and 2,157 lbs. of meat condemned and destroyed during the previous year. Of the 403 carcasses, 169 carcasses and three quarters were condemned on account of tuberculosis, as compared with 135 carcasses and 2 quarters condemned on account of that disease out of the previous year's total of 413½ carcasses.

Cattle, Calves and Pigs Slaughtered within the City. (See also previous Table).	Number of Animals found Diseased, Unsound or otherwise unfit for Human Consumption.		* Number of Animals found Tuberculous.	
	Whole Carcasses Condemned.	‡ Parts or Organs Condemned.	Whole Carcasses Condemned.	† Parts or Organs Condemned.
Year 1932.	Year 1932.			
Cows..... 1,480	54	76	48	61
Heifers 11,346	50	70	44	52
Bulls..... 604	5	2	4	1
Bullocks 5,465	26	46	24	36
Totals 18,895	135	194	120	150
Calves 2,976	68	44	5	...
Pigs 48,642	95	2,359	44	729

‡ Sex not known, 355.

† „ „ 36.

* The figures representing the numbers of animals found tuberculous on slaughter do not necessarily indicate the total number of animals affected with disease, because under the present slaughter-house system it is impossible to guarantee that all those slaughtered are subjected to inspection.

CARCASSES OF BEEF CONDEMNED WITHIN THE CITY DURING THE PAST TWENTY-THREE YEARS.

Total condemned.		Numbers condemned on account of Tuberculosis.	Percentage Tuberculous.
Year.	Carcasses.	Carcasses.	Per Cent.
1910	116	110	94.82
1911	88	79	89.77
1912	79	73	92.40
1913	92	89	96.73
1914	83	70	84.43
1915	96	88	91.66
1916	109	103	94.49
1917	98	92	93.87

CARCASSES OF BEEF CONDEMNED WITHIN THE CITY DURING THE
PAST TWENTY-THREE YEARS.—*Continued.*

Total condemned.		Numbers condemned on account of Tuberculosis.	Percentage Tuberculous.
Year.	Carcasses.	Carcasses.	Per Cent.
1918	230	182	79.13
1919	306	267	73.0
1920	198	171	86.36
1921	90	78	86.66
1922	85	79	92.94
1923	69	58	84.05
1924	66	61	92.42
1925	157	130	82.80
1926	126	102	80.95
1927	123	107	86.99
1928	115	109	94.78
1929	124	118	95.16
1930	147	124	84.35
1931	117	94	80.34
1932	135	120	88.89

NOTE.—The above refers to whole carcasses and quarters, but does not indicate the total number of animals found tuberculous, and therefore does not include those carcasses in which only the organs or parts were found diseased and condemned. See preceding table.

Public Health (Meat) Regulations of 1924.

For the purposes of these Regulations, 7,050 visits were made to meat and provision shops, restaurants, stalls, vehicles, etc., and, as a result, 35 contraventions were found and dealt with.

INSPECTION OF CARCASSES SENT INTO THE CITY FROM OUTSIDE DISTRICTS
DURING THE YEAR 1932, INCLUDING THE CARCASSES OF ANIMALS TAKEN
UNDER THE TUBERCULOSIS ORDER, 1925, BY OTHER LOCAL AUTHORITIES
AND SLAUGHTERED WITHIN THE CITY.

Material Examined.	Condition Found.	How Dealt With.
*Cow Carcass and Organs ...	Tuberculosis.....	Carcass and Organs condemned.
* " " " ...	"	" " "
* " " " ...	"	" " "
* " " " ...	"	" " "
* " " " ...	"	Lungs, liver, kidneys, mesenteric fat and udders condemned.
* " " " ...	"	Mesenteric fat and udders condemned.
* " " " ...	"	Lungs, liver and mesenteric fat condemned.
Heifer Carcass and Organs	"	Carcass and organs condemned.
Bullock, 4 quarters	"	4 quarters condemned.
Bullock Carcass and Organs	Congestion	Liver condemned.
Cow Carcass and Organs ...	Gangrene	Carcass and organs condemned.
Bullock Carcass and Organs	Normal	Passed.
Heifer, 4 qrs. and Organs...	"	"
Cow, 4 qrs. and Lungs	"	"

* Slaughtered under the Tuberculosis Order, 1925. Certificate of result of examination in each case sent to the Local Authority concerned.

Imported Foodstuffs.

During the year, 256 vessels carrying meat and other foods from Denmark, Norway, Sweden, Holland, Canada, Australia, America and Madagascar arrived at the Quayside, this being a decrease of 48 as compared with the number of arrivals during the previous year.

Three hundred and forty-three visits were made to the wharves and vessels alongside, 2,084 packages, containing meat, etc., being opened and examined. Both before and while being discharged from the vessel, it is not practicable to make more than a general survey or superficial inspection of frozen beef quarters and carcasses of mutton, but these, as well as imported meat arriving by rail within the City, are subjected to supervision and inspection within the cold storage depots and wholesale meat shops.

Caseous Lymphadenitis.

Owing to the prevalence of this disease in the flocks of the exporting countries, it has been found necessary, during recent years, to make a percentage inspection of all imported carcasses of mutton arriving within the City.

During the year, a total of 61,021 carcasses of mutton were notified as having arrived, this being a decrease of 12,888, as compared with the previous year's total. Of the total, 32,866 were from Australia, 14,864 from South America, and 13,291 from New Zealand. The whole of these carcasses were discharged at and forwarded by rail from the Ports of London and Liverpool, with the exception of the Australian carcasses, of which 10,375 arrived at the Quayside direct.

Of the total imported, 4,145 were examined, 20+1 qr. being found diseased, and therefore condemned and destroyed. Of the diseased carcasses, 9½ were from Australia, the remainder being from South America.

IMPORTED CARCASSES OF MUTTON EXAMINED FOR
CASEOUS LYMPHADENITIS.

Year.	Number of Separate Consignments.	Number of Carcasses.	Number of Carcasses Examined.	Number of Carcasses Condemned.
1928	3	1,615	1,615	118
1929	102	28,145	3,945	110
1930	206	55,756	7,926	55
1931	221	73,909	5,753	27
1932	129	61,021	4,145	21+1 qr.

Foreign Meat, etc., Arriving by Vessel.

Fresh Offal, etc. (Packages).

Pig.—2,032 feet, 1,704 maws, 816 heads, 64 tongues and 72 casings.

Salted Meat.

PORK.—73 barrels.

Frozen Meat.

BEEF.—8,155 fore and hind quarters and 5,053 crops. Packages.—100 boneless beef and 475 shin beef.

Offal (Packages).—5,221 livers, 960 kidneys, 317 skirts, 105 cheeks and 789 tails.

MUTTON AND LAMB.—18,987 carcasses, 969 hind quarters and 499 pairs legs.

Offal (Packages).—525 lamb livers and 50 suet.

PORK.—400 carcasses.

Other Goods.

1,048,934 sides Danish, Dutch, etc., bacon. Cases.—1,787 American bacon and hams, 46,511 tinned meats and 115 sausages.

NUMBER OF VESSELS AND ORIGIN, ARRIVING WITH FOOD.

Denmark.	Holland.	America.	Canada.	Sweden.	Australia.	Madagascar.
114	118	5	11	3	4	1

Exported Foodstuffs.

The number of horses slaughtered within the City, for the purpose of the carcasses being exported for consumption on the Continent, was 1,266, or 717 fewer than during the previous year. In accordance with the requirements of the Netherlands Government, certificates of examination as to fitness were granted in respect of three consignments comprising 12 barrels of horse casings, weighing a total of 3 tons, 2 cwts., 2 qrs., prior to export to Holland.

NUMBER OF VISITS AND INSPECTIONS OF PREMISES DURING THE YEAR 1932.

	Central Markets.			Meat Shops.		Fish Shops.		Provision Shops.		Fruit Shops.									
Slaughter-houses.	Meat and Provisions.	Fruit and Vegetables.	Fish.	Wholesale.	Retail.	Wholesale.	Retail.	Wholesale.		Wholesale.		Wharves and Vessels.	Cold Stores.	Goods Stations (Fish Docks).	Restaurants.	Stalls, Carts, etc.	Fish Curing Establishments.	Food Preparing Factories.	
16,383	465	344	341	351	786	47	14	33		3		343	135	1	44	211	4	1	

TOTAL CARCASSES, ETC., DESTROYED AS BEING UNFIT FOR

	Carcasses, etc.				Lungs.				Hearts.		
	Beef.	Veal.	Mutton.	Pork.	Sets Ox.	Sets Calf.	Sets Sheep.	Sets Pig.	Ox.	Sheep.	Pig.
Tuberculosis	120 + 2 qrs.	5	...	44 + 1 qr.	171	...	...	8	20	...	...
Johne's Disease.....	1	...	...	...	...	...	...	...	...	...	...
Caseous Lymphadenitis	...	20 + 23 lbs.	...	...	...	...	...	...	...	...	...
Swine Fever	...	...	...	1	...	...	...	...	...	...	...
Actinobacillosis	...	...	...	...	...	...	...	...	...	...	...
Bacterial Necrosis.....	...	...	...	...	...	...	...	...	...	...	...
Pyrexia	2 + 45 lbs.	...	...	7	...	...	...	...	...	...	...
Pyæmia	...	1	1	2	...	...	...	...	...	...	...
Pericarditis (including Septic and Traumatic)	...	...	...	...	...	...	...	...	1	...	...
Septic Conditions	5 + 36 lbs.	4	6 + 6 lbs.	4 + 10 lbs.	9	...	...	...	1	...	...
Jaundice	...	...	...	4	...	...	...	...	...	...	...
Lymphadenoma	...	...	1	...	...	...	...	...	...	...	...
Pneumonia.....	...	1	...	...	14	2	...	149	...	...	...
Pleurisy	...	...	...	...	9	...	...	12	...	...	...
Peritonitis	...	...	...	10 lbs.	...	...	...	...	...	...	...
Pleurisy and Peritonitis ...	2	1	...	7	...	...	...	...	...	...	...
Mastitis	...	...	...	...	...	...	...	...	...	...	...
Cirrhosis	...	...	...	...	...	...	...	...	...	...	...
Neoplasms	...	...	1	...	...	...	...	...	...	...	...
Cavernous Hæmangioma...	...	...	...	...	...	...	...	...	...	...	...
Uræmia	...	...	...	1	...	...	...	...	...	...	...
Oedema and/or Emaciation	3	...	21	5	...	...	...	...	...	...	...
Parasites (Distomatosis, Cysts, Etc.)	...	...	...	...	4	...	...	...	...	...	...
Dead, Moribund, Imperfect Bleeding, Congestion, etc.	1	2	36	7	3	1	1	...	1	...	2
Immaturity.....	...	2	...	...	...	...	...	...	...	...	...
Traumatism	1 + 839 lbs.	1 leg & hock + 23 lbs.	...	2 + 39 lbs.	...	...	...	...	2	...	...
Decomposition	848 lbs.	52 + 44 lbs.	16 + 6 qrs. + 2 legs + 53 lbs.	11 + 3 qrs. + 18 lbs. + 1 cask	43	...	...	...	27	168 + 12 lbs.	14 + 70 lbs.

HUMAN CONSUMPTION DURING THE YEAR 1932.

Kidneys.		Livers.			Heads.			Plucks.			Stomachs and Intestines.		Fat.		Cows Udders.	Ox Tails.	Pig Maws.	Pig Rinds.	Ox Tongues.	Calf Sweetbreads.
Ox.	Pig.	Ox.	Sheep.	Pig.	Ox.	Sheep.	Pig.	Calf.	Sheep.	Pig.	Ox.	Pig.	Ox.	Pig.						
4	...	83	...	...	39	...	689 +26 halves	...	...	80	3	7	21	2	3	...	...	...	9	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	5	...	...	...	...	...	...	764	...	...	...	...	...	...	5	...
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	28	...	...	1	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	1	...	30	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	2	17	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	134 +19 lbs.	71	11	...	...	...	...	15	...	...	...	...	...	9	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	4	166	9	...	...	...	...	63	12	...	...	...	...	...	...	...	...	...	...
3	4	7	...	...	...	2	...	...	4	11	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1 cask + 18 lbs.	54 lbs.	121½	14 + 10 lbs.	100 + 143 lbs.	9	86	11 casks +1 tierce	31	275	621	...	...	1 cwt.	...	...	28+ 47 lbs.	252½ casks	4 cwts. 2 qrs. 14 lbs.	1	50 lbs.

POULTRY, GAME, FISH, FRUIT AND VEGETABLES, PROVISIONS, ETC., DESTROYED AS BEING UNFIT FOR HUMAN CONSUMPTION
DURING THE YEAR 1932.

Cause of Unfitness.	Poultry and Game.	Fish.	Fruit and Vegetables.	Provisions, Etc.
Unsound and Unwholesome.	Chickens 23	Char lbs. 84	Apples 536 lbs.	Ham lbs. 6½
	Ducks 46	Filletts 255½	Cress 2 chips	Potted Meat, 2 boxes.
	Fowls 41	Fish (dried) 56	Peas 40 bags	Sausage..... 6
	Grouse 80	Halibut..... 836	Potatoes 162 cwts.	
	Geese..... 60	Herrings 112		TINNED GOODS.
	Pheasants..... 2	Plaice, 4 cases + 1,358		Bilberries 450
	Pigeons 13	Skate 1,493		Corned Beef..... 10,262
	Rabbits 44	Sole 154		Celery 200
	Turkeys..... 47	Salmon..... 1 + 29½		Condensed Milk 1 tin
	Widgeon 32	Trout..... 279		Ham..... 17 tins + 40½
				Ham and Tongue Paste 43
				Lunch Tongue..... 450
				Mutton 6
				Pork 165
				" Brawn 760
				" Roll..... 9
				Peas 30
				Peaches 10
				Sausage 42

Total Weight of Meat and Other Foodstuffs Condemned.

The approximate total weight of meat and other foodstuffs condemned during the year was 80 tons, 1 cwt., 2 qrs., 26 lbs., comprising :—

	tons	cwts.	qrs.	lbs.
Beef, Mutton, Veal, Pork	46	12	1	21
Offal, Provisions, etc.	33	9	1	5
	80	1	2	26

Slaughter-houses.

At the commencement of the year, 97 separate premises were licensed for slaughtering purposes. When the licenses terminated in September, 14 of the premises which had been licensed were not again submitted to the Committee for relicensing. Of the 14 premises referred to, five were being used as hunger-houses, two for the purpose of gut scraping, and one fitted as a lavatory and mess room, all of which are situated in the new yard, Dispensary Lane. The remaining six premises, situated in the old yard, Dispensary Lane, were being used as hunger-houses. Towards the end of the year an application to use one of the slaughter-houses at the Cattle Market for the purpose of tripe boiling was granted by the Committee, with the result that the licence for the last mentioned premises was at the same time necessarily cancelled. Therefore, the total number of premises licensed and used for slaughtering purposes within the City at the termination of the year was 82.

Microscopical Examinations.

During the year, microscopical examinations were carried out as an aid or confirmation of diagnosis, in connection with 35 cases under investigation.

The material examined comprised specimens of milk, blood, pus, tissues, and swabs taken from the throats of cows. Of the samples of milk examined for tuberculosis, four were found positive and seven negative; and of the throat swabs examined for the same disease, one was positive and two negative. In none of the specimens of blood and other tissues examined for anthrax was

that disease found present. Of material other than milk or throat swabs examined for tuberculosis and other organisms, seven were found positive. In the two cases—bronchial mucus—where the examination was made for parasites, one was found positive.

MICROSCOPICAL EXAMINATIONS.

	Specimens Examined.	Result of Examination.	
		Positive.	Negative.
Samples of Milk examined for Tuberculosis	11	4	7
Throat Swabs examined for Tuberculosis...	3	1	2
Smears made from Tissues and examined for Tuberculosis and other Organisms.....	9	7	2
Bronchial Mucus examined for Parasites ...	2	1	1
Blood examined for Anthrax.....	10	...	10
	35	13	22

Rats and Mice (Destruction) Act, 1919.

During the year, 103 visits were made to premises in respect of 91 complaints received, 141 premises, including others than those complained of, being inspected and dealt with.

Of the 141 separate premises, rats were found infesting 108, the remaining 33 being found free from any evidence of infestation. As will be seen in the following table, the premises most frequently invaded by the pests were dwellings and shops, these accounting for a little more than 87 per cent. of the whole.

Many occupiers have the impression that it is only necessary to lay poisoned bait to solve the problem, no attention being given to the question of prevention. The rat problem, so far as buildings are concerned, is one that invariably involves the question of construction and repair. With the view of obtaining successful results and efficient administration, it has always been the practice—within the City, at least—to place before the public, so far as possible, the best known means of prevention, besides educating the individual occupiers as to the advantages of rendering premises independent, structurally, one from the other, and of operating simultaneously.

RATS AND MICE (DESTRUCTION) ACT, 1919.	
Complaints received	91
Number of premises inspected and dealt with in connection with the above	141
Number of premises infested with rats.....	108
Number of visits	103
KIND OF PREMISES DEALT WITH.	
Dwellings.....	102
Shops	21
Halls	5
Poultry Runs	4
Refuse Tips	3
Warehouse	1
Office	1
Church	1
Recreation Room	1
Wharf.....	1
Stable.....	1
Total	141

CONTRAVENTIONS.

Offence.	No. of Cases.	Action taken, etc.
<i>Slaughter-house Bye-Laws.</i>		
Slaughtering animals without stunning previously with a mechanically operated instrument	7	In each of five cases offender fined £1, two being cautioned.
Dirty slaughter-houses.....	8	Offenders cautioned.
<i>Public Health (Meat) Regulations of 1924.</i>		
Meat conveyed in dirty vehicles.....	5	Offenders cautioned.
Uncovered or unprotected meat exposed in vehicles	3	Offenders cautioned.
Meat exposed outside shop windows.....	9	Offenders cautioned.
Dirty food preparing utensils.....	1	Offender cautioned.
Meat lying on floor	1	Offender cautioned.
Dirty sausage factory	1	Offender cautioned.
Gut scraping in slaughter-houses	5	Offenders cautioned.
Blowing carcasses of mutton with the breath	8	Offenders cautioned.
Using for the preparation and storage of food, a room with which a w.c. directly communicated.....	2	(1) Ceased using premises for the storage of meat. (2) alterations complying with the Regulations carried out.

Yours faithfully,

THOMAS PARKER, F.R.C.V.S.,

Veterinary Officer.

Town Hall,
Newcastle upon Tyne,
8th May, 1933.

FOOD AND DRUGS ADULTERATION, Etc.

Total Samples.—The number of samples of foods and drugs obtained for analysis during the year was 1,174, as in 1931. They were of a varied nature, and included most articles in common use in the household. Of this number 607 were submitted to the Public Analyst, the remainder being samples of milk which were tested in the office and found to be genuine.

Informal Samples :—233 informal samples were taken, as against 270 last year. Although legal proceedings cannot be taken in the event of such a sample not being genuine, this method is a useful guide to the general quality of food stuffs sold in any particular district. Any adulterated samples are followed up by "formal" or "official" samples, so that legal proceedings may be taken if necessary.

Milk Samples.—As usual, the greatest number of samples obtained has been of milk, one of the most important articles of food, and one which unfortunately lends itself to fraudulent practices. 926 samples were taken, and of these 41 were certified to be below the minimal limits fixed by the "Sale of Milk Regulations, 1901." Of this number 17 were deficient in non-fatty solids, 22 in milk-fat, and 2 in both. The percentage of deficiency in fat varied from 1.6 to 36.6 (the average being 8.79), and of solids not fat from 0.2 to 10.4 (average, 4.34).

"Appeal to Cow" Samples.—Only in three cases was it found necessary to visit farms for the purpose of obtaining samples direct from the cows. Seventeen samples in all were taken, fourteen of which proved to be genuine, and three deficient in fat.

Notwithstanding the large number of samples (1,174) of upwards of 70 different articles of foods and drugs, it was only necessary to institute legal proceedings in 15 cases.

Samples not Genuine, etc.—The percentage of all samples not genuine to the total number taken was 4.34 (compared with 4.60 for the previous year). The percentage of non-genuine milk samples to the total number of milk samples obtained was 4.43 (as against 4.78 in 1931). The total number of samples taken was at the rate of 4.12 per 1,000 of the population (estimated) of the City for the year 1932. This is in excess of the number suggested by the Ministry of Agriculture (viz., 3 per 1,000 of the population).

Margarine.—16 samples of margarine were purchased and analysed. All were genuine, free from preservatives, and in compliance with the requirements of the Act in all other respects.

Margarine Warehouses.—26 visits were made to the registered margarine warehouses in the City. The packages were examined as regards proper marking, and all found to comply with the Act.

Preservatives in Food.—Of the total samples obtained for analysis (1,174), only 32 contained preservative, the quantity being in most instances well within the limit allowed.

Four samples of sausage contained sulphur dioxide in quantities above the permissible limit. 3 of these were informal samples. In 2 cases the subsequent formal sample contained preservative within the limit allowed, these cases being met by a caution. In the third instance, the amount of preservative was in excess, respecting which the vendor was summoned, the case being dismissed on payment of costs.

Two offences were disclosed of selling sausage containing similar preservative, the presence of which was not declared as required. The vendors were summoned and fined £1 in each case.

Two informal samples of jam also contained an excess of sulphur dioxide. Subsequent samples were in order, and no further action was taken.

OFFENCES OTHER THAN ADULTERATION.

OFFENCE.	NO. OF CASES.	ACTION TAKEN, ETC.
<i>Milk and Dairies Order, 1926.</i> <i>Sections 21 and 32.—</i> Milk vessels improperly kept and stored.	1	Offender cautioned.
<i>Sections 27–29.—</i> Milk churns in a condition contravening the Order.	3	Offenders cautioned.
Milk churns not properly cleansed before being returned.	7	Offenders cautioned.
<i>Section 30.—</i> Selling skimmed milk from a hand-can not properly labelled “skimmed milk.”	2	Offenders cautioned.
<i>Section 31 (1).—</i> Transferring milk from one vessel to another on premises of railway station.	1	Offender summoned. Fined £1.
Carried forward	14	Amount of penalties, £1/0/0.

OFFENCES OTHER THAN ADULTERATION—*Continued.*

OFFENCES.	NO. OF CASES.	ACTION TAKEN, ETC.
Brought forward... ..	14	Amount of penalties, £1/0/0.
<i>Section 31 (1) and (2).—</i> (a) Opening churns at railway station milk dock and transferring milk therefrom to bottles : (b) Filling milk bottles elsewhere than on registered premises.	8	Two cases against each of 4 separate offenders. Summonses issued. In one case fined £1, and in another 10/-, the remainder being dismissed on payment of costs.
<i>Section 32.—</i> Churn containing milk left standing on street pavement exposed to heat and contamination by dirt, dust, etc.	1	Offender cautioned.
<i>Milk and Dairies (Amendment) Act, 1922, Sec. 2 ; and Milk and Dairies Order, 1926, Sec. 6.—</i> Selling milk without being registered for the purpose.	1	Offender cautioned.
<i>Milk and Dairies (Amendment) Act, 1922, Sec. 3 ; and The Milk (Special Designations) Order, 1923.—</i> Selling "Grade A (Tuberculin tested)" milk without being in possession of the requisite licences.	1	Offender summoned. Fined £3.
<i>Milk and Dairies (Consolidation) Act, 1915, Sec. 6.—</i> Selling milk from a barrow and vessels not inscribed with the name and address of the vendor.	1	Offender cautioned.
<i>The Milk (Special Designations) Order, 1923, Third Schedule, Part ii. (1) and Part iii., A. (7).—</i> Milk churns in a condition contravening the Order.	3	Offenders cautioned.
<i>Food and Drugs (Adulteration) Act, 1928, Sec. 6 (c) and (d).—</i> Selling margarine (under fancy or descriptive names) in paper wrappers not marked in accordance with the Act.	1	Offender cautioned.
<i>Public Health (Preservatives, etc., in Food) Regulations, 1925-1927.—</i> Selling sausage containing sulphur dioxide (within the limit allowed) the presence of which was not declared as required.	2	Offenders summoned, and fined £1 in each case.
Total	32	Amount of penalties, £7/10/0.

The Public Health (Condensed Milk) Regulations, 1923-1927.

Nine samples of condensed milk were obtained. Two were deficient in fat and in total milk-solids. Both were obtained (one informally and the other formally) from the same vendor (a small general dealer) supplied, under a warranty, by the wholesalers. The latter were cautioned.

The remaining samples were genuine and in compliance with the Regulations.

BACTERIAL IMPURITY OF MILK AND WATER.

Milk.—392 samples were examined by the Bacteriologist for the presence of tubercle bacilli. which were found in 7, or 1.8 per cent. This is a reduction on last year's figures, which were 14 and 3.7 per cent respectively.

Action taken is described on page 171.

178 samples were examined for evidence of excremental pollution, which was found to an undesirable degree in 29, or 16.3 per cent. In every case the Medical Officer of Health of the district from which the milk originated was informed, with the result that steps were taken to secure more cleanly methods of production.

Cleanliness of Milk Churns.—During the year 20,358 churns awaiting return to the farmers were examined at the various railway stations in the City. Of this number, 13 (as compared with 35 in 1931) were found in an uncleansed condition. The offender in each case was cautioned by the Medical Officer of Health.

In addition, 4,349 churns in course of transit through the City were examined, and 1 (as compared with 4 last year) was found in a dirty condition. The matter was reported to the Medical Officer of Health of the district concerned.

6 farmer-consignors were also communicated with respecting churns found to be defective or not in conformity with the requirements of the Milk and Dairies Order.

Water.—Samples were collected from all parts of the City and at the water works, and examined for the presence of *bacillus coli*.

The results are described on page 120.

PREMISES ON WHICH FOOD IS PREPARED.

Bakehouses.—There are in the City 290 bakehouses, of which 40 are factories (*i.e.*, places in which mechanical power is used), and 250 are workshops.

The number of "domestic" bakehouses, or private dwelling houses in which the occupier makes bread for sale amongst the neighbours, is 108, an increase of 10 over 1931. Domestic bakehouses are under the same supervision as when the business is carried on in an ordinary bakehouse, and, generally speaking, are kept in a cleanly state. It is seldom that any contraventions are found.

Restaurant Kitchens (which include hotels, cafés, and dining rooms). The number on the register is now 122—an increase of eight since last report. They are regularly inspected. 13 notices were served during the year (principally for lime-washing, which was overdue). These were all complied with.

Fried Fish Shops.—The number of these is 159 (as against 156 in the previous year). For comments see "Offensive Trades" (Section VII.).

Ice Cream Manufactories and Retail Shops.—15 applications were received during the year for permission to make and/or sell this commodity. 7 were refused, the general sanitary conditions of the premises not being up to the required standard.

The number of makers of ice cream is 109, as compared with 115 in 1931, whilst the number of retailers only has increased from 169 to 176.

An ice cream vendor was summoned for selling from a barrow not marked with her name and address and for causing or permitting ice cream to be manufactured under improper conditions. The first case was dismissed on payment of costs, and a fine of 10/- imposed in the second.

The Milk and Dairies (Amendment) Act, 1922, Sec. 2, and The Milk and Dairies Order, 1926, Sec. 6.—During the year 108 applications were received for permission to retail milk, 79 being granted and 29 refused on sanitary grounds. At the close of the year there were 656 retail milk shops in the City, including 72 belonging to the 10 larger dairy companies. Of the total, 62 were shops in which only dairy products and like commodities were retailed, 552 were shops selling other articles, and 42

Samples taken for Analysis during the Year 1932.

ARTICLE.	No. of Samples obtained.			Result of Analysis.			Action taken.			REMARKS.
	Formal.	Informal.	Total.	Genuine.	Not Genuine.	Doubtful.	Prosecutions.	Convictions.	Cases Dismissed.	
New Milk.....	923	3	926	885	41	...	14	9	5	In 24 instances the vendors were cautioned by order of the Health Committee. The remaining 3 of the 41 samples "not genuine" were "appeal to cow" samples—not for proceedings.
Skimmed Milk.....	2	1	3	2	1	...	...	...	...	Of the samples "not genuine" (deficient in fat and in total milk-solids), one was obtained informally and the other formally from the same vendor (a small general dealer), supplied under a warranty, by wholesalers. The latter were cautioned.
Condensed Milk.....	...	14	14	14	...	...	...	...	...	
Cream (Tinned and "Fresh").....	...	11	11	11	...	...	...	...	...	
Butter.....	...	16	16	16	...	...	...	...	...	
Margarine.....	...	5	5	5	...	...	...	...	...	
Coffee (including "Cocoa Tablets").....	...	3	3	3	...	...	...	...	...	
Tea.....	...	3	3	3	...	...	...	...	...	
Baking Powder (including "Yorkshire").....	...	4	4	4	...	...	...	...	...	
Pudding and Pancake Powder.....	...	5	5	5	...	...	...	...	...	
Egg Powder.....	...	2	2	2	...	...	...	...	...	
Flour (including self-raising flour).....	...	2	2	2	...	...	...	...	...	
Oatmeal and Wholemeal.....	...	2	2	2	...	...	...	...	...	
Yeast.....	...	2	2	2	...	...	...	...	...	
Rice, Ground Rice, Tapioca, Sago, Vermicelli, Semolina and Arrowroot.....	...	7	7	7	...	...	...	...	...	
Corn Flour.....	...	2	2	2	...	...	...	...	...	
Pepper.....	...	1	1	1	...	...	...	...	...	
Mustard.....	...	1	1	1	...	...	...	...	...	
Winegar.....	...	1	1	1	...	...	...	...	...	
Pickles.....	...	10	10	10	...	...	...	...	...	
Lard.....	...	1	1	1	...	...	...	...	...	
Bacon.....	...	1	1	1	...	...	...	...	...	
Cheese.....	...	1	1	1	...	...	...	...	...	
Suet.....	...	1	1	1	...	...	...	...	...	
Sausage.....	5	28	33	29	4	...	1	...	1	The 4 samples "not genuine" contained excess preservative (sulphur dioxide), 3 being obtained informally. In 2 cases the subsequent samples were in order, and the vendors were cautioned. In the other (in which the permissible limit was exceeded) the vendor was summoned, the case being dismissed on payment of costs.
Meat Pastes.....	...	2	2	2	...	...	...	...	...	
Tinned Fish (Sardines, Brising and Salmon).....	...	3	3	3	...	...	...	...	...	
Fish Cakes.....	...	3	3	3	...	...	...	...	...	
Pies.....	...	2	2	2	...	...	...	...	...	
Jams.....	...	7	7	5	2	...	...	...	...	The 2 samples "not genuine" (both informal), contained sulphur dioxide 80 parts per million. Subsequent samples were genuine, and no further action was taken.
Marmalade.....	...	1	1	1	...	...	...	...	...	
Rusk.....	...	1	1	1	...	...	...	...	...	
Ground Ginger.....	...	1	1	1	...	...	...	...	...	
Spices (Nutmegs, etc.).....	...	4	4	4	...	...	...	...	...	
Dried Fruits (Currants, Raisins and "Mixed Fruit Salad").....	...	7	7	7	...	...	...	...	...	
Candied Peel.....	...	2	2	2	...	...	...	...	...	
Glacé Cherries.....	...	1	1	1	...	...	...	...	...	
Tablets and Gelatine.....	...	5	5	5	...	...	...	...	...	
Household Drugs.....	1	40	41	39	2	...	...	...	...	The 2 samples "not genuine" were of white precipitate ointment (deficient in white precipitate), one obtained informally and the other formally from one vendor, who was cautioned.
(Tincture of Rhubarb, Syrup of Rhubarb, Paregoric, Cream of Tartar, Tartaric Acid, Camphorated Oil, Olive Oil, Glycerine, Gregory Powder, Castor Oil, White Precipitate Ointment)	...	11	11	11	...	...	...	...	...	
Cod Liver Oil, Cod Liver Oil Capsules, and Cod Liver Oil and Malt.....	...	1	1	1	...	...	...	...	...	
Meat Extract ("Virol").....	...	1	1	1	...	...	...	...	...	
Honey.....	3	...	3	3	...	...	...	...	...	
Whiskey.....	3	...	3	3	...	...	...	...	...	
Rum.....	3	...	3	3	...	...	...	...	...	
Wines.....	3	...	3	3	...	...	...	...	...	
TOTALS.....	941	233	1174	1123	51	...	15	9	6	Amount of Penalties:—£23 10s. 0d. †

* Includes 245 samples taken "in course of delivery" (at railway stations, hospitals, etc.).
† Including £7 10s. 0d. in respect of "Offences other than Adulteration." (See pages 185-6)

were hawkers. The latter class of milk-seller continues to be discouraged. Comparatively little "loose" milk is dealt in nowadays, most of the milk sold being in bottles, closed by a cardboard disc or cap. This is a distinct improvement upon the old methods of dealing with loose milk, especially in the smaller general shops. All milk-shops and dairies were regularly inspected, and the conditions generally found to be satisfactory.

C. RAIMES,

Inspector under the Sale of

Food and Drugs Acts, etc.

Health Department,

Town Hall,

1st July, 1933.

VII--THE HOME AND THE
WORKSHOP.

STANDARD, HOUSEHOLD, FACTORIES AND
WORKSHOPS, ETC.

and before. The fact that the water continues to be
discouraged. Compared with the "Lake" mill is now
some part of the mill is being closed by a carload
and so on. This is a direct improvement upon the old methods
of dealing with water mills, especially in the smaller general shops.
All mills and their water were recently inspected, and the
condition generally found to be satisfactory.

W. H. H. H.

Inspector under the Act of

Food and Drug Act, etc.

State Department.

June 1st

to June 1st

REPORT OF THE
CHIEF SANITARY INSPECTOR.

VII.—THE HOME AND THE WORKSHOP.

NUISANCES, HOUSING, FACTORIES AND
WORKSHOPS, Etc.

REPORT OF THE
CHIEF CLERK OF THE

VII—THE HOME AND THE
WORKSHOP.

NEWARK HOUSING PATRONS AND
WORKSHOP, ETC.

NUISANCES, HOUSING, FACTORIES AND WORKSHOPS, ETC.

The following is the Report of the Chief Sanitary Inspector.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I have pleasure in submitting the following report on the work carried out in my section of the Department during the year ended December 31st, 1932.

NUISANCES.

The number of nuisances reported upon and dealt with during the year was 12,664, which is a slight decrease upon the previous year. As usual, they were of a most varied character. Sub-letting and overcrowding are found to be the common cause of a large number of complaints, while others are found by the District Inspectors.

Many minor nuisances could have been abated by the occupiers themselves, without the intervention of the Inspector. Difficulty arises when there are several tenants upon whom to place the responsibility, what is everyone's duty being often found to be that of no one. The District Inspectors, however, exercise patience and tact in such cases, with the result that comparatively little friction is caused amongst tenants.

Overcrowding.

This continues to a very great extent, complaints being numerous. Each is carefully investigated and, when verified, reported to the appropriate Department. There are many cases, however, where the dwellings are not overcrowded either from a moral or legal standpoint, the complaint being made by the occupier as a lever for obtaining a Council house, for which there is a very great demand.

Notices Served.

The following are the numbers of notices and letters issued during the year :—

Number of notices served :—	
Informal	5,109
Statutory	600
	— 5,709
Number of special letters sent.....	2,115
Number of circular letters sent	2,110
	—
Total.....	9,934
	<u> </u>

Magisterial Proceedings.

Considering the total number of letters sent out and notices served, it is worthy of note that it was only necessary to take legal proceedings in 61 cases. In the remaining instances in which proceedings were ordered by the Health Committee, the necessary work was carried out without recourse to summonses. The details of this part of the work are given on pages 204-6.

The Rent and Mortgage Interest (Restrictions) Acts.

This year shows a further decrease in the number of applications under the above, only two persons having applied, compared with five in 1931. In one case the certificate was granted, and in the other the necessary repairs were carried out before the certificate was issued.

Conversion of Dry Closets to Water-closets.

During the year 118 pail-closets, 4 combined privies and ashpits, and one "cell" privy have been converted to water-closets.

In addition, 25 "dry" ashpits were removed and replaced by regulation dustbins, the first of which are supplied, free of charge, when an ashpit or privy is removed. This is the only contribution made towards the cost of conversion. Altogether 157 free bins were supplied during the year.

RETURN OF "DRY" CLOSETS IN THE VARIOUS WARDS OF THE CITY.

WARDS.	Total No. Privies.	Pail- Closets.	Cell Privies.	Privies and Ashpits.	
				Privies.	Ashpits.
St. Nicholas'	...	...	...	...	...
St. Thomas'	...	...	...	...	...
St. John's	...	...	...	...	...
Stephenson	...	...	...	...	...
Armstrong	...	...	...	...	...
Elswick	6	6	...	...	...
Westgate	...	...	...	...	...
Arthur's Hill	1	1	...	...	...
Benwell	4	...	2	2	2
Fenham	9	6	...	3	2
All Saints'	1	1	...	...	...
St. Andrew's	3	3	...	...	...
Jesmond	...	...	...	...	...
Dene	...	...	...	...	...
Heaton	...	...	...	...	...
Byker	53	53	...	...	...
St. Lawrence	151	151	...	...	...
St. Anthony's	86	85	1	...	...
Walker	29	...	2	27	14
Total in City ...	343	306	5	32	18

Smoke Abatement.

During the year 653 observations of from half-an-hour to one hour have been made of 106 factory and other chimneys in the City. This is a larger number than in 1931, chiefly due to special watchings taken in the case of two large Institutions in the City which were found to be giving off black smoke so as to be a nuisance, *i.e.*, for a longer period than two minutes per half-hour, which is the standard in force in the City.

In one case, after much correspondence and the service of a statutory notice, the nuisance was ultimately abated by the use of a superior class of coal and improvements in the firing of the boilers. In the other, the question is still occupying the attention of the engineers responsible for the installation of the new boilers, in conjunction with this Department.

Thirty informal and two statutory notices were served. In addition, the drivers of four steam wagons were cautioned; in the case of three of them the offence has not been repeated, whilst the fourth offending vehicle has not again been seen in the City.

The following table gives details as to smoke inspection :—

No. of chimneys watched.	No. of observations made.	No. of chimneys from which black smoke issued in such quantity as to be a nuisance.	No. of times when smoke issued so as to be a nuisance.	No. of notices served for the abatement of smoke nuisances.		No. of Prosecutions.
				Informal.	Statutory.	
106	653	18	61	30	2	...

Atmospheric Pollution Records.—Three observation stations, under the immediate control of the City Analyst, are placed—one in Westgate Cemetery, one in the grounds of the Moor Hospital, and one in St. Lawrence area, in connection with similar stations in other towns, the monthly results from all of which are compared and published by the Department of Scientific and Industrial Research.

The monthly readings from the Newcastle stations are appended :—

ATMOSPHERIC POLLUTION.—NEWCASTLE RECORDS, 1932.

TOWN MOOR.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.									
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter.			
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as S.O ₃ .	Chlorine as Cl.	Ammonia as N.H ₃ .	Sulphate as S.O ₄ .
January ..	28.4	0.43	1.16	1.25	1.48	2.16	6.48	1.05	0.40	0.04	1.26
February ..	27.0	0.17	0.85	1.25	1.46	2.16	5.89	0.85	0.84	0.07	1.02
March	85.2	0.03	1.08	1.49	0.68	3.41	6.69	1.58	0.54	0.13	1.89
April	28.4	0.36	0.94	1.68	0.80	1.48	5.26	0.62	0.33	0.07	0.75
May	123.5	0.04	1.68	1.70	2.21	3.47	9.10	1.36	0.88	0.16	1.63
June	25.6	0.13	0.67	1.41	1.02	1.22	4.45	0.56	0.24	0.09	0.68
July	116.4	0.16	2.26	1.48	0.70	3.02	7.62	1.04	0.50	0.31	1.25
August ...	85.2	0.03	0.95	1.51	2.39	1.53	6.41	0.82	0.48	0.23	0.99
Sept.	85.2	0.06	0.71	0.86	1.87	2.56	6.06	1.11	0.67	0.09	1.33
Oct.	127.7	0.13	0.85	1.05	1.53	4.09	7.65	1.49	0.64	0.16	1.79
Nov.	28.4	0.07	0.74	1.07	1.14	1.82	4.84	0.82	0.37	0.07	0.99
Dec	17.0	0.14	1.21	1.36	0.95	1.29	4.95	0.77	0.27	0.09	0.92
Total, 12 months...	778.0	1.75	13.10	16.11	16.23	28.21	75.40	12.07	6.16	1.51	14.50
Average per month	64.8	0.15	1.09	1.34	1.35	2.35	6.28	1.01	0.51	0.13	1.21

An average of 6.28 metric tons per square kilometre per month=6.0 cwts. per acre per annum, or 193 tons per square mile per annum, as compared with 6.6 cwts. per acre, or 213 tons per square mile in 1931.

WESTGATE CEMETERY.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.									
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter.			
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as S.O ₃ .	Chlorine as Cl.	Ammonia as N.H ₃ .	Sulphate as S.O ₄ .
January ..	27.1	0.66	4.82	4.57	0.65	1.74	12.44	0.79	0.31	0.07	0.95
February	25.8	0.53	2.62	3.18	1.14	1.95	9.42	0.71	0.69	0.08	0.84
March	63.8	0.27	2.51	3.58	0.77	2.93	10.06	1.61	0.58	0.15	1.94
April	35.3	0.26	2.29	3.49	0.42	1.70	8.16	0.68	0.50	0.14	0.81
May	82.8	0.01	1.72	1.86	1.31	2.16	7.06	1.09	0.65	0.18	1.30
June	19.0	0.08	1.74	3.26	0.76	1.06	6.90	0.50	0.19	0.05	0.60
July	95.0	0.27	2.60	3.33	0.95	3.42	10.57	0.79	0.43	0.24	0.94
August ...	65.1	0.11	1.17	2.10	1.17	1.95	6.50	0.62	0.37	0.15	0.75
Sept.	62.4	0.12	1.30	1.91	0.87	2.37	6.57	0.94	0.45	0.09	1.13
Oct.	101.8	0.33	3.09	3.24	0.41	3.05	10.12	0.98	0.50	0.14	1.17
Nov.	21.7	0.12	1.97	2.67	0.34	1.56	6.66	2.72	0.27	0.07	0.87
Dec.	16.6	0.15	0.79	1.67	0.98	1.84	5.43	0.84	0.43	0.03	1.00
Total, 12 months...	616.4	2.91	26.62	34.86	9.77	25.73	99.89	12.27	5.37	1.39	12.30
Average per month	51.4	0.24	2.22	2.91	0.81	2.14	8.32	1.02	0.45	0.12	1.03

An average of 8.32 metric tons per square kilometre per month=8 cwts. per acre per annum, or 256 tons per square mile per annum, as compared with 7.6 cwts. per acre, or 242 tons per square mile in 1931.

WELBECK RESERVOIR.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.									
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter.			
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as S.O ₃ .	Chlorine as Cl.	Ammonia as N.H ₃ .	Sulphate as S.O ₄ .
January ..	14.3	0.44	1.52	2.25	1.03	2.12	7.36	0.94	0.36	0.08	1.12
February	22.1	0.04	1.24	2.17	1.33	2.56	7.34	0.94	0.82	0.13	1.12
March	62.5	0.08	1.89	3.11	0.99	3.88	9.95	1.50	0.88	0.20	1.80
April	28.6	0.34	1.13	2.15	0.68	2.53	6.83	0.94	0.61	0.16	1.12
May	82.0	0.04	1.77	2.88	1.47	3.45	9.61	1.24	1.05	0.20	1.48
June	23.4	0.03	1.18	2.37	0.92	1.60	6.10	0.68	0.29	0.05	0.81
July	65.1	0.13	2.28	2.68	1.17	2.21	8.47	0.81	0.47	0.16	0.96
August ...	43.0	0.08	0.77	2.81	0.95	1.63	6.24	0.68	0.39	0.11	0.81
Sept.	50.8	0.05	1.37	2.23	1.10	2.75	7.50	0.87	0.55	0.04	1.04
Oct.	80.7	0.17	1.04	2.19	1.61	3.07	8.08	1.50	0.69	0.14	1.80
Nov.	16.9	0.08	0.96	1.90	0.82	2.10	5.86	0.89	0.44	0.07	1.07
Dec.	14.3	0.27	1.04	1.22	0.67	0.81	4.01	0.55	0.21	0.04	0.65
Total, 12 months...	503.7	1.75	16.19	27.96	12.74	28.71	87.35	11.54	6.76	1.38	13.78
Average per month	42.0	0.14	1.35	2.33	1.06	2.40	7.28	0.96	0.56	0.12	1.15

An average of 7.28 metric tons per square kilometre per month=7 cwts. per acre per annum, or 224 tons per square mile per annum, as compared with 8.2 cwts. per acre, or 264 tons per square mile in 1931.

TOTAL IN THREE GAUGES IN THE CITY.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.									
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter			
		Tar.	Other Car- bonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as S.O ₃ .	Chlorine as Cl.	Ammonia as N.H ₃ .	Sulphate as S.O ₄ .
Total, 12 months...	1898.1	6.41	55.91	78.93	38.74	82.65	262.64	35.88	18.29	4.28	40.58
Average per month	158.2	0.53	4.66	6.58	3.23	6.89	21.89	2.99	1.52	0.37	3.39
Average per gauge 12 months	632.7	2.14	18.64	26.31	12.91	27.55	87.55	11.96	6.10	1.43	13.53
Average per gauge per month	52.7	0.18	1.55	2.19	1.08	2.30	7.30	3.99	2.03	0.48	4.51

An average of 7.3 metric tons per square kilometre per month=7 cwts. per acre per annum, or 224 tons per square mile per annum, as compared with 7.5 cwts. per acre, or 240 tons per square mile in 1931.

For comparison with the foregoing, the following returns of sunshine recorded at the Armstrong College, Newcastle, and at Cockle Park, near Morpeth (about 15 miles from the City), are given :—

Month.	Armstrong College. Sunshine (hours).	Cockle Park. Sunshine (hours).
January	77·8	90·0
February	59·6	74·0
March	71·5	83·4
April	124·1	143·4
May	89·6	86·8
June	172·3	171·4
July	129·7	135·9
August	132·8	130·8
September	131·1	145·7
October	90·6	96·5
November.....	46·8	54·7
December	32·4	43·6
Total for year.....	1158·3	1256·2
Average per month.....	96·5	104·7

CINEMAS, THEATRES, AND OTHER PLACES OF PUBLIC ENTERTAINMENT.

Nine applications were received for certificates of sanitation, which are required by the Licensing Justices before a music or dancing licence is granted or renewed. After an inspection of the premises, all were granted.

The number of places so certified now totals 6 theatres and music halls, 31 cinemas, and 109 other places, such as dance and concert halls, billiard rooms, cafes, etc. 148 visits were made both during the day and evening to inspect the sanitary arrangements, dressing rooms, etc., and all were found to be in order.

Testing of the air and ventilation systems has again been carried out, every cinema, music hall and theatre being tested with the "Kata" thermometer. In several cases four or five separate tests were made in different parts of the halls.

The high standard which has been reached since commencing this work is still maintained.

Tests for demonstration purposes were also made in four classrooms at the Rutherford College, three in private houses, and two in bakehouses, giving a total of 98 separate buildings.

OFFENSIVE TRADES.

25 applications for permission to establish the trade of a fish fryer were received during the year. Of that number eight were granted and 17 refused, the proposed premises not being up to the standard required in this City.

This class of "offensive trade" still predominates, there being now 159 on the register (against 156 last year). Only two other such trades (those of a tripe boiler and gut scraper) have been commenced.

The fried fish shops are inspected both by day and night, and only in one case was it necessary to serve a notice to carry out requisite cleansing.

The number of offensive trades now on the register is :—

Fish fryers	159
Rag and bone dealers	12
Tripe boilers	8
Gut scrapers	4
Dealers in hides and skins.....	4
Bone boilers	4
Fat melters and extractors.....	2
Glue and size makers.....	2
Soap boiler	1
Dealer in blood or other putrescible animal products	1

These are systematically inspected, 1,382 such visits being made during the year.

SUMMARY OF NUISANCES, ETC., FOR THE ABATEMENT OF WHICH NOTICES
WERE SERVED DURING 1932.

Foul pail-closets (to replace with water-closets).....	76
Foul privies and ashpits (to replace with water-closets)	2
Defective waste water-closets (to replace with fresh water-closets with flushing cisterns, etc.).....	48
Foul or defective ashpits not connected with privies (to remove and provide dust bins)	37
Insufficient water-closet accommodation (additional water-closets ordered)	17
Defective or insufficient dust bins (for houses)	1,760
" " " (for business premises).....	123
Defective water-closets.....	820
Water-closets without adequate water supply	75
Choked water-closets (mostly served on tenants).....	36
Dirty water-closets (all served on tenants).....	43
Defective pail-closets (to repair)	3
Defective drains (to repair, or construct new drains)	205
Insufficient means of drainage.....	11
Choked drains, etc.....	359
Defective, want of, or choked sinks, waste pipes, etc.....	334
No sink provided.....	5
Defective or choked soil-pipes, vent shafts, etc.	36
Sink waste-pipes not trapped	12
Want of or defective pavement in yards, passages, etc.	340
Dirty rooms	36
Dirty bedding	4
Damp rooms.....	306
Overcrowding.....	4
Dirty yards, passages, stairs, etc.....	136
Animals, pigeons, and fowls improperly kept.....	17
Offensive accumulations.....	82
Accumulations of manure	17
Want of or defective manure pits.....	11
Broken roofs and want of or defective or choked spouting.....	1,034
Want of water (other than in tenements—see below).....	96
Smoke nuisances	18
Want of proper ventilation to rooms (including to floor space), broken window cords, etc.	518
Structural defects—internal and external—(broken plaster, floors, stairs, walls, fireplaces, etc.).....	3,174
Cisterns supplying water to sinks, etc., dirty or defective	7
Filth thrown on yards, streets, etc.....	9
Stables (unsuitable, defective, etc.).....	1
Food manufactured or stored for sale under improper conditions.....	17
Bakehouses—Dirty, etc.	77
Public-houses—(Sanitary accommodation defective, insufficient, etc.)...	3
Council (and other) Schools—	
Defective water-closets	2
" urinal	1
Dust bins required	3
Cellar dwellings illegally occupied.....	6
Fried fish shops—(Want of cleansing).....	1
Tenements—Limewashing not done.....	14
No adequate accommodation for washing of clothes	172
" " storage of food.....	1,055
" " preparation and cooking of food	165
Water supply and sinks not adequate, conveniently accessible, etc.	572
Water supply (only) not adequate, conveniently acces- sible, etc.	30
Insufficient number of water-closets provided.....	43

SUMMARY OF NUISANCES, ETC.—Continued.

Tenements—continued.		
Inadequate lighting of common staircases—Natural ....97 }	348	
Artificial 251 }		
Staircases without proper handrails, etc.....	76	
Houses converted to "tenements" without the Bye-laws being complied with	4	
Cinemas—Temperature excessive	2	
Other defects and contraventions.....	3	
Name and address of landlord and of Medical Officer of Health not inscribed upon tenants' rent books.....	8	
Tents, vans, sheds, and similar structures (defects and contraventions of the Bye-laws)	2	
Unclassified minor nuisances.....	248	
TOTAL.....	12,664	

DETAILS RELATING TO CERTAIN WORKS CARRIED OUT IN THE ABATEMENT OF NUISANCES AND TO INSPECTIONS MADE DURING 1932.

Combined privies and ashpits removed	4
Length (in yards) of old drains removed.....	1,149
Length (in yards) of new drains constructed.....	2,448
New trapped gullies provided to drains.....	486
"Cell" privy removed (in Benwell).....	1
Pail-closets removed	118
Defective water-closets removed.....	97
Water-closets provided (in place of the foregoing privies and defective water-closets removed, also in 52 cases where the accommodation was previously insufficient)	271
Dry ash-pits removed and replaced by galvanised iron dust bins.....	25
Dust bins substituted for dry ash-pits where water-closets existed, and provided in cases where privies have been replaced by water-closets	*157
No. of drains tested.....	751
No. of tests of above drains made by smoke and water	774
No. of inspections from complaints made at office (verbally or by letter)	4,685
No. of tenement inspections made	14,485
No. of contraventions of Tenement Bye-laws for which notices have been served to obtain remedy	5,716
Inspections of houses made from complaints received outdoors or nuisances discovered in the districts, including a large number of minor nuisances, such as choked drains and dirty yards, the abatement of which was accomplished at the time of visit, and without legal notice.....	6,085
Inspections to learn if works ordered were in progress.....	19,420
Supervisions of work in progress	8,600
Common yards and courts in the worst localities specially visited on Friday afternoons and Saturday mornings to obtain weekly cleansing	21,346
Inspections after infectious disease	1,163
Inspections of milk shops and ice creameries (including retail shops)...	1,898
" bakehouses	†1,697
" offensive trades	1,382
" wholesale margarine warehouses.....	26
" as to limewashing of tenements.....	2,326
" of schools	122
" under Housing Acts	2,020
Inspection of cinemas, etc. (day visits, 96; night visits, 52).....	148
Tents, vans, sheds and similar structures.....	201
Miscellaneous visits	7,834

* Dust bins supplied free by Corporation.

† Including 1,071 inspections made under the Factory and Workshop Acts by the Assistant Inspectors of Workshops.

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE
MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC.,
DURING THE YEAR 1932.

NATURE OF COMPLAINT.	No. of Cases.	Work done and Nuisances abated without the Summonses ordered being applied for.	Summonses issued.	
			Work done and Summonses withdrawn.	Other Results.
<i>Public Health Acts :—</i>				
Roofs and spouting defective.....	17	10	5	In two instances owners fined 10/-.
Dampness (in rooms).....	7	4	2	In one case the owner was ordered to carry out the work in seven days.
Yard pavements defective...	12	10	1	In one case owner ordered to do the work in seven days.
Inadequate ventilation of rooms, etc. (broken sash-cords, etc.).....	5	5	...	
Sink waste pipes defective...	2	2	...	
Choking or silting up of the Ouseburn so as to obstruct or impede the proper flow of water along the same, etc.	1	...	...	Case adjourned <i>sine die</i> .
Offensive smoke and fumes from an accumulation or deposit which was on fire	1	...	1	
Drains defective	2	2	...	
Rubbish deposited on vacant ground	1	1	...	
Smoke emitted into rooms from fireplaces	2	2	...	
Other nuisances	5	2	3	
<i>Public Health Act, 1875, Section 36, and Newcastle upon Tyne Improvement Act, 1892, Section 53 :—</i>				
Foul privies (to be replaced by water-closets).....	23	23	...	
Water-closets defective, without adequate water flush, etc.....	9	7	...	In two cases owners fined 20/- in one of these the owner was later fined £5.
<i>Factory and Workshop Act, 1901, Section 98 :—</i>				
Bakehouse unfit on sanitary grounds	1	...	...	Occupier fined 10/-.
Carried forward.....	88	68	12	8

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE
MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC.,
DURING THE YEAR 1932.—*Continued.*

NATURE OF COMPLAINT.	No. of Cases.	Work done and Nuisances abated without the Summonses ordered being applied for.	Summonses issued.	
			Work done and Summonses withdrawn.	Other Results.
Brought forward.....	88	68	12	8
<i>Newcastle upon Tyne Corporation Act, 1911, Section 52 :—</i>				
(a) Ice cream sold from a barrow not marked with the name and address of the vendor	1	...	...	(One vendor). Fined 10/- <i>re (b)</i> ; case dismissed on payment of costs <i>re (a)</i> .
(b) Causing or permitting ice cream to be manufactured under improper conditions.....	1	...	...	
<i>Section 55 :—</i> Want of or defective dust-bins for house refuse	27	15	9	In two cases owners fined 5/- and in one 20/-.
<i>Newcastle upon Tyne Corporation Act, 1926 :—</i> <i>Section 15 :—</i> House without a proper water supply	1	...	...	Owner fined 10/-.
<i>Section 33 :—</i> Living vans kept on land without the approval of the Corporation	4	...	...	Occupiers fined 5/- in three cases, and in one, 20/-, and ordered to quit in one month; subsequently fined 1/- per day in default.
<i>Bye-laws with respect to Tenemented Houses :—</i>				
Water-closet accommodation insufficient (No. 8)...	4	1	3	
Water-closet structure, apparatus, etc., not maintained in good order (No. 11)	3	1	2	
Common staircases not kept in proper repair (No. 18a)	6	6	...	
Carried forward.....	135	91	26	18

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE
MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC.,
DURING THE YEAR 1932.—*Continued.*

NATURE OF COMPLAINT.	No. of Cases.	Work done and Nuisances abated without the Summonses ordered being applied for.	Summonses issued.	
			Work done and Summonses withdrawn.	Other Results.
Brought forward.....	135	91	26	18
<i>Bye-laws with respect to Tenemented Houses (contd.) :—</i>				
Common staircases without adequate means of :—				
(a) Natural light (No. 18b)	4	4	...	
(b) Artificial light (No. 18c)	15	13	1	In one case owner fined 20/-.
Staircases without sufficient handrails (No. 20)	3	3	...	
Rooms inadequately ventilated (window sash-cords broken, etc.) (No. 26c) ...	9	5	4	
Yard pavements defective (No. 28c)	2	1	1	
Water supplies and sinks inadequate, not conveniently accessible, etc. (No. 28d)	9	7	1	In one case owner fined 20/-.
Inadequate accommodation for :—				
(a) Washing of clothes (No. 28f.i.)	11	9	2	
(b) Storage of food (No. 28f.ii.)	10	7	2	In one case owner fined 20/-.
(c) Preparation and cooking of food (No. 28f.iii.)	9	6	3	
Houses not throughout of adequate stability (structural defects, including floors, plaster, etc.) (No. 28g.)	6	6	...	
TOTALS	213	152	40	21

Total amount of Penalties :—£15 15s. 0d.

HOUSING.

The Housing Acts, 1925 and 1930.

During the year 2,020 inspections were made under these Acts and much good work carried out. It is proposed at an early date to put in force the provisions of Section 19 of the Housing Act, 1930, in regard to a number of individual unfit houses. This Section, briefly, gives the Local Authority power to order the demolition of an insanitary house. The owner is requested to appear before the Health Committee, when the condition of the house and any proposals which he may wish to submit with respect to the carrying out of works are considered; if these are not accepted a Demolition Order is made.

MINISTRY OF HEALTH TABLE.

1.— <i>Inspection of Dwelling Houses during the Year :—</i>	
(1) (a) Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts).....	4,522
(b) Number of inspections made for the purpose.....	8,489
(2) (a) Number of dwelling houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925.....	1,100
(b) Number of inspections made for the purpose.....	2,020
(3) Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation...	*490
(4) Number of dwelling houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	2,462
(*Dealt with as Clearance Areas (see page 208)).	
2.— <i>Remedy of Defects during the year without Service of formal Notices :—</i>	
Number of defective dwelling houses rendered fit in consequence of informal action by the Local Authority or their officers.....	403
3.— <i>Action under Statutory Powers during the Year :—</i>	
(a).—Proceedings under Sections 17, 18 and 23, of the Housing Act, 1930—	
(1) Number of dwelling houses in respect of which notices were served requiring repairs.....	766
(2) Number of dwelling houses which were rendered fit after service of formal notices :—	
(a) By owners	743
(b) By Local Authority in default of owners.....	...
(b.)—Proceedings under Public Health Acts :—	
(1) Number of dwelling houses in respect of which notices were served requiring defects to be remedied.....	1,293
(2) Number of dwelling houses in which defects were remedied after service of formal notices :—	
(a) By owners	1,281
(b) By Local Authority in default of owners.....	...

HOUSING—MINISTRY OF HEALTH TABLE—*Continued.*

(c.)—Proceedings under Sections 19 and 21 of the Housing Act, 1930 :—	
(1) Number of dwelling houses in respect of which Demolition Orders were made.....	...
(2) Number of dwelling houses demolished in pursuance of Demolition Orders	...
(d.)—Proceedings under Section 20 of the Housing Act, 1930 :—	
(1) Number of separate tenements or underground rooms in respect of which Closing Orders were made.....	...
(2) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit.....	...
(e.)—Proceedings under Section 3 of the Housing Act, 1925 :—	
(1) Number of dwelling houses in respect of which notices became operative requiring repairs.....	...
(2) Number of dwelling houses which were rendered fit after service of formal notices :—	
(a) By owners	...
(b) By Local Authority in default of owners.....	...
(3) Number of dwelling houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close.....	...
(f.)—Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 :—	
(1) Number of dwelling houses in respect of which Closing Orders became operative.....	...
(2) Number of dwelling houses in respect of which Closing Orders were determined, the dwelling houses having been rendered fit	...
(3) Number of dwelling houses in respect of which Demolition Orders became operative.....	...
(4) Number of dwelling houses demolished in pursuance of Demolition Orders.....	...

Clearance Areas and Improvement Schemes.

Elswick East Terrace and Back George Street Areas.—As stated in the previous report, a further Inquiry by the Ministry of Health was held in May, 1932, in respect of these Areas (which were designated "Elswick East Terrace Clearance Areas Nos. 1 and 2.").

The Minister of Health subsequently confirmed the Order regarding the main area (No. 1), subject to certain modifications, the Order in respect of No. 2 not being confirmed.

At the time of this second Inquiry, the figures were :—

AREA.	Number of		Popula- tion.
	Houses.	Dwellings.	
Elswick East Terrace, No. 1.....	95	201	808
" " No. 2.....	3	4	18
Total	98	205	826

In November, the Ministry of Health held a local Inquiry into representations as to six Clearance Areas, as follow :—

AREA.	Number of		Popula- tion.
	Houses.	Dwellings.	
Byker Bank—No. 1 Area	19	39	172
" " No. 2 Area	146	309	1,375
Ouseburn Road	12	23	119
Hannington Place	6	24	94
Appleton's Buildings	12	25	101
Quality Row	42	70	377
Total	237	490	2,238

The Inquiry was attended by a large number of owners, agents, solicitors and architects and, as usual, there was very strong opposition to the action of the Council.

These Areas, taken as a whole, were the largest, most insanitary and dilapidated so far dealt with. The houses were very old and generally had not been maintained in good structural condition. Many of the houses were situate upon, or at the bottom of, sloping ground, with the result that dampness was prevalent, whilst many of the rooms were below the surface of the yards, making them dark and badly ventilated.

Some years ago an attempt was made in some cases to have the Tenement Bye-laws put in force but, owing to bad planning and construction, this was impracticable.

Amongst the outstanding defects which were found in about 95 per cent. of the houses, may be mentioned :—

Structures.—Defective pointing of walls, brickwork displaced and falling down, damp-proof courses either non-existent or defective, chimney stacks and pots displaced.

Roofs.—Tiles and slates broken and loose, flashings and spouting defective.

Floors.—Worn, uneven and rough.

Stairs.—Treads badly worn, handrails loose, stairheads inadequately lighted.

Windows.—Perished or rotted frames and sashes, broken sash-cords and fasteners.

Doors.—Warped, hinges broken, fastenings defective.

Grates and Stoves.—Badly set, firebars broken or missing, ovens cracked or not heating, etc.

Yards.—Where provided, the surfaces as a rule were broken.

Sanitary accommodation.—Although the majority of the houses had w.c.'s, there was a number of foul and dilapidated pail-closets.

Water supply and Sinks.—Not conveniently accessible, only in a few cases were they provided inside the houses.

Overcrowding.—These Areas are amongst the most overcrowded in the City.

In addition there was a large number of somewhat minor defects which, whilst perhaps only causing inconvenience, were certainly not conducive to the comfort and well-being of the tenants. Generally, none of the houses approached the standard of fitness required for healthy homes.

The Orders were ultimately confirmed by the Minister of Health in the case of Hannington Place, Appleton's Buildings, and Quality Row, without reservation, and in the case of Byker Bank (Nos. 1 and 2) with certain modifications. In the case of the Ouseburn Road Area certain proposals by the owners were accepted and the properties excluded, except as to one house, which was eventually dealt with under Section 19 of the Housing Act, 1930.

Houses Demolished, etc.—Apart from action by the Health Committee, 52 tenemented houses (of 165 holdings), 11 flats, 34 self-contained houses, 18 munition cottages (Scotswood), and 1 common lodging house, have been demolished, or have ceased to be used as dwellings, for various reasons (dilapidations, street improvements, conversion to business premises, etc.).

Houses built during the year 1932.—The City Engineer reports that there were 674 self-contained houses, and 185 houses in flats (372 tenancies), built privately during the year under report. In addition, 850 dwellings were provided under housing schemes.

Tents, Vans, Sheds and Similar Structures.

It is satisfactory to record that at last every van has been removed from Jane Pit Yard, Walker, leaving now, of the three colonies, only two in Bunton's Yard.

The occupiers of these have been summoned several times, and ordered by the Bench to quit, on two occasions small fines being imposed. They appear to be making an honest attempt to secure other accommodation, but so far without success owing to being out of work and in arrears of rent.

In one case a solitary van dweller, in the Ouseburn Valley, was summoned and fined 10/- in June, 1931, after which he left the van for some time, but again took possession in 1932, and, after unavailing attempts were made for his removal, he was again summoned and fined £1. His present whereabouts are unknown.

Six applications to place or keep vans on ground within the City were received during the year, and all refused.

Tenemented Houses.

The number of tenemented houses in the City at the end of the year was 3,501, consisting of :—

3,092	...	One-room holdings.
5,781	...	Two-room holdings.
1,113	...	Three-room holdings.
123	...	Four-room holdings.
2	...	Five-room holdings.

A total of 10,111 separate holdings. During the year 14,485 inspections have been made of this type of dwelling.

Tenement Bye-laws.

In addition to the Clearance Areas already reported upon, 484 tenemented houses, comprising 1,192 separate holdings, have been inspected and reported upon in detail during the year, with a view to the Bye-laws being put in force. It was found necessary to report for legal proceedings in 91 cases, as against 90 in 1931. In the majority of cases the necessary works were put in hand or completed after the issue of the summons and before the hearing took place.

The total amount of fines amounted only to £3.

New Buildings and Sanitary Alterations.

421 plans were examined by the Medical Officer of Health before their submission to the Town Improvement and Streets Committee and, where necessary, suggestions forwarded to the City Engineer for his consideration, as compared with 422 during the previous year.

Common Lodging Houses.

The number of registered houses in the City at the end of the year was 31, as compared with 34 in 1931. Three were voluntarily closed and removed from the register, one for conversion to business premises, one for market extensions, and one owing to lack of lodgers.

The following summary shows in detail the accommodation as at the end of the year :—

Description of Lodgers.	No. of			Accommodation.			
	Houses.	Single Beds.	Double Beds.	Married Couples.	Single Women.	Single Men.	Total.
Married couples and single women	2	64	10	10	64	...	84
Women only	1	18	...	...	18	...	18
Men only	28	927	...	...	...	927	927
TOTAL	31	1,009	10	10 20 persons	82	927	1,029

The total number of lodgers for which the houses were registered was 1,029, showing a decrease of 76 from last year, due to the removal of the three houses mentioned, and the addition of one bed in an existing house.

The average number of lodgers per night was 633, the highest number being 697, and the lowest 574.

A summary of inspections, contraventions found, etc., is given in the following table.

REGISTERED COMMON LODGING HOUSES.

SUMMARY OF WORK DONE AND VISITS MADE DURING THE YEAR 1932.

Number of houses on the register at the end of the year.....	31
Applications for registration (Newcastle Corporation Act, 1911, Sec. 63); all granted.....	34
Houses ceased to be occupied as common lodging houses.....	3
Inspections made in the day-time.....	3,642
Inspections made in the night-time.....	136
Notices served { <i>re</i> washing of bed clothes, 130 } { <i>re</i> lime-washing of houses, 65 }	195
Contraventions of Bye-laws, etc. :—	
Structural defects in houses	10
Defective water-closets	4
Defective roofs and defective or choked spouting.....	7
Choked W.C.'s and drains.....	11
No water supply	3
Dust bins defective or insufficient.....	7
Lack of efficient ventilation (broken sash-cords, etc.).....	1
Sinks and waste-pipes choked and/or defective.....	2
Defective yard pavement.....	1
Accumulation of refuse.....	1
Unclassified minor nuisances.....	2
Deaths reported.....	4
Cases of infectious disease reported (measles 2, tuberculosis 5, chicken-pox 1)	8

Factories and Workshops.

The inspection of these has been well maintained during the year, the total number of inspections being 9,423. These included visits to workshops, domestic workshops, workplaces, laundries and bakehouses, also to factories on receipt of complaint from H.M. Inspector. Generally speaking their condition as regards sanitary accommodation, ventilation, cleanliness, water supply, and other matters of a hygienic nature, was found satisfactory.

During the year 38 lists of outworkers were received, eight employers having sent in their lists in February and August, as required by the Factory and Workshop Act, 1901, and 22 employers only once. Included in the lists were two names and addresses of outworkers residing in other towns, and these, in accordance with the requirements of the Act, were forwarded to the Local Authority of the district concerned. In 7 cases contraventions of the Act were found in the 56 outworkers' premises inspected.

29 notices as to insanitary conditions in factories and workshops were received from H.M. Inspector of Factories, 16 of which related to factories (which are visited by the Health Department staff only on receipt of a complaint from H.M. Inspector), and 13 to workshops. Many of the latter had, however, been found and dealt with by the District Inspectors prior to receipt of the complaint. The others received due attention and the necessary works were carried out without having to resort to legal proceedings.

ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN
CONNECTION WITH FACTORIES, WORKSHOPS AND WORKPLACES,
DURING THE YEAR 1932.

Home Office Tables.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS.

PREMISES. (1)	NUMBER OF		
	Inspec- tions. (2)	Written Notices. (3)	Occupiers Prosecuted (4)
Factories..... (Including Factory Laundries.)	343	227	1 Bakehouse unfit. (Sec. 98.)
Workshops (Including Workshop Laundries.)	7,654		
Workplaces (Other than Outworkers' premises.)	1,426		
TOTAL	9,423	227	1

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

PARTICULARS.	NUMBER OF DEFECTS.			Number of Offences in respect to which Prosecu- tions were institu- ted.
	Found.	Re- medied.	Referred to H.M. In- spectors.	
(1)	(2)	(3)	(4)	(5)
*Nuisances under the Public Health Acts :—				
Want of cleanliness	232	232	...	...
Want of ventilation	10	10	...	...
Overcrowding	1	1	...	...
Want of drainage of floors	1	1	...	...
Other nuisances	89	88	...	...
Sanitary accommodation { insufficient	28	27	...	...
{ unsuitable or defective	95	93	...	...
{ not separate for sexes	8	8	...	...
Offences under the Factory and Workshop Acts—				
Illegal occupation of underground bake-house (s. 101).....	...	...	...	...
Other offences	...	...	4	...
(Excluding offences relating to out-work and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921.				
TOTAL	464	460	4	...

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.

NATURE OF WORK. (1)	Instances. (2)	Notices served. (3)	Prosecu- tions. (4)
As per Home Office List.....	None.	None.	None.

TRADES.

Particulars as to the number and nature of the various trades carried on in the workshops of the City:—

TRADES.	Work-shops.	Domestic Work-shops.	Work-places.
Athletic Outfitters, etc.	12	...	...
Bacon Curing, Pickles, etc.	51	1	2
Bags, Waterproofs, etc. (making and repairing) ...	19	2	2
*Bakehouses	290	...	...
Blacksmiths, Plumbers, etc.....	121	...	2
Bouquets and Wreaths (making, etc.)	13	...	...
Boots, etc. (making and repairing).....	134	25	...
Dressmaking, Underclothing, etc.	266	54	...
Drysalters, Cleaning & Packing Fruit, Tea, etc. ...	33	1	97
Furniture Making, Joiners, etc.	219	9	...
Harness, etc. (making and repairing).....	25	...	...
Jewellery, Watches, etc. (making and repairing)...	75	2	...
Laundries	19	...	...
Machines and Tools (making and repairing).....	145	3	3
Painters, Engravers, Photographers, etc.	89	3	13
Restaurant Kitchens, etc.....	...	...	122
Tailoring, Shirts, etc.....	267	30	...
Miscellaneous	106	...	125
TOTALS	1,884	130	366

* Includes 40 "Factory" and 108 "Domestic" Bakehouses.

Inspection of Council and other Schools.

During the year 122 inspections were made, and at 6 certain minor defects were found in connection with the sanitary conveniences; these, when brought to the notice of the Education Authorities, were duly remedied.

Rag Flock Acts.

There are no manufacturers of rag flock in the City, the principal users being upholsterers and bedding manufacturers, who number 30. Six samples were taken, five of which were certified to conform to the standard of purity required by the Regulations made under the Act; the other very slightly exceeded the allowable limit of chlorine, respecting which the vendor was cautioned. 66 visits were also made under the Factory and Workshop Act, 1901.

Exhumations.

Two exhumations were carried out under the supervision of the Department during the year, both being authorised by Home Office Licence. In each case re-interment took place in the same cemetery, the operations being carried out in the early morning and conducted in a sanitary and reverent manner.

Fertilisers and Feeding Stuffs Act, 1926.

In pursuance of this Act, 38 visits were made to factories, warehouses, and retail shops where fertilisers or feeding stuffs were prepared or stored for sale, for the purpose of seeing that the requirements were carried out as to the marking of packages, inspection of registers, etc.

Two samples of fertilisers and 16 of feeding stuffs were obtained for analysis, mostly informally. Offences were disclosed in 5 cases and, not being of a serious nature, each was met by a letter of caution.

Merchandise Marks Act, 1926.

In the administration of this Act, 218 inspections and personal visits were made to shopkeepers, stall-holders, hawkers, etc., in order to ascertain whether imported goods were properly marked with the "indication of origin" required by the Act. Attention was drawn to the requirements of the Act in each case. There was also left a copy of a printed notice to traders (setting out the principal provisions of the Act). The issue of this notice proves to be useful and advantageous, generally resulting in future compliance with the requirements. In one case a local trader was summoned for applying a false trade description to certain goods, to wit, "Dutch" bacon sold as "Danish" bacon. The case resulted in a conviction and penalty of £10.

Conclusion.

I cannot close this report without a brief reference to the great loss sustained, at the end of the year, by the Public Health Service in general, and this Department in particular, by the death of your predecessor, Dr. Harold Kerr.

His relations with the Staff were always of the most cordial nature, he being always ready to help and advise every member, to whom the passing of their esteemed Chief was a real and personal loss.

I would congratulate you, Sir, on succeeding such a worthy and eminent Medical Officer of Health, and trust that the same kindly relations may long continue.

There has been no change in the Inspectorial Staff during the year, and I have pleasure in again recording that all have given of their best in the interests of the Department.

I am, Sir,

Your obedient servant,

C. RAIMES,

Chief Sanitary Inspector,

Inspector of Common Lodging Houses, etc.

Health Department,

Town Hall,

1st July, 1933.