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REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

FOR THE

YEAR

1956

BY

ANDREW B. SEMPLE, V.R.D., M.D., D.P.H.,

Medical Officer of Health

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My Lord Mayor, Ladies and Gentlemen,

I have the honour to submit my fifth report on the health of the City of Liverpool, this being the 109th year reported on by the Medical Officer of Health of Liverpool.

The year 1956 has been interesting from the public health point of view and the statistics show satisfactory progress in many directions.

Vital Statistics.

Vital Statistics

The live birth rate in the City during the year rose to 20·6 per 1,000, compared with 19·6 in the previous year. It is satisfactory to record a reduction in the still birth rate from 26·0 in 1955 to 24·1 per 1,000 total births in 1956, and also a reduction in the general death rate from 11·9 to 11·4.

The deaths from tuberculosis have shown a continued substantial fall and there were during 1956, 144 deaths from tuberculosis compared with 204 in the previous year. This increased reduction in the death rate is most encouraging.

In addition, there has been a further fall in the infant mortality rate from 30 per 1,000 live births to 26. The exact impact of improvement in the infant mortality rate will be realised when it is pointed out that in 1953 the rate was just under 36 per 1,000 live births compared with the present rate of 26. This means that in terms of infant life saved under one year of life, that in 1956 there was an approximate saving of 160 infant lives in this large group compared with 1953.

The cancer death rate continues as before, but the figure for respiratory carcinoma has increased as might be expected to a new high level of 448 deaths during the year.

Maternity and Child Welfare

The number of new cases of women attending ante-natal clinics has fallen further during the year to 3,053 compared with 3,575 in 1955 and 4,534 in 1954. There has been a corresponding fall in the total attendances at ante-natal clinics from 19,447 in 1955 to 17,200 this year. These results are primarily due to the continued trend of more and more hospital confinements being carried out within the City, as well as the increased proportion of general practitioners who are providing ante-natal care for their patients.

The number of attendances of infants, 0-5 years, at the child welfare clinics increased slightly during the year, and the two temporary clinics at Croxteth and Speke have now become well established and the numbers of mothers and babies attending there have increased substantially.

Ante-Natal Clinics

There have now been established 4 midwives ante-natal clinics functioning in this City, and there has been an increase in the women attending them from 122 to 386 and in the total attendances from 340 to 1,320. In addition, at all clinic sessions the health visitors have been in attendance to give talks and demonstrations on health education, and there is no doubt that these clinics are serving a most useful purpose.

Preventive Mental Health in Child Welfare Clinics

During the year, a start was made in the field of preventive mental health work for the maternity and child welfare service, and arrangements were made for a consultant psychiatrist to attend a health authority clinic once a month for the purpose of giving advice there to clinic medical officers and health visitors, on the procedure to be adopted in certain problem cases.

The psychiatrist has not actually seen any patients but analyses histories of problem children and problem families and discusses them with the various field workers. Follow up reports of cases previously discussed are also considered. The experience of this initial year has shown that already the health visitor, doctor and other workers are beginning to look for these problems in a new light. It is hoped that from this modest start it will be possible eventually to introduce this service into all the child welfare clinics. During the year, these visits were paid to Everton and Carnegie clinics. One of the most welcome findings from these visits has been a greater understanding between the hospital psychiatrists, particularly the child psychiatrists, and the health visitors, and visits have been paid regularly to the psychiatric hospital clinic, and it has been found that the health visitors have been called upon during the year, to do more family case work in this field.

Special Health Visitor dealing with diabetics

Attention is particularly called to a new section in the maternity and child welfare portion of the report dealing with the experience of having seconded to the hospital services for a whole year, a health visitor who specially attends to diabetic patients. The visitor has

worked at a hospital out-patient department twice weekly when she has seen patients regularly attending there. She has been able to get to know the patients and discuss their condition with the ward sister and the doctors. Home visits have been paid to patients and relatives, both to reassure them and to explain the illness and its prognosis. In patients discharged from hospital, regular visits have been paid where advice regarding cooking, diet and other matters has been given. It has been found, as a result of this first year's work, that a considerable number of patients suffering from diabetes have not been carrying out satisfactorily their treatment at home, and regular visits from such a visitor have been most useful. This section of the work is described in detail in the report together with some individual case histories of patients. Examination of the report leaves little doubt in my mind that this innovation has been most successful, and raises the question, whether further introductions of this nature would not be most valuable both to the patient himself and to the hospital authorities.

Welfare Foods

During the year the distribution of welfare foods has continued as described in the last Annual Report. Distribution figures have varied very little compared with the previous year, but all welfare foods are very slightly down on the previous year's figures.

Premature Babies

It has been possible, for the first time this year, to assess the work of the special midwife who looks after the premature baby nursing service. The primary object of this service, has been to care for healthy infants born at home who weigh between 4 and 5½ lbs., and also to enable those premature infants born in hospital to be discharged earlier. Special equipment has been obtained such as heated cots, hot water bottles, special clothing and thermometers, and this equipment has been transferred in each instance to the patient's own home. During the year, this service has dealt with 47 babies weighing between 4 and 5½ lbs., and all these children have been nursed at home successfully. In addition, 78 babies were discharged home to the care of the domiciliary premature baby service, averaging between 5 and 5½ lbs. During September 1956, a further midwife was recruited to extend their service.

The first full year's work in this field has emphasised the importance of this work which must have been closely associated with the further fall in the infant mortality rate to 26.

Breast Milk Supplies

It is satisfactory to report that the working arrangements which were established in 1955 for collecting and taking breast milk to one of the large children's hospitals in this City have been extended and developed further during the year. 9,886 ounces of breast milk were collected and sent to the hospital milk bank in this way. This service has been of great value to the hospital services and, in return, human breast milk has been made available for premature babies and other weakly infants requiring it who have been nursed at home. This arrangement which has been made in an unofficial way is a good example of what can be achieved by working co-operation between the hospital and local authority service.

Attention is drawn to that portion of the report dealing with still births and perinatal deaths. Both these important causes of loss of infant life have been further analysed.

During the year, 4,963 women were delivered within their homes in the City. The average case load for the domiciliary midwives has been 71 which is very similar to the figure last year. Gas and air analgesia has been administered to 3,276 women delivered at home in 1956 compared with 3,088 in the previous year. 2,558 domiciliary deliveries were given pethidine compared with 2,427 in the previous year.

Co-operation with general practitioners

Co-operation with general practitioners has continued to be extended during the year, and in particular, it is satisfactory to report that more and more general practitioners are utilising the services of the health visitors in their ordinary practice work. In addition, midwives have been made fully available to general practitioners and there has been an increase in the amount of co-operation between general practitioners and midwives in regard to ante-natal care.

Obstetric Flying Squads

Analysis of work undertaken by the Obstetric Flying Squads provided by the hospital authorities is included in this report and shows the remarkable increase in this work during the past five years. In 1952 there were 33 calls made by the Flying Squad but by 1956 this figure had risen to 67 calls. A doctor had been booked in 60 cases and a midwife only in 5; 2 were un-booked cases. The majority of calls were made on account of haemorrhage and retained placenta. In a few instances there was more than one reason for calling out the flying

squad and in some cases more than one operative measure had to be carried out. These flying squads are based either on the Liverpool Maternity Hospital or Mill Road Maternity Hospital, and the procedure is that the doctor or midwife calls the hospital who will then arrange for an ambulance to pick up the flying squad and take them immediately, with their equipment, to the patient's home. In each instance, staff sent out includes a sister midwife, an obstetric registrar, an anaesthetist, and sometimes a medical student. They travel in all instances, in the ambulance and if necessary take the patient back to hospital with them.

Maternal Mortality

Seven deaths due to pregnancy or child birth occurred during the year in pregnant women. Six of these deaths were associated with toxemia and the seventh death was due to pulmonary embolism associated with thrombosis of the pelvic veins. It is satisfactory to report that this figure is lower than the nine deaths reported in 1955.

Day Nurseries

One of the day nurseries run by the local health authority was closed during the year so that there are now 13 local authority day nurseries with a total of 706 places.

Towards the end of the year it is satisfactory to report that loan sanction was received from the Ministry of Health to go ahead with the project to build the new Shaw Street day nursery. This followed urgent representation made by both the Local Health Authority and the Regional Hospital Board to the Ministry earlier in the year, and it is hoped that the building will be completed during the latter end of 1957. When Shaw Street day nursery opens, it will be possible to close Mill Road and Salisbury Street day nurseries, both of which are at present housed in unsatisfactory conditions.

Home Nursing

The Liverpool Queen Victoria District Nursing Association has continued to act on an agency basis for the City providing the home nursing. For the first time since 1948 there has been a reduction in the amount of work undertaken by the Association in home nursing. In 1956 there were 20,076 cases dealt with compared with 23,015 in 1955, and the visits have likewise been reduced from 418,923 in 1955 to 396,406 in 1956.

Home Helps

The home help service has shown a further steady development and during the year assisted 2,159 families compared with 2,073 families helped in 1955. This increase has mainly been in respect of maternity

cases and other illnesses. Assisting old persons still forms the majority of the work carried out by this service, and in 1956, 985 old people were helped in this way. One of the very satisfactory changes in the service has been that the number of calls received from general practitioners has greatly increased. This is particularly welcomed as in many ways applications from doctors are ideal, for the visitor is made well aware of the medical consideration of the patient, and this considerably helps in providing the right form of service. It has been possible for the first time to get a picture of the revised scale of charges which were introduced in April 1955, and this has proved to be an improvement, particularly when applied to low income groups.

Some difficulty in recruiting has still been experienced during the year, and it is still not easy to obtain enough home helps of the right type.

Diphtheria Immunisation.

Immunisation and Vaccination

It is most satisfactory to report a substantial increase during the year in the number of children under one year of age who received primary inoculations against diphtheria. During 1956, 5,826 children were inoculated against diphtheria compared with 3,945 in 1955, which is a remarkable increase particularly when it is borne in mind that the 1954 figure was only 3,286. The overall figures have not increased so much as these figures suggest, due to less children in the 5-9 year age group receiving primary inoculations. This can be expected as of course the more children who are immunised before school age, the less will be the number who will be immunised for the first time during school years. At a time when poliomyelitis immunisation is becoming popular, it is encouraging to record such an increase in a level of diphtheria immunisation within the City. This most satisfactory result shows much hard work on the part of both the health visitors and general medical practitioners.

Whooping Cough Immunisation.

Immunisation against whooping cough has continued to develop during the year and 6,508 children were immunised in this way compared with 4,386 in 1955. This rapid increase is also encouraging, and very essential if the satisfactory situation already achieved in respect of diphtheria is to be reached for whooping cough.

Vaccination

The total number of vaccinations carried out during 1956 fell by 265. A drive had been carried out since 1954 to try to increase the proportion of these vaccinations, but it must be pointed out that this result is not quite so disappointing as it might first appear, as for two months during the summer, many vaccinations were postponed due to the introduction then of poliomyelitis immunisation. Still, it is disappointing to see that when the population does appear to become more conscious of the need for protective immunisation, that in regard to vaccination it is very difficult to maintain the position of the City. In such a large sea port as Liverpool, it cannot be over emphasised how important it is to maintain primary vaccination at a high level.

Immunisation against Poliomyelitis

During the year a start was made with poliomyelitis immunisation. The scheme had been introduced by the Ministry of Health and during the months of May and June 2,905 children aged between 2 and 9 years received complete protection against this disease. Due to shortage of material, a priority system was introduced by the Ministry of Health in which parents of children born between 1947 and 1954 were given the opportunity to register their children for this immunisation. The selection of those who should have first opportunity of being immunised was made by the Ministry of Health according to dates of births and in this way roughly 10 per cent of those registered were dealt with during the year. These immunisations were carried out at special clinics and it is satisfactory to report that no serious reaction occurred in any case. In 72 instances, the parents failed to bring their children for a second injection, which meant that these children would only be incompletely protected against poliomyelitis. At the time of going to press, immunisations have just re-started and it is hoped that a substantial number of those on the waiting list will have been offered poliomyelitis immunisation this year.

Infectious Diseases

That section of the report on infectious diseases has been considerably lengthened this year as full details have been given of the very many interesting outbreaks of infectious disease which occurred in the City. The general level of infection has remained very similar to previous years, although there has been a marked decrease of sonne dysentery and food poisoning.

Anthrax

Three confirmed cases of anthrax occurred in the City one of which

proved fatal. In all instances there has been close association between an occupation and the development of the disease.

Typhoid and Para-typhoid Fever

Four cases of typhoid fever and 9 cases of para-typhoid fever were recorded during the year. This is an increase on the previous year's figures. Two of these cases were connected with each other and were caused by a chronic symptomless excretor. The third case gave a history of having eaten cockels from a contaminated foreshore and gave a practical example of how dangerous this practice can be. The fourth and final case was associated with the s.s. Cilicia.

Two cases of para-typhoid and four positive symptomless excretors were discovered following an investigation of a pilgrimage made to Rome in which it appeared that the infection had probably been picked up in Rome. Other cases occurring of para-typhoid fever included one of a doctor's wife who had recently returned from the Middle East. A register of chronic typhoid and para-typhoid excretors showed that there are three chronic typhoid carriers and five para-typhoid 'B' carriers who are being observed carefully and who are living within the City.

Whooping Cough

There were 2,559 confirmed cases of whooping cough reported to the Health Department in the year which represented an increase of 69 cases compared with the 1955 figure. It is hoped soon that, with the mounting immunisation which is being carried out against this disease, these figures will show a tendency to fall. Five of these cases proved fatal, four being under the age of 1 year. This well known fact emphasises the danger of this disease to very young infants, and it must be remembered that the health of some of those very young infants who get the disease and recover, may be permanently impaired as a result of the illness. There is no doubt at all that whooping cough is a disease which should be protected against as soon as possible and preferably well before the child reaches the age of six months.

Poliomyelitis

Thirty two confirmed cases of poliomyelitis occurred in the year and this represented a reduction compared with last year's figures. Reference is made in the report to the case of paralytic poliomyelitis which occurred in a day nursery and in which all the other children contacts in the nursery were protected by inoculation of gamma globulin. There

is also a note made of an outbreak of poliomyelitis in a maternity district nursing home where, due to the prompt action of the hospital authorities connected with this home and the co-operation with the department, it is satisfactory to report that no further cases occurred.

Food Poisoning

There were 307 confirmed cases of food poisoning in the City during 1956. This is a marked reduction from the figure last year of 544 cases. 192 of these cases were due to staphylococcal toxin food poisoning and 115 were due to salmonella organism. It is felt that this dramatic fall of 43 per cent on the 1955 figures of food poisoning is probably due to the increased attention which has been directed towards food hygiene in the City during the past year. It would appear that the new Food Hygiene Regulations which were introduced in 1955 and which first came into operation on 1st January 1956 must also have contributed to this improvement. There has been since that time, an increase in the amount of investigation carried out of routine cases of enteritis occurring amongst any persons connected with the handling of food. This has brought to light many symptomless carriers of food poisoning organisms.

There are full details of seven separate outbreaks of staphylococcal toxin food poisoning which occurred in a work's canteen; a student's hostel; a nurse's home; a commercial baker's; a staff canteen; a small hospital and a school. In most of these cases investigations showed that carelessness on the part of food handlers has been a major factor towards the production of these outbreaks. Another common factor was failure to make proper use of refrigeration. It is still not appreciated that food left in the warm atmosphere of a kitchen, even for one night, may very well become a serious potential source of food poisoning.

Dysentery

During the year there was also a substantial reduction in the number of confirmed cases of bacilliary dysentery, and in 1956, 369 confirmed cases were traced. This is less than half of the 1955 figure of 920 cases. Details are given of outbreaks of dysentery in a residential nursery and in a school.

Broncho-pneumonia in Young Children

At the start of the year there was a sharp outbreak of broncho-pneumonia occurring amongst very young children and full details of the outbreak are given. There was a total of 349 cases investigated, of which 313 were admitted to Liverpool hospitals. The majority of these

cases occurred in very young children and 241 were below the age of 12 months with 136 of them below the age of 6 months. An outstanding feature of this outbreak was that there were only 33 babies which were being breast fed, the remaining cases being on mixed bottle feeding. Fortunately this sharp outbreak did not last long and after two or three weeks no more new cases were to be observed. Full virus investigations were carried out but inconclusive findings were reached. Two A.P.C. viruses were isolated, but it was felt that this was a coincidental finding.

Psittacosis

Two cases of psittacosis occurred in one family during the year. The source of this infection was shown to be infected homing pigeons, and following this finding a survey of homing and wild pigeons within the City was undertaken to estimate the incidence of the disease in these birds and their potential danger to human beings. This survey has not yet been finished due to the length of time which is necessary to carry out and complete the lengthy laboratory investigations, but to date 143 wild pigeons have been examined and of these 56 were found to be positive of psittacosis. This emphasises the potential danger which these birds could be to human beings and would seem to justify completely the action which the City Council, sought and obtained under the Liverpool Corporation Act of 1955 to destroy wild pigeons.

Research

The research mentioned in the last year's annual report into the problem of infected imported egg products has continued throughout the year. It is satisfactory to be able to report that directly due to these investigations which were carried out by the department in conjunction with a leading commercial firm in the City, an effective pasteurisation process has been perfected and is now in universal use throughout the country.

Tuberculosis

Particular attention is drawn to the extended portion of the report dealing with tuberculosis. The new methods introduced last year, of collecting the necessary statistics into the incidence of that disease and the use of statistics in after-care work, have been found to be most satisfactory and very helpful. It is most encouraging to know that now every patient who suffers from this disease is routinely visited, either once in 8 weeks or every six months dependent upon their medical

condition. This routine visiting is in addition to any other extra visiting which is being made to the more acute patients.

During the year, there were 1,016 cases of pulmonary tuberculosis notified compared with 1,082 in the previous year. The slow fall in the notifications has been noted before and particularly lags behind the fall in the mortality rate. Full details are available for the first time of the methods of diagnosis of these new cases, and show that of the 1,016 cases, 81 per cent were diagnosed due to an illness, 8 per cent due to the examination of contact and 13 per cent due to mass miniature radiography, and 5 per cent due to routine examination of adults.

Tuberculosis and Housing

During the year 985 patients suffering from tuberculosis applied for assistance in re-housing, and of these 136 were recommended for special priority. This action is in addition to the awarding of extra points for tuberculosis. With ready help and co-operation of the housing department a steady flow of tuberculosis cases, amongst whom are all those most urgently in need of help, have been re-housed.

B.C.G. Vaccination

During 1956, out of a total of 13,492 children who were offered B.C.G. vaccination, 8,921 or 66·1 per cent accepted. This is a further reduction in the percentage of acceptances compared with 74 per cent in 1955 and 81 per cent in 1953. It is to be hoped that this trend in acceptances is halted soon otherwise the undoubted advantages of offering B.C.G. vaccination to children who are Mantoux negative and about to leave school will largely be lost.

Of the 13 year old school children examined, 28 per cent were found to be tuberculin positive which is almost exactly similar to the figure of 27·9 per cent found last year. Reference was made last year to the great differences which have been found in the incidence of tuberculin positive children in different cities and it is interesting to realise that in Liverpool this figure of 28 per cent still compares with a figure of roughly 15 per cent in the London County Council area.

During the year, a start was made in vaccinating with B.C.G. all normal new born babies of parents who have not had tuberculosis, at the maternity unit at Sefton General Hospital, and 1,170 children have been vaccinated.

Reports from chest clinics have indicated that the appointment of an assistant medical officer of health in charge of tuberculosis care and after-care for the City has been greatly appreciated by the chest physicians and has undoubtedly led to a greater and more complete understanding between the work of the chest physicians and the public health department.

Mass Radiography

A short report has again been included concerning the work of the mass radiography unit of the Regional Hospital Board, and during this last year these units have been a great assistance in helping to examine all contacts of cases occurring in institutions, old people's homes, schools, etc. Reference is made in the report, to the mass radiography survey which was carried out at Westminster House, when a mobile unit went there, and it was intended to persuade the old people living there to be examined. Only 363 persons could be examined but six cases of unsuspected tuberculosis came to light including three cases which required urgent hospital treatment. There is no doubt that such an institution must contain a serious reservoir of infection in the City and consideration is to be given to the introduction of routine mass radiography of all future applicants to be admitted to any old persons homes within the City.

Housing Points Scheme

During 1956 a total of 4,065 general medical cases, 914 pulmonary tuberculosis and 71 non-pulmonary cases applied for assistance in re-housing. Of all these cases, a total of 1,398 general medical cases were awarded points. In addition, 750 applications were received of non-medical cases and reports concerning 429 cases where overcrowded conditions existed, were forwarded to the City Architect and Director of Housing.

Mental Health

In the mental health section of the annual report, emphasis is particularly laid on the work of the employment officer and the operation of the law in regarding the admission of patients suffering from mental illness.

An exhibition was held in the City in September in which the activities department of the mental health services were shown to be complimentary to those of the hospitals, and this exhibit attracted wide attention. An analysis of the work undertaken by the full-time employment officer who is employed by the City Council and who is the only full

time officer in the country employed in this way, showed that this officer has been able to find 44 posts during the year. When it is realised that most of these cases are of a particularly difficult type in which failure to find employment and be rehabilitated is all too common, it will be realised the exact extent of the success of this venture. The operation of the law regarding admission of mentally ill persons to hospital and the duty of the duly authorised officer are explained in detail. It will be noted that during the year 1,345 patients were referred, which was the largest yearly number of references since the service started.

Mental Deficiency

The duties of the department under the Mental Deficiency Acts are also described in the report. During the year, 184 cases were ascertained as mental defectives. Much of the work of the department has again been hampered by the inability of the hospital authorities to provide sufficient and adequate vacancies and places for mental defectives in mental deficiency institutions. The Health Committee has been very active in taking this matter up with the Regional Hospital Board, but the improvement noted has been very slight.

Occupation Centres

In addition, it has become obvious during the year that the occupation centre provision in the City is barely adequate to deal with the increased demand and steps were taken to initiate the building of a new centre. Details of cases are given in which it has been shown that the early and precipate discharge of a mental defective from licence has led in a few instances to trouble. It is not suggested that continued supervision is preferable on all cases, and it clearly is an advantage to work towards the position whereby all defectives on licence are, if possible, given the opportunity of being discharged from that licence. However, it is most important that the full co-operation of the local authority is sought in the care of each defective and this is not inevitable under the present day law of mental deficiency for these persons are under the direct control of the hospital authorities who licence them. However, as soon as the defective is charged from licence he may come under the direct control if he breaks down, of the local health authority.

Short Term Care

The number of cases helped by providing short-term care for defectives still at home has risen during the year and the Regional Hospital Board gave 56 vacancies and 51 defectives were found places in voluntary homes. The majority of these were accommodated in Orchard Dene.

Ambulance Service

Although the number of patients carried by the ambulance service during 1956 again showed an increase, this was the smallest increase observed since 1948. It is too early yet to be certain whether we are getting to the full peak of the increase of the ambulance services, although towards the end of the year there were indications that this point is likely to be very close.

A significant new innovation which was introduced towards the end of the year, and which was aided by the introduction of petrol rationing, was agreement with a number of county authorities in the North Wales areas that steps should be taken to ensure that no return journeys were wasted. Under the new arrangements and agreement, drivers of these counties will in future, on arriving in Liverpool and having deposited their patients, report direct to the Liverpool ambulance control centre and receive instructions direct from them. At the same time, they will be prepared to make reasonable detours on their return journey to enable them to take a patient from Liverpool to a neighbouring area in North Wales. This arrangement has already resulted, by the time that this report has been prepared, in a considerable further reduction in the number of long journeys undertaken by Liverpool ambulances, and is in the interests of both the city and county authorities. This scheme which was initiated by the City of Liverpool, had been suggested before but it was only with the added threat of difficult supplies of petrol that it has been able to get universal agreement from all the county authorities in question.

All ambulances are now fitted with oxygen therapy slow meter outfits, and polythene masks are used for individual patients. In addition, special provision has been made for the transport of premature babies so that they can be carried in a heated cot.

Health Education

In 1956 the amount of health education continued to expand and be extended, and a very successful health education exhibit was shown at the annual Liverpool Show in July. The two main themes which were demonstrated at that Exhibition were the prevention of atmospheric pollution and secondly, the Welfare Services for handicapped persons. Both exhibits attracted a great deal of public interest and considerable co-operation from outside bodies was obtained in staging both these Exhibitions.

The Prevention of Atmospheric Pollution Exhibition showed clearly the steps that are possible, both by industry and the house-holder to prevent further atmospheric pollution, and by high-lighting the guilty industrial chimneys, did a great deal to help to improve this problem within the City. The Exhibition illustrating the services available for the handicapped persons, included services for the blind, for the deaf and dumb and crippled persons. An outstanding part of this Exhibition was the very large exhibits staged by the Central Council for the care of the crippled, of special gadgets and appliances, all of which can easily be made, which are suitable for crippled and paralysed and other handicapped persons. This exhibit created a great deal of interest and many persons, both medical and lay, spent a lot of time considering them.

In addition, in September the mental health section of the health department took part in a large mental health exhibition in connection with a large scale exhibition on this subject staged in the City. During the period that this exhibition was on show, many persons visited the health committee stands and many enquiries were made.

Welfare Services

The position regarding residential accommodation within the City is still serious as the waiting list has remained unchanged during the year, there being at the end of the year 176 persons awaiting admission. During the year, the figure on the waiting list rose to well over 200, but steps were taken to go carefully into the condition of all on the waiting list to ensure that the waiting list only represented those old people urgently requiring accommodation. This review resulted in a certain reduction in the number of persons waiting.

During the year, a new hostel was opened at Croxteth Lodge in Ullet Road, providing accommodation for a further 31 residents. This raises the total figure of residential accommodation provided in this City to 1,289 persons. Building has proceeded at an even quicker rate than was anticipated with Altcross House, the new hostel to be built in the Croxteth Estate area which will accommodate 56 persons. The adaptations of Brookside House also were completed towards the end of the year, and it is hoped that this hostel will be opened early in 1957.

Work was also started on the adaptation of Ullet Grange in Ullet Road where 27 residents will be accommodated.

Up-grading of Westminster House

Unfortunately, due to the credit squeeze, the programme of up-grading of this large establishment was interrupted during the year as the Minister of Health would not sponsor an application for loan sanction in respect of a capital expenditure to be incurred. A deputation went to the Ministry of Health to protest against this decision, and it is satisfactory to record that at the time of going to press, permission has just been given to go ahead with this most urgent conversion.

Early in the year, the second up-graded house, No. 2, was opened and the improvements in conditions for both residents and staff were again most obvious and gratifying. These alterations have changed completely the character of this old accommodation, and what is equally important, has had a most marked effect on the attitude of the staff working there. For the first time, the staff have been able to feel a real pride in their work of looking after the old people and the general tone of these new houses has been most satisfactory. Throughout the year, the closest medical liaison with the geriatric hospitals has continued and it has been possible to avoid the retention of any chronic sick patients in this accommodation. At all time, the small sick bays accommodating fourteen men and sixteen women have been quite adequate to deal with the small incidental amount of sickness present in the 879 persons in Westminster House.

Hostels

The standard of accommodation has been maintained in the hostels at the same level as previously described and once again, due to the generosity of the Merseyside Hospitals Council who granted £800 for the provision of amenities for these hostels, it has been possible to provide a piano, a television at Croxteth Lodge and also when opened at Brookside House, Altcross House and Ullet Grange. The broadcast line which was installed at New Grafton House to enable residents to hear commentaries on local fotball matches has continued to be very satisfactory and much appreciated by the residents.

Temporary Accommodation

The figures of persons accommodated in temporary accommodation show that the position has remained unchanged throughout the year. The average number of persons daily in this accommodation has been maintained to about 70, with a minimum during the year of 40, and a

maximum of 99. The energetic action of a Liaison Sub-Committee in dealing individually with all cases and by insisting on persons who have been in the accommodation for a long time leaving has resulted in this great problem being kept within reasonable limits.

Hungarian Refugees

During the year, due to the large number of persons from Hungary leaving their homes and travelling to Western European and other countries, the department was called upon to look after many of these refugees passing through Liverpool en route to Canada between the time of their arrival and embarkation on to ships. The refugees have been met by members of the staff of the welfare services section and the Children's department, usually in the early hours of the morning, and arrangements have been made for them to be accommodated and to be given breakfast and other meals, documented and embarked on the ships.

Voluntary interpreters have proved to be of great help. By the end of 1956, well over 1,000 refugees had been dealt with in this way, and it was anticipated that the traffic would continue and increase during early 1957.

Leyfield Hostel

Towards the end of the year, consideration was given to the question of using Leyfield Hostel which had been kindly made available by the Roman Catholic authorities as a hostel for Hungarian refugees wishing to settle within this country. A start was made late in December in providing this hostel and a full report of the introduction of this hostel will be given in next year's Annual Report.

Domiciliary Welfare Services

In the report are given details of individual cases who have been helped by the domiciliary welfare services during the year, and illustrate the very many varied and often very difficult problems that have been dealt with by the staff. One of the particular problems which has occurred is that difficulty has been experienced in persuading old people to make any sort of change even if this might obviously be for their benefit. During the year, difficulty has been met often in persuading persons at present living in unsatisfactory accommodation in Westminster House to leave it for more modern, newer hostels. It seems as if old people there often fear a change even if it would be to their advantage.

River View Rest Centre

This very successful rest centre has continued to thrive during the year and the average daily figure of old people attending has often been well over 200. On one day an all time record of well over 400 persons attended this Rest Centre.

Plans have continued to be considered for the provision of two similar centres in other parts of the City with the aid of a grant from the King George VI Foundation.

Removal to suitable premises of persons in need of care and attention

During the year there was an increase in the number of persons who had compulsorily been removed under Section 47 of the National Assistance Act 1948. Eighteen persons were removed in this way and very many more were persuaded by the officials to move to hospitals or hostels, when they were unable to look after themselves any longer. At times it is difficult, in a City as large as Liverpool to be certain that the department knows of all those old persons, who for one reason or another are not managing to look after themselves satisfactorily, but with the ready help of very many different types of people including neighbours, church organisations, medical practitioners, various local government and statutory officers who are visiting the district, information has been received about persons and, with this ready aid, it has been possible to extend the cover during the year.

Blind Welfare

Continued emphasis in blind welfare has been placed upon open industry rather than sheltered workshops and the valuable work of the Blind Placement Officer of the National Association for the Blind has been much appreciated during the year. It is most satisfactory to report the number of placements has continued to be at a satisfactory and high level.

Sir Robert Jones Workshops

During the year the financial position of these workshops was considered very carefully by the City Council, and the Council's contribution was increased to approximately £2,850. This extra sum included an amount for revised salary and wage structure of all persons employed there and also some very essential re-decoration of the premises. These workshops, which are now being increasingly helped financially by the City Council, fill a most needed gap in the workshop provision for the City and provide work for about 40 severely disabled persons in the trade of bookbinding, printing, boots and shoe repairing.

Deaf and Dumb Welfare

Arrangements were completed with the two local voluntary societies that there should be direct representation on the Managing Board of the Liverpool Deaf and Dumb Benevolent Society and the Catholic Deaf and Dumb Society of St. Vincent de Paul. There was also complete agreement reached between the neighbouring local authorities about the way that this representation shall be introduced. Both societies have continued to provide excellent welfare services on behalf of the City for the deaf and dumb.

Epileptics

Reference is made in the preface for the first time to the problem of epileptics who are in need of care and attention. During the year, following the publication of the Cohen Report on the medical care of epileptics, a sub-committee was set up by the Medical Advisory Committee of the Regional Hospital Board, to look into the question of local medical arrangements for epileptics, and the Deputy Medical Officer of Health was asked to be a member of this committee. There is no doubt that many of the problems in this field are as yet barely defined particularly as epileptics, if possible, hide their disability. Unfortunately public opinion as yet is very misinformed about this particular illness and it is hoped that a more enlightened view will be encouraged.

At the end of the year, preparatory talks were held with voluntary bodies in the City who are proposing to start a voluntary society for the care of epileptics and it is hoped that, with the help of voluntary bodies and with the co-operation of local authority and hospitals, a start will be able to be made on this particular work.

One of the very urgent problems in relation to epilepsy which is always occurring is that of the anti-social epileptic who urgently needs accommodation. Many of the colonies provided for the care of epileptics, which are run by voluntary bodies, find it impossible to take such persons, or to retain such persons if they have been admitted, as they upset too much other residents. Whilst this can well be appreciated, it would seem that there is an urgent need in the country for some form of custodial care whether it be maintained in separate blocks within these colonies or not. The alternative when an epileptic cannot be admitted to such a unit or colony is for him to be admitted to Westminster House which is neither designed nor suitable for the care of such cases.

Accommodation for Handicapped Persons

Reference was made in the last Annual Report to the question of accommodation for handicapped persons and it is eventually hoped to provide in Ullet Road, a separate hostel for these handicapped people. During the year a survey was carried out of the handicapped persons at present accommodated at Westminster House and certain staffing improvements were introduced to try to improve the lot of those persons accommodated there. However, it is clear that until a separate handicapped persons hostel can be built, accommodation of a more suitable type cannot be provided for this group of persons within the City.

Sanitary Administration

During the year, change of designation was introduced by Parliament whereby the name Sanitary Inspector was changed to Public Health Inspector. This change has proved most advantageous particularly in regard to recruitment. Advertisements for assistant and trainee inspectors which were attracting very few applicants before the change, attracted quite a spate of applicants as soon as the name had been changed.

The work of this section has continued at a high rate throughout the year and 269,786 investigations were carried out, which shows the amount of work undertaken by this important section. Due to the severe winter weather which occurred early in the year there were at one time, 17,000 houses without water which necessitated the occupants carrying buckets of water from a nearby public stand-pipe or a neighbour's house. Also, thousands of choked drains were reported.

The gradual lack of interest in sub-standard property is increasing. Consequently the local authority have had to undertake more work in default by the owners. In recent months £3,500 has been spent on this work which is being collected from tenants weekly in accordance with the recovery provisions of the Public Health Act 1936 and the Liverpool Corporation Act 1955.

Paid Pupilage in accordance with Ministry of Health Circular 19/56, para. 10

The existing scheme of training in the City which has worked so very well continues to provide facilities for the training of public health inspectors on Miscellaneous grades III/IV, and trainee public health inspectors on a salary Miscellaneous I/II. During the year, the first students qualified and it was most satisfactory to report that out of a class of fifteen, 14 inspectors attained the qualification.

The scheme generally is working extremely well and there should be in future an annual rate of between 10-15 fully trained inspectors being added to the establishment by this means. Examination of the situation in Liverpool compared with other parts of the country shows the wisdom of the City Council having introduced such a scheme three years' ago, for whereas many large authorities are still desperately short of public health inspectors the City has already got a large potential pool of trainee inspectors and within three or four years the situation should be much more satisfactory.

Slum Clearance and Housing

During the year the City was honoured by a visit from Mr. Duncan Sandys, the Minister of Housing and Local Government, who after visiting the sub-standard properties declared that the City slum clearance problem was the largest in the country. This slum clearance drive includes both the planning and consideration of the family aspect as well as the structural conditions. Most of the houses in the slums are occupied by conscientious working class people who are hard working and are endeavouring to maintain a good standard of cleanliness against difficult conditions. The majority of these occupants keep their houses in good decorative condition and in doing so have to combat the inherent dampness in the property. The largest post-war compulsory purchase order containing 549 premises was a subject of a public inquiry during the year. Many objectors appeared at the inquiry and presented a formidable defence of their properties, but after a long and detailed cross examination, and examination regarding the condition of the property in its present and past use, the inspector closed the inquiry and visited the site. The Minister has subsequently confirmed the order but has excluded two dwellinghouses from the clearance area which are now being used as business premises, but has included them in the compulsory purchase order as grey lands.

During the year, slum clearance activity has continued without respite. Many areas have been represented, visited and schedules of defects completed. Examination of the housing survey shows that there are many thousands of unfit houses still to be represented which will necessitate the continuation of this activity for very many years.

Industrial Nuisances

Towards the end of the year, complaints were received that obnoxious odours were again coming from Stanley Abattoir, after the district had

been free from this nuisance for fourteen months. The source of this trouble is undoubtedly one of the by-product plants in the Abattoir. It has been further investigated but it has not yet been possible, for several reasons, to identify the exact offender. Warning letters have been sent to all firms concerned and it is gratifying to record that the nuisance has diminished considerably since this action was taken. Investigations have continued to be carried out and will go on until this trouble has been eliminated.

Noise

The difficulties caused by excessive noise have become a problem which is undoubtedly increasing. Much of the community has become acclimatised to much background noise and can accept and tolerate it without too much trouble. The difficulty often arises when a new installation and new noise is introduced into the community. Prior to the Liverpool Corporation Act of 1955, there were no general or local powers to deal with excessive or unreasonable noise, and even now industry is protected to the extent that an offender is given the opportunity of convincing the Court that the best practicable means are being taken to prevent or mitigate the noise. During the year, various investigations in this respect have been undertaken and improvements effected. Generally, it has been found that industrial concerns have been very conscious of this problem and have done all they can to improve this matter.

Industrial Canteens

Not all industrialists are yet aware that all places where food is prepared are subject to the provisions of the Food Hygiene Regulations 1955, whether the food is sold or provided free and without profit. During the year this fact has had to be pointed out to numerous business executives on many occasions when the subject of canteens has been raised. This particular problem has occurred in the smaller factories where the canteen staff consist of a cook, one or two assistants and is controlled directly by members of the staff, workers' committees or shop stewards. Mess rooms used solely by employees who cook or bring their own food do not come within the scope of the law and are the responsibility of H.M. Inspectors of Factories.

Offices and Work Places

Systematic inspections have continued to be carried out during the year to offices and work places. Work carried out has shown that there is still a need for the implementation of the standards recommended by

the Gowers Committee in 1949 in respect of heating, lighting and washing facilities on such premises. The absence of legislation designed to control these offices has made it difficult to insist on precise improvements, but generally managements have been very ready to co-operate voluntarily.

Effects of Food Regulations

The Local Brewery companies have responded very readily to the spirit and demands of the new Food Hygiene Regulations in public houses. The fitting of wash-hand basins, additional sinks and bars, refrigerators and similar installations have been introduced as rapidly as practicable where meals and snacks are served, and steps have been taken in all cases to see that licensees under their control are familiar with the provisions of the regulations, in so far as they concern the personal hygiene and care in the handling of food or intoxicating liquor.

Hairdressers and Barbers

Provisions of the Liverpool Corporation Act 1955, Section 42, relating to hairdressers and barbers came into force on 1st May, 1956. Before that date a survey had been completed and as a result of which all known hairdressers were supplied with forms of application for registration. There has been an excellent co-operation by the hairdressers and application forms were returned with very few exceptions, without delay. There are now 576 establishments registered with the local authority and it is gratifying to be able to record that the whole of this procedure has functioned most satisfactorily.

Atmospheric Pollution

Progress in the City throughout the year in atmospheric pollution, although not spectacular, has been most encouraging. Industrially, the problem is still concerned with the number of pockets where managements are non-co-operative or there are special industrial, technical or scientific reasons regarding the conversion to smokeless combustion. Two years ago, there were approximately 600 guilty chimneys from industrial concerns within the City. Today that figure has been reduced so that only 100 statutory notices have had to be served regarding persistence of factories emitting smoke from their chimneys during the year.

The first smoke control area is now in preparation and already 90 per cent of the buildings have been converted and indeed the area might well be said already to be very largely smokeless. A temporary

set-back has taken place on the river due to the shortage of fuel oil. The tug owners have helped and are alive to the matter of conversion and they are trying to instruct their stoker personnel in techniques to reduce the smoke pollution and maintain fuel efficiency. Reference has already been made in the health education section of this report to the interesting exhibit shown at the Liverpool Show illustrating atmospheric pollution and methods of preventing it.

Food Hygiene

Steady progress has been maintained in the campaign for better food hygiene during the year. The Food Hygiene Regulations 1955, have helped considerably in this drive, but it must be emphasised that they represent the basic fundamentals in preventing food infections and therefore, no aspect of the food trade at all can be exempted. There is nothing in these regulations which insist on luxury fittings and refinements of that type for every one of these regulations is an absolute essential. Study in the infectious disease portion of the report on the investigations which were carried out into various aspects of food poisoning have invariably shown that a major contributory cause in these food poisoning outbreaks has been firstly, the lack of cleanliness of the persons handling the food, and secondly, the lack of care in storing food once prepared at sufficiently low, or high temperatures. Strict adherence to standards laid down in the Food Hygiene Regulations would in all instances have probably prevented infection.

It is equally important to ensure that public opinion is strengthened and changed so that it does not accept dirty food shops, or dirty food practices, and it is satisfactory to report that there has been encouraging progress during the year in this respect. Clean shops are now accepted and clean cafes, bake houses and improved methods of distribution are the order of the day within the City.

Inspection of Food Premises

During the year 14,492 visits were made to retail food shops, cafes and bake-houses, licensed premises, food factories, etc., and a total of 11,572 infringements of the Food Hygiene Regulations 1955, and 704 contraventions of the food byelaws were reported.

Prior attention has continued to be given to cafes, restaurants, etc., in order to ensure the maintenance of good hygiene standards, and 1,121 visits were paid to such premises.

It has been necessary in some instances to take Court proceedings during the year against proprietors of business premises and shops for contravention of the Food Hygiene Regulations, but generally there has been a very satisfactory response by the proprietors of such premises and there has been a genuine interest in preventing these as soon as possible.

Clubs

Concern has been felt during the year by the standards of hygiene in many club premises. It is important to realise that clubs have now been included in the scope of Food Hygiene Regulations, 1955. In this City there are approximately 320 clubs and 816 visits have been made to them during the year. Schedules of work or warning letters have been issued for almost all these establishments and many improvements have already been achieved.

Regulation II, which requires an occupier of food premises to inform the Medical Officer of Health of any food handler under his control who is suffering from certain diseases, has been put into operation during the year. Books with addressed certificates have been distributed to all food traders who have welcomed this innovation. 78 certificates had been returned to the department by the end of the year and had allowed investigations to be carried out in respect of employees. It is certain that this work, when it becomes extended, will play a large part in preventing outbreaks of food poisoning.

Supervision of Meat Supplies at Abattoir

Inspection of meat at Stanley Abattoir has continued during the year. Difficulties in regard to meat inspection staff again became very acute towards the end of the year when for a short period, Sunday slaughter was re-introduced. The committee had felt for some time that the staff of this section had been asked to undertake a very exacting task as it has been found almost impossible to recruit fully trained meat inspectors and the staff were operating at approximately half strength. Towards the end of the year a new scheme was agreed which was introduced early in 1957 whereby a number of assistant public health inspectors are seconded to the Abattoir for a period of 3-6 months, both to gain full experience in meat inspection and also to help out the routine inspections. A full report will be made on this scheme towards the end of 1957, but at the time of going to press it is satisfactory to report that already it has resulted in considerable easing of the problems regarding

meat inspection at Stanley Abattoir. At the same time, other changes were agreed whereby much of the routine food inspection is in future to come under the direct control of the Chief Public Health Inspector and that the Chief Food Inspector will limit his activities to meat inspection at Stanley Abattoir and to the problems of sampling of food.

Disinfection and Disinfestation

A report is included of the very varied and miscellaneus duties undertaken by this section of the health department, and it will be seen that they include disinfection and disinfestation, inspection of premises for verminous conditions, fly prevention, control of the City Mortuary and burial service, the distribution of home nursing equipment, assistance with the transport of the mobile meal service, the maintenance of a food and general store, and the issue of welfare foods. In addition to this during the year this section undertook much of the work of the construction of the stands for the most successful health education exhibit at the Liverpool Show, as well as undertaking the immense task of rapid distribution of all poliomyelitis vaccine during the months of May and June. This was then necessary because of the absence of adequate refrigeration to take to clinics the material and collect it again within an hour or so, so that no wastage should occur, and it is most satisfactory to report that this functioned so well that in no instance was there any wastage of vaccine.

Civil Defence

During the year, the department has continued to act as ambulance and casualty collecting section and rest centre Sub-Section for civil defence. Reports have shown that both sections have been very active throughout the year, and it is gratifying to report that in the Regional competition held in September the ambulance and casualty collecting section team were second.

This somewhat lengthy introduction gives a summary of the work described in more detail in the subsequent pages. I can report that the staff of the department, who are very largely responsible for our satisfactory progress during the year, are working in unison as a loyal and efficient team. It gives me considerable pleasure to acknowledge their support and hard work. I should also like to thank my chief officer, colleagues in other departments who have at all times been helpful. I wish to add a special word of gratitude to my Deputy, Dr. Davies, whose drive and enthusiasm have done so much to further our endeavours in the field of promotion of health and prevention of disease.

My thanks are especially due to the Chairman, Alderman Alexander Griffin, who has not only given much of his time but also the benefit of his wide experience in local government to assist me in the work during the year. I also acknowledge the assistance given by the members of the Health Committee and for the kindness and courtesy with which they have considered the reports and recommendations made to them in the course of the year.

I am,

Your obedient servant,

Andrew B. Semple

Medical Officer of Health.

CITY of LIVERPOOL

MUNICIPAL WARDS

1956

SHOWING

BIRTH RATE per 1000 population

DEATH RATE per 1000 population

INFANT DEATH RATE per 1,000 live births

NUMBER OF PERSONS PER ACRE

CITY OF LIVERPOOL

POPULATION
773,700

BIRTH RATE	20·6 per 1000 population
DEATH RATE	11·4 per 1000 population
INFANT DEATH RATE	25·9 per 1,000 live births
NUMBER OF PERSONS PER ACRE	27·6

CITY OF LIVERPOOL.

SUMMARY

OF

VITAL STATISTICS FOR 1956.

Area (land and inland water)		27,818 Acres	
Population (Estimated by Registrar General)		773,700	
Live Births	15,944	Live Birth Rate ...	20·6 per 1,000 of estimated population.
Deaths (all causes)... ...	8,842	Death Rate ...	11.4 per 1,000 of estimated population.
Deaths (under 1 year of age)	413	Infant Mortality rate	26 per 1,000 live births.
Deaths from :—			
Pulmonary Tuberculosis	137	Pulmonary Tuberculosis death rate	0·177
Other forms of Tuberculosis	7	Non-Pulmonary Tuberculosis death rate	0·009
Respiratory ...	1,458	Respiratory death rate	1·88
Cancer	1,590	Cancer death rate	2·05
			per 1,000 of the estimated population.
Maternal Deaths	7	Maternal Mortality rate	0.43 per 1,000 births.
Neonatal Death Rate ...	17·4		
Stillbirth Death Rate ...	24·1		

VITAL STATISTICS.

Statistical Appendix

Many of the lengthy statistical tables are included in a special appendix at the back of this report. A list of the tables included is given at the front.

Births.

Birth Rate

There were 15,944 live births registered during the year, which represents a birth rate of 20·6 per 1,000 of the estimated mid-year population. 8,191 of these births were male, and 7,753 female. There were 801 illegitimate live births (5·0 per cent of the total live births). These figures show an increase in the birth-rate for the year, compared with 1955. It is encouraging to notice there has been a reduction in the percentage of illegitimate births. The birth rate continued to be considerably higher than the average for England and Wales, which for the year was 15·7 per 1,000.

The variation in the births and stillbirths from 1938/1956 inclusive are given in the graph on the page facing.

Stillbirths.

Stillbirth Rate

During the year there were 394 stillbirths registered in the City, which represents a stillbirth rate of 24·1 per 1,000. This is a reduction on the figure 26·0 for the preceding year. The stillbirth rate amongst legitimate babies was 24.2 per 1,000, and amongst illegitimate babies was 22 per 1,000.

Mortality.

General Death Rate

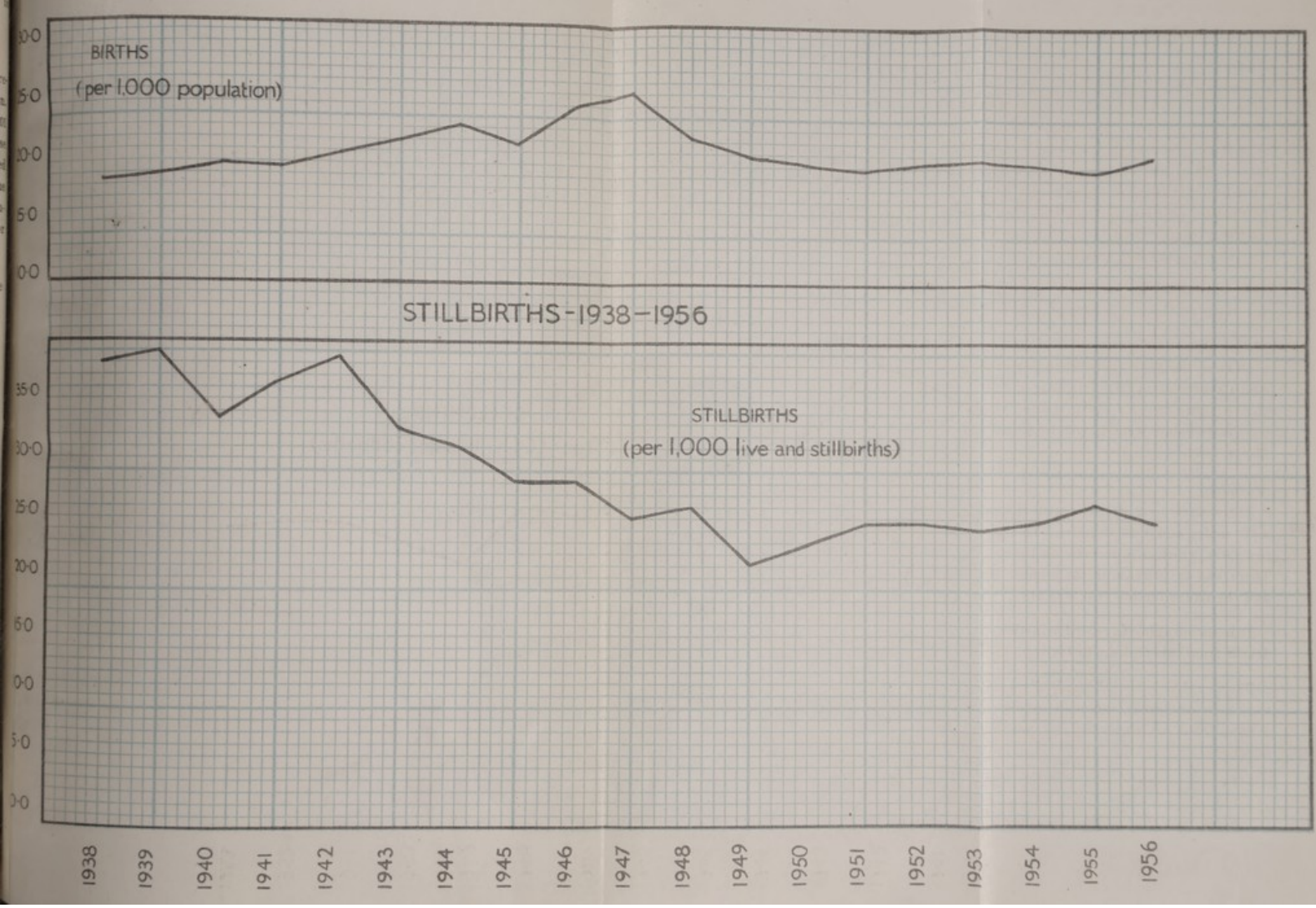
There were 8,842 deaths registered within the City during the year, 4,577 males and 4,265 females. This gives a general death rate of 11·4 per 1,000, which is a decrease on the rate of 11·9 for the preceding year. There was an increase in the number of deaths from cancer of the lung and the figure for the year was 448.

It is encouraging to record a further substantial fall in the number of deaths from tuberculosis to 144 from 204 in 1955.

The trends of mortality of all causes and certain specified diseases have been prepared graphically and are produced on the accompanying graphs. Full detailed causes of mortality are given in the statistical appendix.

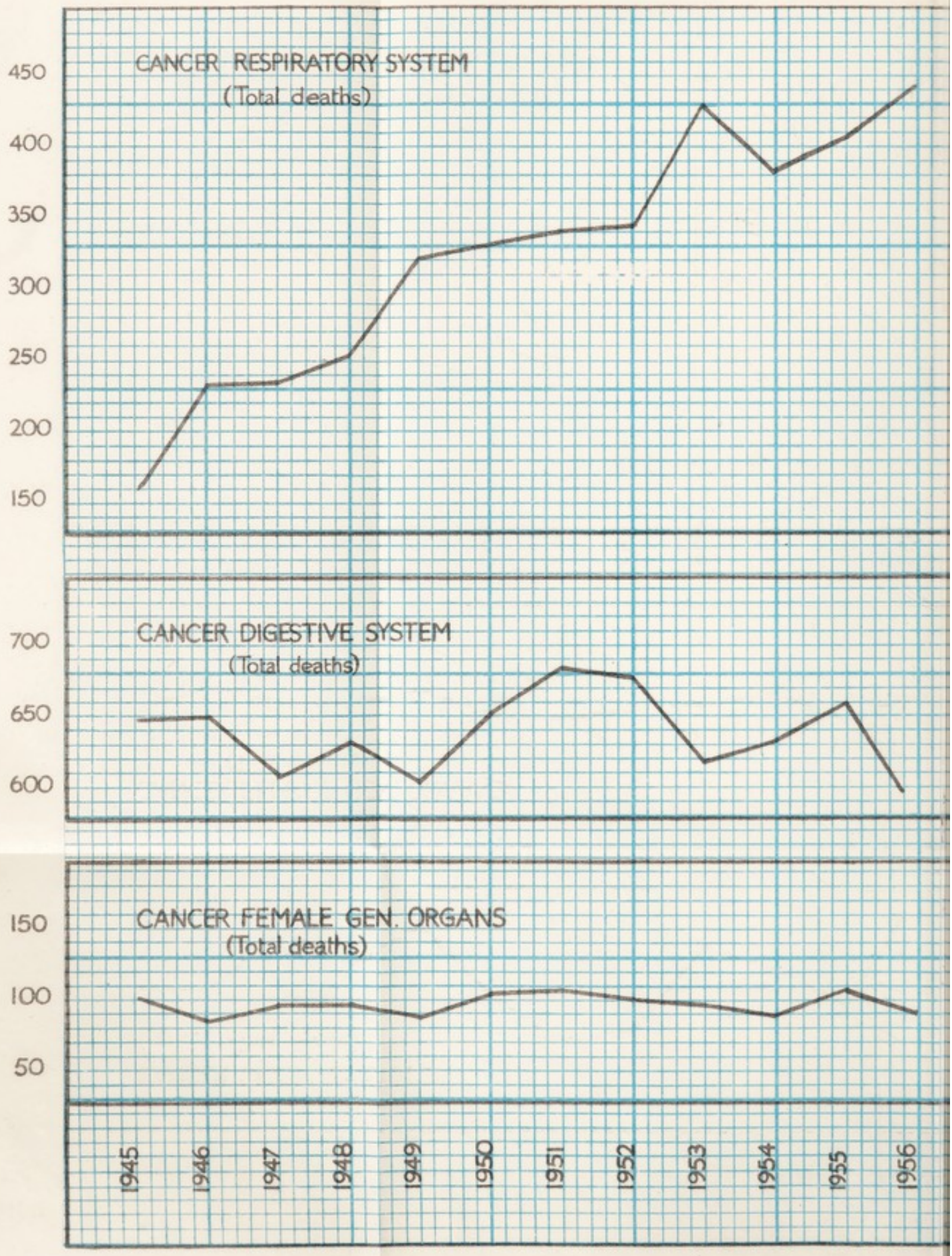
CITY OF LIVERPOOL

BIRTHS – 1938 – 1956



TRENDS OF MORTALITY - LIVERPOOL

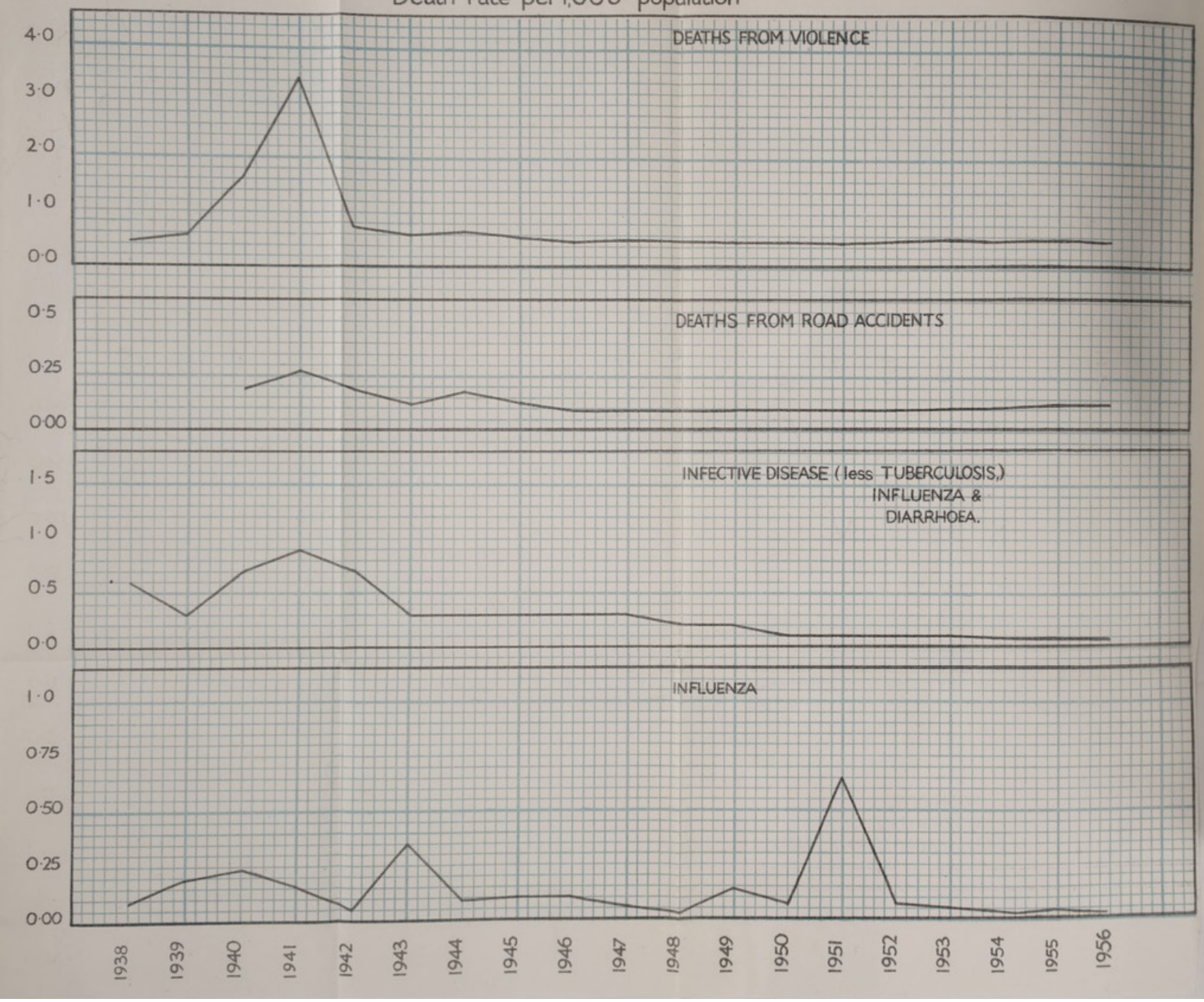
1945 - 1956

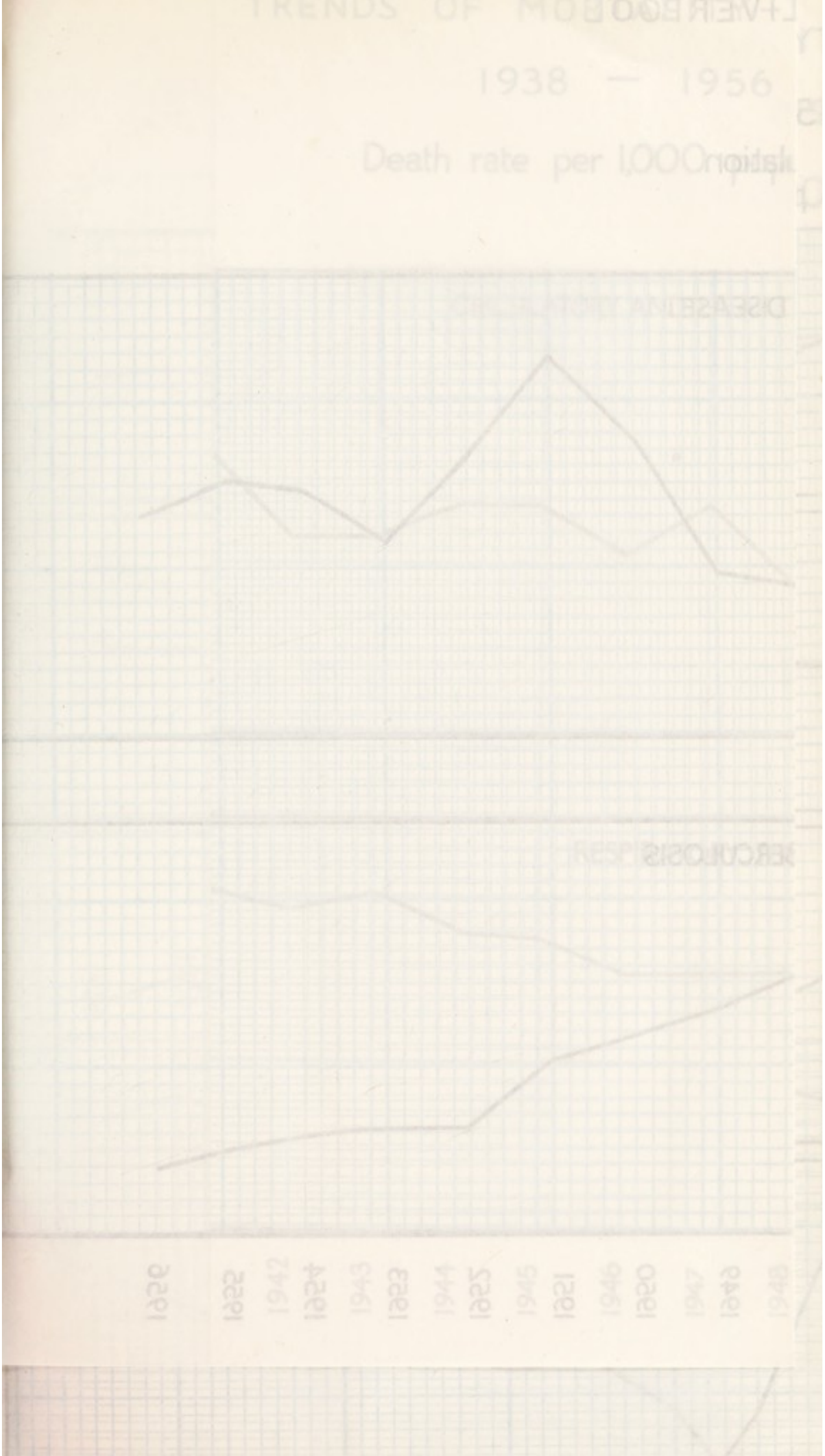


TRENDS OF MORTALITY—LIVERPOOL

1938 — 1956

Death rate per 1,000 population

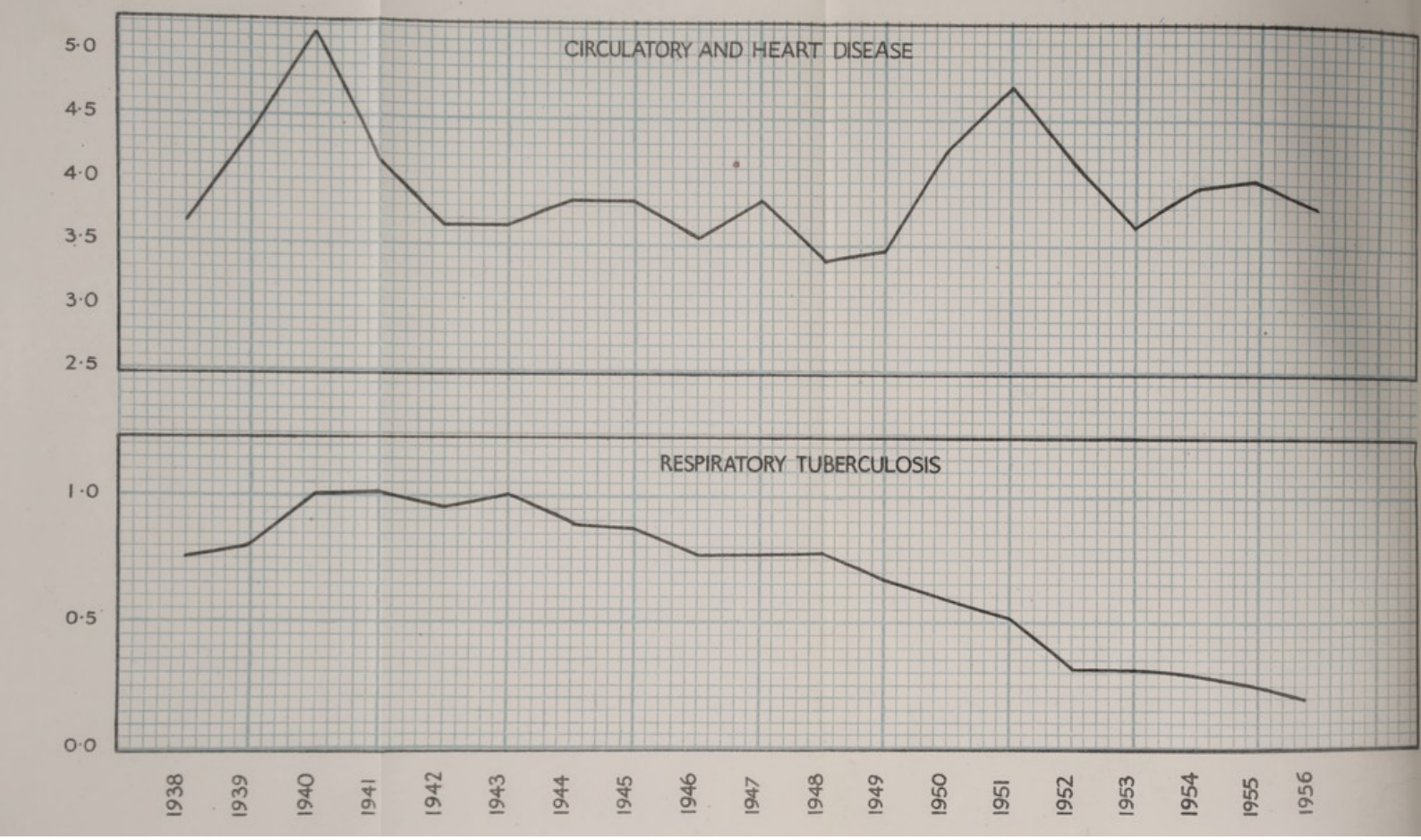


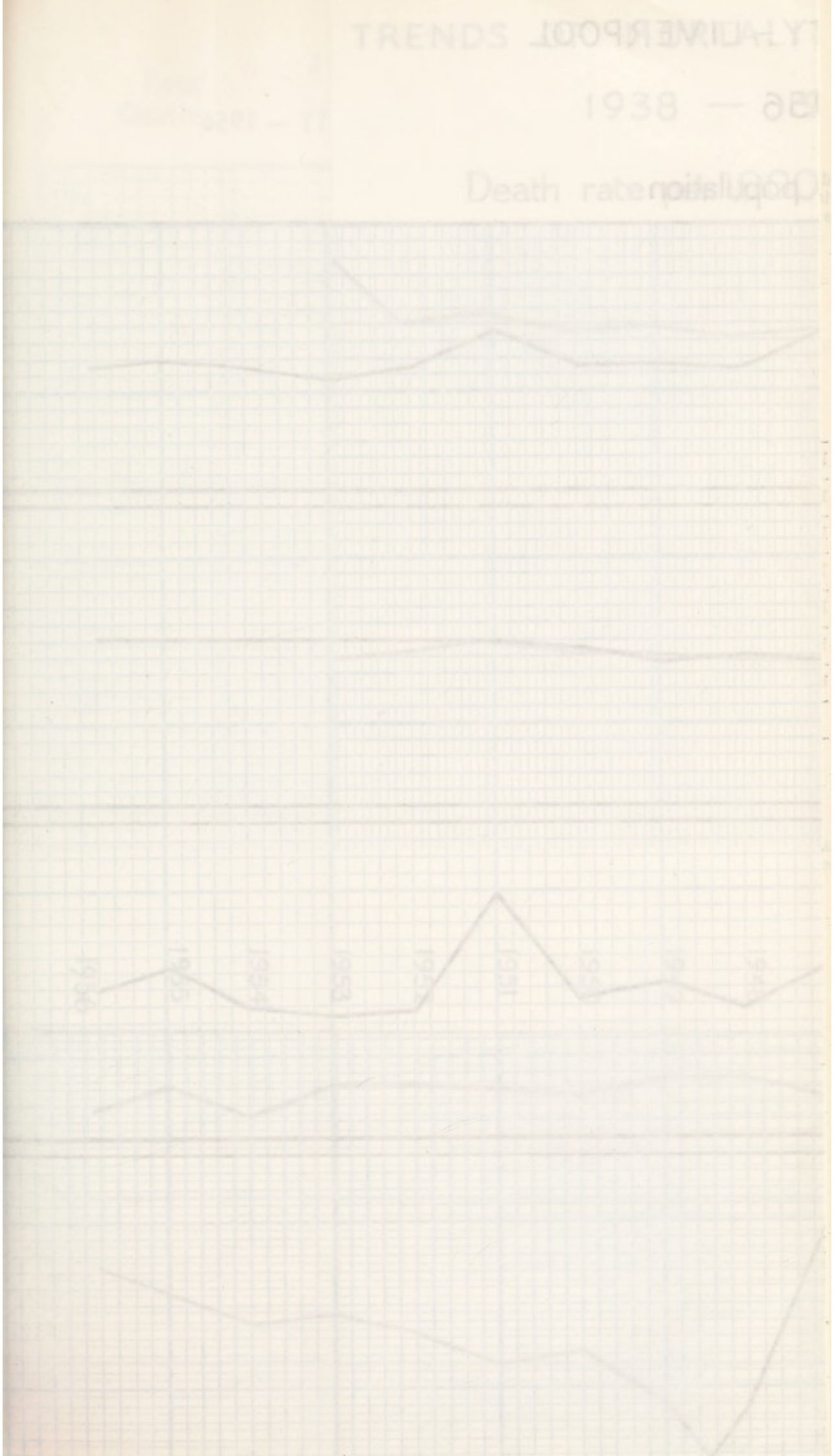


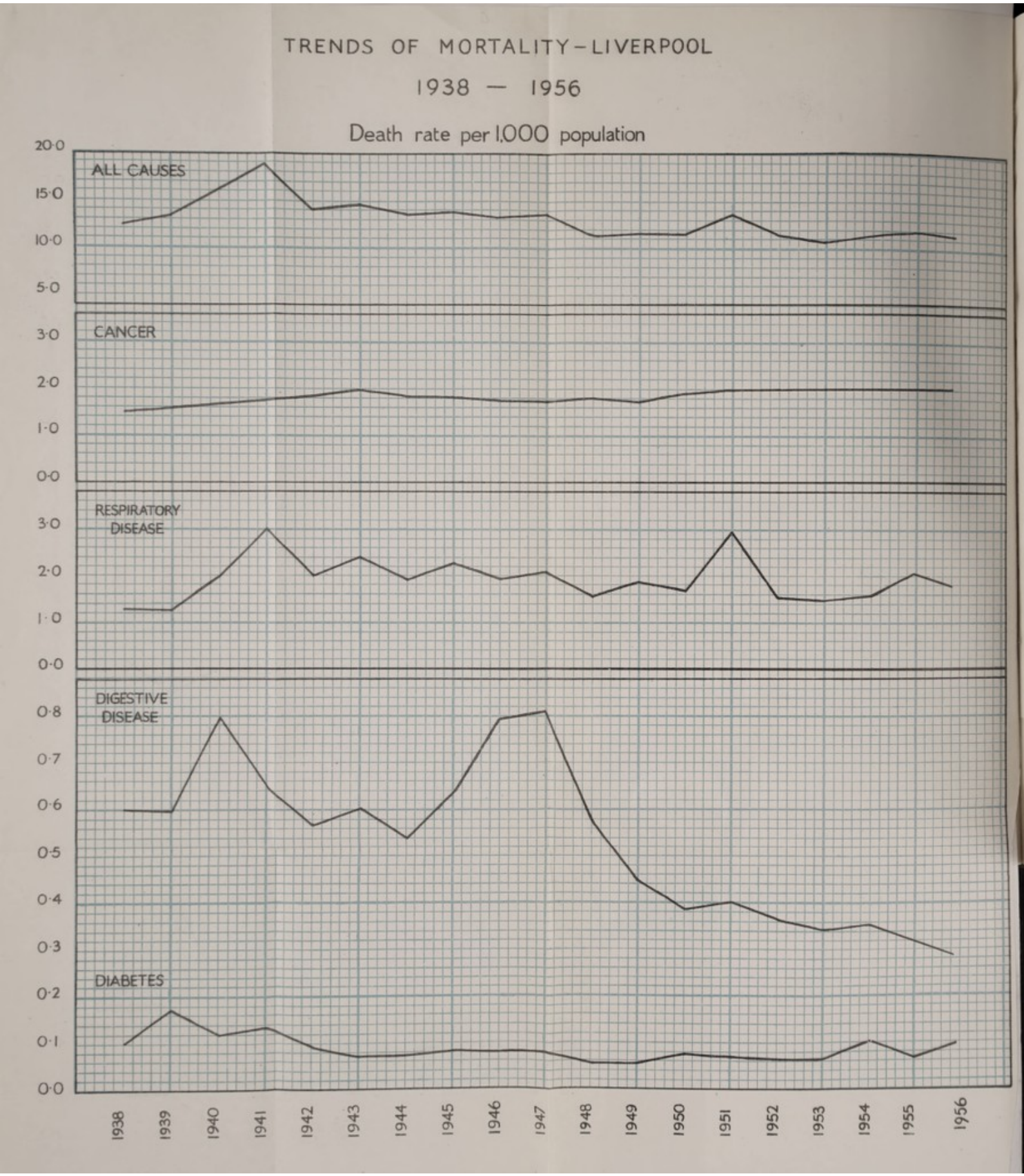
TRENDS OF MORTALITY – LIVERPOOL

1938 — 1956

Death rate per 1,000 population

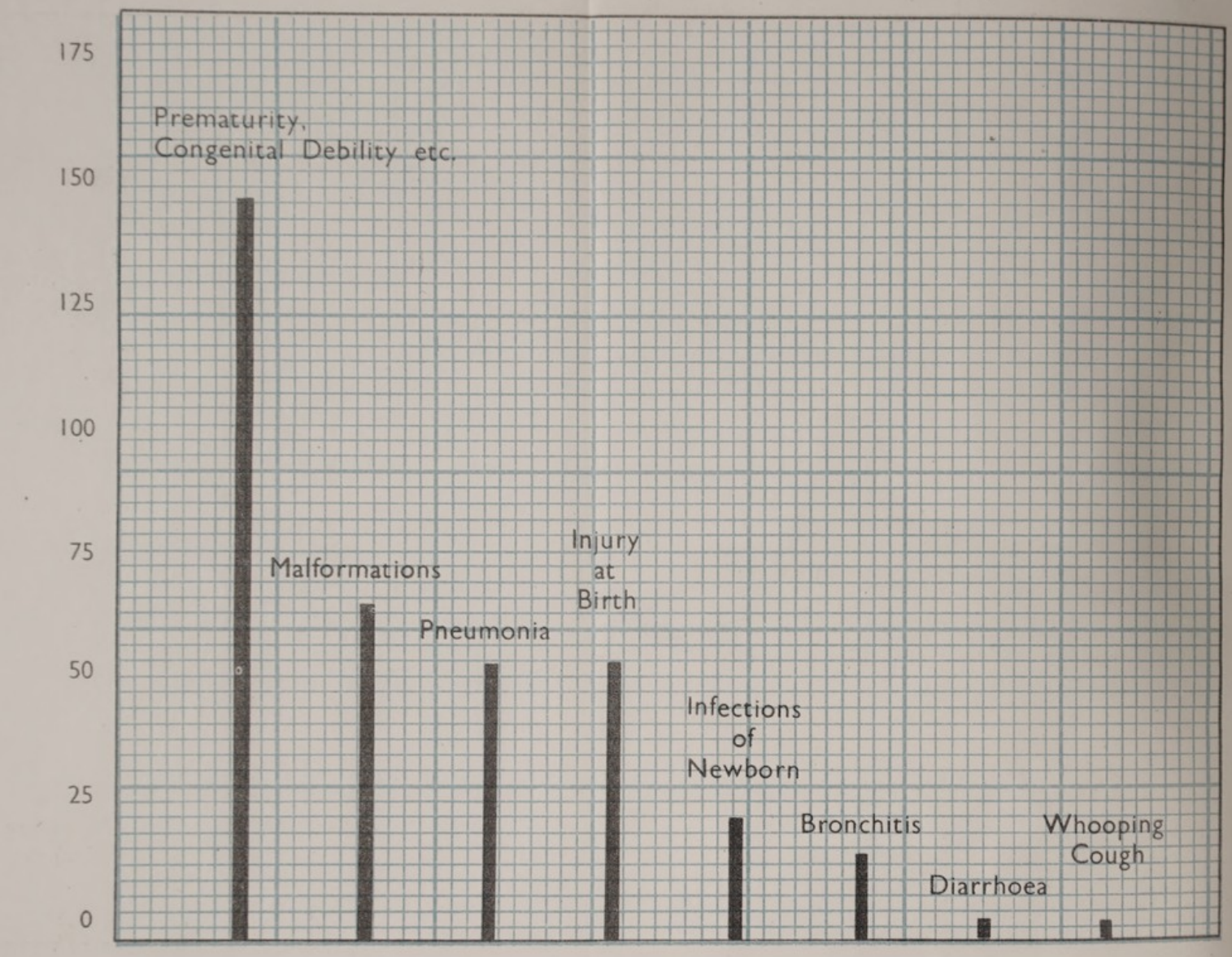





TRENDS OF MORTALITY – LIVERPOOL
1938 — 1956
Death rate per 1,000 population
ALL CAUSES
CANCER
RESPIRATORY DISEASE
DIGESTIVE DISEASE
DIABETES
20·0
15·0
10·0
5·0
3·0
2·0
1·0
0·0
3·0
2·0
1·0
0·0
0·8
0·7
0·6
0·5
0·4
0·3
0·2
0·1
0·0
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956

CITY OF LIVERPOOL

PRINCIPAL CAUSES OF INFANT MORTALITY — 1956

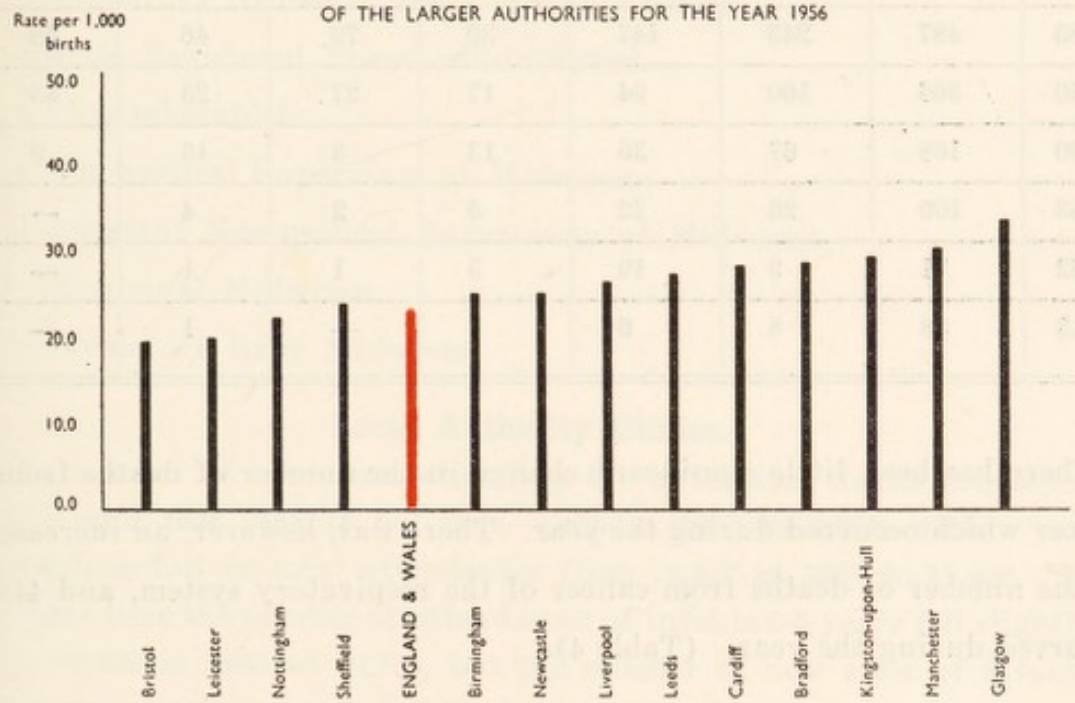


Infant Mortality.

Infant Mortality Rate

The infant mortality rate was further reduced during the year to 26 per 1,000 live births. A total number of 413 infant deaths occurred, of which 28 were in illegitimate children. This gives an illegitimate infant mortality rate of 35, compared with a legitimate infant mortality rate of 25. A graph of the principal causes of infant mortality faces this page, and fuller statistical tables are given in the appendix at the back of this report.

CHART SHOWING INFANT MORTALITY RATE FOR A NUMBER OF THE LARGER AUTHORITIES FOR THE YEAR 1956



Child Mortality Rate

Child Mortality.

YEARLY AVERAGE NUMBER OF DEATHS IN SUCCESSIVE QUINQUENNIA, 1920-1954, AN
TOTAL DEATHS IN THE YEARS 1955 AND 1956.

Year.	Deaths under 1 year of age.	DEATHS, 1 YEAR AND UNDER 5 YEARS OF AGE.							
		Total, 1 year and under 5 years of age.	General Diseases (including T.B.).	Respiratory Diseases.	Digestive Diseases.	Measles.	Whooping Cough.	Diphtheria.	Sc Fe
						Included in General Diseases.			
1920-24	2,278	1,349	557	513	121	202	109	62	
1925-29	1,879	1,252	564	461	121	227	118	61	
1930-34	1,601	890	456	278	63	200	72	79	
1935-39	1,283	487	243	147	30	79	46	58	
1940-44	1,140	366	160	94	17	27	23	45	
1945-49	1,100	168	67	36	13	8	15	9	
1950-54	553	100	26	22	5	2	4	—	
1955	462	71	9	19	5	1	1	—	
1956	413	58	8	6	1	—	1	—	

Deaths from Cancer

There has been little significant change in the number of deaths from cancer which occurred during the year. There was, however, an increase in the number of deaths from cancer of the respiratory system, and 448 occurred during the year. (Table 4).

MATERNITY AND CHILD WELFARE

Staff

1 Senior Medical Officer.

4 Assistant Medical Officers.

27 Part-time Medical Officers, including 2 Consultants and 1 Registrar.

Health Visiting Staff

1 Superintendent Health Visitor.

2 Deputy Superintendent Health Visitors.

8 Clinic Superintendents.

1 Tutor to the Student Health Visitors.

59 Health Visitors.

1 Diabetic Health Visitor.

3 Temporary Nurses to assist Health Visitors.

1 State Registered Nurse—clinic duties.

1 Physiotherapist.

Municipal Midwifery Staff

1 Non-medical Supervisor of Midwives..

2 Assistant Non-medical Supervisors of Midwives.

55 Municipal Midwives.

2 Premature Baby Midwives.

Local Authority Clinics.

Attendances

The number of new cases attending the ante-natal clinics continued to fall and this year it fell from 3,575 in 1955 to 3,053, with a corresponding fall in total attendances from 19,447 in 1955 to 17,200. At the same time the number of attendances of infants 0-5 years fell slightly from 90,502 in 1955 to 89,789, but the number of new cases of infants under one year increased slightly from 8,175 to 8,209.

Croxteth and Speke

The two temporary clinics have now become well established in the new housing estates of Croxteth and Speke, and the number of mothers and babies attending has risen. Welfare foods are sold on both premises. These are two very active centres, which warrant more than temporary accommodation.

Midwives Clinics

There are now four midwives' ante-natal clinics functioning in the city and it is encouraging to see that the number of women attending them has increased from 122 to 386, and the attendances from 340 to

1,320. At all clinic sessions a health visitor is in attendance to give talks and demonstrations on health education. It is pleasant to report

Relaxation

that the number of women attending the welfare centres for relaxation exercises has also increased, as has also the number referred by general practitioners and hospital consultants. In addition to the physiotherapist's activities, a health visitor is in attendance to give talks and demonstrations on the preparation for motherhood.

Rhesus Tests

During the year, 1,910 blood specimens were taken for rhesus tests, and 1,406 mothers were referred for chest X-ray by mass miniature

Mass Radiography

radiography. It was very disappointing, however, to find that only 300 of those referred for chest X-ray did actually attend the Mass Radiography Unit.

Special Clinics.

Toddlers' Clinics

Two weekly clinics are held for toddlers, at the same time a health visitor's consultation session is held for the babies. Many of the mothers with toddlers have small babies and, for this reason, it has not been possible in Liverpool to organise clinics exclusively for toddlers. This combined type of clinic has proved very successful.

Special Psychiatric Clinic

A consultant psychiatrist attended a health authority clinic once a month, for the purpose of giving advice to the clinic medical officers, health visitors, day nursery staff and others, on the procedure to be adopted in certain problem cases. The phychiatrist has not seen any patients, but case histories of problem children and problem families were discussed, including a variety of behaviour problems, enuresis and head banging, etc. Follow up reports are given of cases previously discussed. These discussion group meetings have proved a very great success.

Work of the Health Visitor

The health visitors have continued to pay extra attention to infants under 1 year, and more visits have been paid to children discharged from hospital. There has also been an increase in the number of visits paid to assess the home conditions for the discharge of premature babies from hospital. It is important to note, however, that in spite of the attention to young infants, the toddler population has not been neglected and close watch has been kept for the physically and mentally handicapped child. The health visitors have become more and more a part

of the child psychiatrist's team, and in addition to visits to a psychiatric hospital clinic, they have been called upon to do more family case work.

Liaison with Hospitals

Co-operation with the hospitals continued and during the year the health visitors paid 229 visits to consultants' clinics at children's hospitals. The health visitors were thus able to give much valuable information regarding domestic and social problems affecting the patients attending the hospitals.

Poliomyelitis, Measles, Whooping Cough

Contacts of cases of poliomyelitis were also given special supervision, and in all 888 visits were paid. 9,211 visits were paid to cases of measles and whooping cough.

Cancer

The work undertaken by the health visitors in collecting data for the North Wales, West Cheshire and South Lancashire Cancer Research Committee wound up in the first quarter of the year, and 95 visits were paid to the homes of relatives of the deceased persons.

Growth Survey

The work on the survey relating to the growth of babies was also completed.

Work in connection with the aged has increased and more time has been spent giving practical help in the home, and arranging assistance from other statutory and voluntary bodies. Visits to this group have been doubled this year.

Liaison with other Organisations Engaged in Social Work

Throughout the year there has been an increasing demand from voluntary organisations for the advice of a health visitor. It is felt that this is largely the result of the meetings held in 1955, at the clinics, between the health visitors and representatives of various organisations engaged in social work.

Care of the Unmarried Mother

The care of illegitimate children still constituted an important part of the health visitors' work. A large number of the girls having illegitimate babies have become estranged from their families, and arrangements have to be made for their care during the ante-natal and post-natal periods, and it has been on account of the close co-operation existing between the health visitors and the various voluntary workers that this has been more readily achieved. The voluntary organisations undertaking work in connection with unmarried mothers and their babies provided several mother and baby homes both inside and outside

the City. The health visitors paid periodic visits to three mother and baby homes in the city to give help and advice to the mothers and staff. The City Council continued to pay grants to these voluntary organisations.

Follow-up of Diabetic Cases Attending Hospital

A health visitor has been seconded on a full-time basis for the after-care of patients attending the diabetic clinic at the David Lewis Northern Hospital. The scheme started in January, 1956.

The health visitor has attended the hospital out-patient sessions twice weekly, on Tuesdays when the patients come for blood sugar estimation, and on Thursdays when they attend to be seen by the consultant and medical staff. The health visitor also paid regular visits to the wards for the purpose of getting to know the patients and also of discussing their condition with the ward sister and the doctors. Home visits have been paid to the relatives of some of the patients to reassure them and explain the illness and its prognosis. Patients discharged from hospital, and all patients attending the out-patients' clinic have been visited regularly in their own homes, where advice of diet, cooking and other matters was given. A close liaison between the health visitor, almoner and the dietician has already been built up.

It is now possible to review the results of this service which has been functioning for a year, and the following are some of the health visitor's impressions regarding her work :—

Diabetic Health Visitor's Comments

"There is a good deal of ignorance among patients regarding their diet. Several patients were surprisingly casual about adhering to it, diet sheets in many instances get lost and quite a number have no understanding whatever of the importance and reason for their diets. A few patients had out of date diet sheets and were on a too low carbo-hydrate diet.

A detailed explanation of alternative suitable diets has been given to many of the patients, thus enabling them to have a greater choice of food. Some patients could not afford to purchase their diets and it has now been possible to persuade them to accept National Assistance, which they had previously been too proud to apply for. Other patients admitted that they only kept to their diets the week prior to clinic

attendance, thus obtaining a satisfactory blood sugar picture for their hospital attendance.

Insulin was not always given consistently, and occasionally was omitted altogether. **Insulin**

In one case insulin had been discarded for over twelve months, and the patient had been absent from the clinic for this period. After persuasion he attended; the resulting blood sugar estimation was 640 mgms.

A similar case from another hospital was found in a coma and died shortly after admission to hospital.

Two patients were not using the type of insulin which had been advised by the hospital consultant. One woman was having her insulin at 11 p.m. and another always after her meal. In some cases there was confusion regarding the various strengths of insulin and vagueness regarding the correct dosage. It has also been found necessary in a large number of cases to instruct patients about the various sites of injection.

Although these patients had received many notes asking them to re-attend, personal contact with explanation of the necessity for medical supervision was infinitely more effective. **Defaulters re Clinic Attendance**

The aged and handicapped and their relatives were especially glad of visits. Home helps were obtained for a few people. **Aged**

Wives and mothers were interested in being given an explanation of the reason for the prescribed dietetic restrictions. **Visits to Wives and Mothers**

It is hoped that there will be some rehabilitation of cases of long standing unemployment. In order to deal with this, discussions have been proceeding with officers of the Ministry of Labour." **Employment**

Some Diabetic Case Histories.

This patient was brought up in the Cottage Homes and did not know his father or mother. **Case 1 Age 32 years**

He had an operation for cataract at St. Paul's Eye Hospital. When he left the hospital, work was found for him as a porter, but he left after a few months. He is blind in one eye and the vision is 6/6 in the other.

Several visits were paid to this address (a most unpleasant place to visit), excuses were made, and it appeared that the patient did not want to be seen.

The first successful visit was on 5th June, 1956, the patient looked frightened and ill, and was very thin.

He told the health visitor that he had not attended the diabetic clinic since the end of 1954, and he had not had his insulin for over twelve months. After a great deal of persuasion and explanation of why this was necessary, he promised to attend the next diabetic clinic.

Conversation with the almoner revealed that he had been attending the Queen's Nurses Home for his injections, but had stopped going there.

Attendance was made at the clinic on 7th June and his blood sugar estimation was 600 mgms. There being no beds at the Northern Hospital, he was admitted that day to Whiston Hospital.

He took his own discharge from Whiston Hospital at the end of July. He attended the diabetic clinic at the Northern Hospital and arrangements were made for the Queen's nurses to give him his insulin.

The health visitor discussed his future with the almoner. Owing to unsatisfactory living conditions he became very depressed and sorry for himself and did not bother with his diet. He was readmitted to Whiston Hospital at the end of September. It was suggested that he might be admitted to residential care under Part III of the National Assistance Act, but the medical officer of health was reluctant to deal with a man of 32 years in this way.

The health visitor then conferred with almoners from Whiston and Northern Hospitals, the disabled rehabilitation officers and the medical consultant. All were in agreement that he was unco-operative and of low mentality. He was later examined by a psychiatrist who described him as a "dullard" who managed to survive army service and was a problem for the disabled rehabilitation officer. At the time of writing this report he was still in Whiston Hospital and seemed to be doing quite well at the occupation centre making baskets and scarves. The juvenile employment officer agreed to look into his case with a view to finding suitable employment.

The health visitor is of the opinion that this man has been a victim of circumstances and that every effort should be made for his rehabilitation.

The almoner of the Northern Hospital is making arrangements for his admission to a diabetic convalescent home in Rutland, where he will be taught to manage his diet and insulin.

Case 2
Age 56 years

This case was first visited on 10th January, 1956. This patient is separated from her husband and lives with a married daughter. She had been unhappy and had not taken the trouble to keep to her diet. She also said that she could not afford her diet as she only received £2 per week separation allowance. On assessment of her outgoings it was found that she received insufficient income to buy the necessary food. She stated that she was too proud to apply for National Assistance. She was persuaded to apply for this and £1 0s. 6d. was granted.

The health visitor revisited in April and found that the patient was attending the clinic regularly and her diabetic condition was much improved.

Case 3
Age 54 years

Visited on 13th March, 1956, at the request of the consultant at the diabetic clinic. She had been casual regarding clinic attendances and would not adhere to her diet. Patient lives with her married daughter, the home is clean, the Queen's nurse gives insulin. Although patient has been a diabetic since 1950 she has no understanding of the prescribed diet, and the diet sheet given by the hospital had been lost.

On 21st March a diet sheet was given and explained, she was also advised regarding her teeth and the general care of her feet.

The health visitor saw her in hospital on 10th April where she had been admitted on account of bronchitis.

On 24th April she had no diet sheet or scales. Scales and diet sheet were obtained from the dietitian and again the diet was carefully explained.

On 25th April the daughter was seen and her mother's diet explained to her.

2nd May—keeping to diet.

20th July—attending clinic as advised, diabetes controlled, early retinopathy of right eye was suspected and she was referred to St. Paul's Eye Hospital.

31st July, the importance of keeping to diet was stressed. The patient stated that she never bothered with her diet prior to this year. She requires strict supervision.

Case 4
Age 28 years

This patient was admitted to the Northern Hospital in January in a semi-coma and having had a good deal of alcohol.

Visited on the ward. Information regarding treatment was obtained from the ward sister who described him as an awkward patient.

Soon after discharge from hospital several visits were made to his home. He stated that he could not walk on his left foot, he had not mentioned this at the hospital. Advice was given about diet and method of storing his syringe and insulin. He was strongly advised to keep off drink. He reattended the clinic regularly and the health visitor informed the clinic doctor of his foot condition. This was diagnosed as "foot drop". Physiotherapy was arranged for the foot and he was encouraged to keep to his diet. His attitude towards the disease improved and he is now working as a labourer and his diabetic state seems to be more or less stabilised.

Summary

Patients have welcomed the visits of the diabetic health visitor and greatly benefited from her advice. New patients are seldom admitted to the hospital for stabilisation and the domiciliary attention of the health visitor facilitated treatment in the early stages. Several visits were paid soon after the diagnosis was made to ensure that medical instructions were followed and to assist the patient to adjust his way of life to accord with his disease.

Of the 505 cases on the hospital list, 485 have been visited.

An attempt was made in each case to assess whether or not the patients were keeping to the diets prescribed. In the opinion of the health visitor, 310 were adhering to their diet, but in 175 cases the patients did not appear to be making any serious attempt to keep to the prescribed diet.

The visitor had to take time to explain to the patient the principle behind the dietetic restrictions, and to indicate how the diet could be varied to conform to individual likes and dislikes. Only in this way could the patients' co-operation be obtained. It was found necessary to give advice about the site of injections and the sterilisation and care of syringes and needles in the house. It was also necessary to check that the insulin used was the type that was prescribed. In addition, many social problems had to be dealt with.

This brief review of the first year's home visiting of 485 diabetics, indicates the need for this type of after-care. There is no doubt the innovation has already shown itself to be well worth while and justified. It is an example of the health visitor doing social case work in a specialised field for which her training as a nurse, together with her knowledge of social agencies in the community, make her particularly well fitted.

Special Treatment for pre-School Children

By arrangement with the Education Committee, children under the age of 5 years suffering from defective vision or orthopaedic defects may receive treatment and advice at the School Health Service Special clinics. During the year, 439 cases were referred to the School Health Service, namely:—

Defective vision	270
Orthopaedic defects	169

Infestation by Head Lice

Infestation by head lice still persists among mothers and young children and the health visitors continue to give it their attention. In addition to those cases they discover for themselves, other infected families were referred to them by nursery matrons, school nurses, general practitioners, hospitals and others.

During the year, 630 children and 127 adults were found to be verminous and in all cases advice was given as to cleanliness and arrangements made for cleansing at home or at cleansing stations.

In all 72 adults and 307 children were cleansed at the cleansing stations, the remainder being cleansed at home.

Special Care of Premature Infants.

Premature Baby Nursing Service.

The primary object of this service has been to look after healthy

infants born at home and weighing between 4 lbs and 5½ lbs, and also to enable the premature infants born in hospital to be discharged earlier to the care of this domiciliary service.

Equipment

Special equipment has been available on loan as required, such as heated cots and hot water bottles and special clothing, also low reading thermometers.

Transport

The local authority provided transport for this equipment in a special van.

Duration of Nursing Care

The nurses continued to look after the babies until the infant had progressed sufficiently to be left in the care of the mother, and one of the nurses' principal duties has been to teach the mother how to care for the infant.

Appointment of Second Premature Baby Midwife

A second premature baby midwife was appointed and commenced duty at the beginning of September. She was transferred from the health visiting staff at her own request. She has had considerable experience in the care of premature babies in hospital, and before taking up her special duties with the local authority she spent a month at the Mill Road premature baby unit. Since the appointment of the second premature baby midwife there has been a rapid increase in the volume of work especially in respect of early hospital discharges.

Number of Visits

The number of visits paid by the special midwives to babies born at home before the 14th day was 720, and the visits paid by them after the 14th day numbered 517. The number of visits paid by them to infants discharged from hospital for domiciliary nursing was 579.

Weight of Infants born at Home

Five infants between the weight of 3 lbs and 4 lbs were nursed at home, because of the persistent refusal of hospital treatment by the mother. The average period of attendance for these 5 babies was 6½ weeks (Table 20). Thirty-two babies weighed between 4 lbs and 5 lbs, 15 weighed between 5 lbs and 5½ lbs. Two immature infants over 5½ lbs were also cared for by the specially trained midwives. All the above babies were alive and well at the end of the year.

Transfers to Hospital

Six cases were nursed at home and later transferred to hospital. One of these cases died, the remaining five were alive at the end of the year.

Six cases were transferred to hospital for a period of 2 or 3 weeks and thereafter transferred home for nursing. All were alive at the end of the year. (Table 17.)

Hospital Discharges

Seventy-eight babies were discharged home to the care of the domicilary nursing service. The average weight on discharge from hospital was between 5 lbs and 5½ lbs, and the average weight when discharged by the midwife was between 6¼ lbs and 6½ lbs. The average period during which the babies were looked after by the domiciliary midwives was between 2 and 2½ weeks (Table 18).

Type of Feeding

Of the 54 babies born at home and nursed entirely at home, 39 were breast fed, 7 were partly breast fed and 8 were artificially fed. Of the 78 infants born in hospital, 25 were breast fed, 13 were partly breast fed and 40 were artificially fed.

Midwives Visits

The midwives engaged on general midwifery duties have paid 70 special visits to premature babies discharged from hospital before the 28th day. They have also paid 353 visits after the 14th day to infants born at home who required extra nursing care.

Breast Milk Bank.

A good working arrangement has now been established with the Royal Liverpool Children's Hospital for supplying human milk to the breast milk bank there, and during 1956, 9,886 ozs of human milk were collected from domiciliary midwifery cases and sent to the hospital.

Transport

The milk was transported from the mother's house to the hospital by a local authority van on weekdays and on Sundays transport has been provided by the hospital.

Equipment

The local authority provided the following equipment for each patient:—plastic funnel and container for same, small bowl and receiver, paper towels, container for sterile swabs, antiseptic solution and cream. Sterile bottles for collecting the milk, sterile swabs and ice boxes were suppled by the hospital.

Supervision

If the donor's baby was over 14 days, the case was supervised by the health visitor, who called twice weekly until the mother ceased to be a donor. In the case of a home delivery the midwife instructed the mother

concerning the necessary procedure, generally supervised the personal hygiene in the home and the arrangements for transport during the 14 days that she was in attendance.

Owing to the shortage of health visiting staff no effort has been made during 1956 to extend this service which has been more or less limited to the district in the vicinity of the Royal Liverpool Children's Hospital. It is likely that the above arrangements have stimulated interest in breast feeding in this district.

Stillbirths and Perinatal Deaths.

Stillbirths

There was a total of 508 stillbirths during the year, 118 of these related to mothers living outside the City and 4 were inward transfers. The remaining 390 stillbirths were fully investigated, 19 were illegitimate and 371 legitimate. Fifty-eight were delivered at home, 3 in nursing homes and 329 in hospital.

In 2 sets of twins all the infants died, in 5 sets the first twin died and in 9 the second twin died.

Rhesus Factor

In 8·6 per cent of the home deliveries the blood was not tested for the rhesus factor. This compares favourably with last year when the figure was 26 per cent and with 1954 when the figure was 42 per cent.

Ante-Natal Care

The hospitals were wholly or partly responsible for the ante-natal care in 253 cases, the general practitioners in 105 cases and the clinics and midwives in 25 cases. Seven mothers did not have any ante natal care.

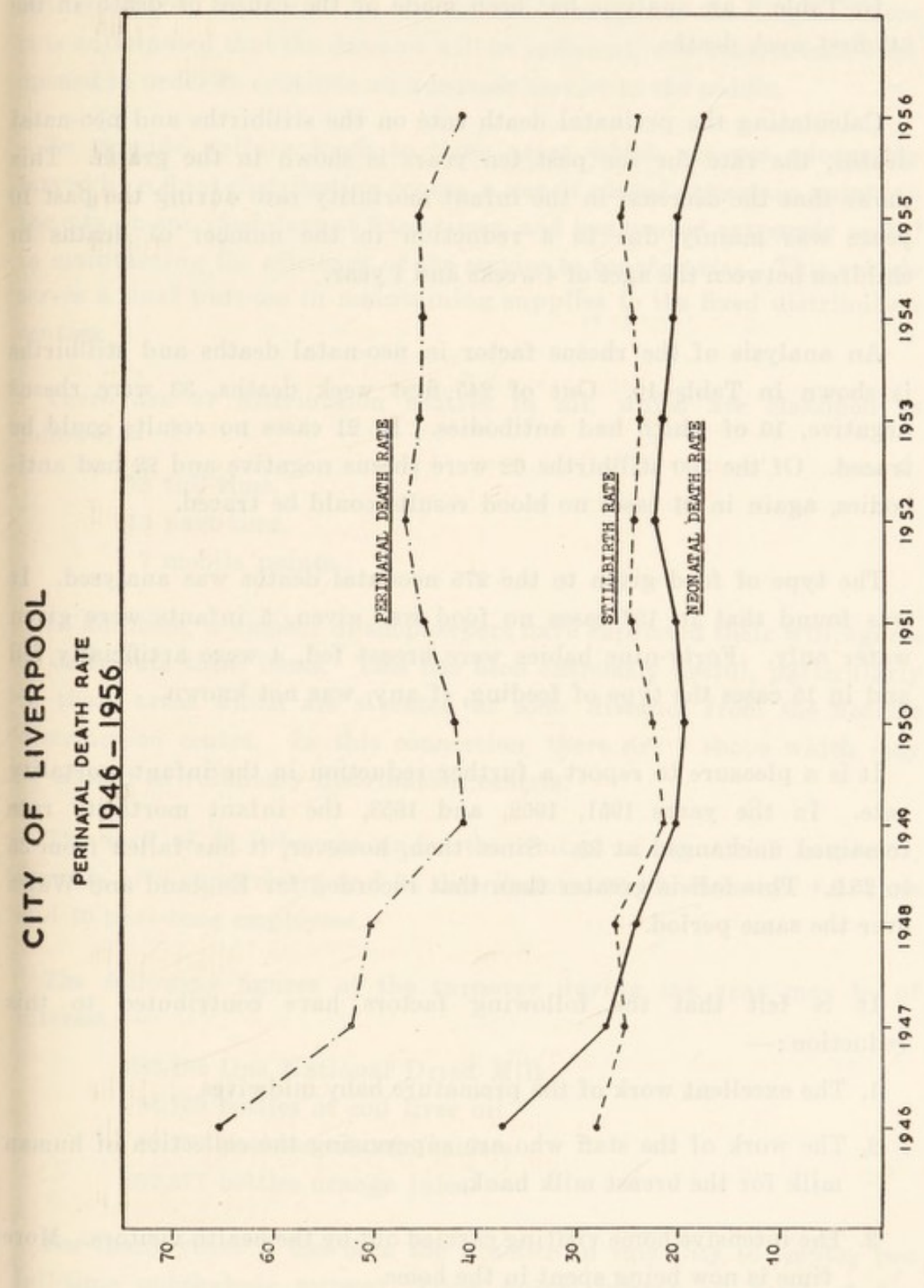
The causes are listed in Table 21.

The stillbirth rate for the City and for the cases delivered by municipal midwives from 1946 to 1956 is shown in Table 22.

Perinatal Deaths

Taking the perinatal death rate as the stillbirth rate plus the first week death rate, the figure for 1956 was 39·5.

In 73 of the first week deaths there was an associated maternal cause as follows:—In 15 cases, toxaemia; in 51 cases, ante-partum haemorrhage; and in 7 cases hypertension. In 86 stillbirths there was a maternal cause as shown in Table 16.


CITY OF LIVERPOOL
PERINATAL DEATH RATE
1946 – 1956
PERINATAL DEATH RATE
STILLBIRTH RATE
NEONATAL DEATH RATE
70
60
50
40
30
20
10
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956

Stillbirths together with Neonatal Deaths

In Table 8 an analysis has been made of the causes of death in the 245 first week deaths.

Calculating the perinatal death rate on the stillbirths and neo-natal deaths, the rate for the past ten years is shown in the graph. This shows that the decrease in the infant mortality rate during the past 10 years was mainly due to a reduction in the number of deaths in children between the ages of 4 weeks and 1 year.

Rhesus Factor

An analysis of the rhesus factor in neo-natal deaths and stillbirths is shown in Table 10. Out of 245 first week deaths, 33 were rhesus negative, 10 of which had antibodies. In 21 cases no results could be traced. Of the 390 stillbirths 62 were rhesus negative and 22 had antibodies, again in 21 cases no blood results could be traced.

Feeding

The type of food given to the 275 neonatal deaths was analysed. It was found that in 197 cases no food was given, 5 infants were given water only. Forty-nine babies were breast fed, 4 were artificially fed and in 15 cases the type of feeding, if any, was not known.

Infant Mortality Rate

It is a pleasure to report a further reduction in the infant mortality rate. In the years 1951, 1952, and 1953, the infant mortality rate remained unchanged at 35. Since then, however, it has fallen from 35 to 25.9. This fall is greater than that recorded for England and Wales over the same period.

It is felt that the following factors have contributed to this reduction :—

1. The excellent work of the premature baby midwives.
2. The work of the staff who are supervising the collection of human milk for the breast milk bank.
3. The intensive home visiting carried out by the health visitors. More time is now being spent in the home.

Distribution of Welfare Foods

The functions of this service are to arrange for the distribution to the general public of National Dried Milk, cod liver oil, vitamin tablets and orange juice, and for this purpose a considerable number of distri-

bution centres require to be maintained throughout the City. Where it is anticipated that the demand will be sufficient, new centres have been opened in order to continue an adequate service to the public.

To provide welfare foods to those areas which are not adequately served by a fixed distribution centre, a van is placed at certain points in the city on specified days at fixed times, and has proved extremely useful in maintaining the efficiency of the service to beneficiaries. This vehicle serves a dual purpose in maintaining supplies to the fixed distribution centres.

There are 47 distribution centres in all, which are classified as follows:—

18 full-time.
15 part-time.
7 mobile points.

In addition, a number of shopkeepers have expressed their willingness to distribute these items. This has been extremely useful, particularly in those areas which are situated at some distance from the nearest distribution centre. In this connection, there are 7 shops which may be classed as voluntary distribution centres.

The staff of 36, who are under the control of the Chief Inspector, consists of 2 supervisors and 34 distributors, 26 of whom are full-time and 10 part-time employees.

The following figures of the turnover during the year may be of interest:—

683,182 tins National Dried Milk.
84,169 bottles of cod liver oil.
40,732 packets vitamin tablets.
552,377 bottles orange juice.

Ophthalmia Neonatorum

For many years it has been the practice in this City to employ two full-time ophthalmic nurses. These nurses visited all cases of discharging eyes in their own homes.

Of recent years there has been a very considerable diminution in the number of serious cases of ophthalmia. The majority of the cases seen

had only a very mild infection, and it was felt that, at the present time, the work did not justify the employment of special nurses. The senior superintendent of the Liverpool Queen Victoria District Nursing Association was consulted and agreed to take over this work. The hospital and general practitioner services were notified accordingly. At the time of making the change there was a vacancy for an ophthalmic nurse. This vacancy was not filled and the remaining nurse, who had only been doing this work for a short period, was transferred to the tuberculosis nursing service.

There were 141 cases of ophthalmia notified during the year and in no case was vision either lost or impaired.

MIDWIFERY SERVICE.

Births

The birth rate for 1956 remained high (20.6). The figure for total live and still births was 16,338. The total number of live and still births notified was 19,050. The disparity between the two figures is due mainly to the fact that many women living outside the City come into Liverpool hospitals to be confined.

During the year, 318 midwives gave the required notice under Section 15 of the Midwives Act, 1951, of their intention to practise midwifery in the City (see Table 24).

Home Confinements

In 1956, 4,973 women were delivered in their own homes, of these, 3,949 were delivered by municipal midwives, 1,011 by Liverpool Maternity Hospital District Midwives and 13 by private midwives. See Table 25).

Percentage of Domiciliary Births from 1946 to 1956

Domiciliary births comprised 31·2 per cent of the total births and this figure has changed little during the past four years, having ranged from 30·4 per cent to 31·1 per cent. In 1951, however, only 26·7 per cent of Liverpool births took place at home, this is the lowest figure ever recorded for domiciliary births. The total number of live and still births for the City in 1951 was 15,989, this is only 349 less than in 1956. Table 12 shows that the percentage of domiciliary deliveries from 1946 to 1956.

Case Load

In 1956 the average case load of the municipal midwives was 71.

Early Hospital Discharges

There was a total of 4,320 special visits paid by midwives in addition to their ordinary routine work. Of these visits, 2,455 were to maternity cases discharged from hospital before the 10th day and 2,265 were to maternity cases for investigation of home conditions.

Home Conditions

Analgesia

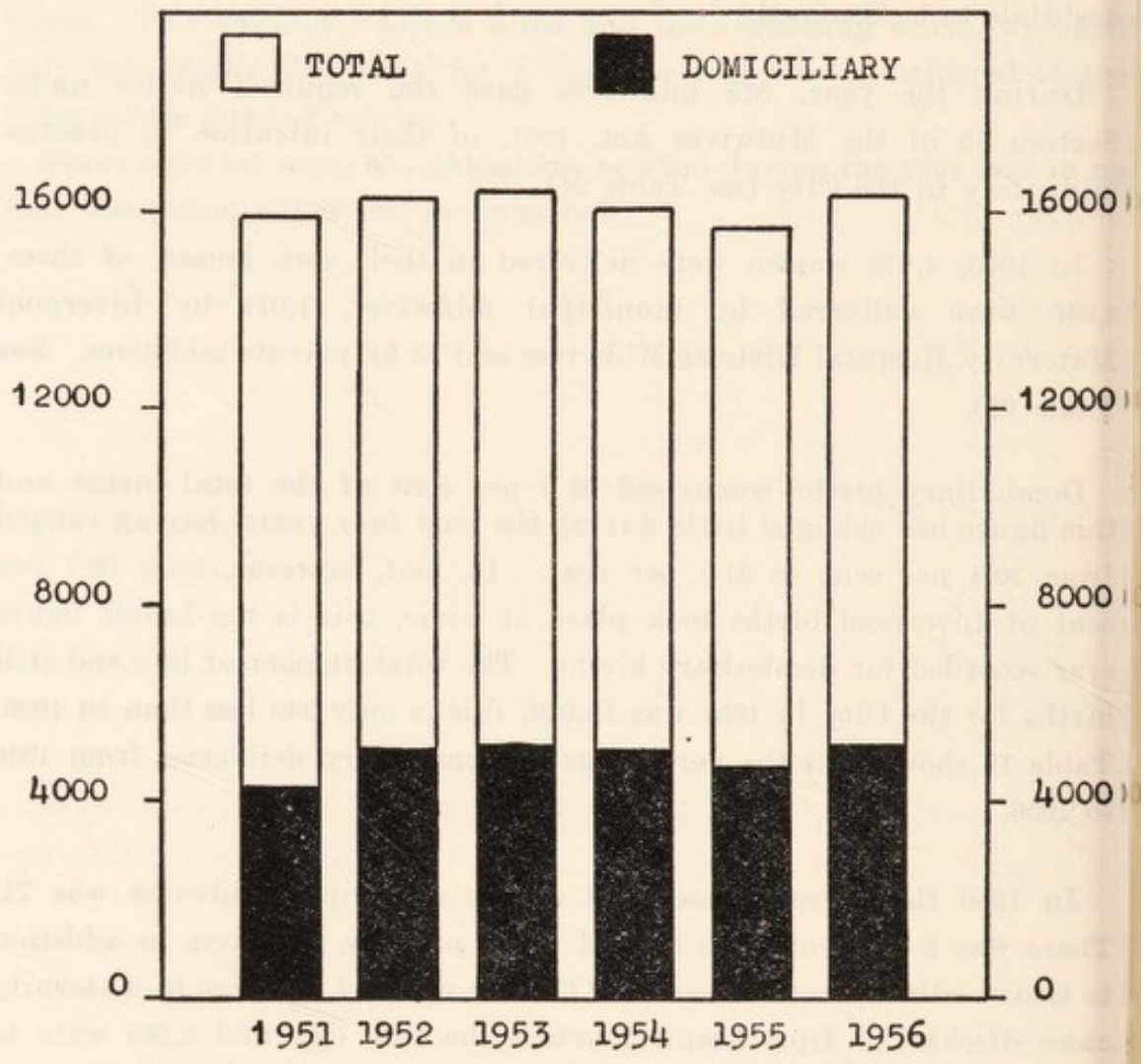
Gas/air analgesia was administered in 3,276 domicilary deliveries in 1956 as compared with 3,088 in 1955, and 2,558 domiciliary deliveries were given Pethidine as compared with 2,427 in 1955. (See Table 23.)

Work of the Supervisors

During 1956, 1,207 visits were paid by the administrative staff to midwives and 772 special visits were also paid by them in respect of special cases including puerperal pyrexia and patients with bad obstetric histories who refused to book at a hospital for confinement.

CITY OF LIVERPOOL

TOTAL AND DOMICILIARY BIRTHS



Medical Assistance

Under the rules of the Central Midwives Board midwives sought medical aid in 1,799 cases—1,359 mothers and 440 infants.

The total number of occasions on which consultant obstetricians were called in connection with obstetrical emergencies or complications was 62 (45 mothers and 17 infants).

During the year the midwives were called out by the ambulance service to 28 cases.

Eleven midwives were suspended from practice in order to prevent the spread of infection.

Refresher Courses

Six municipal midwives attended postgraduate courses of instruction during the year—2 at Bangor, 2 at Bradford and 2 at Birmingham. The supervisor of midwives attended a course in London.

Part II Training of Midwives

The Part II midwifery training school, in conjunction with Sefton General Hospital, continues to develop. 31 pupil midwives completed their training during the year and qualified as midwives.

Co-operation with General Practitioners

During the year, 46 groups of general practitioners had a rota of midwives attending their ante-natal clinics. This type of co-operation is greatly appreciated by the doctors and midwives and gives the patients added confidence in the obstetric team. The midwives work in groups of 2 or 3 and they are asked to keep themselves informed regarding their partner's cases. If the doctors wish, the midwives see the cases at the midwives' clinics between visits to the general practitioner. Many of the general practitioners' cases attend the local authority clinics for the taking of blood only.

Attendances at Clinics

Cases that have not booked a doctor usually attend the local authority clinic, where they are seen by the midwife, together with the local authority doctor.

Obstetric Flying Squad.

How the Flying Squad is called

When a midwife requires help she calls the patient's own doctor, if he does not do obstetrics, she calls a doctor on the obstetric list. If, however, a doctor is not immediately available she is at liberty to call the flying squad.

The Liverpool Maternity Hospital and the Mill Road Maternity Hospital take alternate weeks on flying squad duty. Midwives always ring Mill Road Hospital.

The procedure is as follows. The doctor or midwife calls the hospital. The hospital calls the ambulance station—just says "flying squad". The ambulance then reports to the hospital making the call, and picks up staff, equipment and instructions.

Staff

The staff comprises a sister midwife, an obstetric registrar, an anaesthetist, and sometimes a medical student is included. They travel in the ambulance and, if necessary, take the patient back to hospital with them.

Area Served

The flying squad serves the Liverpool Regional Hospital Board area.

The following table indicates the number of calls made by the Liverpool domiciliary midwifery service during the past four years:—

Number of Calls made by Local Authority Staff

	No. of Calls.	Transfusions.
1952	33	26
1953	37	30
1954	49	29
1955	63	37
1956	67	27

Doctor Booked

Of the 67 calls, a doctor was booked in 60 cases, midwife only in 5 and 2 were unbooked cases.

Deliveries

An analysis of the mode of delivery showed that in 55 cases the delivery was normal, in two cases there was a breech delivery, 3 were forceps deliveries and in 3 cases the baby was born before the arrival of the midwife. Four calls were in respect of bleeding before the 28th week. The majority of the calls were made on account of haemorrhage and retained placenta.

In some cases there was more than one reason for calling the flying squad and also in some cases more than one operative measure was required, *e.g.* prolonged labour and breech, or forceps and transfusion.

Five cases were transferred to hospital before treatment, four were transferred after treatment, two had previously refused a hospital delivery. Ten did not require treatment.

Puerperal Pyrexia.

During 1956 there were 819 cases of puerperal pyrexia. The cause in 205 cases was urinary infection, in 183 pelvic infection, in 74 respiratory infection and in 78 breast infection. The cause was not known in 215 cases. **Cause**

Maternal Deaths.

Seven deaths occurred which were due to pregnancy and childbirth, compared with 9 deaths in 1955. Six of these were associated with toxaemia, two of the six patients died of sepsis. These two cases were septic abortions. The seventh case was due to pulmonary embolism associated with thrombosis of the pelvic veins.

There were three deaths due to associated conditions, two died of pneumonia and one of haemorrhage associated with peribronchial fibrosis. **Associated Conditions**

Three cases were in Class III of the Registrar General's Classification of Occupations, three in Class IV and one in Class V. **R.Gs. Class**

One of the pregnancies was illegitimate.

Of the ten deaths due to pregnancy and childbirth and associated conditions, 8 died in hospital and 2 at home. Only one, an abortion, had no ante-natal care. (Tables 13-15.) **Place of Death**

Day Nurseries.

There are two private day nurseries, the Adam Cliff with 60 places and 4 Oak Terrace with 32 places. They have been inspected periodically by the local authority medical officers, who also undertake routine medical examination of the children. The matrons of both nurseries are very pleased to have this service. In the Adam Cliff Nursery the local authority pays an annual grant towards the expenses and 50 per cent of the admissions are referred by the local authority. **Private Day Nurseries**

One trained nurse is registered to mind 6 children. In addition, two further applications for registration were granted, one to mind 3 children and the other to mind 6 children. These two applicants have now decided to go out to work instead of minding children in their own homes. The remaining minder is visited regularly by the health visitor for the district and one of the local authority medical officers. **Daily Minders**

Local Authority Day Nurseries

There are 13 day nurseries with a total of 706 places. The premises of the Holly Road nursery were not very satisfactory and it was closed in 1956, in anticipation of the opening of the new day nursery in Shaw Street. Owing, however, to financial restrictions, it was not possible to make a start on the new nursery. This was a great disappointment, especially as the Mill Road and Salisbury Street nurseries continue to be most unsatisfactory. It is hoped that the new nursery will be completed during the forthcoming financial year.

Private Nursing Homes.

Maternity Homes

There are 9 private homes, three of which take maternity cases and have between them a total of 37 maternity beds. During the year they delivered a total of 337 mothers. One home is registered for 18 geriatric cases, and three for both medical and surgical cases. A list of the nursing homes will be found in the annual report for 1955.

Home Nursing Equipment.

Home Nursing Equipment

The scheme for the loan of home nursing equipment established in accordance with the provisions of Section 28 of the National Health Service Act, 1946, to patients being nursed in their own homes, functioned very satisfactorily during 1956. The scheme was supervised by one of the deputy superintendent health visitors.

No charge was made for the loan of the equipment, nor was any restriction placed on the number of different articles which may be borrowed by any one patient. A deposit—refundable on the return of the equipment—of one-tenth of the value was required, however, where the cost of an article exceeded one pound. Loans were made for three monthly periods and extensions were granted at the request of the patients' doctors.

A health visitor called on these patients to assess their needs, and to advise on the use of the equipment. Frequently the health visitors were able to give assistance with other problems affecting the patient's mental and physical comfort.

The demand for this service continued to grow, and each year it has been necessary to increase the stock of equipment. During 1956, 2,278 articles were loaned. (See Table 26.)

HOME NURSING

The Liverpool Queen Victoria District Nursing Association continued to act on an agency basis for the local health authority.

Homes.

Centres

Central Home, 1 Princes Road.
Walton Home, Walton.

Home Nursing Centres.

Lady Williamson Home, Aigburth.
58 Queens Drive, Liverpool, 18.
14 Ashcombe Road, Liverpool, 14.

Double Districts.

Fazakerley—60 Manica Crescent.
Norris Green—192 East Lancashire Road.
Speke—95 Heathgate Avenue.
Woolton—2 Hillfoot Avenue.
Larkhill—39 Malleson Road.

Staff

The nursing staff at the 31st December, 1956, was comprised as follows:—

1 Senior Superintendent of Home Nursing.
3 Superintendents.
1 District Nurse Tutor.
5 Assistant Superintendents.
62 Queen's Nurses (full-time).
4 Queen's Nurses (part-time).
3 State Registered Nurses (full-time).
8 State Registered Nurses (part-time).
14 State Enrolled Assistant Nurses.
8 Students.

which, in terms of full-time staff, was 5 nurses below the approved establishment.

General

The district nurses give no service, excepting an emergency first visit, unless instructions are received from a doctor. In the case of a hospital discharge, the family doctor is advised by the hospital if the

patient has been referred for home nursing and subsequent to the patient's discharge, instructions in regard to nursing are taken from the family doctor.

Visits

During 1956, 396,406 visits were paid to 20,076 cases, as follows:—

	Cases.	Visits.
Medical	15,834	304,731
Surgical	3,178	56,560
Infectious Diseases	32	156
Tuberculosis	716	31,405
Maternal Complications	316	2,691
Others	—	863
	20,076	396,406

Nursing visits were made between the hours of 8.30 a.m. and 1.30 p.m. and 4.30 p.m. and 7.30 p.m. daily. Morning and evening visits were always paid to ill patients requiring twice a day visits, and a skeleton staff was on duty each evening until 10.30 p.m. for "emergency calls" and for those ill patients requiring late morphia injections.

Injections

The giving of injections again comprised a considerable proportion of the work undertaken by the district nurses and, 77,439 injections of insulin were given, 72,706 of penicillin, 31,846 of streptomycin, 31,888 of haemati and 55,556 other injections.

Nursing Care of Infants

During the year, 5,637 visits were paid to infants under one year. Of the 729 children treated, 123 were under one month old (see Table 27).

Minor Ailments Clinic

The minor ailments clinic which was opened at the Central Home in 1950, continued in use and the statistics for 1956 are shown in Table 28.

Training of Queen's Nursing Sisters

The training of district nurses has continued throughout the year; 16 nurses qualified as Queen's Nursing Sisters during 1956. Of these, 10 were trained for the Liverpool staff, 2 were trained on behalf of other County Borough Authorities and 4 on behalf of County Authorities.

At present the course of training is for six months for state registered nurses, or four months for nurses who are health visitors, midwives, nurse teachers or district nurses with at least 18 months' experience in district nursing.

A block system of training has been adopted in which the lecture course is concentrated into one month. During this time all lectures are given, the students doing purely theoretical work. The remaining period of training is spent in tutorials, study classes, visits of observation and practical work.

Mobile Physiotherapy Service

In addition to the district nursing, the Liverpool Queen Victoria District Nursing Association has continued to maintain a mobile physiotherapy service comprising three fully independent units. This service is entirely outside the National Health Service and is dependent upon patients' payments, voluntary donations and subscriptions, and a half share of the proceeds of the Association's investments.

Cases are referred by hospital specialists and general practitioners and during 1956, 306 new patients were treated. Altogether, the three units gave a total of 4,706 treatments and made another 130 non-treatment visits for various reasons.

Through this service being available to them, elderly chronic patients are kept in a state of moderate mobility, thus releasing the hospitals of potential in-patients.

THE HOME HELP SERVICE.

Home Help Service

2,159 families were assisted during the year by the Home Help Service, the amount of help provided varying with the needs of the patients. This compares with 2,073 families helped in 1955.

Included in the above figure were:—

Maternity cases	397
Tuberculosis	22
Cancer	20
Chronic sick	416
Other illnesses	319
Aged	985

The number of persons receiving help at 31st December, 1956, was 649.

Maternity

There was a slight increase in the number of confinement cases. Some difficulty in regard to the charges were reported but patients who could not make alternative arrangements were encouraged to accept the service and pay later by regular instalments.

Tuberculosis and Cancer

The figures shown represent only those cases who were critically ill and who were supplied with daily service until the need no longer existed. The less urgent cases are included with the chronic sick and other illnesses.

Chronic Sick

There were many patients needing attention for a few hours daily for fire lighting, cooking, etc. They were without other assistance and could not make other arrangements. Many of them suffered from advanced arthritis and were unable to bend or carry. The alternative to home help service in most cases was hostel or hospital accommodation.

Other Illnesses

Patients in this category were those helped for a short period only and were able to resume their normal duties in two to three weeks.

Aged

Applications for this "helping hand" service continued to increase and was restricted to the old or handicapped persons living alone or with another equally infirm person.

Those with resident sons or daughters in good health were requested to engage other help. Service when supplied was for approximately four hours weekly for housework and shopping.

Applications

Approximately 20 per cent of applications received were cancelled when visited. Some householders refused help, others did not need it and some had been removed to hospital.

There was an increase in the number of calls received from general practitioners and this has been welcomed. The call was usually prompt and followed the doctor's visit to his patient and the need was urgent. In many ways application from doctors is ideal as the visitor is aware of the true nature of the complaint of the person she is visiting.

Charges

The revised scale of charges which came into force in April 1955 proved to be an improvement on the former scale when applied to the lower income groups.

The minimum charge of 2s. per week was paid by the majority of persons in the chronic and aged categories and the National Assistance Board was informed in these cases.

Where the income was in a higher scale, frequently due to overtime earnings, there was some dissatisfaction with the charges, and this necessitated a considerable amount of correspondence with the employers and applicants in an effort to obtain the figure which reacted most favourably to the applicant.

Administrative Staff

1956 was an extremely busy year for the staff in general. There were more applications, more home helps employed and more visits paid than ever before. The three supervisory staff made 6,792 calls to patients in all parts of the city and it was often very difficult to visit as quickly and as frequently as was desirable.

The use of a car was obtained from the central garage when necessary and this enabled a visitor to cover approximately 20 miles in three hours and make at least twelve calls.

Home Help Staff

The number of home helps employed at 31st December, 1956 was 148. The quality of staff has improved and there was every reason to be satisfied with the service given. They attended some extraordinary cases during the year, several of them with great success, for example :—

A patient who was suffering from rheumatic fever and had lost the will to live, was separated from her husband and had three children at

school and an aged father. The children were uncontrolled and the home a very unhappy one. A home help was sent on the 6th January but did not make much improvement and another person took over on 28th January. Soon afterwards the patient began to have an interest in living and the children improved in health and behaviour. The help was withdrawn on 17th March leaving a mother who was able to look after her family and who stated that she had watched the helper and was determined to copy her. The patient was later offered a new flat in Kirkby.

It has never been an easy matter to supply service to dirty homes, particularly when the occupant has filthy habits such as spitting. Several cases of this kind arose during the year and whilst every effort was made to help, usually by sending two helpers at the start, the department was not always successful. These dirty homes have been the cause of the resignation of some of the staff whose own homes are visited before they are engaged to ensure that they are clean.

HEALTH EDUCATION.

Assn. of Sea and Air Port Health Authorities Annual Conference

The Annual Conference of the Association of Sea and Air port health authorities of the British Isles was held in Liverpool between the 6th and 8th June, 1956. During this period three papers on health matters of topical interest were read to the meeting.

The first was delivered by Professor A. W. Downie, Professor of Bacteriology, Liverpool University. The subject of his paper was the "diagnosis of smallpox", and Professor Downie dealt in detail with the problem and modern methods of diagnosing this disease. Coloured slides were shown which illustrated his many points of interest.

The second paper was given by Dr. T. L. Hobday, assistant port medical officer, Liverpool, who spoke on port health practice at home and abroad. Dr. Hobday dealt specifically with the port of Marseilles and ended with a comparison of French and British methods. A demonstration of photographs and coloured prints of Marseilles was shown at the end of his paper. A full account of this paper was subsequently published in "The Medical Officer" 7th September, 1956.

The third and final paper at the Conference was given by Dr. Wilfrid H. Parry, senior assistant medical officer, Liverpool, entitled "Egg albumen as a source of alimentery infection". Dr. Parry outlined the important part that imported egg products play in British commerce and their use in the bakery trade. He described the bacteriology of these products and outlined outbreaks of food poisoning traced to the salmonella organisms in these raw materials. Research into methods of heat sterilizing of these products which had been undertaken by the Liverpool health department and elsewhere were described in detail, and Dr. Parry concluded with a series of coloured slides illustrating various points in his paper. A full account of this paper was subsequently published in "The Medical Officer" 24th August, 1956.

The prolonged and varied discussions amongst members of the association following the various papers indicated the keen interest shown by all concerned.

Apart from the sessions devoted to the papers and discussion, mention should be made of the fact that the President of the Association at this

time was our own Health Committee chairman, Alderman A. Griffin, J.P., who has been a keen member of the Association for many years, and who ably presided throughout the conference, and the Annual General Meeting. He was only the third President to be appointed from this City since the Association was founded in 1898.

Hospitality in the shape of a reception and dance at the Town Hall, and a dinner at the Exchange Hotel, was provided by the City Council. In addition other functions were kindly sponsored by the Mersey Docks and Harbour Board, who arranged for a river trip with lunch on board a specially chartered ferry boat, the Cunard Steamship Company who provided a luncheon on board the very modern liner "Media", and the Distillers Company (Biochemicals) Ltd., who arranged for an extensive tour of the various sections of their Speke factory, where remarkable precautions were taken to ensure absolute cleanliness in the working areas.

The Conference, which was attended by elected representatives and medical officers from most of the Port Health authorities in the British Isles, was very successful, and delegates were unanimous in their praise for the arrangements made for them by the City, the Mersey Docks and Harbour Board, and the major local firms mentioned above.

Liverpool Show

The Department presented two main exhibits at the Liverpool Show held in Wavertree Playground from 19th to 21st July, which was attended by approximately 53,000 people during that period. These two displays related to our activities in connection with the welfare services available for aged and handicapped persons, and the prevention of atmospheric pollution. With regard to the welfare services section, the main theme was to illustrate some of the steps taken in connection with the welfare of aged and handicapped persons, and practical demonstrations were staged of the work of handicapped persons engaged both in sheltered employment and sighted industry, i.e., manufacture of television component parts and machine knitting by blind persons, printing press operation and bookbinding by disabled persons. The exhibit included a display of aids for disabled persons, known as The Geoffrey Peto Travelling Exhibition which was staged in co-operation with the Central Council for the Care of Cripples. A model bedroom in a hostel was also displayed. Members of the staff of the

department attended daily at the show for the purpose of giving advice sought by elderly or disabled persons in regard to services available for them, and a number of persons were assisted in this way.

The public health inspectors took part in staging the atmospheric pollution exhibit, which covered the entire problem, so far as this City is concerned, in its industrial, shipping and domestic aspects. In view of the pending change in legislation and the increase in public interest, particular attention was paid to the many problems arising from the careless burning of bituminous coal. Departmental staff co-operated in the making of models and erection of stands.

Extensive help was received from many firms and organisations in the staging of this successful exhibition, and the helpful services of the following firms and organisations who in several cases provided complete stands, together with their own staff who were on duty for the whole period, are gratefully acknowledged:—

Shell Mex & B.P. Ltd.
Solid Smokeless Fuels Federation.
Central Electricity Authority.
Coal Utilisation Council.
Merseyside & North Wales Electricity Board.
Department of Scientific & Industrial Research.
Messrs. William Cooper & Sons Ltd.
Mersey Docks & Harbour Board.
National Smoke Abatement Society.
Messrs. Belling & Lee Ltd.
Messrs. George Henry Lee & Co.
Messrs. Willsman & Parry Ltd.
The English Electric Co. Ltd.
Schools for the Blind.
Liverpool Adult Deaf & Dumb Benevolent Society.
Merseyside Branch of the Spastic Fellowship.
Sir Robert Jones Memorial Workshops.
Central Council for the Care of Cripples.
Home Teaching Society for the Blind.
Royal National Institute for the Blind.
Women's Voluntary Services.

A third marquee at the show was used to display almost continuously the following films to packed and interested audiences:—

On general health topics and atmospheric pollution:

Keep It Clean.
Guilty Chimneys.
The Rival World.

On welfare services:

Conquest of the Dark.
Lighten Our Darkness.
Thursday's Children.
Helping the Deaf.

On maternity and child welfare:

A Start In Life.
His Fighting Chance.
Your Children's Meals.

Also on display in this tent, between shows, was a display of 14 selected large photographs illustrating the work of different sections of the staff. A substantial number of descriptive booklets together with home safety handbooks, specially published for the Department, were issued to the public during the show.

General Health Education

Extensive use continues to be made of the Department's film strip and sound film projectors as instructional aids to audiences of medical undergraduates, student health visitors, public health inspector students, and many external organisations. A new set of coloured lantern slides was extensively used in lectures on atmospheric pollution. Lectures on food hygiene and general subjects were extensively given during the year to a wide range of organisations including hospital, shop, hotel and public house staffs, food and other trade associations, and youth club and church organisations.

Mental Health Exhibition

The most important event in the Mental Health Service education programme was participation in the Mental Health exhibition held in this area in September in conjunction with the Ministry of Health and Regional Hospital Board. A brochure produced for the occasion proved popular and many requests for copies have since been

received from social workers and others interested. Lectures and talks on the works of the service have been given to a number of public and voluntary associations during the year.

Health Committee Inspection

Another important happening during the year was the Health Committee tour of inspection, lasting a complete day, of certain establishments of different sections of the Department which took place on 11th October. The programme included visits to:—

(i) Port Health Offices, Princes Pier Head, for demonstration of inspection of imported foodstuffs, especially sampling of imported egg products.

(ii) Gascoyne Street Store, disinfecting depot, and infectious ambulance section.

(iii) Westminster House to inspect improvements and break-up of a large institution.

(iv) Upper Canning Street Day Nursery.

(v) Princes Road Occupation Centre.

(vi) Caryl Gardens Maternity & Child Welfare Clinic.

(vii) Aigburth House.

For the purpose of this visit a special brochure was prepared at modest cost giving a brief outline of the main features to be seen en route, route diagrams, and short descriptions of the work performed at the various establishments. This booklet from first drawings and draft to final printing (multilith) was prepared entirely by officers of this Department and the City Engineer's Department. The Health Committee had, of course, visited different establishments of the Department before from time to time, but this was the first occasion that there has been a formal visit on this extended scale. It is hoped that this may become an annual event as it helps the members of the Committee to obtain first hand information about difficulties and improvements in the working establishments, and materially assists to maintain keenness amongst the staff.

INFECTIOUS DISEASE.

SUMMARY.

Number of confirmed cases of infectious diseases reported during 1956:—

Anthrax	3
Enteric Fever (4 Typhoid F ; 9 Paratyphoid F)	13
Scarlet Fever	644
Measles and German Measles	6,750
Cerebro-Spinal Fever	38
Puerperal Pyrexia	819
Ophthalmia Neonatorum	141
Erysipelas	65
Poliomyelitis—Paralytic	18
Non-Paralytic	14
Pneumonia, Acute Primary and Influenzal Pneumonia	510
Dysentery (Sonne 368, Flexner 1)	369
Whooping Cough	2,559
Food Poisoning	307
Malaria (contracted abroad)	9

No cases of Plague, Smallpox, Typhus Fever or Diphtheria occurred during the year.

Anthrax.

Anthrax

Three confirmed cases of anthrax occurred during the year, one of which proved fatal. One was employed at the Government Wool disinfecting station, and one was a joiner employed by the Mersey Docks and Harbour Board. The fatal case was a young man employed in a local fertiliser factory.

The history of two of the cases may be of interest:—

Case 1. A deaf and dumb maintenance joiner was engaged on general repairs to the woodwork of a dock shed used for the temporary storage of cargo. On the 28th February, 1956, the m.v. Accra arrived from Nigeria and discharged a cargo of hides, skins, hair, horns and hoofs. The patient, who normally would not be required to handle cargo, had reason to move some of these hides on 8th March in order to reach some timber which he required. On the 12th March, he felt severe itching on the front of his neck and an abscess with considerable oedema later developed on the left side. Four days later he was admitted to a

General Hospital where his case was diagnosed clinically as anthrax. He was transferred to the isolation hospital and the diagnosis was confirmed. Although he had a stormy illness, he made a satisfactory recovery under appropriate treatment.

Fatal Case of Anthrax

Case 2 was not so fortunate. A boy aged eighteen worked as a general labourer with a fertiliser company in Liverpool. His work entailed the unloading and stacking of sacks of animal bones which were processed in the factory and made into powdered fertiliser. The bones and horns were obtained from two sources:—

(1) Locally from knackers yards in Gt. Britain, these being steam digested to remove animal waste.

(2) Imported sundried bones from Asia, India and Pakistan which had been subjected to no form of sterilisation or heat processing.

On 3rd August, 1955, the s.s. Clan Chisholm unloaded 225 × 1 cwt. bags of assorted bones at North No. 3 Alexandra Dock, Liverpool. These bags were moved on 10th August to a local store. On 1st September 115 of these were sent from the store to the fertiliser factory, the remaining 110 bags being sent to the factory on 17th February, 1956. It was ascertained that the victim carried these sacks on his back from the lorry to a hoist from which they were raised to storage level.

Four days later he visited his family doctor complaining of a boil on the left side of his neck. His doctor referred him to the outpatient department of a general hospital. The following day he was admitted to a surgical ward in this hospital as a case of suspected carbuncle of the neck. Penicillin ½ mega unit twice daily was instituted. Next day (23.2.56) his temperature had subsided a little but the neck oedema had increased. Chloromycetin 250 mgm four hourly was added to the treatment but his condition deteriorated and on 24th he was toxic and drowsy. His heart rate was 136 per minute and his pulse imperceptible. There was marked oedema of the neck which extended widely over the anterior chest wall. He was restless, weak in all limbs and unable to pass urine. At this stage a smear was taken from the pustule and B.Anthracis isolated from it. The boy was immediately transferred to isolation hospital. Vigorous treatment with penicillin and aureomycin

was started on admission. The following clinical notes illustrate his subsequent progress:—

26.2.56. Condition static. Unable to pass urine. Taking fluids well. Urine passed at 10.00 p.m.

27.2.56. Papular rash on chest and abdomen. Marked discoloration of the oedematous area of the chest wall. Patient exhausted and incontinent. By 9.30 a.m. some improvement. Temperature subnormal, more rational, rash still present, had passed urine.

28.2.56. **7.30 a.m.** Condition rapidly deteriorating, pulse collapsing, rash faded. Passed a copious black liquid stool together with bright red blood.

11.45 a.m. Blood transfusion given.

12.45 a.m. Patient collapsed and died.

Between 23rd and 25th February, he had been nursed in an "open" surgical ward in a general hospital. Great concern was felt over the possibility of B.Anthracis wound infection occurring amongst patients in the same ward, but fortunately there were no other cases.

The fatal end to this case serves to emphasise the great danger of delay in securing an expert opinion on any suspicious lesion occurring in a worker in an industry where anthrax is an occupational hazard.

Typhoid and Paratyphoid Fevers.

Typhoid and Paratyphoid Fevers

Four cases of typhoid and nine cases of paratyphoid B were recorded during the year. One case of typhoid proved fatal.

Two of the typhoid cases were closely associated, one being infected by the other who proved to be a chronic carrier. The history was as follows:—

On 30th June, a woman aged 69 was admitted to Sefton General Hospital as a P.U.O. For the preceding three weeks she had experienced a vague intermittent pyrexial illness associated with occasional bouts of diarrhoea, abdominal pain, frequency of micturition and dizziness. Her family doctor had treated her with sulphonamides without improvement. Investigation showed her stools and blood culture to be positive for *Salmonella typhi*, phage type A. The patient was removed to isolation hospital. A detailed history now revealed that she had been employed from the beginning of May 1956 as companion housekeeper to a woman, aged 69, who had been badly injured in a motor car accident twelve months previously and who was crippled as a consequence; she was bedridden and unable to look after her own sanitary requirements. Enquiries were now made of this lady. Although

she now had no enteric symptoms she had had typhoid fever 45 years ago whilst in America and had been treated in St. Vincent's Hospital, New York. Stool and urine specimens were taken for examination on the 12th July and both were positive for *Salmonella typhi*, phage type A.

Further enquiries brought to light that in August 1955 a married daughter and her husband visited the carrier for a short holiday. During their stay, the daughter experienced an acute attack of diarrhoea lasting 24 hours. Two other married daughters who also visited the house at this time had similar attacks. It is probable that the meals were prepared by the mother, who was not crippled at the time and who usually cooked for her guests. An investigation, including blood examinations, of these relatives revealed no evidence of a previous attack of typhoid fever.

Further enquiry revealed that the crippled lady's first housekeeper aged 64 had experienced a series of abdominal disturbances which commenced four weeks after she had taken up her duties. She was admitted as an abdominal emergency to a general hospital in August 1955. A laparotomy showed a normal appendix plus a red, swollen intestine with three annular strictures of the terminal ileum. A resection of the ileum and an end-to-side anastomosis of the caecum was performed. In April 1956 she was readmitted to hospital complaining of intermittent diarrhoea for the previous three months. X-ray examination showed some diverticulitis but no bacteriological stool examination was performed. The diarrhoea gradually improved and she was discharged four weeks later. It would seem probable that her prolonged illness may have been due to an attack of typhoid fever, although subsequent stool and blood examinations revealed no evidence of *Salmonella typhi* infection.

The crippled lady is now known to be a chronic excretor and has been added to the list of chronic carriers.

The third case of typhoid proved fatal.

Fatal case of Typhoid Fever

A young married woman aged 33 was admitted on 29th August to Sefton General Hospital as a P.U.O. Her illness began on the 25th August with a little abdominal pain and diarrhoea. The diarrhoea had

disappeared by the following day and the abdominal pain became localised in her left groin. On the evening of the 27th she developed a pyrexia together with bouts of vomiting which continued until the 28th when rigors occurred. On admission to hospital a tentative diagnosis of subphrenic abscess or perinephric abscess was made, and appropriate therapy instituted. Her condition deteriorated during the following three days and she died on the 3rd September. A post-mortem revealed large ulcerated areas in the small intestine. Both the spleen and liver were enlarged and cultures from the spleen, bile and intestinal contents showed the presence of large numbers of *Salmonella typhi*, phage type C.

As the case had been nursed in an open medical ward, it was feared that an outbreak may occur within the hospital. A close surveillance for the following three weeks was kept on all hospital contacts including medical and nursing staff but no further cases occurred. Enquiry revealed that on the 9th August, the deceased and family went in a party to West Kirby for a picnic. They collected cockles from the foreshore near the sewer outfall which were brought home for supper. The deceased was the only member of the party who ate the cockles.

The Medical Officer of Health for West Kirby undertook an exhaustive examination of cockles gathered from the suspected site, but no positive samples were obtained. Despite this negative evidence, it would seem that epidemiologically the cockles were the most likely source of her infection.

The fourth and final case occurred in a dock labourer aged 46. This man became ill on the 21st November with colicky abdominal pains, rigors and headaches. The following day he had severe diarrhoea but no vomiting. He was admitted to isolation hospital on the 25th November as a suspected case of typhoid fever. Stool examination confirmed the presence of *Salmonella typhi*, Vi phage type A. With treatment he made a successful recovery.

Examination of home and work contacts revealed no evidence of further infection. The actual source of his infection is unknown.

It is an interesting coincidence to record that the s.s. Cilicia arrived in Liverpool from Bombay on the 22nd October; sailed to Glasgow on the 30th October and called in to Liverpool on the 11th November on

its outward voyage. On 14th November, whilst in Liverpool, it was reported that 15 members of the crew had severe diarrhoea. Investigations by the Port Health staff revealed the presence of two typhoid carriers (*Salmonella typhi* Vi phage type D.1) amongst the ship's catering staff. Enquiry showed that three weeks before the onset of his symptoms, the victim ate a pork sandwich in the galley of a ship, which he thought may have been the s.s. Cilicia.

Unfortunately, no definite connection could be proved as the phage type of the victim and the two discovered typhoid carriers were different. He may, of course, have been infected by an undiscovered source or person aboard the ship.

Paratyphoid Fever

Nine cases of paratyphoid B occurred during the year. An increase of six over the 1955 figures. The details are as follows:—

TABLE 1.

Patient No.	Age.	Sex.	Date of onset of symptoms.	Phage type.
1	35	F.	25.3.56	1
2	2	M.	20.7.56	1
3	50	M.	17.8.56	Taunton
4	43	F.	—	,,
5	13	F.	19.8.56	,,
6	36	M.	—	,,
7	15	F.	—	,,
8	17	F.	—	,,
9	25	F.	1.9.56	,,

Case No. 1. A woman aged 35 was admitted to a general hospital on the 25th March as a case of P.U.O. Investigations revealed the presence of *Salmonella* paratyphoid B, type 1 in her stools.

Case No. 2. A child aged 2 developed a persistent diarrhoea on the 20th July. Examination of his stools revealed the presence of *Salmonella* paratyphoid B, type 1. A careful and exhaustive enquiry into all their

contacts revealed no evidence as to the source of their infection. Neither case had any connection with the other although both are of the same phage type and no further cases of this phage type occurred.

Two cases and four positive symptomless excretors were discovered following an investigation of a pilgrimage to Rome. The full details are as follows:—

Between the 26th July and 3rd August, a mixed party of 100 persons left Liverpool on a conducted pilgrimage to Rome. The tour was arranged by a Liverpool religious body and the itinerary of the journey included a three-day stay in Rome (July 28th/31st). They commenced the return journey on 1st August, arrived in London on 3rd August, having stayed in Paris overnight. On the 17th August, a member of the pilgrimage, an electrical engineer aged 50, developed symptoms of severe abdominal pain and diarrhoea. He was admitted to isolation hospital in a state of collapse. Stool examination revealed the presence of *Salmonella* paratyphoid B, type Taunton. *Salmonella paratyphi B*, type Taunton was also found in the stools of his wife and three children. One daughter aged 13 developed mild enteric symptoms on the 19th August. All were admitted to isolation hospital and further enquiries showed that both the wife and children had not been on the pilgrimage. On his return from Rome, the husband made it a practice to serve the family breakfast in bed. He would visit the toilet before preparing the meal and it was thought that here was the possible source of their infection.

A careful investigation of the other 99 pilgrims revealed a further paratyphoid B excretor.

This was a man aged 36 employed by the local authority as an electrician. He also worked as a part-time ward attendant in a large hospital for three nights per week. *Salmonella paratyphi B*, type Taunton was isolated from his stools. There was no history of enteritis in his case, but whilst in Rome, he had shared the same hotel bedroom with the first victim. The remaining 98 pilgrims were examined repeatedly. No history of enteritis was ascertained and all were bacteriologically negative, except for one youth of 18 found to be excreting *Salmonella typhi-murium*. All hospital ward contacts of the

second case were examined and all found to be negative. It was assumed that only two cases occurred amongst the 100 pilgrims and that they had possibly contracted the infection in Rome. The first case may have infected the second, or vice versa, as they had shared bedrooms, or both may have become infected from a common source. Certainly the first victim infected his wife and children on his return. All six made a satisfactory recovery in hospital.

The ninth case of paratyphoid was the wife of a doctor. They returned to England towards the middle of October from Kuwait in the Persian Gulf, the husband to take up a medical appointment in this country. On the 1st September whilst in Kuwait his wife, aged 25, contracted a mixed infection of *Shigella flexner* and *Salmonella* paratyphoid B following a farewell Arab dinner that they both attended. Only the wife developed an illness and she was admitted to the local European hospital. Following four weeks treatment with chloromycetin she was discharged as cured, her stools being negative. On their return to England, the doctor had his wife re-examined and the stools were found to be positive for *Salmonella paratyphi B*, phage type Taunton. Examination of the doctor was negative. It was thought that his wife may be in intermittent excretor and a further trial of chloromycetin instituted. Despite this, the stools are still positive and it may be that she will develop into a chronic carrier.

Register of Chronic Typhoid and Paratyphoid Excretors.

Register of Chronic Typhoid and Paratyphoid Excretors

Examinations of three chronic typhoid carriers and five paratyphoid B carriers have continued throughout the year. This is an increase of one chronic typhoid carrier (referred to previously in the text). One paratyphoid carrier left the district and the new paratyphoid carrier is referred to in the text.

Whooping Cough.

Whooping Cough

During the year, 2,559 cases of whooping cough came to the notice of the health department, a figure representing a case rate of 3·3 per 1,000 of the population. Five cases proved fatal, four cases under the age of one year, and one under the age of four, corresponding to a death rate of 0·006 per 1,000 population.

There was an increase of 69 cases as compared with 1955 figure of 2,490.

Measles.

Measles

During the year, 6,662 cases of measles were reported, representing a case rate of 8·6 per 1,000 of the population. There were no deaths.

There was an increase of 664 in the number of notified measles cases as compared with the 1955 figure of 5,998.

Table 2 shows the incidence of measles during the past seven years:—

TABLE 2.

INCIDENCE OF MEASLES CASES AND RATE PER 1,000 POPULATION.

Year	1950	1951	1952	1953	1954	1955	1956
Cases	8,621	10,464	8,768	10,090	8,599	5,998	6,662
Rate per 1,000 population ...	10.7	13.3	11.1	12.8	10.9	7.7	8.6

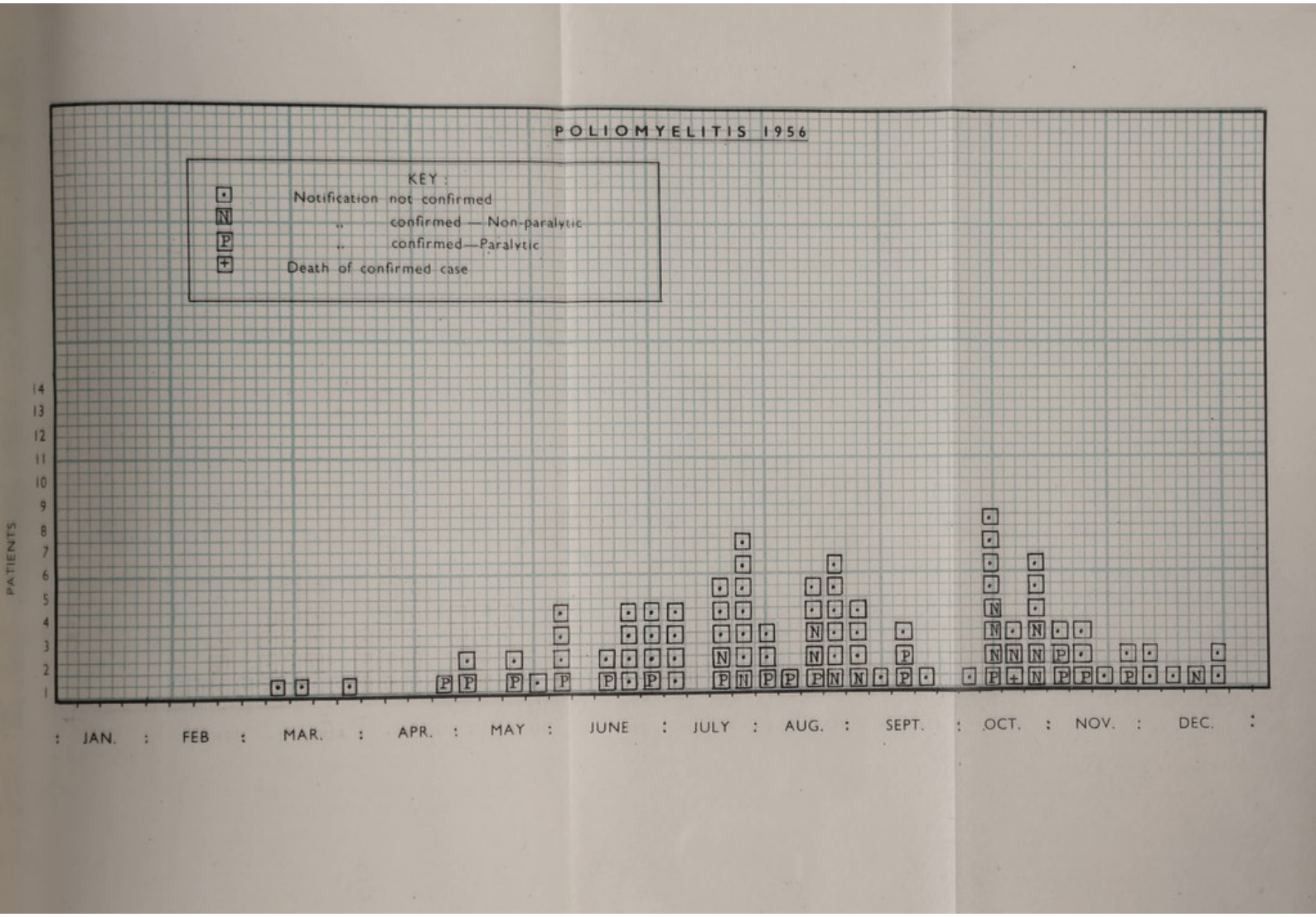
Poliomyelitis.

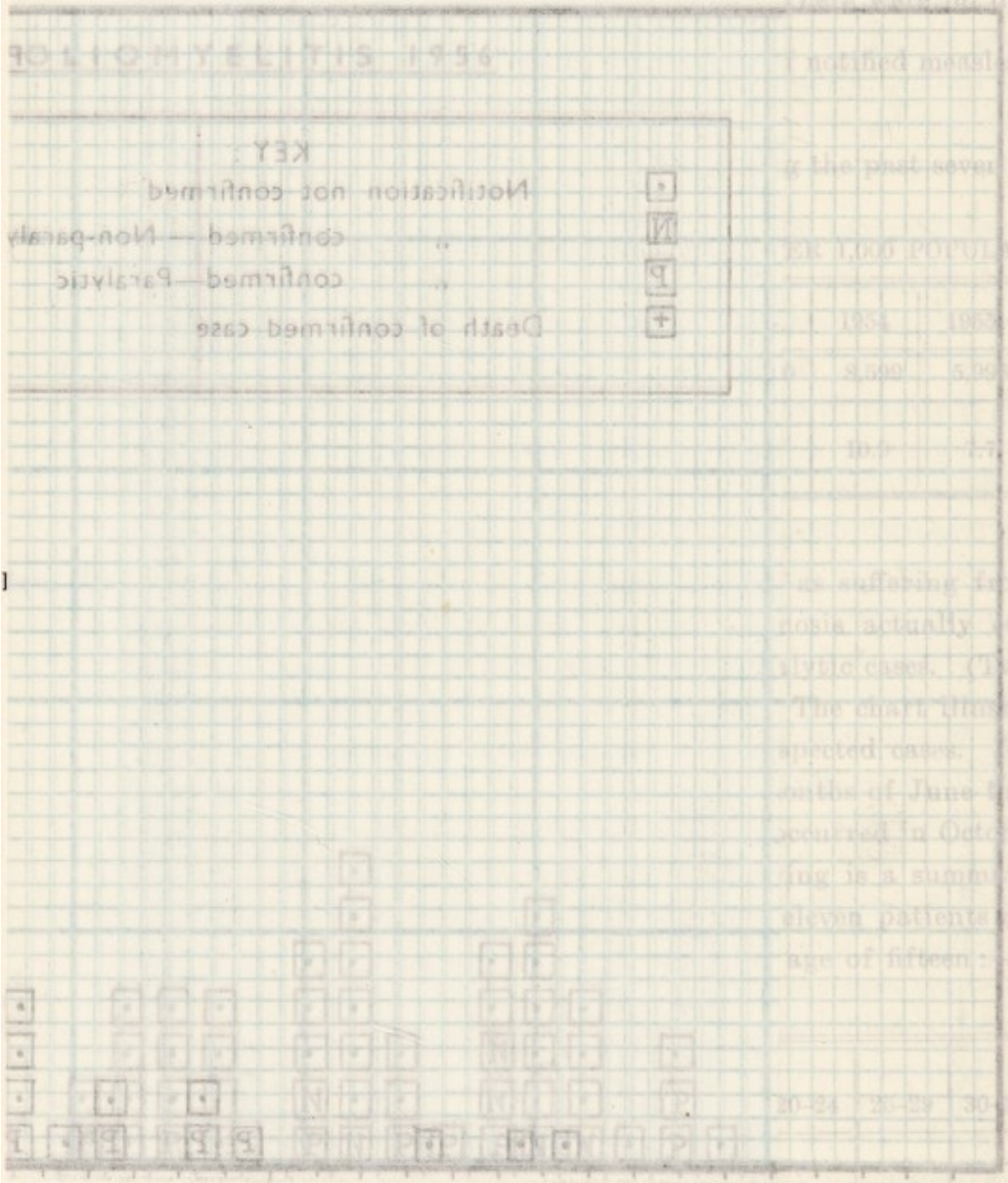
Poliomyelitis

Ninety-six patients were originally notified as suffering from poliomyelitis, but in only 32 cases was the diagnosis actually confirmed. Eighteen were paralytic cases and 14 non-paralytic cases. (Twelve less as compared with 1955.) One case was fatal. The chart illustrates the incidence of confirmed cases together with suspected cases. It will be seen that the main rise occurred during the months of June to August, decreasing in September. A further increase occurred in October which gradually decreased in December. The following is a summary of the age incidence of confirmed cases. There were eleven patients under the age of five years and a total of 25 under the age of fifteen:—

TABLE 3.

Age	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35+
MALE								
Paralytic cases ...	7	3	—	1	—	—	1	1 died
Non-Paralytic cases	1	3	5	1	1	—	—	—
FEMALE								
Paralytic cases ...	2	1	1	—	—	—	1	—
Non-Paralytic cases	1	—	1	—	—	1	—	—


POLIOMYELITIS 1956
KEY :
Notification not confirmed
" confirmed — Non-paralytic
" confirmed—Paralytic
Death of confirmed case
PATIENTS
14
13
12
11
10
9
8
7
6
5
4
3
2
1
: JAN. : FEB : MAR. : APR. : MAY : JUNE : JULY : AUG. : SEPT. : OCT. : NOV. : DEC. :



None of these children have been immunised with poliomyelitis vaccine. The account of three of the cases may be of interest:—

Poliomyelitis in Day Nursery

Paralytic poliomyelitis developed on 15th May in a baby attending a day nursery with 12 other children. All these child contacts in the day nursery were inoculated with gamma globulin as a preventive measure.

All were kept under close surveillance and no further cases of poliomyelitis developed.

Poliomyelitis in Maternity District Home

A pupil midwife, aged 30, undergoing practical training in one of the district homes developed on the 16th November a sore throat and pain in her shoulder which she thought might be rheumatism. The following day she had vomiting and marked neck rigidity. She was admitted to isolation hospital on the 18th November as a confirmed paralytic case. Her immediate contacts at the district home included the home sister, staff nurse, two other pupil midwives and two domestics. It was possible, with the co-operation of the maternity hospital, to place the home in quarantine for three weeks and their midwifery duties for this period were undertaken by the adjacent district home. The victim had either delivered or visited twelve cases during the period that she was deemed infective. These contacts were kept under surveillance for three weeks by health visitors.

No illnesses were recorded amongst the contacts.

Fatal Case of Poliomyelitis

A fatal case occurred in a man aged 37, who was employed as a pattern-case maker in Speke. His illness commenced on the 11th October, when he complained of a sore throat. The following day he developed paralysis in both arms and his condition rapidly deteriorated. He was admitted to isolation hospital as a case of paralytic poliomyelitis on the 14th October and died of respiratory paralysis fourteen days later. It is of interest to note that during the previous three/four weeks prior to the onset of his illness, he had been on several lorry trips to Manchester in the course of his work. During this same period, the Manchester area was experiencing a considerable number of cases of poliomyelitis. It may well be that his infection was contracted during these visits, although no connection could be proved. School and work contacts were kept under surveillance by health visitors for a period of three weeks, but no illnesses were recorded amongst the contacts.

Unsuccessful attempts were made to establish a connection between all cases of poliomyelitis.

Cases were widespread, and not localised in any one area of the City, being present in 22 of the City's 40 wards.

Food Poisoning Investigation.

Food Hygiene Regulations 1955

The Food Hygiene Regulations, 1955, require food handlers suffering from certain infections to be notified to the medical officer. To facilitate notification an explanatory leaflet and forms have been supplied to most food traders. The notifications provide a method of keeping under observation food handlers suffering from enteritis, septic spots, etc. All notifications have been investigated and the necessary action taken to prevent the spread of infection.

Investigation of Contacts

Time is a vital factor in investigating cases of ingestion diseases and the public health inspectors have co-operated by giving priority to this work. The method of recording the initial enquiries ensures a speedy check on contacts, especially food handlers who may be symptomless excretors. It is the practice of the department to request that contacts be taken off food handling until a bacteriological examination has been completed.

Recording on Maps

All notifications of food poisoning, dysentery and *Salmonella* infections are recorded on three large-scale maps of the City by coloured pins. One map records all notifications of food poisoning and ingestion disease; another records confirmed *Salmonella* infection; and the third records confirmed cases of dysentery. This arrangement has been of great assistance during 1956 in indicating the extent and trend of infection within the City and has helped in tracing the source of the outbreaks.

Report Cards

The new report card which was initiated in 1955 has been in operation during 1956 and has proved satisfactory. As a result a complete register of patients and contacts is readily available for reference.

Collections of Specimens

An assistant public health inspector using a motor cycle has continued to collect all specimens, thus ensuring speedy delivery to the Public Health Laboratory.

Food Poisoning.

Three hundred and seven cases of confirmed food poisoning occurred in Liverpool during 1956. This figure is 237 (43·6 per cent) less than the 544 cases reported in 1955. Of the 307 cases, 192 were due to *Staphylococcal* toxin and 115 were due to *Salmonella* organisms. **Food Poisoning**

The dramatic fall by 43·6 per cent on the 1955 figures may be due to both the poor summer experienced during 1956 and to the benefits brought about by the increasing investigation and attention directed in Liverpool to food hygiene. The new Food and Drugs Act, 1955 and the new Food Hygiene Regulations, 1955 which came into operation on 1st January, 1956, would also contribute to this improvement. Every notified or suspected case of enteritis has been systematically investigated. The general medical practitioners are notified of all results and, where a case occurs within a family, all are examined bacteriologically. This has brought to light a considerable number of symptomless carriers especially among food handlers.

Co-operation during the year from general practitioners, food firms and restaurants concerned in the investigation of outbreaks have been helpful and cordial.

During the year, seven outbreaks caused by the *Staphylococcal* toxin were carefully investigated by the Health Department. In three outbreaks the vehicle of infection was traced to cold meat. In the remaining outbreaks two were caused by custard, one by apple tart and one by college pudding. **Staphylococcal Food Poisonings**

In all instances, the cause would seem to be:—

(1) Carelessness and lack of personal cleanliness amongst the food handlers.

(2) Failure to make use of refrigeration. It was not appreciated that food left for one night or more in a warm kitchen can be a potential source of food poisoning.

The following accounts illustrate these findings in more detail:—

Staphylococcal Food Poisoning at a Work's Canteen.

Staphylococcal Food Poisoning at a Work's Canteen

On the 18th April, twenty-eight cases of food poisoning occurred at a work's canteen following the consumption of the mid-day meal. The illness was of moderate severity and did not last longer than fifteen hours. Enquiry showed that college pudding was the suspected food in these cases. No food was available for examination. *Staphylococcus* pyogenes was found in the stools of four victims. Examination of the canteen food handlers showed that one of the assistants had *Staphylococcus* pyogenes on her hands and in her stools. Enquiry revealed that this person had prepared the college pudding the previous day. It was left overnight in the warm kitchen and then warmed before serving with freshly prepared custard. Leaving it overnight in a warm kitchen gave opportunity for the formation of the *Staphylococcal* toxin.

Staphylococcal Food Poisoning at a Students Hostel.

Staphylococcal Food Poisoning at a Students Hostel

On the 6th of May, following the consumption of their evening meal, eleven students at a residential hostel experienced severe symptoms of food poisoning. Headache, abdominal pain relieved by vomiting and diarrhoea occurred between three to five hours following the meal. By the second day all had recovered and resumed their studies on the fourth day. Cold meat salad was the suspected meal but no food was available for examination. Enquiry showed that the cold meat had been roasted two days previously, and stored over the weekend in a warm kitchen. It was served cold with a salad for the evening meal. The victims' stools were examined and five showed the presence of *Staphylococcus* pyogenes. On examination of the food handlers, it was discovered that the cook had several infected burn blisters on her hand. She had been responsible for handling the cold meat during its preparation and storage in the kitchen. Her hand swabs and stool specimens revealed the presence of *Staphylococcus* pyogenes. Here was the likely source of the outbreak.

Staphylococcal Toxin Food Poisoning at a Nurses' Home.

Staphylococcal Toxin Food Poisoning at a Nurses' Home

On the 31st May, twelve nurses had symptoms of acute food poisoning two to four hours following the mid-day meal of soup, cold roast pork and stuffing, potatoes, cabbage and a sweet of apple and custard. Enquiry showed that all the victims had eaten cold pork which had been prepared the previous day and kept overnight in the warm kitchen. At no time was it placed in the refrigerator. No food specimens were

available for examination but faecal specimens were obtained from all the victims. Three revealed *Staphylococcus* pyogenes. Examination of the food handlers showed that the assistant cook had an infected cut thumb, a swab of which revealed the presence of *Staphylococcus* pyogenes. It is to be noted that this person handled the pork following its roasting on the 30th May.

This history suggests that the assistant cook may well have infected the pork.

Staphylococcal Food Poisoning at a Commercial Bakers.

Staphylococcal Food Poisoning at a Commercial Bakers

On the 19th June, ten employees of a large firm of commercial bakers experienced food poisoning symptoms one to six hours following the mid-day canteen meal. The ten victims were the only ones to have eaten the sweet. Unfortunately none was available for bacteriological examination. *Staphylococcus* pyogenes was found in four of the victims' stools. One of the food handlers was shown to have *Staphylococcus* pyogenes on her hands. This person had prepared the custard the previous day. It was then left overnight in the warm kitchen and served cold with the jelly to the ten victims. Once again, there was opportunity for the *Staphylococcal* toxin to be formed.

Staphylococcal Toxin Food Poisoning at a Staff Canteen.

Staphylococcal Toxin Food Poisoning at a Staff Canteen

On the 10th September, fifty employees of a departmental store were taken ill with typical food poisoning symptoms some six to fifteen hours after eating the mid-day canteen meal. The common vehicle of infection in these cases was that of cold roast beef. The beef had been delivered to the staff canteen on Saturday the 8th September and cooked immediately. Two joints were well cooked and one joint underdone. The meat was allowed to cool and left over the weekend on a tray in the staff kitchen. On the Monday morning the two well cooked joints were sliced and served for the mid-day meal. The meat was served cold to all except the canteen staff who had it reheated under the grill. The remainder of the meat was refrigerated and served at 5 p.m. A specimen of the cold meat had been kept and was sent for bacteriological examination. It was subsequently reported to be infected with *Staphylococcus* pyogenes. Faecal specimens were obtained from all the victims, five of which were reported to be infected with *Staphylococcus* pyogenes. All the food handlers submitted hand swabs and stool specimens. It was shown that

the assistant cook who had handled the meat on the Saturday and Monday had *Staphylococcus* pyogenes on her hand swabs and in her faeces.

From this evidence, it was concluded that the food poisoning was due to the toxin of the *Staphylococcus* pyogenes. The vehicle of infection was the cold roast beef, there being ample opportunity for the beef to have been contaminated and the toxin formed between the roasting on the Saturday and the serving on the Monday.

Staphylococcal Toxin Food Poisoning at a Small Hospital.

Staphylococcal Toxin Food Poisoning at Small Hospital

On the 19th September, 21 patients in a small cottage hospital displayed symptoms of food poisoning which commenced four to twelve hours after the mid-day meal and lasted for some twelve to twenty-four hours. All the victims recovered satisfactorily. The suspected meal consisted of soup, cold roast beef, potatoes and vegetables, followed by apple tart and custard. No beef was available for examination, but a sample of apple tart was submitted for bacteriological examination. This was subsequently reported as being infected with *Staphylococcus* pyogenes. Enquiry revealed that both the beef and the apple tart had been prepared on the 16th September. The beef was left overnight and refrigerated the next morning before being served for the mid-day meal. The apple tart, on the other hand, was not refrigerated, but was left in the warm kitchen for the three days prior to consumption.

Staphylococcus pyogenes was discovered in the stools of eight of the victims. Four of the kitchen staff had *Staphylococcus* pyogenes in their stools. One of these, the cook, had a nasal cold and a nasal swab revealed the presence of *Staphylococcus* pyogenes. It was further ascertained that this person had prepared the apple tart which would appear to be the source of infection. Although the cold beef may also have been responsible, none was available for examination. The storage of the apple tart for three days in a warm kitchen gave ample opportunity for the *Staphylococcal* toxin to be produced.

Staphylococcus Toxin Food Poisoning occurring in a School.

Staphylococcus Toxin Food Poisoning Occurring in a School

On the 19th September, an outbreak of food poisoning occurred at a primary school following the mid-day meal in the school canteen. A total of twenty-two scholars and eight teachers displayed symptoms out of four hundred scholars and eighteen teachers. The illness was of short

duration and, with the exception of one scholar, all the affected persons were able to attend school the following morning. No member of the kitchen staff experienced symptoms. Enquiry showed that the meal consisted of Irish stew, followed by tart and custard with an alternative of milk pudding, but only those that had eaten apple tart were affected. Unfortunately no food remnants were available for bacteriological examination.

Staphylococcus pyogenes was isolated from the stool of five of the victims.

The examination of the ten canteen staff showed that an assistant cook had an infected nail bed on one finger. *Staphylococcus* pyogenes was isolated from a finger swab and stool specimen. A second food handler had *Staphylococcus* pyogenes in the stools. Further investigations showed that the assistant cook was wearing no form of protective cover over the infection and had been responsible for the preparation of the custard used in the meal. The custard had been prepared the previous day and allowed to stand overnight in the warm kitchen. It is thought that the custard was the likely source of the infection—there being sufficient time for the *Staphylococcal* toxin to be produced.

Salmonella anatum Food Poisoning.

Salmonella Anatum Food Poisoning

A family of five experienced an attack of food poisoning between the 10th and 13th of July as follows:—

On the evening of the 10th July, the family ate jellied veal for tea. The following morning, the daughter aged 19 had severe symptoms of food poisoning. By mid-day, the remainder of the family were taken ill with enteritis which persisted until the 13th July.

Examination of the "left-over" remnants of the jellied veal revealed a heavy infection of *Salmonella anatum*. The stools of the five victims showed the same organism. The main features of the outbreak are illustrated in the following table:—

TABLE 4.

Victims.			Symptoms.			Bacteriological results (Salmonella type).
No.	Age.	Sex.	Headache.	Abdominal Pain.	Diarrhoea.	
1	19	F.	+	+++	+++	Salmonella Anatum.
2	54	M.	—	++	+++	Salmonella Anatum.
3	53	F.	+	+++	+++	Salmonella Anatum.
4	18	F.	+	++	+++	Salmonella Anatum.
5	24	F.	—	++	+++	Salmonella Anatum.

The veal had been purchased on the 9th July from a local butcher's shop. Examination of a shop sample of veal, and stool examinations of all food handlers revealed the presence of *Salmonella anatum* in the veal and in the stool of the assistant who had prepared the veal. All the jellied veal left in the shop was taken and a visit made to the six other families who were believed to have purchased this food. No further cases were found and the victims of the outbreak made a successful recovery. The butcher's assistant stated that he had suffered a mild attack of intermittent enteritis two weeks previously which lasted for several days. This, he attributed to a meal he had eaten in the city. He was found to be a symptomless excretor of *Salmonella anatum*. It may well be that he contracted his infection at this time and was a convalescent excretor when he infected the veal in its preparation. It was not possible to trace the source of his original infection and under treatment his carrier state cleared up.

Other Salmonella Infections.

Other Salmonella Infections

During the year 213 cases of infection with various *Salmonella* organisms other than *Salmonella typhi* or *Salmonella paratyphi* came to the notice of the department. Of these, 115 were notified and the remaining 98 were discovered during routine investigations.

This is 100 less than the 1955 figure of 313.

A list of the varying *Salmonella* organisms is given :—

Salmonella	Typhi-murium	100
,,	Newport	32
,,	Enteritides	29
,,	Anatum	26
,,	Worthington	12
,,	Stanley	4
,,	Thompson	2
,,	Bovis-morbificans	2
,,	Senftenberg	2
,,	Cubana	1
,,	Brandenburg	1
,,	Chester	1
,,	Dublin	1
		213

The investigation of the two cases of *Salmonella senftenberg* may prove of interest.

On the 9th December, whilst on a voyage from Las Palmas to Liverpool a boy of 17 employed in the galley of s.s. Hilary complained of abdominal pain and diarrhoea. The vessel arrived in Liverpool on the 13th December. He worked aboard the ship until the 17th December when he was sent home owing to persistent enteritis. Two days later bacteriological examination of his stools showed the presence of *Salmonella senftenberg*. The case was not notified, but came to the department's notice from the copy of the laboratory result. As a result of this information, all his contacts both at home and at work were examined. All were negative, except his mother who was discovered to be a symptomless excretor. Following treatment both cases made a satisfactory recovery.

Dysentery.

Dysentery

During the year, 369 cases of confirmed bacillary dysentery were reported in Liverpool as follows:—

Sonne	368
Flexner	1

This is less than half the 1955 figure of 920.

Dysentery in Day and Residential Nurseries.

Dysentery in Day and Residential Nurseries

Three outbreaks of *Sonne* dysentery occurred in two day nurseries making a total of 55 cases.

This is a great improvement on the previous year when twelve outbreaks of *Sonne* dysentery comprising 179 cases occurred in the day

nurseries. The improvement may be due to new measures undertaken for the first time in 1955, consolidated and improved during 1956. It is now a routine measure that all children in contact with enteritis in the nurseries have stool specimens examined on at least three separate occasions following the initial occurrence of infection. Infected children remain absent from the nursery until three consecutive negative results have been obtained. As this may involve considerable time, and in order to aid general practitioners, specimens from the families are examined and the practitioner notified of the results. To eliminate outbreaks caused by symptomless or convalescent carriers among newcomers to the nursery, stool specimens are examined a week before the child is due to enter. By this means, a considerable number of carriers are prevented from entering nurseries and starting outbreaks.

A new report sheet was devised during the year, for the use of the nursery, which affords easy and accurate information on positive cases. This has proved of great assistance in helping control outbreaks and tracing the infective source.

Sonne Dysentery in a Residential Nursery

The following is an account of the largest single outbreak of *Sonne* dysentery that occurred during the year.

Between the 7th and 24th April, an outbreak of *Sonne* dysentery occurred in a large residential children's nursery. Twenty of a total of thirty children and six of a total of twenty-six staff were affected.

History of the outbreak.

On the 5th April, one of the nursery assistants suffered a severe attack of enteritis. Bacteriological examination of a stool specimen showed the presence of *Shigellae sonne.* Enquiry showed that this person was not a resident and that a similar occurrence of enteritis had recently occurred at her home.

She was placed off duty and a course of treatment initiated.

Stool examination of the thirty nursery children was undertaken on the 7th April. Eight were found to be excreting *Shigella sonne*, three of whom had enteric symptoms. Seven occupied the same ward as that of the infected nursery assistant. The nursery was placed in quarantine and all eight infected children were transferred to isolation hospital.

Between the 6th and 10th April, stool specimens were obtained from the remaining twenty-five staff and all were negative. One further case of enteritis occurred amongst the children on the 11th April in the same ward as the initial cases. Stool specimens of all inmates were collected and it was found that the nursing assistant attending the infected child was now excreting *Shigella sonne*, although negative on the first stooling examination. The case of enteritis together with two babies discovered to be symptomless excretors were transferred to isolation hospital and the nursery assistant relieved from duty and treated. Repeat stooling took place every three days and as a result six fresh cases were discovered on the 16th April, of which four were symptomless excretors.

At this same examination, a further nursery assistant and a staff nurse were discovered to be symptomless excretors of *Shigella sonne*. They too had been negative on the previous two examinations. They were relieved from duty and the infected children removed to isolation hospital. One new case occurred on the 19th April and two further cases occurred amongst the children on the 24th April. Two temporary nursery assistants who had been engaged on the 18th April both showed *Shigella sonne* organisms in their stools on the 25th April. They had been employed in the ward where the last two cases had been. No further cases occurred after this date amongst the children or the staff.

During this investigation, a total of 652 stool specimens were bacteriologically examined, 312 belonged to the children and 340 belonged to the staff.

An inexperienced nursery assistant was thought to have been responsible for this outbreak and it is interesting to note that a high proportion of staff became infected during its course. The great need for personal hygiene must be emphasized at all times but more especially during an enteric outbreak.

School Outbreak of Dysentery.

School Outbreak of Dysentery

Between the 13th and 15th June, sixteen pupils at a primary school experienced vomiting and diarrhoea. Food poisoning was suspected but investigations showed no evidence suggestive of a definite meal being the source of the outbreak. The midday meals on the 13th and 14th June

were investigated and samples of haricot mutton, mashed potatoes, blancmange and jelly were examined, and all proved negative. The sixteen affected children had stool specimens examined and of these five revealed the presence of *Shigella sonne.*

The food handlers at the school and at the central kitchen where the food was prepared submitted hand swabs and stool specimens. All were found to be negative. As the five cases may possibly have picked up the infection from the use of soiled toilets, a total of 60 swabs were taken from the seats, chain pulls and door handles of the 20 infants water closets. On examination, they all proved to be negative. It is thought that this was a small explosive outbreak of *Sonne* dysentery which may have been transmitted from one pupil to another. The manner and source of transmission remained undetected.

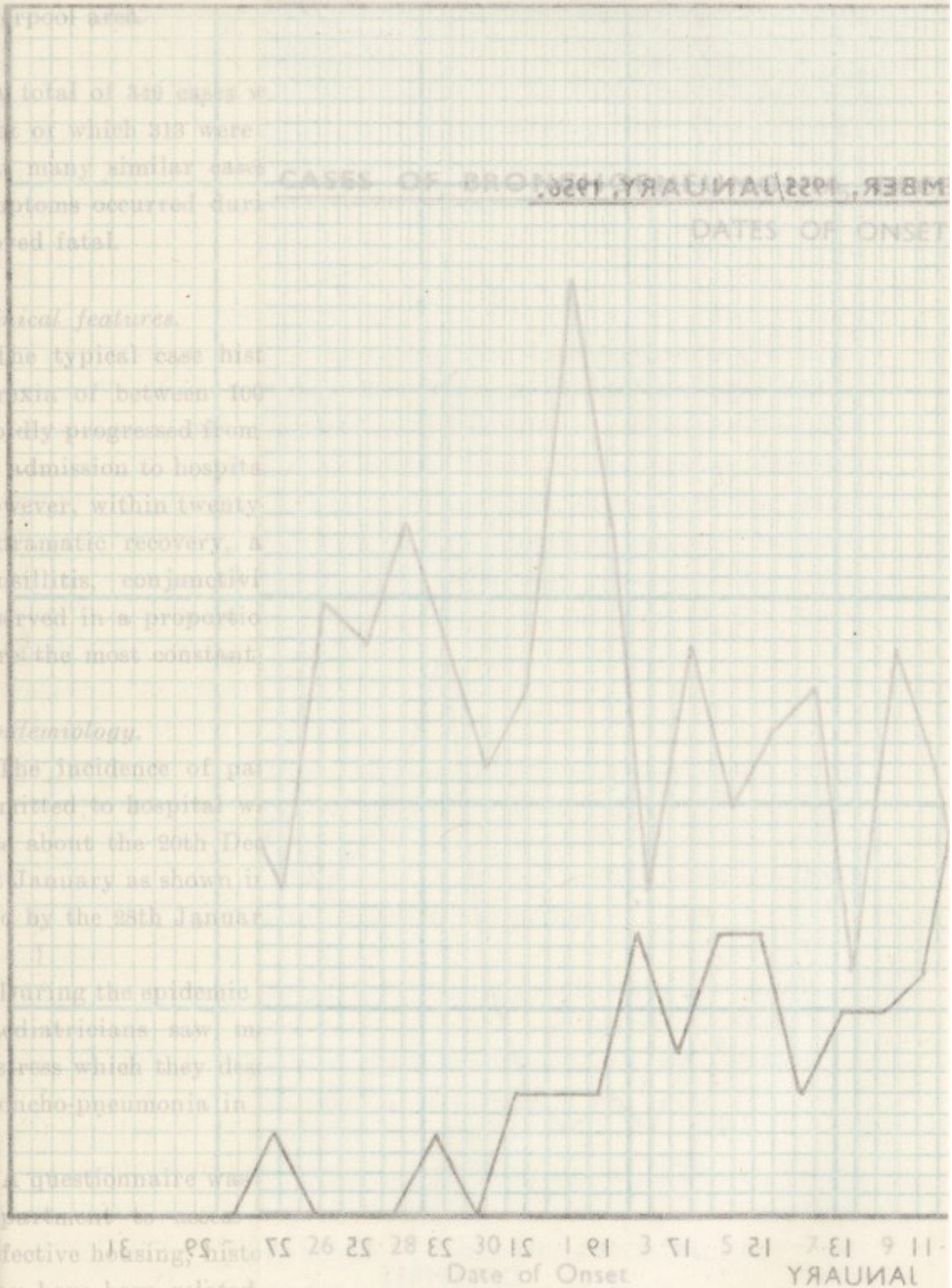
Influenza Spotting Scheme.

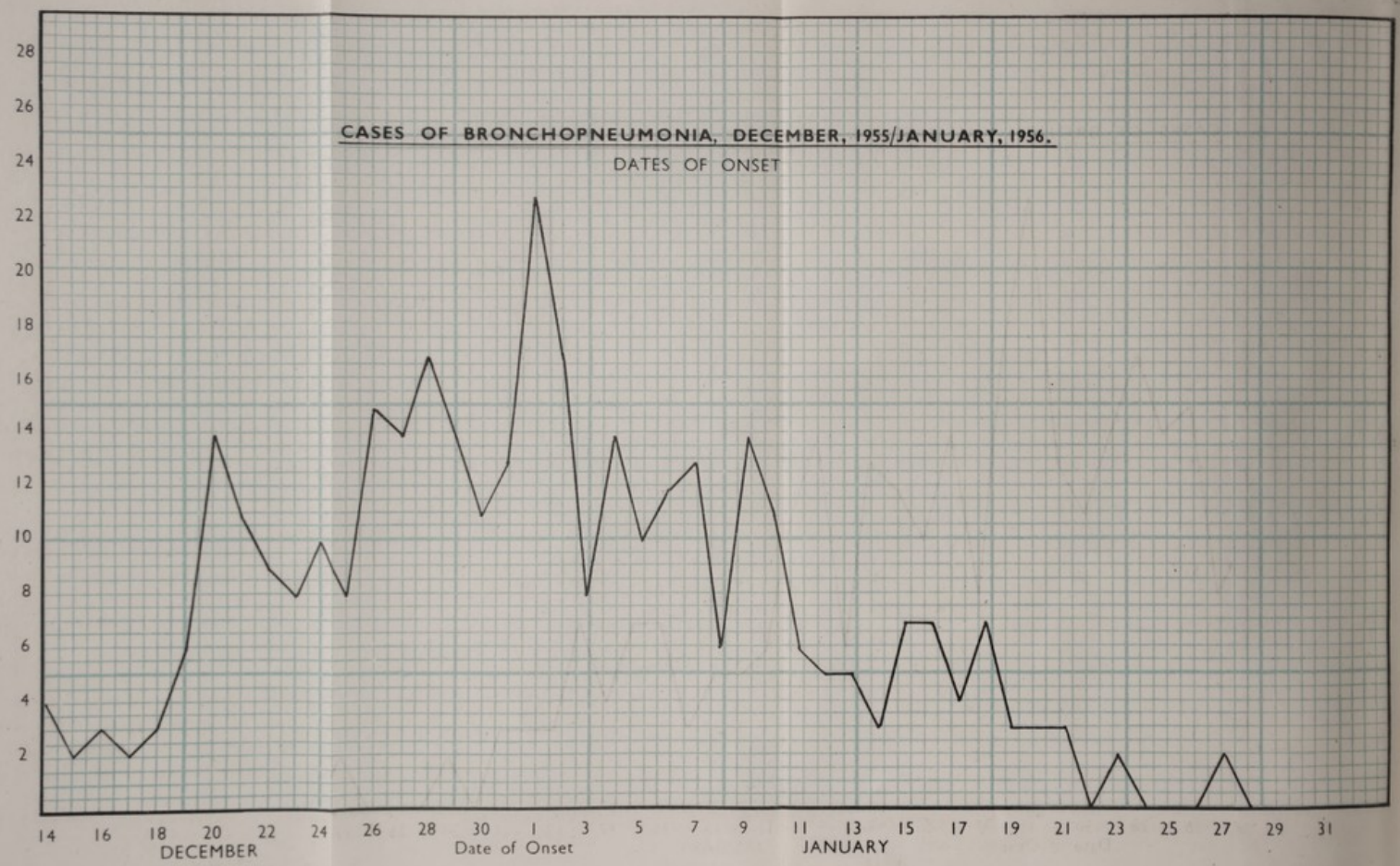
Influenza Spotting Scheme

During the winter of 1954-1955 special measures for the detecting of influenza were made in or near seventeen large cities (Liverpool being one of the cities chosen) by the Medical Research Council. In all centres except London and Birmingham, six general practitioners agreed to take blood specimens from two new cases of influenza during the active and convalescent stage each week for twenty-one weeks from 6th December, 1954 to the end of April 1955. Typical cases of influenza were to be chosen. The results of this "influenza spotting" indicated that influenza B was endemic in Gt. Britain between October 1954 and February 1955.

Following upon the early success of the scheme, similar arrangements were made during the winter 1955-56. As before, six general practitioners in Liverpool agreed to send paired blood specimens to the laboratory from two suspected cases of influenza each week from the beginning of December 1955 to the end of April, 1956. The general results from various points of the United Kingdom suggested that an epidemic of Influenza A of low prevalence occurred in most parts during the winter 1955-56. The highest incidence occurred in late January and in February 1956.

Almost all the influenza virus infections were due to virus A and it is probable that the great majority of these were due to virus of the Scandinavian type.




CASES OF BRONCHOPNEUMONIA, DECEMBER, 1955/JANUARY, 1956.
DATES OF ONSET
28
26
24
22
20
18
16
14
12
10
8
6
4
2
14 16 18 20 22 24 26 28 30 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31
DECEMBER
Date of Onset
JANUARY

Epidemic of Broncho-pneumonia in Young Children.

An outbreak of broncho-pneumonia occurred during the latter half of December 1955 and the first three weeks of January 1956 within the Liverpool area.

A total of 349 cases were investigated by the Public Health Department of which 313 were admitted to Liverpool hospitals. It is believed that many similar cases of a milder nature and with less disturbing symptoms occurred during this period. Of the cases investigated four proved fatal.

Clinical features.

The typical case history was of sudden onset commencing with a pyrexia of between 100° and 104° with respiratory symptoms which rapidly progressed from those of acute bronchitis to broncho-pneumonia. On admission to hospital many suffered from acute respiratory distress. However, within twenty-four to thirty-six hours, the majority had made a dramatic recovery, and three to five days later appeared normal. Tonsillitis, conjunctivitis, lymphadenitis and gastro-enteritis were observed in a proportion of cases, but pyrexia and respiratory distress were the most constant symptoms.

Epidemiology.

The incidence of patients suffering from broncho-pneumonia being admitted to hospital was observed daily and appeared to take a sharp rise about the 20th December. The influx reached a maximum on the 1st January as shown in the graph. A gradual decline then commenced and by the 28th January the situation was normal.

During the epidemic period, both general practitioners and consultant paediatricians saw many cases of acute respiratory infection and distress which they describe as either acute bronchitis, bronchiolitis, or broncho-pneumonia in children below the age of two years.

A questionnaire was prepared and 349 cases were visited by the health department to assess any environmental factors (e.g. overcrowding, defective housing, history of adult infection, breast feeding, etc.) which may have been related to the incidence of the epidemic.

The findings of the investigation are as follows:—

Sex incidence

183 (52·44 per cent) were male.

166 (47·56 per cent) were female.

Age incidence

241 were below the age of twelve months, of which 136 were between 0-6 months, fifty were between 1-1½ years, thirty-two between 2-3 years, eleven between 3-4 years, and ten over the age of 4 years.

Breast-feeding.

Thirty-three babies were breast-fed, of these twenty-nine were below the age of three months (8·3 per cent of all the 349 cases). The remaining 316 babies were either bottle fed, on mixed feeding, or on infant diet.

A survey undertaken in 1954 showed that in Liverpool 54 per cent of infants attending infant welfare clinic under three months of age were fully breast-fed and 11 per cent partly breast-fed.

A comparison of these percentages with the low incidence of broncho-pneumonia occurring amongst breast-fed infants during the outbreak would seem to indicate that the breast-fed babies derived considerable protection and were less liable to attack from the infecting organism.

Symptomatology.

Two hundred and fifty-six experienced pyrexia, and 319 chest symptoms. 78 had conjunctivitis, 68 gastro-enteritis, 44 tonsillitis and 15 were observed to have lymphadenitis in addition to the fever and respiratory distress.

Home Contacts.

In 51 per cent of cases investigated, there was a clear history of either concurrent adult upper respiratory infection or history of colds or influenza, between one to three weeks previous to the infant's illness. 188 adults and 244 other children were affected and in all these cases the illness had been mild with no respiratory distress or broncho-pneumonia. 511 child contacts were observed with no symptoms and likewise 801 adult contacts.

Locality.

There was no evidence to suggest that the outbreak commenced in any specific ward or part of the city. During the first eight days of the outbreak, cases were reported in 20 of the 40 city wards. There appeared to be an increase in the number of cases occurring in the more densely populated and older parts of the city, e.g. Abercromby ward—25 cases; Netherfield ward—21 cases; Smithdown ward—19 cases, and Everton ward—21 cases, whilst only two cases occurred in Woolton, one in Childwall, and no cases in Clubmoor.

Home Environment.

A total of 312 houses were visited and assessed. 32 of these were graded as bad with major defects including dampness. Infection appeared to be higher in over-populated areas but there was insufficient evidence to prove that poor housing conditions played an important role in the epidemic.

Virus investigations.

Throat washings, nasal swabs, rectal swabs and blood sera were obtained from thirty of the victims. From two of the throat specimens, viruses of the A.P.C. group were isolated. In one case, a single convalescent specimen of serum showed a titre of 1 in 8 to the A.P.C. group antigen. In the other case, both acute and convalescent sera showed very low unchanging antibody titres. A specimen of lung from one of the fatal cases was examined with negative results. Isolation tests in eggs for influenza A. B and C were negative in 28 throat or nasal swabs and a further specimen of lung.

Conclusion.

These results do not give any indication as to the cause of the outbreak. The two A.P.C. virus isolations are probably chance findings since present experience suggests that the virus is easily isolated from a large proportion of cases in outbreaks where A.P.C. infection is responsible.

Canicola Fever.

One confirmed case in a boy aged eight occurred during the year. **Canicola Fever**

History of the case:—

On the 26th August a boy aged eight was admitted to a large children's hospital as a suspected case of meningitis. Preliminary investigations did not support this diagnosis and by the 3rd September his infection was thought to be of virus origin. Specimens of blood serum were taken for virus studies and tested for influenza, A.P.C. Q fever, psittacosis, L.G.V., mumps and the L.C.M. viruses with negative results. Leptospiral agglutinations were tested and the results are as follows:—

TABLE 5.

Day of Disease.	Leptospiral agglutination.	
9th day of disease ...	*L. canicola*	positive 1/1,000
		negative 1/3,000
	L. icterohaemorrhagiae	positive 1/30
		negative 1/100
17th day of disease ...	*L. canicola*	positive 1/30,000
		negative 1/10,000
	L. icterohaemorrhagiae	positive 1/10
		negative 1/30

On these findings a diagnosis of canicola fever was made.

Epidemiology.

In view of this diagnosis, a visit was paid to the house. It was ascertained that the family consisted of mother, father, three other children and an alsatian dog. The family contacts and dog were examined serologically. Results were all negative except for the dog which was positive 1 in 30,000 for L. canicola and 1 in 30 for L. icterohaemorrhagiae. The animal was taken for further examination, and a post-mortem study made. The main findings were those of subacute nephritis and dark-ground examination of the dog's urine revealed numerous mobile leptospirae. These findings were consistent with early canicola disease in the alsatian.

It is interesting to note that the patient was the only member of the family who could fondle and play with the animal. The other children

were apprehensive of the dog and kept away. It is thought that the boy acquired the infection from the dog. The boy made a successful recovery.

Weil's Disease.

Weil's Disease

One confirmed case of Weil's disease occurred during the year and the patient made a satisfactory recovery. He was a man aged 21 who became ill on 17th July when he complained of central abdominal pains, vomiting, pyrexia, frequency of micturition and pains in his limbs. On 24th July he was admitted to isolation hospital as a P.U.O. Examination here revealed subconjunctival haemorrhage, mild jaundice, and tenderness in the abdominal muscles. Blood examination confirmed the diagnosis of Weil's disease. The patient admitted that he had been swimming in a well-known rat infested canal seventeen days prior to the onset of symptoms.

Undulant Fever (*Brucellosis*).

Undulant Fever (Brucellosis)

A case of undulant fever, traced to the drinking of infected milk from a local herd, occurred during the year. Investigations were prolonged over a period of five months.

History of the case:—

A young man aged 35 was admitted to a local hospital on the 26th March for the investigation of a persistent pyrexia associated with general fatigue, loss of appetite and joint pains. Preliminary investigations including chest X-ray were negative. On the 8th May, a blood agglutination examination revealed an agglutinin titre of 1 in 640 for both *Brucella abortus* and *Brucella melitensis*.

A diagnosis of undulant fever was made and a full investigation into the source of infection undertaken by the Public Health Department.

Enquiry showed that the victim worked for a local hosiery firm and that raw milk was available in the canteen. This milk was obtained from a tuberculin tested herd kept within the City boundary. On 20th June when the routine monthly milk sample was taken for biological test at this farm, the specimen was further examined for *Brucella abortus*. On the 31st July the sample was reported as negative for tuberculosis, but an agglutination for *Brucella abortus* with guinea pig

serum was positive at a dilution of 1 in 320. During the same week six cows slaughtered from this particular herd were, at the Stanley Abattoir, found to be infected with tuberculosis. The Ministry of Agriculture, Fisheries and Food (animal health division) was notified of the finding of *Brucella abortus* in the raw milk. On 8th August together with the Ministry's veterinary inspector, a clinical examination of all cows at the farm was made. The following samples of milk were taken for bacteriological examination.

Five samples were carefully milked from five individual cows. One bulk sample from the mixed milk of sixteen cows, and another bulk sample from the mixed milk of nineteen cows, were taken for examination. In all a total of seven samples were obtained from the herd comprising 40 cows and one fresh-calved heifer. The bacteriological results of the seven samples were reported on the 15th September and showed that two were infected with *Brucella abortus*. These being from one individual cow, and the bulk milk of sixteen cows. The other bulk sample from nineteen cows, and from four individual cows was negative.

Written notice was served on the farmer by the Medical Officer of Health (in accordance with the Milk and Dairies Regulations, 1949) stating the reasons for declaring the milk infected. It ordered that all milk produced by this herd be subjected to heat treatment before being offered for human consumption, and such treatment be continued until further notice.

Arrangements were made, by the joint efforts of the Ministry of Food, the Milk Marketing Board and the Public Health Department, for all the milk produced on this farm to be subjected to heat treatment and made safe before sale for human consumption. Meanwhile, the individual cow giving a *Brucella abortus* infected sample was slaughtered at the Stanley Abattoir, and a sample was taken from each cow in the group of sixteen (now reduced to fourteen, two cows being slaughtered as re-actors to the tuberculin test). Of these fourteen milks, three proved to contain *Brucella abortus*. On subsequent testing two of the three cows proved negative and the infected cow was slaughtered.

The formal written notice advising the farmer that the milk produced by his herd could with safety be again used for human consumption without first being heat treated was sent on the 26th November.

Since that date all routine samples of milk tested from this herd have been satisfactory.

Psittacosis.

Two cases of psittacosis occurred in one family during the year. The source of their infection was believed due to infected homing pigeons. A survey of homing and wild pigeons within the City was undertaken to estimate the incidence of the disease in these birds and their potential danger to humans. Psittacosis

History of the cases:—

A young married woman was admitted to hospital on 18th June. On admission, she had pyrexia accompanied by pain in the right lower thoracic and abdominal regions. Chemical examination of blood and urine together with radiological examination of chest showed no evidence of disease. A provisional diagnosis of Bornholm's disease was made. On the 28th June, blood sera was sent to a virus reference laboratory for investigation. On the 6th July, it was reported that agglutination of the patient's serum against psittacosis was positive in a dilution of 1 in 140. On these findings, a diagnosis of psittacosis was confirmed.

The Public Health Department was notified and the house visited. Enquiry showed that four adults and one child were living at this address. In the rear yard stood a wooden aviary housing, in separate sections ,eighteen homing pigeons, three budgerigars and one linnet.

Blood specimens were taken from the five occupants of the house. Except for the sister of the victim all proved negative. Her blood serum was positive for psittacosis in a dilution of 1 in 64. She remembered having had a similar illness to that of her sister, some six weeks previously which she attributed to a "severe chill". The blood sera of the birds showed one pigeon positive in a dilution of 1 in 64, and a second positive in a dilution of 1 in 8. The remaining birds were negative.

Survey investigation.

A survey was made of all premises within a radius of a half mile of this house and aviary. It was found that the occupants of 84 houses within this area kept homing pigeons totalling 1,563 in all.

An investigation into the incidence of psittacosis amongst homing and wild pigeons was undertaken with the co-operation of the University veterinary pathology department.

Fifty-two homing pigeons were selected and taken by their owners for examination. 320 wild pigeons were trapped, under the provisions of

the Liverpool Corporation Act, 1955, from various sites within the City and examined likewise.

Results.

The results of the blood sera from the homing pigeons are not yet available but it is hoped to publish them later. To date, 143 wild pigeons have been examined and of these, 56 were positive for psittacosis in dilutions varying between 1 in 8 to 1 in 128 as indicated in the following table:—

TABLE 6.

Site from which submitted.	Total No. of birds sub-mitted.	Results to date.	Complement Fixation Test. Summary of Positive Results.									
			Direct.					Indirect.				
			1/8	1/16	1/32	1/64	1/128	1/8	1/16	1/32	1/64	1/12
St. George's Hall ...	31	22	1	2	2	2	1	—	1	—	—	—
Museum	154	71	1	4	2	6	6	1	5	2	—	—
Eaton Street ...	2	2	—	—	1	—	—	—	—	—	—	—
31/33, Red Cross Street	84	42	1	5	2	1	3	4	3	2	—	—
24, Hatton Garden	2	2	—	—	—	1	—	—	—	—	—	—
Town Hall ...	24	4	—	—	—	—	1	—	1	—	—	—
Liverpool Air Port, Speke	17	—	—	—	—	—	—	—	—	—	—	—
Walton Hospital ...	2	—	—	—	—	—	—	—	—	—	—	—
St. Anne's Institute, Derby Lane ...	4	—	—	—	—	—	—	—	—	—	—	—

These investigations, although still incomplete, would indicate a high incidence of psittacosis occurring in the wild pigeon population of Liverpool. It is well known that humans can contract the disease through handling or keeping these birds. It would seem from the preliminary investigations that a dangerous reservoir of this disease exists within the City. The investigation is still proceeding and will be reported in detail at a later date. The Health Department has the necessary power for examining these birds under Section 46 of the Liverpool Corporation Act of 1955 which enables the Corporation to seize and destroy pigeons, house doves or starlings in excess of such number as the Corporation consider reasonable.

Heat Treatment of Imported Egg Albumen.

Research

Heat-treatment of Imported Egg Albumen

The problem of *Salmonella* infected imported egg products has now been clearly defined. In Liverpool a total of 1,552 tons of egg products were imported during 1956 (chiefly from China and Australia). From this amount, 6,060 samples were bacteriologically examined and 1,642 (27·1 per cent) were subsequently found to be infected with *Salmonella* organisms. No *Salmonella paratyphi B* was isolated from the Liverpool imports.

The following table illustrates the various types of egg and their relative degrees of *Salmonella* infection :—

TABLE 7.

Type of Egg.	Total Quantity in tons.	Total No. of Samples.	Result.	Salmonella type.
Imported dried whole egg.	28.7	163	42 positive 121 negative	23 *S. newport.* 3 *S. thompson.* 11 *S. typhi-murium.*
Imported dried egg yolk.	1.4	4	4 negative	—
Imported dried egg albumen.	45.0	181	15 positive 166 negative	6 *S. thompson.* 4 *S. mikawasima.* 1 *S. oranienberg.* 4 *S. thompson.*
Imported glycerinated concentrated yolk.	9.8	16	16 negative	—
Imported frozen liquid egg.	1,467.38	5,696	1,585 positive 4,111 negative	66 *S. thompson* 203 *S. typhi-murium* 61 *S. typhi-murium* and *S. pullorum* 68 *S. aberdeen* 8 *S. wandsworth* 9 *S. meleagridis* 7 *S. meleagridis* and *S. pullorum* 1 *S. meleagridis* and *S. potsdam* 1,121 *S. pullorum* 13 *S. oranienberg* 8 *S. oranienberg* and *S. pullorum* 1 *S. munchen* 1 *S. munchen* and *S. pullorum* 1 *S. senftenberg* 11 *S. potsdam* 4 *S. potsdam* and *S. pullorum* 1 *S. anatum* 1 *S. give*
TOTALS ...	1,552.28	6,060	1,642 positive 4,418 negative	

Salmonella pullorum and *Salmonella typhi-murium* were the commonest organisms in the liquid frozen egg, which accounted for 94·5 per cent of the total. *Salmonella newport* was the commonest organisms in the dried egg albumen. The four samples and sixteen samples of dried egg yolk and glycerinated concentrated egg yolk respectively were free from *Salmonella* organisms.

Close liaison exists in Liverpool between the Medical Officer's department and manufacturing food firms. Experiments which commenced in July 1955, continued throughout the year in order to establish a safe process for the sterilisation of these infected products. A practical method of heat treating crystalline albumen has now proved successful. A preliminary report of this research and of the first six months' experiments was published in *The Lancet* on 21st January, 1956. A further survey of progress was published in *The Medical Officer* on 24th August, 1956. The results so far suggest that mass low temperature heat treatment of crystal albumen is practical and safe. The aim of this heat process is to ensure that a temperature of between 128-130° F is maintained within the centre of the albumen container for a period of at least seven to eight days. This can be achieved on a large scale by using a specially constructed insulated hot room. The albumen containers must be raised from the ground and the air freely circulated by means of a fan. Air temperature within the hot room will vary according to the amount of insulation that is provided. Generally, however, the air temperature will be between 132-135° F to provide the correct internal temperature within the albumen.

Experiments are being continued to determine the most efficient and reliable design of hot room. The dangers of using these contaminated egg products in commercial baking practice is also being thoroughly investigated. These investigations and experiments will be continued in 1957.

Infectious Disease Consultations.

Infectious Disease Consultations

During 1956, 19 domiciliary visits were made by the medical staff at the invitation of general practitioners as follows:—

Chickenpox	6
Poliomyelitis	4
Non-poliomyelitis	3
Septic tonsillitis	3
Rheumatic fever	2
Meningitis	1

IMMUNISATION AND VACCINATION.

Poliomyelitis Immunisation.

Poliomyelitis Immunisation

During 1956, a safe poliomyelitis vaccine manufactured in this country became available for the protection of susceptible children against poliomyelitis. Immunisation consists of two inoculations of 1·0 cc of the vaccine into the left arm at intervals of not less than three weeks and in Liverpool were carried out at the school and child welfare clinics. Owing to the shortage of this vaccine the Ministry of Health decided that only children born between the years 1947 to 1954 inclusive were to be considered for inoculation during 1956 and that the final selection of those to be immunised would be determined by the Ministry. At present the vaccine is only available to local health authorities, but it is hoped that in the future, the use of this vaccine will be made available to general practitioners.

Relation to other Immunisation procedures

It is recommended by the Ministry of Health that no smallpox vaccination or other immunisation should be carried out during the time when the vaccine is being administered and for two weeks after the final injection, and that this should be extended to four weeks after the final injection in the case of B.C.G. and yellow fever vaccination.

Statistics

In February, parents of children within this group were circulated and 30,630 requested the vaccine for their children. Sufficient vaccine was available for two injections (the complete course) for 2,905 (9·5 per cent) children. Seventy-seven children failed to return for the second injection.

The following table illustrates these statistics fully:—

TABLE 1.

SUMMARY OF POLIOMYELITIS IMMUNISATION, 1956.

Number of children registered for immunisation ... ... 30,630.

The following table shows the birth date and sex distribution of the 2,905 children who received two injections, with the 77 children given only one injection shown in italics.

Month of Birth.	Year of Birth.																Totals	
	1947		1948		1949		1950		1951		1952		1953		1954			
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
January	— *6*	— *3*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	— *6*	— *3*
March	—	—	—	—	—	—	—	—	119 *1*	100 *5*	46 *1*	61 *1*	55 —	41 *1*	34 *1*	47 *2*	254 *3*	249 *9*
August	87 *1*	81 *3*	119 *2*	102 *5*	65 —	69 *2*	56 *1*	47 *3*	46 —	53 *1*	47 *2*	40 *1*	32 *1*	44 —	20 —	16 *1*	472 *7*	452 16
November	189 *3*	187 *2*	140 *4*	147 *3*	133 *4*	148 *1*	148 *4*	121 *5*	52 *2*	40 *2*	38 —	40 *1*	34 —	34 —	11 *1*	16 *1*	745 *18*	733 *15*
																	2,905 *77*	

During 1956, no child who received immunisation injections developed poliomyelitis.

Diphtheria Immunisation.

Diphtheria immunisation has been carried out at child welfare clinics, schools, and by general practitioners in the City. The total number of children immunised for the first time during 1956 was 10,302 and 5,004 received a booster inoculation. The age groups of the children inoculated during the year and an estimate of the percentage of the child population immunised during the past five years are given in the table below :—

Diphtheria Immunisation

TABLE 2.

	Under 1 year.	1–4 years.	5–9 years.	10–14 years.	Total under 15 years.
Primary Inoculations completed in 1956	5,826	2,208	2,106	162	10,302
Booster Inoculations completed in 1956	—	61	4,217	726	5,004
Percentage of child population immunised during past five years.	38·1%	42.3%	45.6%		—
Percentage of child population immunised	41.4%		82.7%		

It will be seen that it is now estimated that 82·7 per cent of the child population aged 5-14 years of age are at present protected against diphtheria by immunisation and that 41·4 per cent of the children aged 0-4 years are similarly protected.

A complete table of the number of primary immunisations carried out in the City and the exact places where these immunisations were given is below :—

TABLE 3.

NUMBER OF PRIMARY DIPHTHERIA IMMUNISATIONS.

Where or by whom immunised.	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
Immunisation Clinics	8,482	9,824	8,219	5,973	6,442	5,316	4,896	3,920	3,974	4,547
Schools ...	5,709	5,510	3,471	2,858	2,941	3,307	3,586	3,732	2,943	3,702
Medical Practitioners	40	688	1,617	2,066	2,396	2,579	2,694	2,973	3,212	2,070
Miscellaneous	269	208	228	322	283	109	—	—	—	—
TOTALS ...	14,500	16,230	13,535	11,219	12,062	11,311	11,176	10,625	10,129	10,319

In addition to the above immunisations, 5,067 previously immunised children received a reinforcing injection either at school or at one of the clinics during the year.

Schick Testing of Nurses

During 1956, a total of 30 probationer nurses were Schick tested at the Royal Southern Hospital. Of these, 8 were Schick positive and susceptible to diphtheria and 22 were Schick negative and immune. The 8 susceptible nurses were offered protection with P.T.A.P.

Whooping Cough Immunisation.

Whooping Cough Immunisation

During the year the immunisation campaign against this disease was continued. The same arrangements used for diphtheria immunisation were carried out and whooping cough immunisations were offered at child welfare clinics and by general medical practitioners. During the year, 6,508 children had been immunised under this scheme. 32·6 per cent of infants under one year were protected in 1956 as against 19·8 per cent in 1955.

The whooping cough trial which was commenced in November 1953 in conjunction with the Medical Research Council was completed in May 1955. A "follow-up" survey of the 4,442 children inoculated with the M.R.C. vaccine LIV I and LIV II was continued in 1956 and were finally completed in November, 1956. During this "follow up" survey, the children were visited every month by the nurse investigators in order to obtain accurate records of the exposure of the inoculated children to infection from other children in the family or neighbourhood.

Since the onset of the trial 880 children have been lost to observations for the following reasons:— Statistics

1. Removed outside the Liverpool area 834
2. Exposed to whooping cough during inoculation period ... 31
3. Unco-operative parents 11
4. Developed whooping cough between 1st and 2nd injections 2
5. Deaths (two in 1955, Nil 1956) 2
6. One child inoculated in November 1954 developed poliomyelitis in 1956.

Smallpox Vaccination.

Vaccination of infants against smallpox is carried out by special clinics and by general practitioners in their own surgeries. The following table illustrates the number of births and the number of primary vaccinations given during the past three years:— Smallpox Vaccination

TABLE 4.

	1954	1955	1956
Births	15,742	15,268	15,944
Number of primary vaccinations	6,989	7,677	6,414
Number of re-vaccinations	240	204	202
Number insusceptible	—	—	—
	7,229	7,881	7,616
Number vaccinated at clinics	2,942	3,622	3,413
Number vaccinated by private doctors	4,287	4,259	4,203
	7,229	7,881	7,616

The improvement in vaccination figures noted in 1955, fell by 265 during 1956. 47·8 per cent of the children born in 1956 were vaccinated as compared with 51·6 per cent in 1955. The introduction of the poliomyelitis immunisation scheme during this period may have had some effect upon the numbers, as smallpox vaccination was temporarily stopped for these children.

TUBERCULOSIS

Incidence of Tuberculosis.

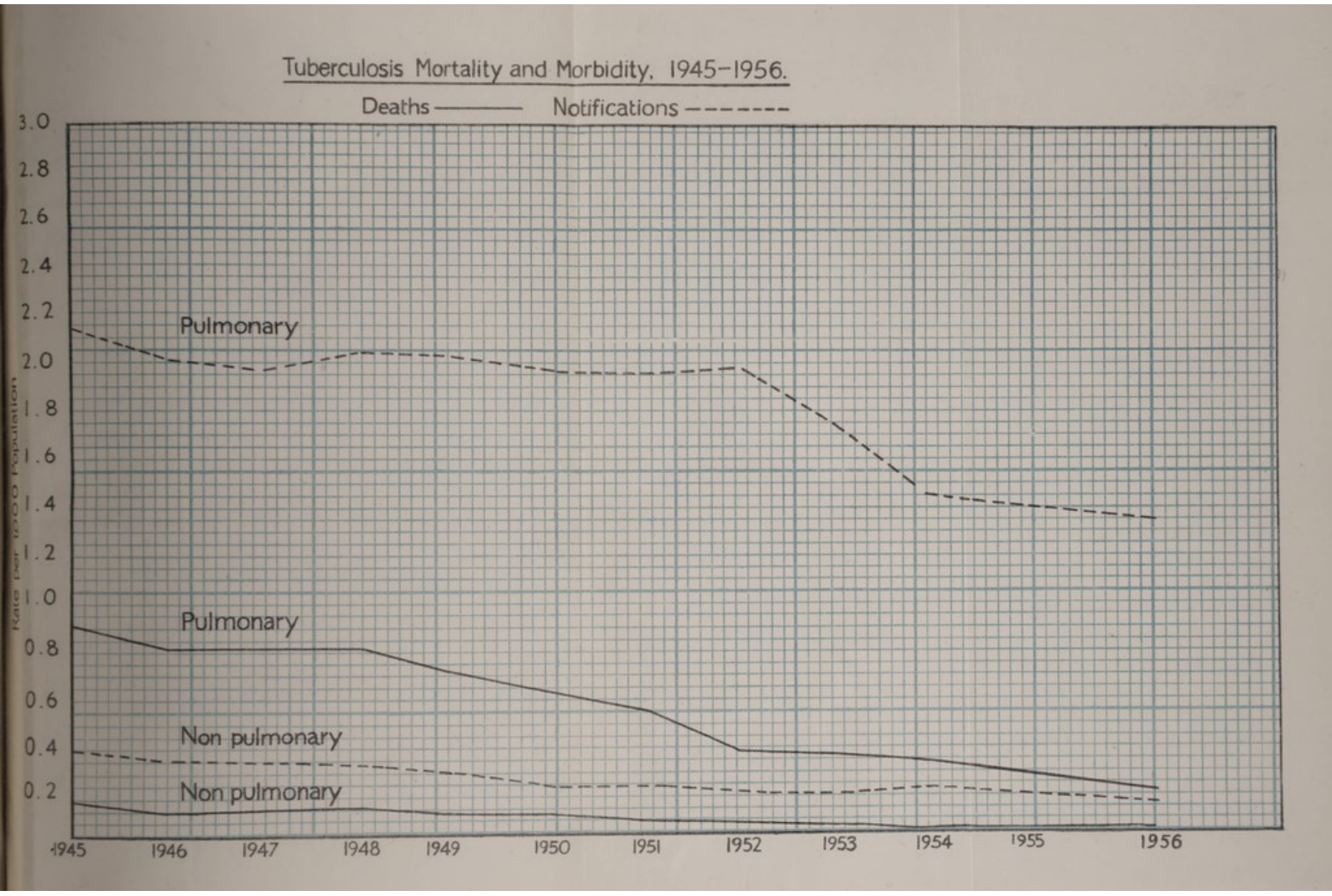
Notification of Tuberculosis

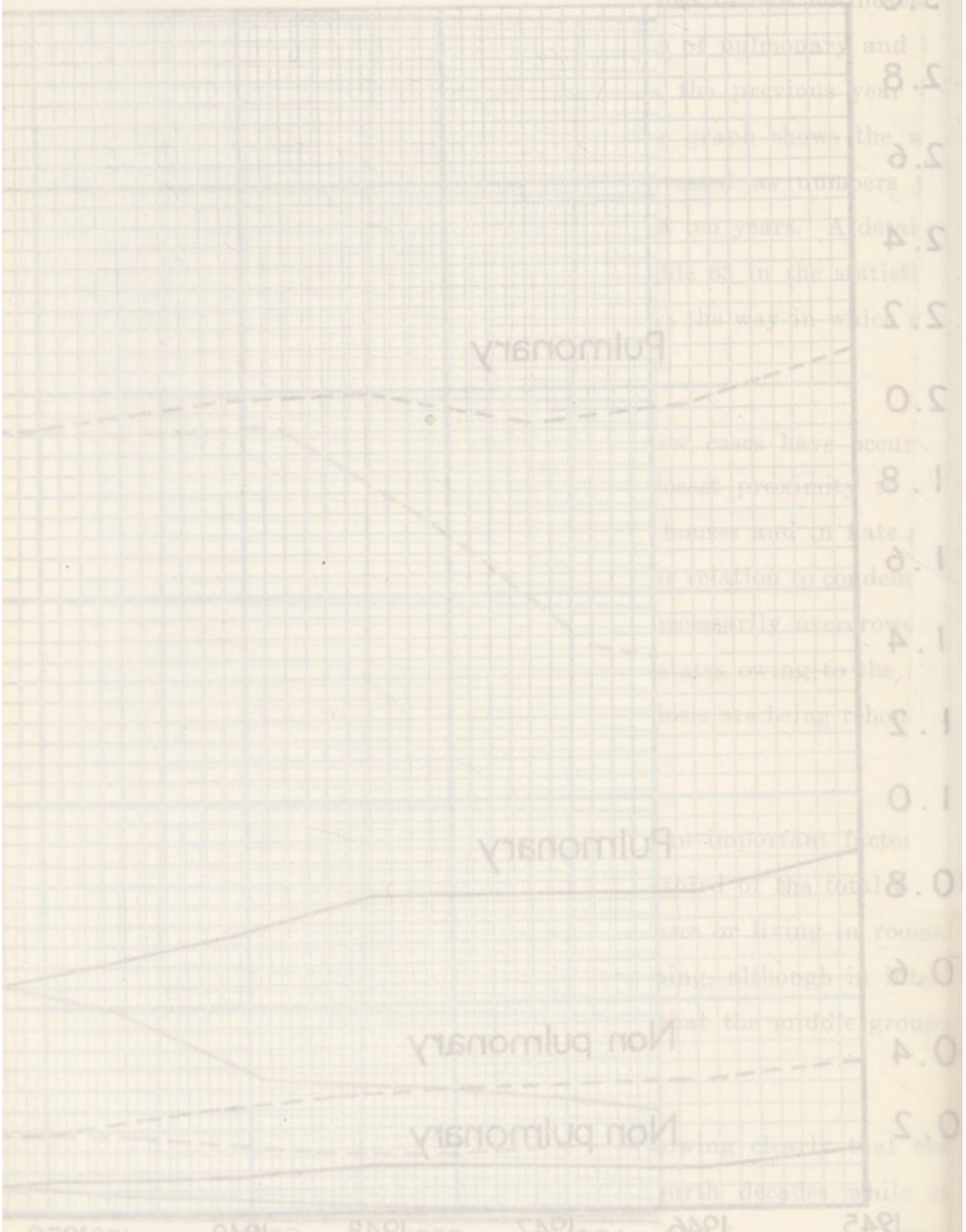
There has again been a reduction in the number of new notifications during the year. In 1956 there were 1,016 cases of pulmonary and 101 cases of non-pulmonary tuberculosis, while in the previous year the corresponding figures were 1,082 and 118. The graph shows the way in which both morbidity and mortality, expressed as numbers per 1,000 of the population, have altered in the past ten years. A detailed analysis of the figures for 1956 is given in Table 63 in the statistical appendix and the accompanying map "A" shows the way in which new cases are related to the population of each ward.

In general it is to be observed that the new cases have occurred mainly in those areas where people live in closest proximity to one another, that is to say in the smaller terraced houses and in flats and furnished rooms. There seems to be no particular relation to condemned and clearance areas which are, however, not necessarily overcrowded. Incidence is high in the Corporation housing estates owing to the fact that large numbers of the worst cases of tuberculosis are being rehoused, and so forming new foci of infection.

The table shows that housing conditions are an important factor in the incidence of tuberculosis, no less than one third of the total cases in the City either occupying unsatisfactory houses or living in rooms. It also indicates the importance of social grouping, although in interpreting the figures it must be borne in mind that the middle groups include the majority of the population.

The age and sex incidence is interesting, showing clearly that the peak for females occurs in the third and fourth decades while it extends in men well into the sixties. The male figures are rather


Tuberculosis Mortality and Morbidity, 1945–1956.
Deaths
Notifications
Rate per 1000 Population
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
Pulmonary
Pulmonary
Non pulmonary
Non pulmonary
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956


Pulmonary
Pulmonary
Non pulmonary
Non pulmonary

CITY of LIVERPOOL

MUNICIPAL WARDS

NOTIFICATIONS OF TUBERCULOSIS DURING 1956.
RATE PER 1,000 POPULATION.

CITY of LIVERPOOL

MUNICIPAL WARDS

1956

SHOWING

CASES OF TUBERCULOSIS

RATE PER 1000 POPULATION

FIGURES IN BLACK – POPULATION OF WARD

FIGURES IN RED – TUBERCULOSIS CASES PER 1,000 POPULATION

different from those for the whole country, which show a sharper peak in the fifth and sixth decades.

Distribution of Tuberculosis in the City

In the second map "B" an indication is given of the overall distribution of the disease within the City. In each ward the number of cases per 1,000 population is shown. As would be expected the figures are higher in the more densely populated areas and in the new housing estates.

Deaths from Tuberculosis.

Tuberculosis Death Rate

During the year 137 people died from pulmonary tuberculosis and 7 from non-respiratory disease within the City. These figures represent 0.177 and 0.009 per 1,000 population respectively. They are compared with those for the past ten years in Tables 34 and 35 of the appendix, while Table 31 gives details of the age periods of deaths from all forms of tuberculosis during 1956.

The chart which follows draws a comparison between the death rates from respiratory tuberculosis in Liverpool and in other large cities in the United Kingdom. Liverpool has a higher mortality than any city shown except Glasgow and Sheffield. This is not a cause for despondency, however, as our position is in fact better than last year, when only Glasgow had a higher rate. Our death rate figures for the year are indeed the lowest they have ever been and simply reflect the nationwide improvement in the situation. Liverpool has a special problem in the numbers of Irish settlers who come to the City, many of whom either already have early tuberculosis or have such a low resistance to the disease that they fall easy victims in the overcrowded conditions in which they all too often live.

CHART SHOWING MORTALITY RATE FOR RESPIRATORY TUBERCULOSIS FOR A NUMBER OF THE LARGER AUTHORITIES FOR THE YEAR 1956

The rate of fall of notifications still lags behind that of deaths fro tuberculosis. Indeed it is to be expected that this discrepancy w continue for many years to come, owing to the infectious nature of t disease, the continued improvement in diagnostic techniques, whi bring to light more early cases and the greatly improved methods treatment, which substantially reduce the death rate.

Prevention of Tuberculosis.

Tuberculosis After-Care

Work in this field has been greatly facilitated by the appointme during the early months of the year of four additional tuberculos visitors. Liverpool now has eighteen full-time visitors and each h approximately 470 cases to look after.

The new statistical system for allocating visits from the central office has worked very well and much time has been saved. All cases on the registers are visited regularly, active cases every eight weeks and quiescent cases twice a year. During 1956, 32,713 domiciliary visits were paid by the visitors compared with 29,937 in 1955. This figure includes visits made to contacts, visits concerning housing applications, non-attendance of patients at clinics, and for other special reasons, as well as the routine care and after-care visits. On average, therefore, each visitor made 38 home visits each week. As well as their outside work they each attended an average of less than two clinic sessions per week in the capacity of clinic nurse. In 1955 the average was almost 2.5 per week. This work at the clinics is useful as it maintains a working contact with the chest physicians and clinic nursing staffs.

Tuberculosis and Housing.

Housing of Tuberculosis Patients

This problem remains a very real one and, so far as one can see, is likely to do so for many years. During the year 985 tuberculosis patients applied for assistance in rehousing and of these 136 were recommended for special priority. This does not, of course, mean that only recommended cases are likely to be rehoused, as the majority of the applicants are already in the allocation group on the housing register, because of the extra points awarded on medical grounds.

There are two factors which thwart any attempt to solve the problem completely. They are—first, the continued high notification rate which refills the pool of cases waiting for houses at least as fast as it can be emptied; second, the grave housing problem in the City, which is rendered more urgent by the extensive programme of slum clearance at present being undertaken.

However, with the co-operation of the Housing Department a steady flow of tuberculosis cases, amongst whom are all those most urgently in need, are being rehoused. Further details on housing matters are to be found in the section on the housing points scheme.

B.C.G. Vaccination.

B.C.G. Vaccination in Schools

The school vaccination scheme has continued as in previous years. Children between the ages of 13 and 14 were offered vaccination and out of a total of 13,492 offers made 8,921 or 66.1 per cent accepted. In 1955,

7,806 accepted out of a total of 10,580 offers, a percentage of 73.8; in 1954, 81 per cent of the parents accepted the offer and 5,293 children were vaccinated. Thus, while the actual numbers vaccinated are rising satisfactorily, there appears to be an increasing reluctance amongst parents to have their children done.

All 8,921 acceptors were patch tested and 2,238 were definitely positive to the test. The remainder were Mantoux tested and a further 273 proved to be positive reactors, although they had been either doubtfully positive or negative to the patch tests. Thus, 2,511 of the 8,921 children were positive reactors, a percentage of 28.1, which is almost the same as last year when 27.9 per cent of those tested were positive. All but 51 of the negative reactors were vaccinated with B.C.G., the actual number being 6,359.

Vaccination of New Born

A scheme for vaccinating with B.C.G. the new born babies of parents who do not have tuberculosis was started during March at the Maternity Unit of Sefton General Hospital. The parents of all babies now born there are offered the service, and the babies of those who accept are vaccinated during the first week of life. The mother is asked to bring her baby for a follow-up skin test seven weeks after vaccination. The tests are carried out, by an arrangement with the hospital management committee, at the ante-natal clinic.

During the year, 1,170 babies were vaccinated. This represents rather more than 50 per cent of those born after the scheme started, and 48 per cent of all babies born in the unit during the full year. The average number done each week was 28. Letters were sent out to the mothers six weeks later making appointments for follow-up Mantoux tests. Second appointments were made for those who did not keep the first and those who failed to attend the second time were visited and a third and final appointment made.

The overall response to these several requests to attend for skin tests was 900 or 77 per cent of the number vaccinated. A further 32 record cards were sent to Medical Officers of Health of other areas to which parents had either moved or returned, or where babies had been sent for adoption, so that skin tests could be carried out at local clinics. Two other babies are known to have died before the skin test

was done. Of those actually tested 875 had converted by the seventh week; a further 15 had converted after three more weeks, when a second test was done following a negative result. Only one baby was still negative to the second test and this one was re-vaccinated and had converted after seven more weeks. The difference of 9 between the number of babies skin tested and the total number of conversions represents the babies who were not brought back for the reading of the test and who were not at home when visited for the purpose of reading.

Very few complications followed the B.C.G. vaccination. Ulcers varying in size from 1 m.m. up to about 8 m.m. were almost always present. In four cases there were enlarged axillary glands and one of these formed an abscess which later discharged itself and was healing satisfactorily when last seen.

Work of Chest Clinics.

A statistical summary of the work done at the tuberculosis clinics, so far as all cases on the dispensary registers are concerned, is given in Table 32 in the appendix. The chest physicians have kindly contributed the following reports:—

Dr. Crawley, South Chest and Central Tuberculosis Clinics.

Reports of Chest Physicians

The number of patients on the Tuberculosis Register of each clinic is little altered; a reduction in the South Clinic of 21 to 2,663, and a rise of 36 in the Central Clinic to 1,863. Last year there was a fall in the number of new patients found to be suffering from tuberculosis, but this year in each clinic, there has been an increase; in the South Clinic by 31 to 318, and in the Central Clinic by 38 to 274.

In each clinic a slight fall in the attendances is due to a considerable diminution in patients' attendances for lung collapse treatment, whilst the number of attendances for diagnosis and supervision has shown an appreciable increase. The latter more time consuming attendances represent an over-all increase in the work performed.

In both clinics fully 90 per cent of the work is among the tuberculous and their families, the needs of whom do not as yet permit either clinic to encourage an extended use of its facilities for the diagnosis, treatment and supervision of other diseases of the chest. The work proceeds on the time-honoured principles whereby the greatest effect is produced

in the large numbers under supervision. The incidence of tuberculos in Liverpool does not yet allow the clinics time to spend time in refin ments of procedure, particularly in contact work, which produces smal however valuable, results by time-consuming procedures in an attem to uncover the still considerable number of undiagnosed infectio tuberculous persons.

With the encouragement of the obstetric and paediatric staff at Sefto General Hospital and the collaboration of the Medical Officer of Healt B.C.G. vaccination has been offered to the children born in th Maternity Department of the hospital, and during the year, 1,1 children were given B.C.G. Over the year this represents 48 per cen of all children born in the Department, and over 50 per cent of thos born in each of the last three-quarters of the year.

Dr. Osborne Hughes, East Chest Clinic.

Early in 1956, the East Chest Clinic was moved from Mill Road Ou Patient department to the Park Hospital, but the promise that th would enable more work to be done has not so far been realised, mainl because as yet full radiological facilities are not available at the ne premises. This omission will be repaired during 1957.

There has been a fall in the number of total attendances; this i accounted for almost entirely by the decrease in the use of pneumo peritoneum as a form of treatment; because of staff shortage in th X-ray department at Mill Road during the summer, evening sessions fo workers were not held during the summer months and this account for the remainder of the total fall.

More new patients were seen and more new contacts; new cases o tuberculosis showed a decrease in males, but an increase in female and children. The number of new cases with a positive sputum has als increased.

B.C.G. vaccinations showed a further rise to over 600.

The registers continue to grow, partly from new cases diagnosed, bu also because more patients move into the area than move out; with tw new housing estates in the area this rise is to be expected and is likel to continue. The overall picture is one of improvement, but there

must still be too many cases of pulmonary tuberculosis undiagnosed. It is hoped shortly to offer to general practitioners in the area an x-ray service which should find more new cases.

There are now five full time visitors attached to the clinic; each has an average of nearly 500 patients on her list; on the assumption that one third of these patients have active disease, the present scheme of two-monthly visits for active and six-monthly visits for quiescent cases, each visitor has to make about 1,600 routine visits a year. In addition there are extra visits to non-attenders, for housing queries and other reasons. With a widespread area such as this, the provision of some form of transport for the visitors would be amply repaid. The principle has now been established that the visitors do not carry out the duties of clinic nurses except at contact clinics where their presence is valuable in reassuring parents and children to whom the visitor is directly known. Housing problems continue to abound, the official standards of overcrowding are entirely inadequate and the compulsory waiting period of six months before a housing application is considered can cause avoidable risk of infection. Liaison with the Health Department is maintained by the Assistant Medical Officer of Health's fortnightly visits; this innovation has been well justified by its results.

Dr. W. D. Gray, North Chest Clinic.

1956 has seen the North Chest Clinic well established in Aintree, but the figures for this year cannot be directly compared with 1955, owing to the change in the territory administered by the clinic when we moved.

During 1956, there has been a gradual hand over of a small portion of the area to the East Chest Clinic and at the end of the year we had 2,325 patients on the register in the Liverpool area. The number of new cases was 307, which shows a greater lessening than could be accounted for by the change in the size of the register alone. The comparative figures for 1955 were 2,430 on the register and 342 new cases. The number of attendances of cases in the Liverpool area was 7,282 as compared with 7,348 in 1955. Nevertheless, this figure indicates an actual improvement in follow up care, as the number of attendances for refills has come down from 578 in 1955 to 165 in 1956. When one realises that one patient on refills will make fifty-two attendances in the course of a

year, it will be seen that such cases occupy a disproportionate amou of the Medical Officer's time, possibly at the expense of the other patien on the register.

The number of tuberculin tests during 1956 reached a new high recor and from those tested 232 were found suitable for vaccination. Thi figure incidentally does not include the number of babies born i Walton Hospital who are vaccinated by the Paediatric Registrar.

Of the tuberculosis contacts examined, thirteen were found to hav tuberculosis in 1956 as compared with seventeen in 1955 out of a rathe larger total.

Visits by medical officers to the patients in their homes have droppe dramatically from 515 in 1955 to 188 in 1956. This is accounted for by the fact that there are no patients awaiting admission to sanatoria these days, and others who are on treatment are able to attend the clini as a rule by ambulance, so that their X-rays may be carried out at the same time.

With regard to housing, it is unfortunate that young families sharing a house with another family, for example the parents, one of whom suffers from active tuberculosis, cannot at present be considered for rehousing, although this would undoubtedly be a useful preventative measure.

Mass Radiography.

Mass Radiography

The static mass radiography unit at Hood Street, Liverpool, is administered by the Liverpool Regional Hospital Board and deals mainly with persons within the City boundary. Those referred to this unit are derived from three main sources:—

(*a*) From firms in the City and adjacent areas;

(*b*) National Service Recruits;

(*c*) Cases referred by General Practitioners.

Out of a total of 48,011 examinations made during 1956, 27,720 were referred by General Practitioners, mainly within the City. The number of National Service recruits examined was 10,936 and 9,355 persons were referred from firms chiefly in the City and adjacent areas.

The mobile units of the Regional Hospital Board continue to co-operate to the full with the Medical Officer of Health's Department by arranging visits to schools and other establishments whenever a case of tuberculosis has been discovered, with a view to the detection of contact cases. Routine examinations of secondary schools are also carried out.

As in former years, all prospective employees of the City Nursing Services are X-rayed by the static unit at Hood Street before their engagement, and members of the City Engineer and Surveyor's staff who have been exposed, by reason of their occupation, to industrial respiratory infection such as silicosis, are referred to this unit for X-ray. Candidates for employment as school teachers are automatically referred before appointment, and the same procedure applies in the case of recruits for the Liverpool City Police.

Tuberculosis Welfare.

During 1956, 570 cases have been the subject of reports to the National Assistance Board with a view to determining their eligibility for special rates applicable to cases of tuberculosis. The National Assistance Board has now instituted a review survey of persons in receipt of allowances, in the form of a stencil requesting confirmation that the individual is still receiving treatment under the supervision of the Chest Physician concerned. The number averages about 10/15 per week.

Liaison is maintained with the Ministry of Labour with a view to assisting in the rehabilitation of suitable cases.

Rehabilitation.

Summary of cases dealt with during the year 1956:—

Total cases referred by Ministry of Labour to Tuberculosis Officers ...	634
(*a*) Examined and found fit for light, part-time or full-time employment	614
(*b*) Not fit for employment	6
(*c*) Failed to attend for examination	11
(*d*) Certified as non-tuberculous	3
Letters sent by Tuberculosis Welfare Section to patients offering advice and assistance to obtain suitable employment	24
Number availing themselves of this assistance and referred to Ministry of Labour	14
Actual number of patients reported by Ministry of Labour as placed in employment	105
Total number of cases dealt with under Rehabilitation Scheme by Tuberculosis Welfare Section	658

In addition to those shown above, eight patients are undergoing rehabilitation at the Tuberculosis Colony, Great Barrow, Chester, one at Papworth Village Settlement and one at the British Legion Village. The first of these became a colonist in January 1951, and the last in December 1956. All are making very good progress.

Notification and Deaths.

During the year, 9 persons within the City died from tuberculosis, 6 respiratory and 3 non-respiratory, without notification having been effected prior to death. These figures represent 6.6 per cent of the total respiratory and 43 per cent of the total non-respiratory deaths. The result of enquiry into the reasons for such failure to notify are summarised in Table 33. The contacts of these cases were called in for examination in the usual way.

Mass Radiography at Westminster House.

Westminster House

A case of active pulmonary tuberculosis was diagnosed in June in one of the inmates of the Home. She was admitted to Newsham General Hospital where it was found that she had a strongly positive sputum.

It was decided to make a radiography survey at the Home, at it was thought there must be a number of other cases amongst the 879 old people living there. This presented many difficulties, largely related to the age of the people being dealt with.

The Regional Hospital Board readily co-operated and possible sites for the mobile unit were inspected. Only two were suitable. As Westminster House is a somewhat rambling collection of buildings, this meant that a large number of old people had to go a fair distance to reach the site nearest to them, and was partly responsible for the poor attendance.

The forthcoming visit was made known to staff and inmates about one week beforehand. This was possibly a mistake, as it was widely discussed

and many of the old people made up their minds not to be X-rayed on the grounds that "there's never been any T.B. in my family". If they had simply been asked to "come and have your picture taken" when the unit was actually there, many of these might have gone.

One day was spent on each of the two sites and during this period a total of 363 films were taken. Of this number, 47 were members of the staff and 134 were patients in the mental wards in the West Block. Thus, of the 879 voluntary inmates of the Home at the time of the survey, only 182 passed through the M.M.R. unit. Even when allowance is made for the frail ambulant cases, about 250, who could not be brought before the camera, only about 28 per cent of the possibles availed themselves of the opportunity.

Detailed figures were:—

Staff	47
West Block Mental Wards (Male only) ...	134
Voluntary Inmates (Male)	86
Voluntary Inmates (Females)	96

81 of these were recalled for large films; 35 from West Block (male) and 46 voluntary inmates (25 male and 21 female). There were no recalls amongst the staff. The large films were taken at the static unit at Hood Street, transport being provided by the infectious ambulance service. As a result of the large films, 71 cases of suspected pathology were found, the remaining 10 films proving to be normal, 29 were mental patients (all male) and 42 voluntary inmates, 23 being male and 19 female. The large films were re-examined at the North Chest Clinic by Dr. Murray and Dr. Gray, and 29 were considered to require investigation, the others being either within normal limits or having some condition, such as an old calcified tuberculous focus or a cardiac abnormality, which called for no further action.

The examinations were carried out by Dr. Murray at Walton Hospital and the results are set out in the accompanying table.

PATHOLOGICAL FINDINGS IN M.M.R. SURVEY AT WESTMINSTER HOUSE

(cases called for examination only).

Condition	Numbers		
	Voluntary Inmates Male	Female	Mental Ward Patients (Male)
Tuberculosis requiring hospital treatment ...	3	—	—
Tuberculosis requiring treatment which could be given at Westminster House	—	—	3
Tuberculosis requiring no treatment but to be seen again in 3 or 6 months time	5	—	5
Old tuberculous focus, inactive, requiring no treatment	—	—	2
Bronchiectasis	—	1	1
Chronic bronchitis	1	2	1
Adenoma of thyroid	—	1	—
Neurofibroma of thoracic cord	1	—	—
Enlarged left ventricle	1	—	—
Diaphragmatic hernia	1	—	—

the 29th case died of senility before the date fixed for the examination.

The three cases requiring hospital treatment were admitted without delay, 2 to Walton Hospital and one to Newsham General Hospital. The three cases requiring treatment but not needing to go to hospital were put on the suggested routine in the West Block mental ward.

As a further precaution, specimens of sputum were obtained from all those cases who had any form of tuberculous lesion, even though the X-ray showed calcification. All these were sent for culture and all were negative.

The contacts of all the cases of tuberculosis, active, quiescent and healed, were ascertained, as far as was possible, and all were followed up either by visits from our own tuberculosis visitors, or by letters to the Medical Officers of Health of the areas where they lived.

Results of the survey seem to indicate that the problem of tuberculosis in an old persons home such as Westminster House may not be so urgent as was supposed. Only three cases amongst the voluntary inmates were found to require treatment and all samples of sputum tested were negative. However, it must be remembered that the survey actually embraced less than one third of the occupants of the home. It is quite possible that a considerably higher percentage might be found amongst the inmates who were not filmed.

The problem of inducing a high percentage of old people to have chest X-rays presents difficulties which are probably insuperable and makes a future survey of doubtful value. Perhaps the only solution will be to have a compulsory X-ray of all future applicants for admission to the home.

VENEREAL DISEASES—AFTER-CARE AND WELFARE.

Although the treatment of venereal disease is the responsibility of the Liverpool Regional Hospital Board and the Board of Governors of the United Liverpool Hospitals, the after-care and welfare work associated with these diseases is carried out by the local health authority.

The staff employed to undertake this work consists of a senior male welfare visitor and a female welfare visitor. In addition, the services of the female welfare visitor attached to the Royal Infirmary V.D. clinic are available.

The work entails the interviewing of patients, tracing of contacts, writing to and visiting defaulters from treatment, follow-up of patients for further investigation, who, having been referred to the clinics, have failed to attend, and generally assisting patients where social problems exist, especially so when these would appear to interfere with clinic attendance. At all times, close co-operation with the medical officers of the various treatment centres is maintained.

ACUTE GONORRHOEA

	1938	1946	1954	1955	1956
Males	1,422	3,112	816	862	932
Females	141	422	148	287	246

EARLY SYPHILIS

	1938	1946	1954	1955	1956
Males	147	655	38	62	51
Females	32	331	6	15	8

Contact Tracing.

Contact Tracing

The year produced a slight increase only in the number of contact notifications, which all concerned females, and with few exceptions were received from U.S.A.F. bases. As in previous years, a number of cases were named on more than one occasion.

In a high proportion of notifications information as to identity was poor, and this subject was discussed fully with the officers concerned from a local U.S.A.F. base. There would appear not to be an overall remedy, since so many factors are involved.

The default rate among traced contacts remains inevitably high, but in no case did default take place before treatment, where indicated, was instituted.

Patient Defaulters.

Patient Defaulters

In accordance with normal practice, all patients have been encouraged to continue attendance until assured of effective cure, but as in previous years, many defaulted, though a reasonable proportion have returned in response to letter and home visit.

A particularly difficult case during the year concerned a female patient suffering from neuro syphilis and her infected daughter, the former for a long period refusing to resume treatment. Persistent visiting effected a change of mind on the part of the mother, and both resumed attendance. A total of 1,256 home visits were made during the year.

Cases referred by Ante-natal Clinics.

Cases Referred by Ante-Natal Clinics

In all, 30 patients were referred from ante-natal clinics for further investigation, two only had previously received antispecific treatment. In consequence of reference, one latent case was found, on family investigation, to have two boys, aged eight and ten years, suffering from congenital syphilis. Treatment in all cases was instituted immediately on diagnosis being confirmed.

General After-care.

General After-Care

Considerable time and effort has been given in assisting patients with social problems including the facilitating of placing of young persons in co-operation with the Probation Service.

TABLE 1.

	Notifications	Individuals
No. of notifications received	232	—
No. of cases traced and interviewed	49	43
No. of cases traced, not yet interviewed	2	2
No. of cases who reported for investigation	49	43
No. of cases in which information was passed on to other Authority	—	—
No. of cases already in the Register of a Liverpool Clinic ...	12	8
No. of cases untraced, due mainly to insufficient information...	181	—
No. of cases who refused to attend for investigation	—	—

TABLE 2.

	Male	Female	Con-genital	Total
No. of cases written to	566	756	123	1,445
No. of letters despatched	614	1,356	176	2,146
No. of cases reporting after receipt of letter... ...	290	472	92	854
No. of letters returned—Dead Letter Office ...	36	36	1	73
No. of cases traced and transferred	7	2	—	9

TABLE 3.

	Male	Female	Congenital	Total
No. of cases visited	236	319	29	584
No. of visits made	457	737	62	1,256
No. of cases attending following visits	114	177	21	312
No. of cases promising to attend but failing to do so	36	35	6	77
No. of cases removed, or not known at address given	38	52	1	91
No. of cases not contacted, no access, away from home, etc.	41	22	—	63
No. of cases who refused to re-attend	5	19	—	24
No. of cases removed to other districts, and transferred for follow-up	—	11	1	12
No. of cases deceased	2	3	—	5

TABLE 4.

	Congenital Syphilis	Early Syphilis	Late Syphilis	Acute Gonorrhoea	Non-Venereal
Cases referred by ante-natal clinics found to be suffering from	*4	*2	15	1	8

* One case in each group previously treated.

MENTAL HEALTH SERVICE.

There are signs that in mental health matters some headway is last being made against the ignorance and apathy which have su rounded the subject in the public mind. A more enlightened attitude long overdue, for the prospects of the mentally ill person have improv greatly within recent years and there is every reason to believe that t future is bright in this field.

An exhibition held in September in which the activities of the depa ment's mental health service were shown as being complementary to tho of the hospitals attracted wide attention and the number and variety questions and subsequent enquiries from members of the public show that it was undoubtedly of educational value. The real test of publ opinion will, of course, come when the report of the Royal Commissi on the law relating to mental illness and mental deficiency is publishe with its anticipated proposals to embody the changing ideas legislation.

Services Provided

In the meantime the department has continued to develop i important functions under the existing law, viz. :—

(*a*) To visit and, if necessary, arrange hospital admission f people who appear to be of unsound mind and unable continue their life in the community.

(*b*) To visit and care for people who have been discharged fro hospital after treatment for mental illness.

(*c*) To supervise mentally defective people in their homes an apply for their admission to hospital, where necessary.

(*d*) To run occupation centres for the training of mental defective people.

(*e*) To take any measures possible to prevent the onset of ment illness.

As in previous years the department has been hampered in carryin out some of these functions by shortage of institutional accommodatio a subject on which the Health Committee has continued to press th Regional Hospital Board. Another difficulty has emerged this year—th growing inadequacy of existing occupation centre provision. Th seriousness of this is gone into in more detail on page 101.

Administration

In January, three visiting officers were added to the staff and additions were also made to occupation centre staffs to keep pace with the larger numbers of children being trained. The staff employed on 31st December was as follows:—

Medical—Senior Medical Officer (Mental Health).

Administration and clerical—Senior Administrative Assistant, Senior Authorised Officer, Administrative Assistant, 8 clerks and typists.

Visiting—12 duly authorised officers, 5 female visitors, 1 removals assistant.

Occupation Centres—3 Supervisors of centres, 1 Supervisor of male class, 11 assistant supervisors, 4 trainees, 11 domestic staff.

It is interesting to note that 3 duly authorised officers resigned during the year to take up similar posts with Lancashire County Council. Such cases have also occurred in previous years and it seems likely that the process may continue. Officers recruited, as they have been recently in Liverpool, from the nursing profession and given the thorough training the City affords, stand a good chance of appointment elsewhere; the attraction in moving is not the salary, which is fixed nationally, but apparently the availability of a car allowance.

Prevention, Care and After-Care.

Treatment, rehabilitation and after-care form a continuous process in the return of the mentally ill patient to full health. The revolutionised system in hospitals of active treatment and early discharge carries with it great responsibilities for prevention of relapse; planned treatment must be followed by planned after-care and it is with this in mind that such a substantial after-care service has been developed in Liverpool.

After-care

Every person discharged from a mental hospital has the opportunity of receiving visits and advice and the majority do take advantage of the service. In 1956, visits and interviews totalled 5,612 as against 4,103 last year, an increase not unexpected in view of the increased number of officers engaged on this work. 742 new patients were referred during the year and at 31st December, 1,134 were under active supervision.

In the mental health service of the future further co-operation will need to be developed between the various authorities involved. After-care is a question of team-work and all measures to co-ordinate the work and avoid diffusion and duplication of effort should be taken. Two improvements, the need of which can be clearly seen now, are a better method of bringing the patient's doctor into the picture and a better record of hospital treatment and prognosis to be passed on when the patient is discharged.

Prevention

The possibility of taking action to prevent mental ill-health is always being studied but the limitations on the local health authority's scope for action will be evident. Normally the department only receives knowledge of a case at a stage when treatment is deemed necessary. A comprehensive preventive service would involve close co-ordination with industry, extensive influence in housing and employment policy and an interest in the mental health of children comparable to the interest in their physical health taken by the maternity and child welfare service. Many parents, though willing enough to accept the latter, would resent any suggestion that their family life needed guidance for the benefit of the mental health of their children. Public health must wait upon public opinion in this matter, but a modest approach which has proved useful this year has been a monthly meeting held at a maternity and child welfare clinic at which Mental Health Service officers and health visitors are able to discuss selected cases with a child psychiatrist. Such provision may well be extended in the future.

Employment

Help given to patients in finding suitable employment has again been a most useful factor in after-care. Liverpool is almost alone among local health authorities, it is believed, in using a full-time Employment Officer for this purpose. It is considered that his contacts with individual employers and his particular knowledge of the history and abilities of the patients have well justified this appointment, even though it is complementary to the service provided by the Ministry of Labour and Youth Employment Bureau. The officer works, of course, in close co-operation with these two major agencies.

At 31st December there were 324 patients on the "live" register (184 after-care, 140 defectives) as compared with 267 at the end of last year. The work is now reaching such proportions that the officer is finding

difficulty in dealing adequately with it and the advisability or otherwise of extending this service will need consideration in the near future.

Posts Found

Forty-four posts were found during the year, as follows:—

Industrial workers	14	Shopworkers, etc.	5
Labourers, porters, etc. ...	15	Domestic posts	6
Clerks	3	Lorry driver	1

In addition a number have found employment by their own initiative, following visits and advice by the service. The following two examples of successful placing illustrate the importance of the service:—

Mr. A, a married man with three children, twice in hospital with severe mental illness, was discharged as "relieved". His anxiety for his future caused his doctor to fear that a relapse was imminent and he was referred to this department. After visits and encouragement a post was at length found for him as a machine part examiner with a local firm of engineers and his progress has since been uninterrupted.

Mr. B, single, aged 53, had been a patient in a mental deficiency hospital for 32 years. He had no near relatives and discharge was only possible as a result of the strong efforts made on his behalf by the department. He was placed in a local Church Hostel, and, though without any industrial experience, was found a job with a sympathetic employer as tailor's underpresser. Under friendly supervision he has made excellent progress and is now earning £9 weekly.

In the nature of things, setbacks are to be expected. In the case of Miss C for example, efforts over a period of six years have failed to bring about rehabilitation. This patient has had six periods of hospital treatment during this time. She has been offered training courses and has had several posts found but her condition remains unstable and she has been unable to keep employment. The fact that the service retains its interest in her welfare is, however, a support to her and her parents.

Duties under Lunacy and Mental Treatment Acts.

Operation of Present Law

A number of cases were reported in the press during the year, in which the methods of admission to and detention in mental hospitals were called into question. Though certain sections of the press often report such cases tendenciously it is of course right that a jealous watch should be kept on the operation of laws involving interference with the liberty of the subject.

Much of the evidence given before the Royal Commission was concerned with this matter and the consensus of official opinion expressed in that evidence appeared to favour radical changes in the law.

It may be timely, therefore, to illustrate the operation of the present law by reference to the daily (and nightly) work of the officers carrying it out in Liverpool. A good deal of the work of these twelve duly authorised officers, as they are called, consists of after-care and mental deficiency visiting but, to carry out their duties under the Lunacy Act, each week two officers are stationed at the office in readiness for calls to patients during office hours, and between 5 p.m. and 9 a.m. another awaits similar calls at home.

The person referring a case (usually, but by no means always, a doctor) normally does so because he considers that the patient is not only mentally ill but is also not suitable to remain in the community. Prompt action may thus be necessary for the welfare or safety of the patient or others, and the duly authorised officer visits immediately. Swift action is aided by the allocation of a car to the service for this purpose.

Patients Referred

1,345 patients were referred in 1956, the largest yearly number since the service started. The references came from the following sources:—

General Practitioners	668
Psychiatrists	88
Hospitals	279
Police	134
Relatives	63
Other Corporation departments	19
Shipping firms	36
From pre- or after-care list	14
H.M. Prisons	10
Other sources	34

References from any responsible source are investigated and the duly authorised officer assesses each case from two points of view:—

(*a*) is the patient of unsound mind? In this the officer is usually guided by a note from the patient's doctor but not necessarily so;

(*b*) does the patient need immediate admission to hospital for his own welfare or safety or that of the public? Here the officer judges by commonsense and the experience his special training has given him.

If these *two* conditions are fulfilled he has the power, as an emergency measure, to take the patient to hospital under Section 20, Lunacy Act, and the patient can then be detained for not more than three days. He must then notify a Justice of the Peace and after the three days (or a further fourteen days if the medical officer of the hospital orders) the patient must be discharged or else "certified", i.e., the Justice, guided by an independent medical report, may make a summary reception order for further detention. **Action Taken**

If the two conditions mentioned above are not present the duly authorised officer must ask himself a number of questions, e.g., whether the patient is willing to accept treatment—if so he may be suitable for admission as a voluntary patient; whether the trouble is caused merely by a family dispute and not mental illness at all—if so advice may be offered but no action will be taken; whether attendance at a clinic would be preferable—if so it can be arranged; whether other institutional accommodation would be more suitable—particularly does the officer consider this when old people are referred, every effort being made to avoid their admission to mental hospitals when they are "difficult" because of senile confusion of mind.

The table below shows the action taken in regard to all the cases referred in the year:—

Admitted to hospital (Section 20 Lunacy Act)	779
Admitted to hospital as voluntary patients	11
Admitted to hospital as temporary patients	6
Admitted to hospital (Magistrates Courts Act)	10
Admitted to hospital other than mental hospital	7
Referred to J.P. (Section 14 Lunacy Act)	64
Referred to Psychiatric clinic	52
Referred to Welfare Services Section	91
Referred for pre-or after-care	61
Referred back to patient's doctor	43
No further action needed	231
	1,345

Of the 779 patients admitted under Section 20, 370 were subsequently the subject of a magistrates order under Section 16 as described above.

The proportion of old people admitted under the Lunacy Act in the total number referred is very much smaller than that in all age groups. Of 133 people over the age of 70 who were referred, only 40 were admitted under Section 20; of these a Section 16 order was made in 13 cases.

Lunacy Act Procedure

Two points must be emphasized in thinking about Lunacy Act procedure;—

(*a*) the annual figures issued by the Board of Control show that in England and Wales, many more patients are admitted to mental hospitals under the voluntary procedure of the Mental Treatment Act, i.e., in the majority of cases the Lunacy Act is not used at all;

(*b*) no person is admitted under the Lunacy Act if a relative is willing to look after him, unless the patient's or the public's safety is endangered.

Bearing these points in mind, the two chief criticisms of the Act can be examined, viz.: that a layman can gain the patient's initial admission to hospital and that further detention by legal process is outdated in the light of increased medical knowledge.

Everybody will agree that, as far as possible, admission for treatment for mental illness should not be hedged with restrictions and that the treatment itself should be the paramount factor. It would seem to follow, therefore, that only medical opinion should count regarding admissions and discharges. To this an answer may be given that in Liverpool alone last year there were 779 patients who needed admission not only because they were mentally ill, but because their welfare or the public safety was endangered by leaving them in the community. At the time of reference an emergency existed in which medical diagnosis was not the sole concern and it is suggested that this practical issue is one which the experienced duly authorised officer is well qualified to handle. Section 20 is, in fact, a reasonable method of dealing with the emergency, pending full medical consideration of the case. (Note: If a doctor refers the case he is always asked to state in writing his reasons for doing so, although he is not compelled to do this.)

The following is one of the many cases encountered during the year which could be cited to support the view expressed above:—

A man, aged 37, was referred by his doctor for action under the Lunacy Act. The duly authorised officer interviewed the man and his wife and found that relations between them were strained as the result of the husband's improvidence and drunkenness. The wife alleged he

was violent to her and their child but this he denied. It was evident that, though the circumstances were extremely distressing and police intervention possibly appropriate, the man was not of unsound mind and therefore action under the Lunacy Act was not warranted.

Certification

Perhaps the more serious objection to the present procedure is the method of continued "detention" by order of another layman—the Justice of the Peace. This order cannot be made unless the patient is certified by an independent doctor to be of unsound mind, so that there is no question of a patient being detained by lay opinion alone. The justice is, it is emphasized again, the non-specialist who has regard to the social as well as medical circumstances and in any new legislation, which will no doubt be able to improve on the present system, this social aspect of "detention" should not be lost sight of—the individual has an inherent right to retain his liberty unless its retention threatens his own safety or that of the community and to take away that liberty other considerations besides medical are involved.

It is almost certain that the report of the Royal Commission will be issued during the coming year and the Medical Officer trusts that members of the City Council and others who may read this report will find the above comments useful when they consider the recommendations made.

Duties under the Mental Deficiency Acts.

General

Judgments in the Courts and a Ministry of Health circular to hospital authorities have evidenced a trend of opinion away from the idea of lengthy hospital care of defectives and towards more community care. It will be useful to discuss this trend which may well be shown in the Royal Commission's recommendations and a brief account of some practical problems involved is given below.

The year has seen little lessening of the difficulties occasioned by the shortage of institutional accommodation though the promise of relief to come was implicit in statements of future plans made by the Regional Hospital Board. It was a hopeful sign, perhaps, that the waiting list, for the first time since 1949, was slightly less at the end of the year than at the beginning, but it still stands at 115 and still includes many

of the helpless, wet and dirty cases who cause such distress to their families. (This figure does not include 84 patients who are in Regional Board accommodation other than certified hospitals.)

The shortage greatly hinders the department in its work of supervision and is, at times, the cause of a quite unwarranted distrust of the visiting staff on the part of some parents who fail to appreciate that provision of hospital care is not within the province of the local health authority.

Ascertainment

The work of ascertainment, supervision and training has continued along the same lines as in previous years. 184 new cases were ascertained as mentally defective and 15 others, after investigation, were not considered subject to be dealt with under the Mental Deficiency Acts.

Those ascertained comprised the following:—

Ineducable (Education Act Section 57 (3))	66
Needing supervision after leaving school (Education Act Section 57 (5))	110
Notified from other sources (doctors, parents, childrens officers, etc.) ...	8

156 were placed under statutory supervision and 28 recommended for institutional care. Of these latter, 5 were actually admitted to hospital.

It was found possible to refer one boy back to the Education Department as a result of his improvement at an occupation centre and he was accepted for education in a special school. Such references back are very rare in Liverpool and it is evident that children are only referred as ineducable after the most exhaustive consideration has been given to keeping them within the school system.

Supervision

1,824 defectives were under supervision at 31st December, 1956, of whom 1,404 were over the age of 16. This figure illustrates a fact that is often lost sight of—that in many cases supervision is necessary in adult life as well as childhood—visits normally cease if the defective has been able to achieve an independent place in the community, e.g., by marriage or by maintaining employment, but the number of such cases is not very large (50 during 1956).

Guardianship

Of the 70 cases under guardianship at 31st December, 1956, 10 were receiving allowances, totalling £265 over the year. All defectives over the age of 16 who cannot work are entitled to a National Assistance allowance.

Training

It is the department's statutory duty to provide facilities for the training and occupation of mentally defective people, both children and adults and, with regret, it must be reported that the facilities now available in Liverpool fall well short of what is required. Though a good deal of progress has been made since 1948 when the department first undertook the work—315 are now attending three centres as compared with 60 attending one centre in 1948—these three centres are now full and there is a waiting list of 107. Some children excluded from attendance at school as ineducable have now been on the list for as long as two years.

Proposals for new Occupation Centres

It will be realised that, with no upper age limit for attendance and new notifications coming from the Education Department each month, the numbers suitable for training are bound to grow. A proposal to build a new centre in the Fazakerley area has been in existence for a number of years but has been dependent on the general development of the area, which has not yet taken place. The urgent need to get this centre started was reported to the Committee and initial stages in the practical planning of this project were in progress at the end of the year. Every effort must be made to open this centre or provide an alternative scheme in the coming year, for the situation grows progressively worse as time goes on.

Almost as urgent is the need for a separate centre for male adults, who are at present housed at the Princes Road centre among children of all ages. It is proposed to purchase premises, and a large number of buildings have been inspected. Unfortunately of the few which have been found suitable all have had structural defects. The search is continuing.

Staffing

The deficiencies in training provision were referred to in the report of the Board of Control Inspector who visited the centres early in the year. She criticised also the fact that some of the staff were comparatively inexperienced and as a result of her remarks it was decided to advertise for more experienced persons as assistant supervisors. No response was received from experienced or qualified candidates to two advertisements and it seems evident that our policy of giving a year's instruction to trainees before promoting them to assistants is the best one under present circumstances.

The appointment of 8 new trainees has recently been approved and a new programme of training will commence in January.

Centre Activities

The year's work followed the usual pattern, the only innovation being a number of outside visits, including one by each centre to Chester Zoo. Laundry work and cookery are now well established as part of the training of older girls and the holiday party at Rhyl and annual sports at Westminster House were greatly enjoyed.

Much excellent work is done by the staff of the three centres and the attractiveness of the display of articles made by the children at the exhibition referred to earlier was a tribute to their efforts.

Institutional Care

The Health Committee's frequently expressed concern over the shortage of mental deficiency hospital accommodation reached a climax in March, when, after meetings with representatives of the Regional Hospital Board, a deputation from the Committee met the Minister of Health.

The history of the Committee's approaches to the Board over the past seven years, together with figures showing the growth of the waiting list, were given to the Minister in a memorandum. The Board also supplied him with a statement detailing their difficulties and plans for expansion of accommodation.

The Minister received the deputation sympathetically and indicated he was equally concerned with this question and that every effort was being made to overcome the difficulties.

Since this visit there has been no increase in the number of vacancies given in mental deficiency hospitals. Thirteen children have been admitted to accommodation provided by the Board in other than mental deficiency hospitals, viz. : Olive Mount, Crow Wood, and Ormskirk, but the nucleus of urgent cases still remains and at the end of the year the Committee was awaiting a report from the Board about further developments.

Figures showing the location of defectives in institutional care, admissions during the year, and the waiting list broken down into various groups are given in Tables 36 to 38 at the end of this report.

Licence

The circular on the subject of mental defectives on licence which was issued to hospital authorities by the Ministry of Health was an interesting development. It should be explained that under the present law most defectives are admitted to mental deficiency hospitals under a judicial order which must be reviewed at stipulated periods. An almost essential corollary of this order is the system whereby a patient is allowed out of the hospital on licence to a parent, employer or other person, the order remaining in operation so that if the patient fails in community life he can be re-admitted to the hospital without delay. Upon discharge of the order all power of supervision over the defective ceases. Most of the patients on licence, though not all, are supervised by officers of local health authorities.

Hitherto many patients have remained on licence over long periods with advantage—in some cases the supervision and encouragement have been the chief factors in the defective's ability to manage, in others the knowledge that re-admission to hospital could be obtained, has been a support to parents who feared for the defective's future in the event of their death, and, most important, perhaps, other high grade, unstable defectives have been deterred by the licence conditions from bad behaviour.

Early Discharge

The circular, whilst disclaiming any change in policy, suggests that discharge after twelve months, at most, on licence, should be normal and provides that if discharge is not recommended after eighteen months, a special report must be forwarded giving the reasons. Even though it does not close the door to longer licence the wording has been criticised by many who consider that long periods on licence can be both necessary and beneficial. The circular appears to have resulted in acceleration of discharges of Liverpool patients, 29 being discharged as against 7 in the previous year. (It may be mentioned that total discharges from order for all reasons also showed a jump from 28 to 65—possibly a reflection of the Court judgments referred to earlier.)

The adverse effects of early discharge from licence were strikingly shown in a few cases of which the following may be quoted :—

A. A woman, aged 21, admitted to a mental deficiency hospital in 1952 had several holiday periods on licence and in May 1956 was granted longer licence after this service had found employment for her in a

local hospital. The Order was discharged two months later. Within very short time of discharge the defective gave up her employment, le a good home and contracted a liaison with a male defective on licen from the mental deficiency hospital at which she had been a patien Her general conduct deteriorated so much that her parents decided th could accept no further responsibility for her. Her present whereabou are unknown.

B. A youth, aged 18, was discharged in October 1956 after twel months on licence. He has since given up his work for no appare reason and has become anti-social. His relatives are alarmed at t deterioration in his behaviour and the visiting officer considers he likely to get into trouble with the police.

It would seem that continued supervision in these cases would ha been preferable; on the other hand the liberty of the subject is aga involved and it may be that risks should be taken. It seems certain, any rate, that when a defective comes out of hospital there is continuing need for supervision in the community for differing period and it is suggested that supervision should not be discontinued witho consultation with the local health authority, which is in the best positio to judge whether the defective's environment is sufficiently good to off him a reasonable chance of social independence. It is hoped that an recommendations of the Royal Commission on this subject, whether not they include the discontinuance of the judicial order type admission, will recognise the benefit of the local health authority supervision both for the defective and for the community.

Short-term Care

After several years experience of the scheme whereby defectives ma be found temporary residential accommodation during periods c domestic illness or upset, it seems possible to forecast the need for th type of care fairly accurately. The demand has been met in the pa year in all really urgent cases and in the great majority of other cas where the provision can be regarded as a relief for parents (mostl during holiday periods) rather than an urgent need.

The Regional Hospital Board gave 56 vacancies, and 51 defective were found places in voluntary Homes (the majority in Orchard Dene)

In the latter cases maintenance costs totalled £780 to which parents contributed £85.

It has been suggested that the Health Committee should itself open short-term care accommodation and, whilst this may be desirable in the future, it would seem that the present facilities are reasonably adequate at the moment. As indicated, a great deal of the need is seasonal and on this ground also, it might be difficult to justify the acquisition of property by the Committee at present.

AMBULANCE SERVICE.

The number of patients carried by the Ambulance Service during 1956 has again increased, but for the first time since 1948, by a very small margin. The monthly figures when compared with the previous year fluctuated between increase and decrease. Five months of the year actually revealed decreases of 3·3 per cent whilst the other seven months showed increases of 4·5 per cent. The total number of patients moved during 1956 was 213,718, an increase of 1·2 per cent, representing an additional 2,535 patients. The total increase when compared with 1948 is 128·64 per cent.

The ambulance vehicles travelled 985,462 miles using 73,222 gallons of petrol and 90 gallons of diesel oil. Although the petrol vehicles travelled 31,372 miles further than the previous year, the petrol consumption was reduced by 6,015 gallons. To achieve this desirable result a long-term policy has been carried out. Since 1949, the Service have operated old vehicles which were known to be uneconomical, but it was considered wise to replace the vehicles gradually over the years. The ultimate aim being to reach the stage when only a small number of vehicles would require replacing each year. The majority of the old and high-powered vehicles have now been replaced with vehicles having smaller powered engines. In addition, a rigid system of servicing and maintenance is carried out. At regular intervals the vehicles are carefully examined by a skilled mechanic and from the report, preventative maintenance undertaken. A monthly performance record is maintained for every vehicle and is examined by the Chief Officer who takes all necessary steps to rectify any poor results.

The average mileage per patient was 4·6, an increase of ·1 on the previous year. In 1948, the average miles per patient was 8·89 and the decrease is accounted for by the volume of work, the transporting of patients in larger numbers at one time and radio telephony.

Whilst it cannot yet be said that the increased demand in the use of the Ambulance Service has reached its peak, there is an indication that maximum demand is being achieved.

The necessity for more co-operation between authorities is essential and much can be done by Ambulance Officers in working together without a rigid application of boundaries.

Communications

The Headquarters switchboard with six exchange lines has proved adequate. Four large Hospitals, the Police Control Room and Emergency Bed Bureau are connected by direct lines. One telephone switchboard operator and two female telephone attendants are employed to cover the message room from 7 a.m. to 11 p.m.

Radio Telephony continues to play an important part from an efficiency and economical view point. Thirty-six ambulances and two sitting case cars are equipped with mobile sets and has enabled dead mileage to be cut to a minimum.

Removals to Places Outside the City

The large number of specialist hospitals in this City providing treatment to patients from distant places, caused the Ambulance Service to make many long distance journeys when returning patients to their homes. The ambulances from contiguous authorities bring patients into Liverpool hospitals daily, and arrangements have been made for their own patients to use the returning vehicles. The return of patients to more distant places is not so easy and although every effort was made to use returning vehicles, only limited success was achieved. In the latter part of the year a meeting of representatives of North Wales authorities and authorities covering hospital centres was held. It was eventually decided that the drivers of North Wales ambulances bringing patients to Liverpool should accept instructions from Liverpool Ambulance Control and the vehicles be used for patients returning to their homes, regardless as to whether the address was within the area of the authority operating the ambulances. The scheme is working very successfully and 80 per cent of the patients returning to North Wales are conveyed in returning vehicles.

If a through service is available, arrangements are made for sitting case patients to travel by train. The co-operation of the staff of British Railways is very much appreciated.

Transport of patients arriving from overseas and requiring transport to distant places have decreased. When required, train transport is used for this purpose.

Major Civilian Disasters

The equipment, consisting of first aid materials, stretchers and blankets, has continued to be held in reserve.

Infectious Patients

The transport of infectious patients continues to be dealt with by a separate staff and vehicles. The demand upon this section has decreased considerably and the main work is concerned with transport for tubercular patients. It is now possible to reduce the staff engaged on this work and the personnel will be utilised for general removals.

Resources Available

The vehicle fleet now totals 76 vehicles, consisting of 50 stretcher ambulances, 16 sitting case ambulances, 10 sitting case cars. The staff of 138 drivers/attendants perform duty on a rota system covering one main station, two ambulance stations, and four accident stations, and providing a minimum of eight fully manned ambulances throughout the night and the balance between 7 a.m. to 11 p.m.

Whilst practically all the driver/attendants are qualified in first aid it was considered desirable to encourage them to a better standard. A team was entered for the Ambulance Competition organised by the National Association of Ambulance Officers and in the Regional Competition they took second place, being only 2 points behind the winners.

Difficulty has been experienced in providing under-cover accommodation for the fleet of vehicles. A new depot in the north area of the City is under construction and will be open to accommodate ten vehicles early in the new year. Further planning will provide for small accident stations in the south and east.

During the year three new stretcher ambulances and two sitting case ambulances were purchased and one stretcher ambulance and one sitting case car disposed of.

One of the new stretcher ambulances, which came into operation in November, is fitted with a B.M.C. 3·4 diesel engine. It is too early to judge the performance and suitability of this type of vehicle, but there is every indication that economy will be achieved.

Provision has been made for premature babies to be carried in a heated cot. The cot consists of a strong wood box measuring 30 in. long, 18 in. wide and 15 in. deep and all inside corners are fitted with round moulded beading to facilitate cleaning. A strong canvas sling is suspended in the box from metal rods running along each side. Pockets in the sides and foot of the sling hold five hot water bottles (two on each side and one at the foot). A plastic mattress is fitted in the bottom of the sling. These cots have proved extremely valuable when dealing with special cases.

All accident ambulances are fitted with Oxygen Therapy Flowmeter Outfits and polythene masks used for each individual patient.

Liaison with Hospitals

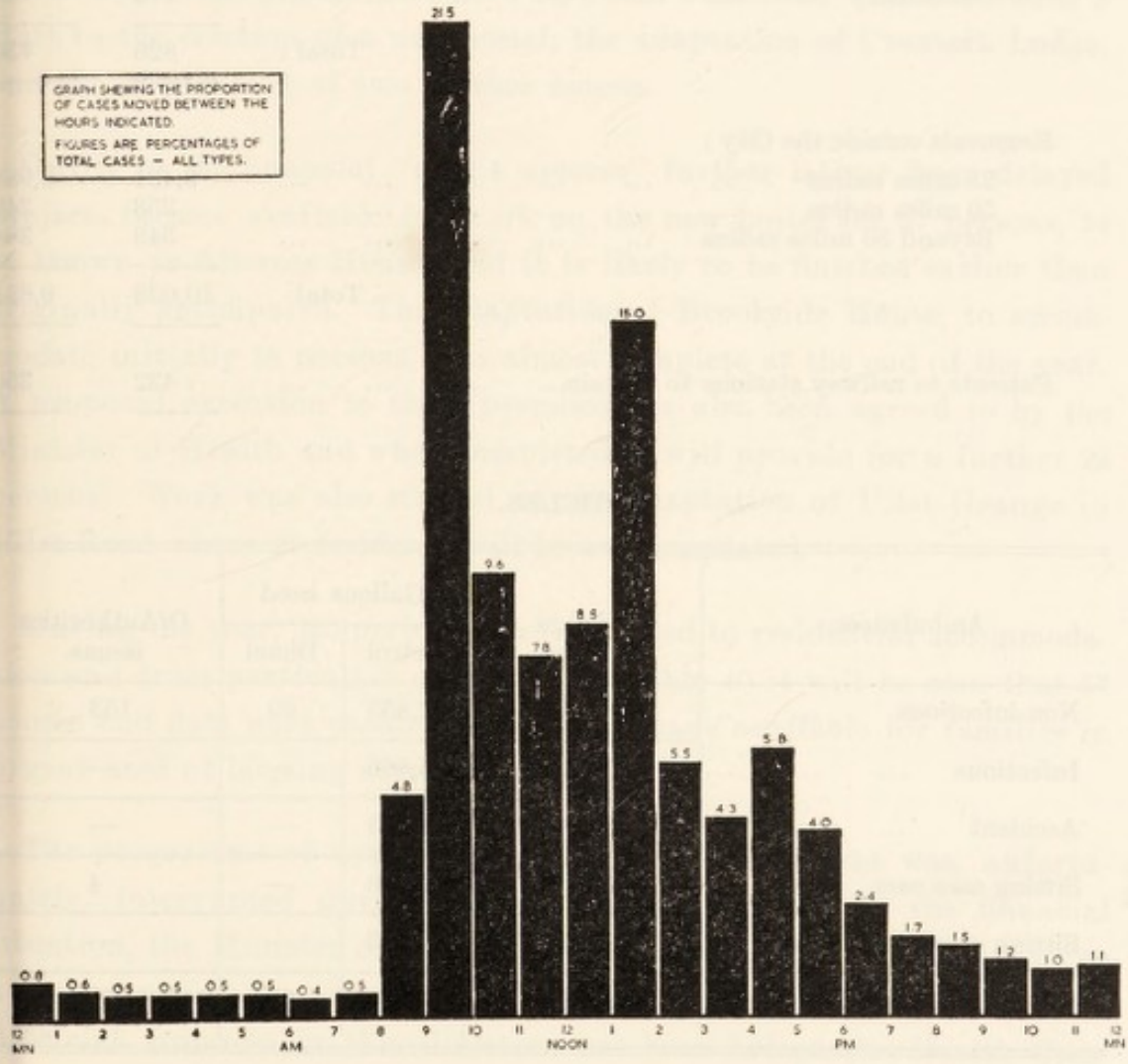
It is very essential to maintain a close liaison with hospitals. Very few of the hospitals have appointed a Transport Officer as recommended in Ministry of Health Circular 5/56, and care is necessary in accepting

requests from unauthorised individuals. Difficulty is still experienced in calls from the Emergency Bed Bureau indicating urgency when the degree of urgency is found to be negligible. The beds available for maternity cases would appear to be inadequate. On many occasions the Ambulance Service has been required to convey patients as far as twenty miles to a Maternity Hospital because the local ones have been full. Not only is this uneconomical, but increases the risk of a birth in the ambulance.

Out-Patients

The fleet of sixteen sitting case ambulances have been able to cope with the large numbers of persons receiving out-patient treatment. The system of collecting up to twelve patients from one district at the same time has made it possible for patients to arrive for treatment at reasonable times. The return trip to their homes is not so easy and sometimes individuals are required to wait longer than is desirable.

The hourly demand on the ambulance service work is shown in the following graph.



STATISTICAL REPORT

	YEAR 1956	YEAR 1955
Non-infectious cases from :		
Home to Hospital	92.347	88,965
Hospital to Home	75,692	75,186
Maternity Cases	7,405	7,165
Infectious cases from :		
Home to Hospital	5,049	7,616
Mental cases from :		
Home to Hospital	390	535
Accident cases from :		
Home, Streets, etc. to Hospital	9,603	9,393
Inter-Hospital transfers	13,194	12,702
Removals from places outside the City	3,207	2,969
Removals to places outside the City	6,831	6,652
Total :	213,718	211,183
Cases requiring the service of Midwives :		
Hospital	651	744
Domiciliary	175	186
Total :	826	930
Removals outside the City :		
25 miles radius	9,431	8,988
50 miles radius	258	249
Beyond 50 miles radius	349	384
Total	10,038	9,621
Patients to railway stations to entrain...	432	350

VEHICLES.

Ambulances.	Mileage covered.	Gallons used		O/Authorities issues.
		Petrol	Diesel	
Non-infectious	498,621	42,855	90	153
Infectious	60,828	5,566	—	—
Accident	50,260	4,283	—	—
Sitting case cars	171,495	7,558	—	4
Sitting case ambulances ...	204,258	12,803	—	—
TOTALS	985,462	73,065	90	157

WELFARE SERVICES.

Residential Accommodation.

The problem of providing adequate residential accommodation still continued during 1956 to be of the utmost importance.

Residential Accommodation

On the 31st December, 1955, the total accommodation available for use (details being shown in Table 39 of the Appendix) was 1,258. At the end of the following twelve months the figure had risen to 1,289 due to the opening, in December, 1956, of Croxteth Lodge in Ullet Road which provides for the accommodation of 31 residents. In the meantime, the number of persons on the approved waiting list for admission to residential accommodation had fallen by one only from 177 to 176.

In the report for the year 1955 mention was made of the steps taken to meet the problem of accommodating the increasing number of persons in the upper age-groups who need care and attention, which included a start in the erection of a new hostel, the adaptation of Croxteth Lodge, and the acquisition of two further houses.

Owing to the financial "credit squeeze" further labour from delayed projects became available for work on the new hostel for 57 persons, to be known as Altcross House, and it is likely to be finished earlier than originally anticipated. The adaptation of Brookside House, to accommodate initially 18 persons, was almost complete at the end of the year. A proposed extension to these premises has also been agreed to by the Minister of Health and when completed it will provide for a further 22 persons. Work was also started on the adaptation of Ullet Grange in Ullet Road where 27 residents will be accommodated.

During the year, 360 persons were admitted to residential accommodation and from particulars contained in Table 40 it will be seen that 57 houses and flats were vacated which were made available for families in urgent need of housing accommodation.

Westminster House

The programme of upgrading this large establishment was, unfortunately, interrupted during the year because, owing to the financial situation, the Minister of Health would not sponsor the application for a loan sanction in respect of the capital expenditure to be incurred. Although progress in this direction has been halted the Health Com-

mittee has decided to create further separate units administered by staff who would be able to take a more personal interest in the residents under their care. The Resident Supervisory Manageress, who is responsible for the co-ordination of the day to day administration of the units so far set up and to be created, the classification of residents and the promotion of their welfare, took up her duties in May.

Hostels

In the early part of the year the Lord Mayor was offered the gift of a billiard table which he kindly allocated to Holt House, and this amenity has since been keenly appreciated by the male residents.

An innovation in regard to women's clothing was introduced whereby the residents, accompanied by the matron, call at large local stores and within certain financial limits select hats, dresses, coats, etc., from goods on sale to the public. This arrangement has proved very satisfactory.

Once again the Merseyside Hospitals Council very generously granted a large sum of money, namely £800, for the provision of amenities at hostels, and this will enable a piano and television to be installed at Croxteth Lodge and when opened, Brookside House, Altcross House and Ullet Grange.

In all respects the standard of accommodation was maintained in the various residential establishments.

Apart from the residents accommodated in the Council's establishments, 143 Liverpool residents are maintained in homes administered by voluntary organisations and other local authorities. In each case an appropriate financial contribution is made by the City Council to enable the resident to pay the agreed charge for maintenance. Particulars of the residents so maintained are contained in Table 41.

Temporary Accommodation.

Lower Breck Road

The Liaison Sub-Committee has continued to deal energetically with the question of temporary accommodation and as a measure of the success of these efforts it should be noted that the problem is still being kept within reasonable limits.

The minimum number of persons accommodated on any one occasion was 40 and the maximum 99, with an approximate daily average throughout the year of 70.

It is interesting to note that the greatest number of persons ever housed on one occasion in the temporary accommodation was 219, in May, 1952.

Particulars showing the numbers of persons admitted to and discharged from the temporary accommodation during 1956 are contained in Table 42.

Hungarian Refugees

Disturbed political conditions in Hungary led to a large number of persons from that country leaving their homes and travelling to Western Europe and overseas. The department was called upon to look after many of these refugees, passing through Liverpool en route for Canada, between the time of their arrival and embarkation on ships. The refugees were met by members of the staff of the Welfare Services Section and the Children's Department, usually in the early hours of the morning, and transported to Westminster House, Fazakerley Cottage Homes, and other places where they were fed and rested pending their departure. Volunteer interpreters proved of great help. By the end of 1956 over 1,000 refugees had been dealt with in this way and it was anticipated that the traffic would continue during 1957.

Domiciliary Welfare Services.

Table 43 sets out details of some of the activities of the field workers during the year. Primarily the welfare visitors are concerned with persons needing care and attention who seek residential accommodation, and the development of services for permanently handicapped persons. During the year, 10,097 visits were made by these officers, nearly 1,000 more than in the previous year, an indication of the increasing demand for their services.

Although there has been a good deal of publicity in regard to the help which the department can give or direct to elderly persons there are still instances of old people, mostly living alone, where the home conditions are most unsatisfactory. In some cases the old person has had to be removed to residential accommodation or dealt with under compulsory powers as referred to in a later section of the report. It is hoped that still greater efforts of all the organisations concerned will prevent a deterioration in the condition of many old folk to the stage where it is almost too late to be of help to them.

From time to time aged persons are found to be living in such dirty (and sometimes verminous) conditions that the Domestic Help Bureau cannot assist. These people present a problem to the welfare visitors who have to try and find a solution.

Where the old people are co-operative, it is occasionally possible to secure the services of a private domestic worker willing to tackle the job, who gives the premises an initial scouring—the National Assistance Board co-operate by granting a sum of money for this purpose. In the case of a verminous room, the help of the Disinfestation Department is called upon in the first instance.

It is not, however, always possible to make these arrangements and this particular type of case continued to be a problem.

The following are a few of the various problems dealt with during the year by the welfare visitors:—

1. An old lady, reasonably active apart from arthritis, had lived alone in a pre-fab house, but gave it up following an emotional disturbance caused by the disappearance of her son. She has been unable to find suitable private accommodation because of her inability to mix well and an unfortunate manner. The unsettled life which this lady subsequently led caused an illness requiring hospital treatment and after some convalescence she ultimately agreed to enter residential accommodation while still hoping for another tenancy from the Housing Department to whose register she was restored. Settlement in the hostel has not proved easy and the problem will probably arise again. The old lady has furniture which is being stored by the Department and it seems as if she would be capable of looking after herself if the accommodation were not shared with anybody else.

2. An old lady, aged 73 years, who had been an unauthorised subtenant for about eight years, was referred to the department when the tenant died and the owner wished to sell the property. The old lady stated that she had been promised an old age pensioner's flat and declined to move until given a tenancy. Her doctor stated that she was in urgent need of care and attention and should not be left alone. She never went out and

but for the kindness of her next door neighbour who drew her pension and did her shopping, etc., it would have been necessary to make use of powers for compulsory removal.

Every effort was made to persuade the old lady to enter Westminster House, but she refused unless she could take her cat along, and becoming very emotional threatened suicide at one time unless left alone with the animal. In view of his patient's attitude the doctor revisited her and diagnosed senile dementia, but the old lady still refused to leave without the cat. Further unsuccessful efforts to persuade the old lady to leave were made and eventually the owner's agent, while expressing sympathy, stated his intention of applying for a Court Order for her eviction. At last the old lady agreed to enter Westminster House on the understanding that the welfare visitor saw to the disposal of the cat. She settled down fairly well in the establishment, but later it became necessary to transfer her to hospital. In the meantime, the cat had been removed by the Royal Society for the Prevention of Cruelty to Animals.

3. A badly handicapped woman, aged 42 years, lost her leg as the result of a road accident when she was a little girl. She would like to have a self-supporting job. She is good at figures and could obtain a position as a cashier and earn good wages; but she is not free to take a job as she looks after her mother who has arthritis. The Home Help Service has been offered to the old lady who, however, prefers her daughter's help. She has now grown so tyrannical that she cannot bear her daughter's absence from her side for more than half an hour or so.

The daughter considers that her duty forbids her to take a job in the circumstances.

The sole income of this handicapped woman is derived from the National Assistance Board.

4. An old lady previously ran a successful business and acquired a considerable amount of money. She has deteriorated very much mentally and physically over the years following her retirement and will not see a doctor.

She lives alone in a large and once well-furnished house and is so deluded and difficult that neighbours have refused to help or are not allowed in.

This old lady is convinced that she has no money and there is constant difficulty over the payment of bills and over her own maintenance.

Home Help has been offered and refused and the old lady is not amenable to any constructive suggestions such as residential accommodation.

A relative now has authority to sign cheques, but as she lives at some distance and takes no real interest, this does not help the situation greatly.

5. A visitor was asked to call to see an old lady who had been in hospital following an attack of pneumonia. She suffered from chronic chest illnesses and was very thin indeed; to add to her troubles she was slightly incontinent during the day. Her step-brother, who was the only other occupant of the house, was unemployed and unemployable. His only service to the household was doing the messages.

All attempts to see the old lady's son failed. It was arranged for a Home Help to go, who stayed less than an hour because of the conditions. The first attempt had failed.

The visitor suggested getting the bed downstairs because the old lady was sleeping in an easy chair, but the old lady thought it inadvisable because of vermin in it. It was impossible to have the place disinfested with the old lady there; she refused to go to hospital because "they only go there to die", but was willing to go to Westminster House. As her incontinence seemed a little better, her name was placed on the waiting list, but unfortunately she died before any arrangements could be made for her admission.

Removal to Suitable Premises of Persons in Need of Care and Attention.

During the year it was necessary to remove, compulsorily, eighteen persons under Section 47 of the National Assistance Act, 1948. They were either suffering from grave chronic disease, or were aged, infirm,

etc., and living in insanitary conditions, or a combination of these circumstances existed. All were not able to devote to themselves or were not receiving from other persons proper care and attention. Orders were obtained for compulsory removal, the period in each case being for not exceeding three weeks.

Thirteen of the persons were removed to hospital accommodation and five to residential accommodation. Nine of the patients subsequently died, eight were still in hospital or residential accommodation at the end of the year, and one had been transferred to a nursing home.

River View Rest Centre for Elderly Persons.

River View Rest Centre

Previous reports have referred to the great success of this venture. The facilities provided continue to increase in popularity and over 400 persons have attended on one day.

The premises, which are situated at the Pier Head, are managed by members of the Women's Voluntary Services and are open daily from 10.30 a.m. to 4 p.m. (Sunday excepted). Additional furniture and fittings provided during the year from profits derived from the sale of refreshments have helped to make the premises more comfortable.

The provision of similar centres in other parts of the City, with the aid of a grant from the King George VI Foundation, is at present receiving consideration by the Health Committee.

Mobile Meals.

This service has continued to operate in an area within a radius of approximately one mile from Westminster House. Those participating are mainly aged people who, on the recommendation of doctors, etc., would benefit from a hot mid-day meal which they are unable to prepare themselves. Meals are supplied from Westminster House, the equipment is provided by the City Council, and the servers are members of the Women's Voluntary Services. About 60 meals are supplied on each of three days a week.

Registration of Disabled Persons' and Old People's Homes.

At the present time there are 24 homes registered, 15 being administered by voluntary bodies and the remainder by private individuals.

The homes are inspected by officers of the welfare section at regular intervals to ensure that the standard of accommodation is being maintained in accordance with the City Council's requirements. During the year registration certificates in respect of three homes were withdrawn by the City Council.

Welfare of Handicapped Persons.

The following organisations concerned with the welfare of handicapped persons still continue to make use with enthusiasm of the premises 100, Walton Village which were placed, free of charge, at their disposal, some time ago:—

Infantile Paralysis Fellowship (Merseyside Branch).
Merseyside Hard of Hearing Club.
Merseyside and Wirral Group Invalid Tricycle Association.
Spastic Fellowship (Merseyside Branch).
War Pensioners' Handicraft Club.

Apart from regular meetings and social gatherings, special functions are held such as film shows, whist drives, rummage sales, etc. On two afternoons a week a small number of spastic children are conveyed in a brake subscribed by voluntary effort for the Spastic Fellowship and some occupational therapy is undertaken under supervision.

Members of the staff of the department still meet, at intervals, members of the various organisations to discuss matters of common interest.

Blind Welfare Statistics

During the year 205 applicants for admission to the registers of blind or partially sighted persons were examined by ophthalmic surgeons. Of these, 152 were found to be blind and 30 partially sighted. An observation register is maintained in respect of the partially sighted persons and similar services are made available to them as for the blind.

Particulars of the numbers of registered blind and partially sighted persons in the various age-groups are contained in Tables 44 and 45.

Table 46 shows a summary of the reports received during the year indicating, under the headings of cataract, glaucoma, retrolental fibroplasia in premature infants and other causes, whether treatment was recommended and, if so, whether it was medical or surgical.

Blind Employment.

Blind Employment

At the 31st December, 1956, the following numbers of blind persons were engaged in the various trades operated in the blind workshops:—

Blind Workshops

Workshops for the Blind, Cornwallis Street.

Basket Making	12	
Brush Making	24	
Mat Making	29	
Upholstery	9	
		74

School for the Blind, Hardman Street.

*Basket Making	3	
Boot Repairing	1	
Chair Caning	3	
Machine Knitting	4	
Mat Making	2	
		13

Catholic Blind Institute, Brunswick Road.

Basket Making	1	
Machine Knitting	—	
Mat Making	5	
		6
	Total	93

* Includes one employee, partially sighted.

The following numbers of blind persons were engaged in sighted industry:—

Basket Making	1
Clerks/Typists	2
Factory Operatives	41
Home Teachers	4
Labouring	3
Legal	1
Massage	1
Minister of Religion	1
Musicians and Music Teachers...	3
Newsvendor	1
Porters, etc.	6
School Teacher	1
Telephone Operators	16
Miscellaneous	16
	97

Although the numbers of blind persons employed in sighted industry are slightly less than in the previous year they continue to exceed those in sheltered workshops.

The following blind persons were engaged in the Home Workers' Scheme and their incomes are supplemented by the City Council:—

Braille Copyist	1	
Machine Knitters	4	
Musicians and Music Teachers...	4	
Newsvendor and Hawker ...	1	
		10

Sir Robert Jones Workshops.

Sir Robert Jones Workshops

These smaller workshops, founded in 1902, provide sheltered employment for about 40 severely disabled persons in the trades of bookbinding, printing, boot and shoe repairing and Christmas card renovation. In 1954 there was a possibility that the management might have to close down because of continued trading losses and the City Council grant-aided the workshops to the extent of £1,000. It became apparent in the following year that continued financial aid would be necessary and the grant of £1,000 was accordingly renewed.

During 1956 a further review was made of the finances of the workshops and in particular the necessity for increasing the minimum wages paid to a figure which would bear some relation to normal trade rates. At the same time the salaries paid to the staff were also considered and the need for some internal decorations. It was ultimately agreed to increase the Council's contribution to £2,850 which took into account the somewhat difficult financial state of the workshops and included an amount in respect of a revised salary and wage structure and essential decoration of the premises.

Deaf and Dumb Welfare.

The Liverpool Adult Deaf and Dumb Benevolent Society and the Catholic Deaf and Dumb Society of St. Vincent de Paul continued to provide efficient welfare services on behalf of the City Council to about 600 Liverpool residents. Subvention is made by the City Council at the rate of £3 10s. 0d. per head per annum allocated appropriately between the two societies, bearing in mind that some individuals are cared for by both bodies. Discussions are still continuing in regard to local authority representation upon the management committees of the two organisations.

Epileptics

Adult epileptics needing residential care and attention continued to be admitted, at the cost of the local authority, to colonies established for this purpose, and 10 persons were allocated vacancies during the year. Occasionally some residents fail to adapt themselves to communal life or ultimately develop an anti-social outlook, and one person was discharged for the latter reason during 1956.

Towards the end of the year a small sub-committee was established consisting of representatives of official and voluntary bodies with the aim of establishing a club for epileptics.

Spastics

As in previous years, the local voluntary organisation concerned with the welfare of spastics continued to work in close co-operation with the department.

One female adult spastic who had been in Westminster House for a considerable time and was admitted to a home administered by a national voluntary body made such good progress that eventually it was possible to transfer her to a training centre for work in industry. Another, a young male, also improved to such an extent as to be able to return home, and it is hoped to find him some suitable work, i.e. in parks and gardens.

Accommodation (Handicapped Persons)

At the end of the year there were 101 persons accommodated in establishments administered by other local authorities and voluntary organisations, and their incomes are supplemented by the local authority to enable the standard charge for maintenance to be paid. This procedure is similar to that adopted in regard to aged persons. Details of the various homes where handicapped persons are accommodated are contained in Table 47. In due course the City Council intends to build a special hostel to accommodate a number of handicapped persons.

Protection of the property of persons admitted to hospitals or residential accommodation.

Protection of Property

During the year, 200 cases were referred to the Welfare Services Section where it was necessary, due to no other suitable arrangement having been made, to take steps to ensure the safety of persons' property. This function, one in which a great deal of care has to be exercised by the officials concerned, is increasing in volume. Houses and flats are made secure, inventories taken of the contents, and any cash recovered placed in safe custody with the City Treasurer. Where necessary, furniture is removed to store.

Estates of Deceased Persons.

In the event of the death of a person whose property the department is safeguarding, the appropriate steps are taken in connection with the administration of the deceased's estate.

In 99 instances where the burial or cremation of a deceased person was undertaken by the department some action was necessary in regard to the effects. Where the estates of such persons were solvent and there was no next-of-kin or no will was found the circumstances were referred to the Duchy of Lancaster and the instructions of that department acted upon.

Over £2,200 in cash was recovered during the year from persons' effects and placed in safe keeping. Also taken into safe custody were securities, insurance policies, items of jewellery and documents of a confidential nature, etc. In some instances the Royal Society for the Prevention of Cruelty to Animals co-operated by caring for animals and birds.

Among the total cases dealt with of all kinds were 55 referred by the police, namely, 32 of persons who had been found dead at home or elsewhere, and 23 who had been taken ill either at home or outside and removed to hospital.

The importance of this work will be recognised because of its confidential and personal nature, but it also affords an insight into the social conditions of elderly persons often living alone whose families have scattered during the years and have either died off or ceased to communicate with one another. Many of these old folk have been brought up in a spirit of independence and have accumulated large sums of money or securities for use on a "rainy day"; occasionally the owner appears to have forgotten their existence, for although they have been living in somewhat grim conditions bank balances have remained untouched for long periods and funds which could have enabled a better standard of living to be maintained have remained idle until the final tragedy overtook the owner. Some individuals hoard their money as instanced by the case of an elderly woman who died and in whose house a large amount of cash was found, some hundreds of pounds being in silver alone. At the other end of the scale are people who die and their few possessions are almost worthless. Finally this work does sometimes reveal that relatives who, for one reason or another, have done little to help their kin, benefit financially in the end through their legal entitlement to do so.

HOUSING POINTS SCHEME

Statistics General

During 1956, a total of 4,065 general medical cases, 914 pulmonary tuberculosis and 71 non-pulmonary tuberculosis cases applied for assistance in rehousing, there being an increase of 105 (2·7 per cent) in the number of general medical cases, an increase of 134 (17·2 per cent) on the pulmonary cases of tuberculosis and an increase of 22 (44·9 per cent) on the non-pulmonary tuberculosis case figures for 1955.

Medical

1,398 general medical cases were awarded points; 40 of these were recommended to the City Architect and Director of Housing for submission to the Allocation (Special) Sub-Committee.

Tuberculosis

The tuberculosis cases were awarded from 2·5 points by the chest physicians. Thirty-two of these were recommended to the City Architect and Director of Housing for submission to the Allocation (Special) Sub-Committee and 104 were recommended for special priority within the Allocation group, as they had sufficient points for them to be already included in this group.

Transfers

1,126 general medical cases applied for transfers during the year. Of these, 531 (47·2 per cent) were recommended to the City Architect and Director of Housing. 109 tuberculosis cases were also recommended for transfers.

Over-crowding

A further 750 applications were received in respect of non-medical cases and reports concerning 429 grossly overcrowded families were forwarded to the City Architect and Director of Housing.

Method of Allocation of Points

The allocation of points is designed to enable the Medical Officer of Health to give assistance in those cases which, for reason of health, should receive some degree of priority in rehousing. There are two forms which this assistance may take:—

(1) Additional points may be awarded and added to the applicant's basic points. For general medical cases a maximum of two points can be given and for tuberculosis cases up to five points. (In many cases this brings the applicant into the allocation group and he is assured of rehousing. A close liaison exists with the Housing Department, and many such cases are given priority within the actual allocation group on the recommendation of the Medical Officer of Health.)

(2) Cases of special urgency may be brought before the Allocation (Special) Sub-Committee. If approved, they are offered rehousing within approximately one month.

In all the general cases a medical certificate (form H.1.) submitted by their medical practitioners serves as the starting point of the enquiry. Most tuberculosis cases are also initiated by a form H.1, the remainder being first brought up by the tuberculosis visitors. All cases are investigated in the first instance by a public health inspector who completes a report on the housing conditions. This report includes such details as the size of the family; type of house and number of rooms occupied; extent of overcrowding, condition of house and state of cleanliness, w.c. accommodation, etc.

In tuberculosis cases a report is also submitted by the tuberculosis visitor, giving such details as the type and extent of the disease, state of infectivity, family history of tuberculosis, etc. At this stage each case is submitted for assessment to a medical officer. Extra housing points may be awarded as already indicated, while those cases which appear to be sufficiently urgent are visited personally, with a view to submitting them to the Allocation (Special) Sub-Committee or recommending special priority within the allocation group. Special care is taken to ensure that the housing department is notified of any additional points granted for medical conditions.

Residents Outside City Boundary

Where an applicant is a sub-tenant in one of the new Liverpool housing estates outside the city boundary and is on the city housing register contact is made with the local authority concerned and a housing report and medical certificates obtained. The case is then assessed in the usual manner.

Transfers

For housing applicants who already live in Corporation property and for medical reasons request a transfer, a close liaison exists with the housing department. A letter of recommendation from the medical officer is usually sufficient to obtain the necessary transfer.

For statistical summary see Table 48.

SANITARY ADMINISTRATION.

Change of designation

The change of designation has been welcomed by the staff as there is no doubt "public health inspector" is a comprehensive term and more aptly describes their duties. Considerable embarrassment and perplexity have been caused to inspectors and the general public concerning duties completely divorced from matters associated with sanitation.

All the inspectorate has experienced the confusion on the part of the public on Shops Acts work or Factory Regulations regarding the health and welfare clauses. How many times has the same question been asked "What has the sanitary inspector to do with this type of work?", and how many odd half-hours have been wasted in explaining very carefully that the inspector since the war is now the officer, under the medical officer of health, responsible for operating the detailed machinery created by social legislative changes affecting housing, hygiene, industry, and many other duties created by the welfare state.

Nevertheless, the primary reason for the change must not be overlooked, and that was the attraction of recruits to assist in relieving an already overburdened staff, for now the nation, if it wants clean air, clean food, and the abolition of slum houses, must realise that an aged, depleted and overworked staff requires young enthusiastic men and a considerable increase in their numbers.

Recruitment

Already recruitment is improving and the training scheme is producing good results. Thirteen assistant inspectors, after completing a 4-year course, obtained the qualifying certificate and they are now public health inspectors. This number should be expected annually as the young men who came in straight from the Forces are speedily reaching their final year.

Staff

Recruitment of assistants has continued and more trainee inspectors have also been appointed. The total staff of inspectorate now comprises 108 qualified inspectors, assistants and trainees.

Re-organisation

The additional qualified inspectorate has assisted in the re-organisation and a full division is now composed entirely of qualified inspectors assisted by trainees.

The new arrangement provides for the qualified inspectorate to carry out all duties connected with food inspection, special duties, factories, shops, sanitary complaints, etc., which prevents more than one inspector visiting the same premises.

Complaints

The change of designation does not, however, prevent occupiers from complaining at the same old counter about the multifarious defects causing discomfort in the home, and behind the bald figure of 48,422 complaints received during the year lies a record of human suffering which has never been properly assessed in the many nation-wide surveys.

Water Supply

These figures, if they are examined, show 17,000 houses without water for long periods, due to burst pipes. How many people realise what it means to be carrying water from taps in neighbours' houses or nearest stable yard, or having to store water for drinking purposes in unclean buckets, or restrictions on domestic washing. These conditions were common last winter in the sub-standard property in the City.

Frost damage

The position of water pipes and fittings in a substantial number of houses in the City prevents occupiers taking adequate precautions against frost damage. Under present legislation owners cannot be required to alter existing installations and consequently during periods of frost many occupiers continue to be deprived of a supply of water and suffer discomfort from burst pipes.

Good planning with pipes and fittings sited on internal walls would remove this annual hardship, which is now accepted as inevitable.

Choked drains

The figure for choked drains rose to 2,111 and imagination does not require any enlarging to picture the scene during week-ends or holiday periods, with flooded backyards or filth backing-up in the scullery, and yet many of these choked drains last for at least a week under the stream-lined system now in operation for removing this problem, for prior to the introduction of the Liverpool Corporation Act, 1955, it was possible for a choked drain to last two or three months due to legislative complications.

Stories behind the total figure of 269,786 re-inspections are legion. A few can be selected as follows:—

An urgent request was received for an inspector to visit regarding an alleged fearsome reptile in a house. On investigation the reptile was found to be a greater crested newt whose normal habitat is on the banks of streams; it was considered that the newt had been in the sewer and had gained access to the house via the drainage system.

When a complaint was received from an alarmed occupant regarding a snake, the inspector was most surprised to find the complaint justified as the occupier proudly displayed a grass snake which he had killed in the scullery. The presence of the snake remains a mystery.

During the inspection of a three-roomed, single-back type dwelling-house, the inspector found in addition to three adult occupants a "private menagerie" had been established, as four dogs, twelve cats, two hens, four bantams, five budgerigars, two rabbits and forty pigeons were housed on the premises. It must be recorded that the house, animals and birds were kept clean.

Meeting of Sub-Committee

The weekly meeting of the Special Sub-Committee has been of great value to the department. This new Committee authorises immediate action to clear choked drains, repair roofs and all other urgent sanitary matters. The Committee also authorises the spending of large sums of money to alleviate distress when owners default or houses are abandoned. All urgent matters under the provisions of the Public Health Act, 1936, Housing Acts and other various enactments are dealt with by this Committee including application for Certificates of Disrepair and Revocation under the Housing Repairs and Rents Act, 1954.

Applications for licences to station caravans are dealt with by the Committee, which ensures that applications receive consideration within the period of four weeks, otherwise the licences are automatically granted unconditionally.

Wild Pigeons

Many complaints have been received from occupiers of buildings and houses regarding nuisances from wild pigeons and during the year measures have been taken to reduce the wild pigeon population. 2,169 birds have been caught and painlessly destroyed, and trapping is continuing at selected sites.

Summary of Inspection

Occupiers of dwellinghouses made 31,422 complaints during the year. As far as possible every complaint was investigated within 24 hours of being received. 750 complaints were made by the public in respect of shops, cafes, public houses, etc. There were 269,786 visits and inspections carried out and 45,308 notices issued under the various acts and byelaws.

Legal Proceedings

Under the provisions of certain enactments the local authority may take legal proceedings when an owner fails to comply with a notice, or, alternatively, they may do work in default and recover the costs incurred. During the year 156 informations were laid under the Public Health, Shops, Food and Drugs, and local Acts. 51 orders were made and penalties amounted to £262.

Work in default by owners

There has been a considerable increase in the amount of work carried out by the local authority upon default of the owner at a cost of approximately £3,500. 386 houses were dealt with in this manner, in addition 237 reports in respect of choked drains were submitted to the Special Sub-Committee for action under Section 19 of the Liverpool Corporation Act, 1955. The City Engineer and Surveyor's Department co-operated by clearing the drains.

Recovery of costs

The money spent is recovered through the procedure incorporated in the Public Health Act, 1936. The amount concerned is also registered against the property in the Local Land Charges Register in accordance with the Land Charges Act, 1925. This provides for ultimate collection and, therefore, there can be no loss to the local authority by this procedure.

Departmental References

25,373 references were received from other departments of the Corporation, requiring the attention of the inspectors and 8,549 references were sent to other departments.

Infectious Disease Enquiries

The following table indicates visits made by inspectors to houses where infectious disease has occurred and the number of enquiries made regarding contacts of infectious disease.

No. of investigations relating to cases of infectious disease	2,312
No. of enquiries regarding contacts of infectious disease ...	4,877
No. of visits to infected houses	2,201

Food Poisoning

The inspectors have co-operated in extensive investigations in connection with ingestion diseases. 7,615 specimens from 3,936 persons were submitted for bacteriological examination, 1,075 specimens from 560 persons proved positive. Considerable time has been spent making detailed enquiries into confirmed cases of Salmonella infections. A number of inspectors have been engaged on these enquiries and one assistant inspector, using a motor cycle, collected specimens.

Ingestion Diseases

All reported outbreaks of ingestion diseases have been thoroughly investigated by the doctors and inspectors, as recorded in the section on infectious diseases. Specimens have been obtained from patients and contacts, details of food eaten recorded and compared, to ascertain if any common source of the outbreaks could be established. Permanent records are kept of all results and cases pinpointed on large-scale maps.

Outbreaks of suspected food poisoning have been investigated in 20 industrial and food establishments within the city entailing the interviewing of 284 employees and the collection of the necessary specimens.

The investigations included many interesting incidents.

Movable dwellings

The shortage of housing accommodation is responsible for people purchasing caravans for permanent dwellings and a number of enquiries have been received for permission to station caravans within the city. There are no licensed sites but from time to time caravans have been sited on unfenced land; 105 visits were made to such sites where caravans were stationed. All the caravans were removed without resource to legal proceedings.

Drain testing

In connection with rodent infestation and percolation of water into basements, 2,173 drainage systems were tested, a positive result being obtained in 921 of the systems. Repairs have been completed in all cases where a positive result was obtained. The assistance of the City Engineer and Surveyor's Department has been utilised whenever flushing has been required. 30 choked public sewers requiring urgent attention and 20 defective public sewers were referred to the City Engineer under the provisions of Section 24 of the Public Health Act, 1936.

Clearing of the drains

2,111 notices were served under the provisions of Section 19 of the Liverpool Corporation Act, 1955, in respect of choked drains, private sewers and soil pipes. Under this enactment the Corporation are empowered to remove the blockage after giving 48 hours notice. The costs incurred are recoverable from the person served with the notice.

Common lodging-houses

There are 15 registered common lodging-houses in the city, 14 providing accommodation for 974 males, and 1 providing accommodation for 94 females. No lodging-houses were closed during the year and no new houses registered. Applications were received from 15 keepers for renewal of registration as keepers. The applications were granted for a further period of twelve months. The public health inspectors made 430 visits during the daytime and 28 night inspections, 22 notices were served in respect of byelaw infringements. Of 9,734 beds examined, 25 were found verminous, and these were cleansed by the local authority, 25 lodgers found to be verminous were also cleansed by the local authority.

Seamen's lodging-houses

There are 16 seamen's lodging-houses on the register, 7 are not licensed under the byelaws as seamen's lodging-houses. Accommodation is provided for British, Chinese, Arab, Somali and Indian seamen. The total accommodation available for seamen is 950. Public health inspectors made 233 day inspections and 29 night inspections. Byelaw infringements were dealt with either verbally or by the service of notice. The inspectors examined 6,790 beds and appropriate action was taken where necessary.

Canal Boats

The Docks and Inland Waterways Executive, North Western Division, are the proprietors of the Leeds and Liverpool Canal, the only canal having direct communication with Liverpool. The length of the waterway within the city (exclusive of the locks communicating with the Dock Estate) is approximately three miles.

Liverpool is one of several registration authorities for boats used as dwellings plying the canal. The details of the boats registered by this authority are indicated in Tables I and II.

TABLE I.

Number of Boats

Boats on register, 1st January, 1956	418
New boats registered	—
Boats removed from register	1
Boats on register, 31st December, 1956	417

One boat ceased to be used as a dwelling during the year and was removed from the Register at the owner's request.

TABLE II.

Number and types of boats registered.

Type of Boat

Motor-propelled boats	99
Steam-propelled boats	62
Motor-towed boats	45
Steam-towed boats	124
Horse-drawn boats	87
Total	417

Number of Boats inspected

781 inspections of canal boats were made during the year and the places of registration of the boats visited were as follows:—

TABLE III

Number of boats visited	214
Registered at Liverpool	156
Registered at Runcorn	11
Registered at Manchester	9
Registered at Leeds	1
Boats not registered and not used as dwellings	37

Types of Boats inspected

All boats examined were "wide" boats, 71 being motor-propelled, 10 steam-propelled, 59 motor-towed, 49 steam-towed and 25 horse-drawn.

Contraventions

Contraventions of the Act and Regulations were found on 36 boats, of which number 6 were registered by other authorities, the contraventions being as shown in the following table:—

TABLE IV.

Nature of contravention.	Reported.	Remedied.
No certificate of registration on board	20	20
Registration, lettering and numbering not legible or incorrect	7	6
Leaking decks	10	5
Defective stoves or stove pipes	10	10
Cabins requiring repainting	8	8
Defective water casks	5	5
General—miscellaneous	11	5
Totals	71	59

36 written notices with respect to the contraventions were sent to the owners concerned and 30 notices have been complied with.

No informations were laid during the year against either owners or masters for infringements of the Act or Regulations.

Inspections by Port Health Authority

The inspectors of the Port Health Authority made 313 inspections of canal boats in the docks during the year. 60 contraventions were found, 48 of which were subsequently dealt with. These figures are included in Table IV.

Infectious Disease

No case of infectious sickness was reported as having occurred during the year on any canal boat visiting the district.

Population of Canal Boats

The number and sex of the persons found in occupation of the 177 canal boats used as dwellings are included in the following table:—

TABLE V

Population of Canal Boats:	Men	352
	Women	2
	Children	Nil
	Total	354
Distribution:		
Males over 14 years of age		352
Males over 5 years and under 14		Nil
Males under 5 years of age		Nil
Females over 12 years of age		2
Females over 5 years and under 12		Nil
Females under 5 years of age		Nil

NOTE.—Males on attaining the age of 14 years and females on attaining the age of 12 years, living on a canal boat, are regarded as adults, and are recorded as such in the foregoing table. No children of school age were found on canal boats during the year.

The Hydrogen Cyanide (Fumigation of Buildings) Regulations 1951

Official notice has been received in respect of 6 fumigations under the Hydrogen Cyanide (Fumigation of Buildings) Regulations 1951. Inspectors attended the fumigation of 1 dwellinghouse and 5 factories.

Removal of Human Remains

Under the terms of licences issued from the Home Office and a Bishop's Faculty, inspectors supervised the exhumation and re-interment of 10 bodies during the year, also the remains of 5 persons were shipped abroad, 3 to Canada, 1 to America and 1 to Russia.

Public Health Act, 1936, Section 54.

Filled-up ground

Inspections of trial holes were made on 47 filled-up sites to ascertain whether the ground was free from faecal or offensive animal or vegetable matter, and that the sites were suitable for building purposes.

Miscellaneous.

Stables

There are now only 85 occupied stables in the city and stables can no longer be considered a source of fly infestation as regular inspections ensure the frequent removal of manure.

Marine Stores, Poultry Stores

Routine visits were made to 35 marine stores and 7 poultry stores.

Schools

Regular visits were made to schools and a high standard of cleanliness was reported in respect of 591 inspections made.

Parks

The sanitary conveniences in the parks and gardens were found to be satisfactory, 186 visits being made to various parks throughout the city.

SLUM CLEARANCE and HOUSING.

General Housing

The problem of housing was originally specifically concerned with the fabric of the premises and their suitability or otherwise for action under the Housing Acts.

Over the years it has been realised that other factors contribute to the necessity of rehousing and there has been a gradual merging of the various duties which lead to the rehabilitation and rehousing of a family.

Comprehensive Investigation

The Public Health Inspector visiting for the purpose of slum clearance no longer confines his investigation to the condition of the house alone, but also considers the environmental circumstances of the family living in the property. Thus the inspector's report is comprehensive and includes a detailed schedule of defects which may or may not render the premises unfit, a list of urgent sanitary matters, details concerning the number and size of families, their position on the housing register, evidence of overcrowding and the existence of tuberculosis or other medical condition in the family.

Prevention of duplication of visits

In this way, only one inspector visits the premises, in place of the original three or four inspectors who visited the house at different times for slightly varying purposes.

The information in this one report is sifted and is then forwarded to the relevant section of the department dealing with that particular aspect of the problem.

Where a property has been reported upon in this way and is considered to be fit for human habitation it may be possible to have the family rehoused for some other reason which will, of course, depend upon the information obtained at the time of the inspector's visit.

A problem of rehousing

Many episodes of this kind could be quoted but during recent months one particular case caused a great deal of trouble. The premises were included in a Compulsory Purchase Order but unfortunately, for various reasons, the ultimate acquisition of the property by the Local Authority was delayed.

A complaint was received from the tenant of this house regarding the leaking condition of the roof. The premises were visited and the defective roof ultimately repaired.

After a lapse of some weeks the inspector was again requested to visit the premises as the tenant considered them to be in a dangerous condition.

The City Building Surveyor visited the property and reported that in his opinion there was no danger and he could not, therefore, assist in the rehousing of the occupants.

Later the tenant became aware of a rat infestation which he alleged was having an adverse effect upon the health of his wife and children. A rodent operator visited the premises and treated the infestation and within a short time reported the premises to be free of rats.

This episode took place over a period of months during which time the acquisition of the property was completed and the family automatically rehoused in accordance with the normal procedure.

Visit of the Minister of Housing and Local Government

During 1956, Liverpool was honoured by a visit from the Minister of Housing and Local Government, Mr. Duncan Sandys, who, after visiting Slum Clearance Areas and property in older parts of the City, stated in his speech that Liverpool's slum clearance problem was the worst in the country.

Recent national statistics indicate that there are 3,000,000 houses over 60 years of age and yet only 1,000,000 of these have been declared unfit for human habitation.

There are very few houses over 60 years of age in this City complying with the standard of fitness laid down in Section 9 of the Housing Repairs and Rents Act of 1954, but apparently in other towns and cities there must be many houses of this age in good condition.

Planning Complications

The tremendous number of unfit houses which still remain to be dealt with may lead to serious complications as the unfitness of the property is not the only factor to be considered. Before an area can be represented the ultimate use of the land and the number of dwellings which can be erected on the cleared sites must be taken into consideration.

Houses which though unfit are not necessarily the worst, may have to be included in such an area in order to obtain a piece of land of convenient size and shape for redevelopment purposes, and it is, therefore, impossible to concentrate on the demolition of the worst houses first, as properties regardless of their age do not dilapidate according to an arithmetical progression.

Number of properties scheduled for action

In this City there exist 80,000 sub-standard houses of which 26,000 must be demolished; 5,000 of these are for immediate action and the remainder in 5 or 10 years time.

The rehousing problem

As previously mentioned, to achieve this end, many difficulties will have to be surmounted and the rehousing problem will have to be tackled simultaneously in two ways. First by developing new suburban housing estates and secondly by central area redevelopment upon land now being used for industrial purposes or alternatively is lying idle. As a result of pre-war clearance action and the effects of the blitz, considerable tracts of vacant land exist in the central areas which could be utilised for housing projects.

Open spaces for development

The advantages of utilising such sites

At the commencement of the post-war housing drive in 1945, a large pool of such sites was available which has proved to be a valuable asset in central area redevelopment. The demolition of only 347 dwellings has permitted the erection of 2,829 dwellings up to the present time and it is anticipated that an ultimate total of 3,500 dwellings could be erected if all the remaining sites were made available for housing purposes. Thus, for the loss of 347 tenanted dwellings, 3,500 new dwellings will have been built which will produce a housing dividend of 3,000 dwellings.

Estimated number of dwellings which could be erected if all the disused sites were utilised

A problem of overspill as a result of Central Area redevelopment

Assuming that these sites are used to the greatest possible advantage, at the present accepted density rates, it is anticipated that there will be a total overspill of 4,050 families, that is to say, 16,000 persons from the future redevelopment of the central areas.

What does the word "slum" mean?

It is not generally realised that the word "slum" does not appear in the Housing Acts although it does occur conveniently and properly in circulars issued by the Minister. The difference in wording in each of these documents is interesting and does give some indication of the Minister's interpretation of this word such as "unfit", "sub-standard". "obsolescent" and "obsolete" are mentioned.

The type of family living in slum areas

The majority of houses in "slumdom" are occupied by decent working-class people who are hardworking and are endeavouring to maintain a good standard of cleanliness against constant structural breakdowns. The majority of these occupants keep the houses in good decorative condition and in doing so have to combat the inherent dampness in the property. In many cases it can be said that the decoration holds the plasterwork to the walls. It is, however, depressing to think that these worthy families in their early thirties and forties will live and rear their families in houses which have no bathroom or hot water, for there are 70,000 to 80,000 houses in this City without these amenities.

Post-War Slum Clearance

Slum clearance has continued unabated. Since 1947, projects which were halted by hostilities have recommenced and most of the areas originally envisaged in the pre-war period have now been represented.

In this post-war period, slowly at first, but steadily increasing in size and number, clearance areas have been represented which have included large numbers of slum dwellings. Orders have been made, confirmed, and the occupants of these miserable houses have been moved away from their former squalid surroundings to properties in which they and their children may be given a fresh opportunity to live as decent and respectable citizens. Slowly, but surely, the stinking hovels from which they have come have been demolished and in their place, large, clean, gleaming buildings are arising.

The sight of new blocks of flats and maisonettes erected on land formerly occupied by slum property and now housing families from other slum areas who are living in these new structures, obviously happier, cleaner and contented, acts as a "fillip" at times of despondency and difficulty.

Problem of Building Land

In spite of the sustained efforts of the post-war years, slums still remain. Slum clearance is continuing, but is continuing in the face of an ever-increasing problem, that of limited building land.

Land available for Central Area Redevelopment

Land available for Municipal housing schemes is rapidly diminishing, especially in the central areas of the City. This shortage is aggravated by the reluctance of families in clearance areas to move away from their old neighbourhood or place of work. Their reluctance is understandable

when consideration is given to the difference in cost of living involved for such a family when removed to the outskirts.

This point can be illustrated by an incident which occurred recently while preparing a Clearance Area for representation. An inspector called at a house to find that the occupant had been the subject of an urgent rehousing case, which he had dealt with two or three years previously. On enquiry, the inspector found that the family, comprising the husband who was a night watchman, his wife who was a pulmonary tuberculosis case, and their child, aged 10 years, had been rehoused from their former slum dwelling, which had become uninhabitable as the result of a gale, to a Corporation flat on the Huyton Estate. They were, of course, thankful to be removed so speedily from their original dwelling, but after some months, their sense of appreciation had worn off and the disadvantages of their new accommodation loomed large. On being asked by the inspector why they had returned to an identical property to their original house, the lady stated that the old man's work was near his former home and they could not afford the extra fares to and from his place of work which, coupled with the increased rent they had to pay for their Corporation letting, caused financial embarrassment generally and more particularly, according to the lady, curtailed her husband's only hobby—playing darts at his old local.

New Legislation

In the course of the year two major pieces of legislation came into force, namely, the Housing Sudsidies Act, 1956, and the Slum Clearance (Compensation) Act, 1956.

Housing Subsidies Act 1956

The Housing Subsidies Act revises entirely the system and rate of subsidies for the erection of new Corporation dwellings.

In future a subsidy will only be paid in respect of each family rehoused from a house which is subject to an Order made under the Housing Act, 1936, or has been closed by reason of its dangerous state, or is already owned by the local authority and a certificate has been issued by the Medical Officer of Health declaring the premises to be unfit, or finally, the owner has given an undertaking not to re-let the premises for human habitation after the present tenants are rehoused.

Indirect Housing

Under this procedure a family displaced in any of these ways entitles the local authority to claim slum clearance subsidy upon a new dwelling they are erecting even though the particular family displaced is not directly accommodated in that house.

The Minister has indicated in Circular 2 of 1957, that the subsidy will be payable if a displaced family is accommodated in a privately-owned house from which the previous tenant has been rehoused into a Corporation dwelling, which may not necessarily be a new one. The conditions imposed require that there is only one intermediate move involved, that the date of removal of both families is reasonably related in time and that evidence exists of the rehousing of one of the families by the local authority.

Slum Clearance (Compensation) Act 1956

The Slum Clearance (Compensation) Act safeguards the interests of owner/occupiers of dwellinghouses bought between the 1st September, 1939 and the 12th December, 1955, and business occupiers of premises in which they have a freehold interest or an appropriate leasehold interest. Such persons will, if the property is included in a Compulsory Purchase, Clearance or Demolition Order, receive payments equivalent to the compensation which would have been payable if their interests had been purchased, otherwise than at site value. A further provision of this Act gives the Minister power to vary the multipliers for well-maintained payments as set out in Section 42 of the Housing Act, 1936, and since the passing of this Act the Minister has put before Parliament an order requiring the multipliers in such cases to be increased to 9 times the rateable value of the house in the case of an owner/occupied house and $4\frac{1}{2}$ times the rateable value in any other case.

Well maintained allowance

The interpretation of the Standard of Fitness

The effects of these measures are not yet known but in time, no doubt, they will cause major changes in housing policy generally.

The Standard of Fitness set out in the Housing Repairs and Rents Act, 1954, has now been in use for two years and misgivings arise in its application from time to time. Nevertheless, the application of the standard to dwellinghouses surveyed and represented in Clearance Areas in respect of which enquiries have been held have not shown any major flaws in the interpretation of the standard so far.

The extreme condition of properties represented

No doubt the degree of unfitness existing in each of the properties dealt with under the Housing Acts has been so obvious that even the most militant and disgruntled of owners could not possibly object that their property was not unfit for human habitation. In many cases where an objection was made it was not sustained at the inquiry.

Objections in respect of business premises

Strong opposition has, however, been experienced in cases of dwelling-houses now used as business premises and bitter battles have been fought about matters mentioned in the Standard of Fitness. In some cases each item enumerated under each heading had been examined minutely before the Minister's Inspector by opposing Counsel.

Objections by owner/ occupiers of small businesses

Most of the objections have been made by small traders who are owner/occupiers of dwellinghouses which have been converted to shops into which they have put all their capital available to establish their own business. Over the years they have, by hard work, caused their enterprise to flourish and ultimately to blossom forth into a remunerative business.

Difficulties caused by acquisition of small traders' premises

The closing of such a business must entail great financial hardship and worry to the trader so affected. He is by no means certain of finding other suitable accommodation to carry on his business especially in the same locality. Such a situation must result in bitterness and heart-break, and possibly give rise to mental or physical illness.

Progress of slum clearance during the year

During the year 1,640 houses were surveyed in detail by public health inspectors preparatory to the inclusion of these properties in 22 clearance areas which were represented to the Housing Committee.

Orders made during the year

During the year, 770 houses included in Clearance Areas were made subject to Orders and a further 2,364 houses contained in represented Clearance Areas were held pending further action at the close of the year.

The largest post-war Compulsory Purchase Order

The largest post-war compulsory purchase order containing 549 premises was the subject of a public inquiry at which objections were made in respect of various types of properties.

Many objectors appeared at the inquiry and presented a formidable defence of their properties. After long and detailed cross-examination

and examination regarding the condition of the property and its present and past use the Inspector closed the inquiry and visited the site. The Minister has, however, confirmed the order but has excluded two dwellinghouses from the clearance area which are now used for business purposes but has included them both in the compulsory purchase order as "greylands".

Reduction in the number of orders made

The figures set out in previous paragraphs and in the appendices indicate a general reduction in the number of Clearance Orders and Compulsory Purchase Orders made and submitted to the Ministry for confirmation. This is a significant indication of a bottle-neck being caused by the limited land available for housing redevelopment both within the central areas and beyond or just within the City boundaries at Kirkby, Gillmoss, Croxteth, and Lee Park. The speed of rehousing has been further reduced by the extreme weather conditions at the beginning of the year causing flats and houses scheduled for completion in 1956 not to be finished on time. This has ultimately reduced the number of dwellings completed in the 12 months to a figure below the target set for the year.

The effects of adverse weather conditions upon building projects

Liaison with other departments

It is, therefore, essential that the closest liaison should continue between the technical officers of the various departments concerned in order to ensure that the limited land available is used to the best advantage.

Enquiries regarding potential life of property

The register compiled from the Housing Survey of 1954 has been of great value in answering the many thousands of enquiries received during the course of the year regarding the fitness and potential life of properties offered for sale.

Hazards of purchasing sub-standard properties

Even though this service has been widely advertised and the consequences of purchasing sub-standard property have been explained, young married couples, desperate for accommodation in a home of their own, still purchase houses which in some cases have already been included in Clearance Areas and in others the property has been included within a few months of the transaction being completed. In many of these purchases financial hardships must ensue as the provisions of the Slum Clearance Compensation Act will not apply.

The effect of Slum Clearance Compensation Act

Where an owner/occupier purchased his house between the 1st September, 1939 and the 12th December, 1955 he will receive a payment equivalent to the compensation which would have been payable if his property had been purchased otherwise than at site value.

If the property were not purchased between these dates, however, this provision of the Slum Clearance Compensation Act will not apply.

Financial difficulties involved where a house has been purchased after operative date

As previously mentioned, if a young married couple have purchased a house outside the operative period, they will still be liable to continue their mortgage repayments as well as the payment of rent in respect of their new Corporation tenancy. Such difficulties could cause the finely balanced economy of a young married couple to collapse giving rise to serious worry which is likely to have an adverse effect upon their health.

Advice often ignored

All the complications are explained to any persons seeking the advice of the department but nevertheless where the need is urgent the advice is often ignored. The young couple view the down payment and repayment of the mortgage as a form of "key money" for their new Corporation house.

Individual unfit houses

Many unfit houses are situated on land not zoned for housing or in isolated pockets which are of no value for housing redevelopment purposes.

Number of properties represented

In such cases the individual unfit procedure of the Housing Acts is used. 95 houses were represented to the Demolition and Closing Orders (Special) Sub-Committee as unfit for human habitation under this procedure.

Demolition and Closing Orders made

The condition of properties represented to the Committee during 1956 and previous years, were considered by the Committee and in consequence 8 Demolition Orders and 70 Closing Orders under Section 10 of the Local Government (Miscellaneous Provisions) Act, 1953, were made.

Undertakings given

An undertaking not to let the premises for human habitation until the premises are made fit for human habitation was given in respect of one property represented to the Committee.

Of the properties subject to operative orders made by this Committee, 64 houses were demolished and a further 69 houses were closed. The

condition of 16 properties represented to the Committee had not been considered and remained in abeyance at the end of the year.

Parts of premises found to be unfit

Where a basement or part of a premises are considered to be unfit for human habitation they are dealt with by means of a Closing Order made under Section 12 of the Housing Act, 1936.

Properties represented

Closing Orders made

Parts of 57 premises used for human habitation were represented during the year. The conditions of 43 of these properties were considered and orders made in all cases by the Committee. The condition of 14 of these properties represented still remained to be considered when the year closed.

Premises included in Clearance Orders—retained for temporary living accommodation

Many properties which were included in confirmed pre-war Clearance Orders were licensed for temporary re-occupation under Defence Regulation 68 A.A. Since the end of hostilities the number of these premises has steadily reduced and only one such house now remains.

Licence issued

The licence was granted under Section 6 of the Housing Repairs and Rents Act, 1954, after extensive repairs had been completed by the owner.

Applications for Certificate of Disrepair received in 1956

Certificates of Disrepair issued

During the year under review, 345 applications were made for Certificates of Disrepair under the provisions of the Housing Repairs and Rents Act, 1954. 265 Certificates were issued of which 224 were in respect of properties subject to increases of rent under the Act of 1954, and 41 were issued in respect of houses subject to increases permitted under the Act of 1920.

In 96 instances applications were either withdrawn or found to be invalid. Only 1 application was formally refused by the Local Authority.

Applications for revocation of Certificates of Disrepair

Applications were made for the revocation of Certificates of Disrepair by owners of 145 houses in respect of which Certificates had been issued either in 1956 or in previous years.

Revocations granted

Revocations were granted in 154 instances, this figure includes applications brought forward from the previous year. Two applications were formally refused because the works of repair had not been completed in accordance with the requirements of the Certificates of Disrepair.

Certificate of Disrepair issued since operative date of Housing Repairs and Rents Act 1954

The provisions of the Housing Repairs and Rents Act, 1954, relating to rent increases have been in force for two years and during that time a total of 1,959 applications for Certificates of Disrepair have been made and 1,660 Certificates have been issued up to the end of 1956.

Since the Act has been in operation the number of applications received had progressively decreased, which is no doubt due to difficulties the owners have experienced in complying with the requirements of Certificates of Disrepair previously issued in respect of some of their houses.

The extent of works required in properties of differing ages

Generally repairs required in tenanted houses have been found to be less extensive in properties which have been erected within the last 50 years. In houses erected at an earlier date, the repairs are of a major character and in many cases the Certificates cannot be revoked because of inherent defects in the property which have had to be included in the matters enumerated in the second schedule of the Certificate.

Improvement and Conversion of older property

In post-war years, the problem of preventing properties deteriorating or falling into disuse because of their size has caused much concern, and legal provision has been made to help owners to improve or convert their property so as to extend the useful life of the building as living accommodation.

Improvement Grants

Under the provisions of Section 20 of the Housing Act, 1949, Local Authorities can make financial grants to owners of property to the value of half the cost of the improvement or conversion. Provided, of course, the cost of the project is more than £100 and the premises after completion will be used as dwelling accommodation by the owner himself or is let at a rental.

Property must be fit after improvement

Conditions must of necessity be imposed where public money is involved and one requirement is that the house shall be in all respects fit for human habitation upon completion of the proposed works.

Number of applications made for grants

For this purpose 95 applications were considered and 104 visits were made to examine the premises concerned.

Improvement Grants approved

As a result of these examinations 71 applications were recommended for consideration and the remainder of the applications were in abeyance pending a final decision, or reconsideration by the applicants.

Many proposals have proved difficult because the erection of the requisite annexe at the rear of the property to contain the scullery and bathroom would take up too much yard space, and would then contravene the Building Byelaws.

Difficulties in complying with Building Byelaws

In some cases alternative arrangements have succeeded in overcoming this difficulty but in others it has been impossible to resolve the problem and the plans submitted to the City Building Surveyor have had to be rejected.

Facilities are available for a prospective purchaser of a dwellinghouse to obtain a mortgage from the Local Authority under the provisions of Section 4 of the Housing Act, 1949.

Loans on Mortgage

Before a loan is made the property must, of course, comply with the various conditions imposed by legislation. An essential condition is the fitness of the property and to this end 899 visits were made by an inspector to ensure that the premises would comply with the standard of fitness for human habitation set out in Section 9 of the Housing Repairs and Rents Act.

The industrial revolution brought in its train many social problems, many of which have long since been resolved. The lack of dwellinghouses has, however, been a persistent problem ever since those days. Great strides have been taken to reduce the deficit and each piece of housing legislation passed has played its part, however small, to provide more dwellings.

Overcrowding

The housing shortage of, say, 100 years ago has been reduced appreciably since that time but still the ultimate goal has not been achieved.

The shortage of accommodation must result in overcrowding of existing dwellings, and visits must be made to such premises as regularly as possible and where gross overcrowding is found action is taken to alleviate the conditions.

A result of the Housing shortage

During 1956, 3,920 visits were made for this purpose and 429 cases of gross overcrowding were made the subject of requests to the City Architect and Director of Housing to give consideration to the urgent rehousing of the families concerned under the provisions of Section 85 of the Housing Act, 1936.

Cellar dwellings Section 469, L.C.A. 1921

A further difficulty which has arisen as a result of the lack of housing accommodation is the use of basements of houses as dwellings for families who live and sleep there. In 1921 local legislation was passed to alleviate to some degree the hazards of such basements for sleeping purposes. Vigorous enforcement of this provision in the inter-war years has reduced to a comparatively small figure the number of families living under such conditions. The remaining number of families living in cellar dwellings is steadily being reduced by the service of notices upon the owners and occupiers of these dwellings under Section 469 of the Liverpool Corporation Act, 1921.

Sections 4 & 62 Housing Act, 1936

In 2 cases the name and address of the Medical Officer of Health was not inscribed in the rent book whilst in 2 cases the necessary summary of Sections 58, 59 and 61 of the Housing Act, 1936 was not inserted in the rent book.

The number of persons permitted to occupy the houses were not inserted in 2 rent books. Informal notices were served in respect of these infringements and the rent books corrected.

Houses owned by the Local Authority

The total number of houses and flats owned by the Local Authority at 31st December, 1956 (excluding 19 houses built under the Housing Acts and subsequently sold, and 3,500 temporary bungalows), is 64,067.

The number of houses built in the last three years under the Housing Act, 1936, Part V, is 8,754 and the number of houses built under provisions of the Housing Subsidies Act, 1956, is 118.

SLUM CLEARANCE STATISTICS.

During the year, 22 Clearance Areas were represented under Section 25 of the Housing Act, 1936, which included 1,640 houses containing 7,153 persons. Orders in respect of 561 houses containing 2,364 persons were the subject of public enquiries and 10 Confirmation Orders were made in respect of 6 Compulsory Purchase Orders and 4 Clearance Orders comprising 275 dwellings and 1,234 persons.

COMPULSORY PURCHASE ORDERS AND CLEARANCE ORDERS CONFIRMED DURING 1956

Date Confirmed.	Order.	Houses	Population.
30.1.56	Ascot Street Compulsory Purchase Order	28	151
31.1.56	Windsor Street No. 4 Compulsory Purchase Order ...	20	120
31.1.56	Salisbury Street No. 2 Compulsory Purchase Order ...	7	25
2.2.56	Stitt Street Compulsory Purchase Order	164	669
21.2.56	Commercial Road Clearance Order	3	20
3.5.56	Haddock Street No. 2 Clearance Order	4	15
30.6.56	Boundary Street No. 2 Clearance Order	12	81
10.7.56	Pine Street Compulsory Purchase Order	8	51
18.7.56	Gelling Street Compulsory Purchase Order	17	68
31.10.56	Tetlow Street No. 2 Clearance Order...	12	34
		275	1,234

CLEARANCE AREAS AWAITING CONFIRMATION

Clearance Area	Houses	Population
Anderton Terrace Clearance Area	12	32
Anglezark Street Clearance Area	103	350
Beaufort Street No. 8 Clearance Area	12	92
Beaufort Street No. 9 Clearance Area	5	31
Boundary Street (Peel Terrace) Clearance Area	10	40
Braemar Street Clearance Area	226	907
China Street No. 1 Clearance Area	184	803
China Street No. 2 Clearance Area	9	83
China Street No. 3 Clearance Area	3	11
China Street No. 4 Clearance Area	3	12
Carnarvon Street No. 2 Clearance Area	83	274
Darnley Street No. 1 Clearance Area	6	23
Darnley Street No. 2 Clearance Area	51	208
Devonshire Place No. 2 Clearance Area	3	9
Kinglake Street Clearance Area	67	291
Rose Vale No. 1 Clearance Area	376	1,620
Rose Vale No. 2 Clearance Area	243	1,042
Rose Vale No. 3 Clearance Area	95	416
St. George's Hill Clearance Area	140	774
Upper Beau Street No. 1 Clearance Area	72	373
Upper Beau Street No. 2 Clearance Area	40	196
Upper Beau Street No. 3 Clearance Area	273	1,097
Vescock Street Clearance Area	10	37
Warwick Street No. 3 Clearance Area	4	8
Wellington Grove Clearance Area	52	201
Zante Street Clearance Area	282	1,341
Totals	2,364	10,271

PROGRESSIVE SUMMARY OF POST-WAR SLUM CLEARANCE

Year	No. of houses represented	No. of persons rehoused
1946	—	1,396
1947	35	2,540
1948	65	1,299
1949	373	1,678
1950	39	1,536
1951	—	943
1952	524	2,099
1953	1,740	2,828
1954	1,676	2,702
1955	1,003	2,541
1956	1,640	1,783
Totals ...	7,095	20,345

DEMOLITION ORDERS

During the year, 95 individual houses were represented as being unfit for human habitation within the meaning of Section 11 of the Housing Act, 1936, which were dealt with as follows:—

Closing Orders made under Section 10 Local Government (Miscellaneous Provisions) Act, 1953	70
Demolition Orders made	8
Undertakings given not to relet	1
Number of representations still to be considered	16

CLOSING ORDERS

Parts of 57 premises were represented as unfit for human habitation under the provisions of Section 12 of the Housing Act, 1936 and were dealt with as follows:—

Closing Orders made	43
Number of representations still to be considered	14

OFFICES AND WORKPLACES.

Absence of Welfare Legislation

Systematic inspectorial visits have continued to be made to offices and workplaces throughout the year and apart from queries relating to sanitary accommodation most of the complaints and problems that have been encountered have had some reference to conditions affecting the welfare and comfort of clerical workers which cannot be dealt with effectively owing to absence of legal minimum enforcable standards. The year's work has shown that there is still a need for the implementation of those standards recommended by the Gowers Committee in 1949 in respect of lighting, heating and washing facilities, etc.

The absence of definite legislation designed to control offices makes it difficult to press for precise environmental conditions and amenities which are most desirable in this class of employment and in cases where queries have arisen in respect of such matters, reliance has been placed in the knowledge and experience of specialist technical officers from the department. In practice the services of these officers are frequently enlisted to deal with environmental problems concerned with ventilation, lighting and heating not only by employees but by architects and other professional persons.

Ventilation and Heating

It was noted that there was a further increase early in the year in complaints of inadequate heating and unreasonably low temperatures in rooms used by clerical workers and, not withstanding the lack of legislative support, investigations were undertaken with the permission of occupiers or persons in charge. Appropriate guidance and advice was given in all cases and further visits were made to the premises to see if this was effective.

Although a number of requests for assistance came from workers in new offices where mechanical ventilation had been installed without due regard being given to compensatory means for maintaining the right space temperature, the older type of commercial premises was responsible for many complaints which on examination were found to be mainly a question of draughts.

Draughts and new installations

In old buildings, dependent upon natural ventilation, it is often difficult to achieve a comfortable working temperature without creating draughts which are an anathema to most people whose work is of a sedentary nature.

The replacement of solid fuel fires and open fireplaces by central heating or electric and gas radiators, which is being encouraged in the proposed smokeless area in the City, has reduced the tendency for draughty conditions in small offices, but it is often overlooked that a chimney flue is generally an effective outlet for removing vitiated air from a room and in several cases where this has been sealed it has been necessary for action to be taken by the inspectorial staff to arrange for alternative means of ventilation to be provided.

INSPECTION OF FACTORIES.

Powers of Local Authority

It is not generally appreciated that local authorities possess wide powers so far as industry is concerned, particularly where industrial activities prejudice the amenities of a district and interfere with the personal comfort of residents in the area, or where the effect of a manufacturing process presents a risk to the health of the community. Hence, the detection and abatement of nuisances from industrial dust, obnoxious odours and excessive mechanical noise is important and provides the public health inspectorate with many varied and intricate technical problems.

The solution of these problems may necessitate lengthy investigation by inspectors who must possess a general knowledge of manufacturing processes, methods of production and engineering practice.

In many cases it is necessary for the officer to confer with the management and technicians on the practicable measures which might be adopted to mitigate the nuisance and a degree of technical "know-how" is essential in such circumstances.

Food Factories

The supervision of food factories and works canteens demands special experience and the ability to recognise food which is unfit for human consumption and to appreciate those factors which may be vital in the prevention of outbreaks of food poisoning.

Industrial Hygiene

It is true that the powers of the local authority under the Factories Act, 1937, are somewhat limited where the health and welfare of factory workers are concerned but there seems no logical reason why these should not be extended.

The health of the community is essentially the responsibility of the public health authority which should be concerned with environmental conditions in the home, at work or in places of entertainment where the aims of health are identical.

Industrial Nuisances.

Industrial Effluvia

Many complaints have been submitted during the year of obnoxious smells from industrial processes and activities. On enquiry, it was found that many of these were due to mechanical breakdowns or through

mistakes or errors of judgment on the part of the operators controlling some industrial plant or process which permitted a temporary emission of effluvia into the atmosphere.

In other cases, protracted investigations were necessary to find the source of the trouble and to discover practical methods of dealing with the problem.

Effluvia from By-Products Plant at Abattoir

Towards the end of the year complaints were received that obnoxious odours were again coming from the Stanley Abattoir after the district had been free from this nuisance for fourteen months. The source of this trouble is undoubtedly one of the by-products plants processing offal and abattoir waste, but notwithstanding the fact that constant observation has been kept, it has not been possible for several reasons to identify the offender. Warning letters have been sent to all the firms concerned and it is noticeable that the nuisance has diminished considerably since this action was taken. Investigations will, however, continue until the trouble has been eliminated.

Noise

One of the penalties of living in this modern age is to suffer a continuous bombardment of noise from the multitude of electrical and mechanical devices employed by commerce and industry.

As a general rule the community becomes acclimatised to the clamour of everyday life and learns to tolerate and accept a reasonable level of noise without complaint, but new industrial installations and activities are continually being introduced which adds to the clamour and not infrequently results in appeals from local residents for the department to take steps to ameliorate the position.

Prior to the Liverpool Corporation Act, 1955, there were no general or local powers to deal with excessive or unreasonable noise and even now, industry is protected to the extent that an offender is given the opportunity of convincing the court that the best practicable means are being taken to prevent or mitigate the noise.

Noise is a curious phenomenon. The intensity or kind of noise which irritates one individual may not affect his neighbours and this fact is exemplified in complaints received by the department.

In one case although the noise of a high speed fan did not worry people residing in the vicinity of the installation, a person living about ¼ mile away declared that it "got on her nerves".

A complainant in a house a few yards from the main railway line to London was not disturbed by the terrifying racket of passing trains and shunting engines but by the rumble of a mortar mill some 50 yards distance.

An inspector who visited a complainant at his shop where electrical supplies were sold could hardly make himself intelligible owing to the cacophony of a radio gramophone in the shop and was surprised to be told that the dealer was complaining about the noise from a washing machine used by the proprietor of the small laundry in the adjoining premises.

Excessive noise is, however, often caused by worn and bady sited machinery and by careless action of workers. Abatement notices have been served but the approach to this vexed problem is usually advisory and as a general rule this is effective in mitigating the nuisance.

Complaints were received during the year of noise arising from the use of circular saws, high speed extractor fans, cobbling, high frequency air compressors, mortar mills and the handling of milk bottles, etc.

Legal Defence for Industry

It is worth noting that the Public Health Act, 1936, which contains powers to require the abatement of industrial nuisances relating to effluvia and noise also provides that it shall be a good defence for an offender to show that the best practicable means were taken to prevent or counteract the nuisance. In practice the effect of this protective clause means that the inspectors must be able to show that reasonable measures can be adopted which will allow the process or operation to proceed without causing annoyance to residents in the district.

Co-operation of Industry

As a general rule industrial managements are anxious to co-operate and take the necessary steps to mitigate the trouble although this sometimes entails expensive research and experiment.

Effluvia complaints dealt with during the year include fumes from

asphalt melting operations and chemical and galvanising plants; smells from fertiliser and paint works, cellulose spraying and coffee roasting, etc.

Industrial Canteens

Not all industrialists are aware that all places where food is supplied are subject to the provisions of the Food Hygiene Regulations, 1955, whether the food is sold, or provided free and without profit and this fact has to be pointed out to business executives on many occasions when the subject of canteens has been raised.

This often happens in smaller factories where the canteen staff consists of a cook and one or two assistants and is controlled directly by members of the staff, workers' committees or shop stewards.

Mess rooms used solely by employees who cook or bring their own food do not come within the scope of the new law and are the responsibility of H.M. Inspector of Factories.

The importance of the Canteens

The regulations are designed to minimise the risk of food poisoning outbreaks and it is equally important to worker and employer that food should be so prepared in a cleanly manner and be free from bacterial contamination.

The canteen has undoubtedly become such an integral part of the factory welfare that carelessness on the part of a canteen worker may easily cause as much dislocation to production as a breakdown in machinery and no effort is spared to emphasise this point and the paramount importance of providing clean and safe food to employees.

Outworkers

In accordance with the provisions of the Act, outworkers' returns are received twice yearly and the premises referred to in the returns are visited to ascertain whether work is carried on in any place which is in the opinion of the local authority injurious or dangerous to the health of persons employed therein.

The returns received during the year indicated that 404 outworkers were employed during the year. The premises where outworkers carried on the work were visited and found to be satisfactory. 51 outworkers whose names were included in the returns were employed in districts

outside the city and these were referred to the authorities concerned while 14 names of local outworkers were referred to this department by other authorities.

Annual Report to Minister of Labour and National Service

Under Section 128(3) of the Factories Act, 1937, the Medical Officer of Health is required to furnish the Minister of Labour and National Service each year, information relating to the administration of the Act by the local authority.

The prescribed particulars are given in tables on Form 572 (revised) issued by the Ministry and a copy of this is included in the statistical appendix.

Rag Flock and Other Filling Materials Act, 1951.

The administration of the above enactment is carried out by certain authorised inspectors.

The Act provides for the registration of premises in which specified filling materials are used in the manufacture of new bedding and upholstery, toys and baby carriages and for the annual licensing of of manufacturers and storers of rag flock.

Sampling of Filling Materials

Powers are given to take samples of filling materials for the purpose of testing by a prescribed analyst, and regulations have been laid down which govern the standard of cleanliness to which the materials must conform.

At the end of the year the number of premises licensed and registered was:—

No. licensed to manufacture Rag Flock	1
No. licensed to store Rag Flock	8
No. registered in which filling materials are used ...	82

Samples taken

Twenty-five samples of filling materials were taken during the year, being 8 Rag Flock, 5 Coir Fibre, 2 Layered Cotton Felt, 5 Woollen Flock, 3 Woollen Mixture Felt, 1 Kapok and 1 Feathers.

Offensive Trades

No applications were received during the year for consent to establish an offensive trade.

Visits were made to 68 trades in operation and where necessary notices were served in respect of defects found in this class of premises.

Employment Agencies

These premises are controlled by byelaws made under the Liverpool Corporation Act, 1927 and visits were made from time to time to ensure that the requirements of the byelaws are being carried out. There were 38 licensed employment agencies on the register at the end of the year.

LIVERPOOL CORPORATION ACT, 1955.

Pigeons and Starlings.

Nuisance from Pigeons and Starlings

Wild pigeons and starlings throughout the years have been allowed to breed, nest and live unmolested, with the result that their population has increased to such an extent as to become a serious nuisance in the city.

Pigeons, especially, cause appreciable damage to public buildings by erosion of stonework through constant fouling, and in addition are responsible for the disfigurement of ornamental enrichments of buildings, and of statues. They also cause much damage to food and other goods in factories and warehouses along the dockside.

With a view to a considerable reduction in the pigeon population in the city, the local authority have been empowered under the Liverpool Corporation Act, 1955, to take action to destroy the birds. The Act provides for abating or mitigating any nuisance, annoyance or damage caused in the city by house doves, pigeons or starlings believed by the Corporation to have no owner. In this connection the birds may be seized and humanely destroyed in excess of such number as the Corporation may consider reasonable.

The local authority, however, are not authorised under the Act to enter upon any premises other than a public highway without the consent of the occupier or person having control or management of the premises or land.

The department has investigated the extent of the problem during the year, and it is found that the pigeons are causing nuisance and annoyance in varying degree in all districts of the city, particularly the central area and dockside.

Destruction of Wild Pigeons

Measures have been taken, therefore, during the year to reduce the wild pigeon population in the city. A total of 2,169 wild pigeons

have been caught and painlessly destroyed, and the work was carried out chiefly at night and early morning by expert operators of the rodent control section.

The majority of the pigeons were caught on public buildings, but work has also been carried out on a variety of other premises, including comercial, industrial properties, and private dwellinghouses, at the request of the occupiers, and the full cost of the work was charged to the occupiers concerned.

The regular practice of feeding pigeons by members of the public renders the work of trapping very difficult, and necessitates drawing the birds on to the roofs of buildings and conditioning them to feed before trapping can be accomplished.

Netting of pigeons on the buildings was carried out wherever practicable, and for this type of treatment the men had to work during the hours of darkness and operate from ladders on high buildings.

Preventative measures

Recommendations were made, wherever reasonable and practicable, relating to the proofing of premises to prevent the entry of wild pigeons. With regard to public buildings and other large buildings in the city, building out the birds to prevent them from perching and nesting in recesses and on ledges is considered to be impracticable and the cost prohibitive. The reduction of their population, therefore, to a reasonable number would appear to be the only solution to the problem.

Starlings

Starlings spend their time during the day and obtain their food on numerous sites in the green belt on the outskirts of the city, and fly into the central area at dusk to perch on public offices and other large buildings for shelter at night, and therefore are not such a serious nuisance as pigeons. The trapping of starlings would necessarily have to be carried out on many different sites on the outskirts of the city to have any effect in reducing their number. The trapping of these birds, therefore, is considered to be impracticable.

Rodent Control.

Prevention of Damage by Pests Act, 1949.

Duties of local authorities and occupiers

The Prevention of Damage by Pests Act, 1949, requires every local authority to take such steps as may be necessary to secure, so far as practicable, that their district is kept free from rats and mice.

Occupiers of buildings and lands are required by the Act to notify the local authority when rats or mice are living on or resorting thereto in substantial numbers.

Energetic measure have been taken for many years in Liverpool to ensure the destruction of rats and mice and to bring to the notice of the public the necessity of reducing the rodent population to the lowest possible dimensions, and the work has been continued throughout the year. The importance of maintaining adequate rodent control is now generally accepted, for it is recognised that a large rat and mouse population would be a potential danger to the health of the community.

Due regard has been given to the possibility of food contamination by rats and mice, and systematic survey was carried out of food factories and warehouses, retail food shops and catering establishments as a preventative measure. Immediate steps were taken to remedy any infestation found, however slight, by co-ordinated and concerted action of the rodent control staff and the occupier concerned.

There is every indication, from the systematic survey of buildings and lands in dockside wards and the central area, that the rat population in the city has been considerably reduced. Furthermore, this satisfactory position also applies to the sewers in the city and it is estimated, by the large reduction in baits taken, that the rat population in the sewers has fallen by at least 70 per cent since the initial poisoning treatment was applied by this department in 1953.

Any slackening of effort would soon result in a build-up of the rodent population, and this underlines the importance of systematic inspection to detect and remedy infestation before it develops to serious proportions.

The routine survey has revealed that many sites have remained free from rodents since they were successfully treated some years ago, and amplifies the effectiveness of the block system of control applied by the rodent control staff to remedy all infestations found.

The rat infestations found during the year were generally very minor in degree.

Mouse infestation wherever it is found, either by routine survey or complaint, continues to receive the serious attention of the department, and much time is spent by the rodent control staff on this very important part of its work. Although many complaints of mice, especially from dwellinghouses, were received during the year, generally the infestations were slight and remedied without much difficulty.

It is apparent that the public are becoming more and more "rodent conscious", even to the extent of reporting a stray rat or mouse, and are anxious to avail themselves of the advice and practical assistance provided for them by the department in the destruction of the pests.

PRECAUTIONS TAKEN AGAINST THE SPREAD OF DISEASE.

General Rodent Control Precautions.

Action against plague

Precautions have been taken against the spread of plague, a disease which may be brought into the port by rats, and specimens of rats and mice collected are sent to the Public Health Laboratory for examination. It is satisfactory to report that all rodents submitted during the year were found to be free from plague.

Precautions against Weil's disease

Rodents are carriers of the organism leptospira icterohaemorrhagiae, causing Weil's disease, and in order to safeguard not only the public but the sewer worker, who is required to enter the sewers where he may become infected by this disease, specimens of rats caught in sewers and on the surface were submitted for examination. Therefore, although poisoning is the chief agent used for rat destruction in sewers in the city, spot trapping was employed in advance of poisoning treatments to obtain specimens for examination as a further precautionary measure against the spread of infection.

During the year 23 rats, 12 from sewers and 11 from buildings and lands, were submitted for examination, and four rats from the sewers, *i.e.* 17·38 per cent of the total or a third of those sent from the sewers, were found to be positive carriers of the organism.

Immediate action was taken and the buildings and lands in the districts concerned were surveyed. The vertical block control system was applied to remedy the infestations found, which means that the destruction of rodents in the sewers, buildings and lands by the requisite treatment was carried out at one and the same time.

Systematic Survey

The rodent control staff examined 27,765 sites during the year in connection with systematic survey and investigation of complaints. A further 62,436 visits were made entailing operational work and re-examination of buildings and lands. Public health inspectors also made, in conjunction with other matters, 108,234 inspections under the Act.

Complaints relating to rats and mice to the total of 4,844, which is a substantial decrease from the previous year, were received and promptly investigated. All premises concerned were examined together with circumjacent buildings and lands when infestation was found to exist, and appropriate action was taken with the minimum of delay.

The regular systematic survey work continually applied throughout the vulnerable areas of the city is of primary importance for the detection of rodent infestation before it is allowed to develop to serious proportions, and has been one of the major reasons for Liverpool being in the forefront of rodent control.

Rodent Infestation.

Infestations—Buildings and Lands.

Buildings and Lands

During the year 27,765 buildings and lands were examined and 5,063 were found to be infested (the majority very slightly), details of which are shown in the statistical appendix.

The principal sites affected were warehouses and factories within the dockside wards, whilst the central area continued to maintain a substantial decrease in rodent infestation as the result of rodent control measures taken during past years.

Transportation in goods

There was further evidence during the year of the transportation of rats and mice from time to time in goods delivered to premises. Infestation by such means would account for ship rats being found in buildings situated some distance away from the dockside wards, and also be the cause of reinfestation by rats and mice of buildings successfully cleared of rodents, particularly when the circumjacent sites are free from infestation.

This aspect of rodent infestation is being further investigated. In all cases, as a preventative measure, enquiries were made relating to

the consignor of the goods so that appropriate action could be taken at the source.

The middle belt of the city has been subject to rat infestations of minor degree and for the most part due to rats escaping from the sewers through defects in the drainage systems in search of food waste at times thrown carelessly into yards and public passages. 1,067 references were forwarded to the public health inspectors for inspection of drains and such sites to further the investigation into the source of rat infestation, 818 relating to dwellinghouses and 249 to business premises. Defective drains were subsequently reported in 446 and 117 cases respectively, and the necessary action was taken to remedy the defects found.

Infestation of land and ditches

Infestations in the outer belt of the city were generally of very slight degree and were mainly due to rats harbouring in their natural surroundings, such as banks of brooks and ditches, and embankments, and attracted to nearby dwellinghouses in search of food, the food often being supplied, quite unwittingly, by persons throwing bread into the gardens for birds.

In some cases rats and mice disturbed from their natural harbourage on land developed for new housing estates entered the houses during or after construction.

Another attraction for rodents exists on sites where poultry is kept, and temporary harbourage in the form of compost heaps in gardens is often provided quite unintentionally by occupiers.

Although it is noted that the presence of rats was reported in connection with a large number of dwellinghouses, the majority by far were small external infestations. The limited supply of food and facilities for harbourage in such places available for rats necessitates their taking a wide range of movement in search of food, thereby increasing the number of sites showing traces of the pests without concentrated areas of infestation.

The prompt action by occupiers in reporting the presence of rodents to the department enabled the district rodent operatives to take the necessary steps to remedy the infestations before they developed to serious proportions.

A report of the conditions and extent of infestation was made in each case, including the prescribed treatment to effect a speedy remedy, together with any reasonable recommendation for preventing a recurrence of infestation.

Details of infestations and disinfestations are shown in the statistical appendix (Table 54).

Rodent Disinfestation.

Disinfestation of buildings and lands.

Methods of Disinfestation

The aim of the Rodent Control Section has been to destroy all rats and mice within the area of infestation within the shortest possible time, preferably within three or four weeks from the commencement of the treatment. By so doing, the danger of the infestation being maintained by the invasion of rodents from neighbouring buildings and lands, and the natural increase of rodents by breeding has been reduced to a minimum.

The treatment to remedy infestation was prescribed and applied in accordance with the approved methods of rodent destruction now practised, which means that all infested sites within each area were dealt with at one and the same time to a pre-arranged timetable under the block system of control. Whilst disinfestation was proceeding, the non-infested sites bounding those under treatment were periodically re-examined as a precautionary measure.

Generally it was found that occupiers readily agree to the recommendations of the department for the destruction of rats and mice, but in one case it was necessary to serve a notice under the Act to obtain the desired result. It has not been necessary to institute proceedings for non-compliance under the Act.

Infestations are not considered remedied until no further trace of rodents is found during a period of three to four weeks after treatment has been completed.

During the year 5,246 buildings and lands were disinfested.

Dwelling-houses

The practice of providing free assistance to the occupiers of private dwellings has been continued during the year, and although there was

a decrease of the work in connection with rats, there was a slight increase in the number of dwellinghouses requiring treatment for the destruction of mice.

Business Premises

Owners or occupiers of buildings or lands other than private dwellings who desire the department's assistance for the destruction of rats or mice are required to reimburse the local authority for the expenditure incurred. The demand for such assistance is still quite appreciable, and 1,886 requests were received during the year.

Many occupiers in addition request the department to examine their premises at regular intervals in order to maintain a constant and expert supervision so that the slightest indication of any rodent activity can be speedily and skilfully dealt with. The full cost of this special inspection and operational service has been also charged to the occupier concerned.

Methods of Destruction.

Buildings and Lands—Poisoning.

Methods of Destruction

The principal and most effective method employed for rat and mouse destruction is by the use of both quick and slow acting poisons.

The quick acting poisons used are zinc phosphide and arsenious oxide for both species of rats and for mice, and Antu (alpha naphthyl thiourea) for the common rat. The use of these poisons for rats and, to a lesser degree, for mice necessitates pre-baiting the site undergoing treatment with unpoisoned food in the form of token bait for several days before poison is applied. In this way rodents are conditioned to take a lethal amount when the unpoisoned bait has been replaced by poison bait.

Red squill poison is not now recommended for use in rodent destruction on account of its unreliability of toxity.

Modern science has produced for rodent destruction a slow acting poison known as Warfarin, a blood anti-coagulant which, when ingested regularly in small doses over a period of days, causes fatal haemorrhage in rats and mice. The major advantages of this slow acting poison are the low concentration of poison required to be effective, which induces little or no bait shyness and enables it to be

used without the need for conditioning the rodents beforehand to feed from unpoisoned bait, and its comparative safety for application in dwellinghouses and schools.

However, certain precautions are necessary when laying any type of poison bait, and where it would be dangerous to humans, animals or birds to leave the poison unprotected, the bait is placed in containers accessible only to rodents as a safety measure.

Of the 5,411 infestations and re-infestations remedied during the year, 4,812 were treated by the department. Of these, 4,802 were cleared by the use of poisons and the remaining 10 were remedied by trapping only.

It may be interesting to know that of the 4,802 infestations remedied by poisoning, 3,976 were remedied by one treatment, 670 by two treatments, 125 by three treatments, and 31 by four or more treatments.

Trapping is generally used for very slight infestations, or as a secondary measure to deal with a residual population of two or three rats or mice which have survived a poisoning treatment. Break-back traps of the treadle type are used for this method of destruction and, to a much lesser extent, sticky trays where conditions are favourable for this form of treatment.

The remaining 599 infestations were remedied either by the occupiers applying approved treatment prescribed and supervised by the rodent control inspectors, or by drainage systems being repaired under the supervision of the public health inspectors.

Calculating the kill.

Estimated number of rats killed

It is estimated, using the appropriate formula for calculating the kill, that at least 15,443 rats in buildings and on lands were destroyed during the year as a result of poisoning treatments, and 1,906 were collected during operations. 365 rats were caught in traps in buildings and on lands. Thus the total number of rats destroyed during operations to remedy surface infestations was estimated to be 15,808.

The species of rats collected were 1,056 rattus norvegicus ("brown" or "common" rat) and 1,215 rattus rattus ("black" or "ship" rat).

A percentage of rodents collected, 338 rats and 6 mice, were sent to the Public Health Laboratory for examination and the remainder burnt.

Destruction of mice

Although there is no reliable formula available for calculating the kill in relation to the poisoning of mice, there can be no doubt that the number of mice destroyed by this method is considerable when taking into account the amount of poison bait consumed, namely, 12,230 ounces.

2,308 mice were collected as a result of poisoning and trapping operations.

Rat Destruction in Sewers.

Sewer treatment

The popular belief that rats found in sewers are fundamentally different from the "common" or "brown" rat found in buildings is incorrect. Sewer rats are of the same species (rattus norvegicus) and can use the sewers as the means of traverse from one building to another through defects in the drainage systems. Therefore in order to maintain a high standard of rodent control in the city the work of rat destruction on the surface and in the sewers is closely co-ordinated.

With a view to eliminating infestations of buildings and lands having their source from the sewers, maintenance treatments for the destruction of rats have been applied during the year with very satisfactory results, as indicated in the tables in the statistical appendix. There is evidence that as a result of the action taken during recent years the breeding and migration of rats through the sewers and drains has been considerably reduced.

There are 25,737 sewer manholes in the city and the last maintenance treatment applied during the year showed that 2,950 manholes had takes of bait compared with 9,329 during the initial treatment in the year 1953, which is a reduction of 68.4 per cent and is a further indication that systematic maintenance treatments for the destruction of rats in sewers are having their good effect.

In order to observe the strictest economy in the work without impairing adequate rat destruction, revisits were not made to manholes, after treatment had been applied for the purpose of recording poison takes to estimate the kill.

In the outer belt of the city, where sewers had been previously found to have little or no rat infestation, and in the divisions in which sewers had been disinfested by maintenance treatments, the annual test baiting was applied as a precautionary measure to discover whether there had been any change or migration of the rat population into these areas, and details are shown in the statistical appendix. Where evidence of rats was found during test baiting, treatments to remedy the localised infestations were subsequently applied.

Of the 88 divisions wholly or partly test baited, no takes were recorded in 61 divisions containing a total of 10,130 manholes.

It will be seen from the tables that whereas manholes treated have fallen in number, those test baited have increased, thereby indicating that the rat population in the sewers has been greatly reduced.

Preventative Measures.

Preventative Measures

Co-ordinated action by the public health inspectors and the rodent control staff was taken where required in relation to preventative measures. Conditions likely to lead to infestation were at once brought to the notice of the owner or occupier of the building or land.

Works of Proofing

Preventative measures and works of proofing were carried out during or immediately following disinfestation, as required.

The immediate proofing carried out included the provision of suitable containers with tight fitting lids for the storage of waste food at cafes and other premises in order to remove a readily accessible food supply for both rats and mice and thereby assist the work of rodent destruction.

The more permanent measures executed were the proofing of food stores, the repair of defective drains, the fixing of metal plates to the bases of doors, providing windows and ventilators in external walls and on roofs with small mesh wire guards, bricking up openings in walls and around waste pipes, overflows, service pipes, etc. (thus preventing means of ingress for rodents), and the abolition of unnecessary harbourage.

Occupiers of premises generally showed readiness to comply with suggestions and good advice given to them by the rodent control staff,

but where they failed to co-operate, statutory action was taken by the public health inspectors and 23 notices were served under the Act. It is pleasing to note that during the year it was not necessary to institute legal proceedings.

Administration of the Shops Act, 1950, and Young Persons (Employment) Act, 1938.

The changing years

The changing years of the past quarter of a century or more have had no less effect upon the work associated with the Shops Act, than they have had on many other aspects of Public Health, social and welfare functions of the department. The conditions which prevailed in those early days of the 1912 Act, when the closing hours of shops were so late that there was a serious exploitation of labour and shops inspectors were veritable policemen, have changed to such an extent that the law has become in certain respects outdated. This change has brought about a new appraisal of the methods of enforcement and the inspector has become more of a welfare officer and adviser.

Late Closing in the past

Methods of enforcement changed

The days have gone when the shops inspector was almost universally looked upon with dread, or as someone to be avoided, because he is now accepted by shopkeepers as a protector and guide, and by assistants as a friend.

Inspector as a guide and diplomat

This is due, in large measure, to the understanding borne of experience gained on both sides. Inspectors have learned the many difficulties peculiar to certain classes of trade in particular districts, and an appreciation of the many obligations shopkeepers have to meet apart from those under the Shops Act. In fact, the inspector has had to become a diplomat as well as an official, and temper his action with due consideration.

Law abiding shopkeepers

It is realized that the majority of shopkeepers are anxious to keep within the law, not because of fear of prosecution but with a sense of good citizenship. Unfortunately, these traders are often the victims of those shopkeepers who are determined to take every opportunity of breaking the law, and it is in these cases that the inspector has to be first and foremost a strict enforcement officer.

Persistent offenders

Complaints of late trading

Many complaints are received from shopkeepers about trading after closing hours and on Sundays, and the careful investigations required

are usually tedious, calling for prolonged observations in the open until it is expected that evidence is obtainable. Some shopkeepers are trading after eleven o'clock at night, and in some instances the shop door is kept fastened and customers, usually nearby residents, have to knock, when they are admitted with almost amusing caution and the door fastened behind them so that the transactions cannot be seen.

Administration.

Inspections

It has been possible during the year to give increased attention to the enforcement of the Shops Act, 1950, by widening the scope of the duties of district public health inspectors, and the employment of assistant inspectors, who have supplemented the work of the specialist inspectors.

Altogether 16,940 inspections of retail shops of all classes, cafes, clubs, hairdressers, warehouses, pet shops and places of entertainment, have been made during the year. These are additional to the routine and special visits to shops at night, on the early closing day, and on Sundays which totalled 128,952.

Half-day closing

There has been no appreciable increase in the tendency for sales after 1 p.m., on the weekly half-holiday, and it is apparent that shopkeepers appreciate this break in the middle of the week. The contraventions on this day usually occur in the evening in the small general shops.

Evening closing

Change conditions

The evening closing provisions are generally well observed, but the small shops still remain the cause for complaint and action. It would appear that the changed economic situation and increased competition has caused some shopkeepers to keep their shops open later than formerly and to take "chances" in selling after hours.

Infringements

In most cases infringements have been adequately dealt with by warning letter, but in 7 of the court cases taken, penalties totalling £10 10s. 0d. were imposed.

Sunday trading

The changes indicated in respect of evening closing apply to Sunday trading, and whilst the main business is done during the morning period, it has been found that a few shops are now keeping open later in the day. This does not necessarily point to increased public

demand, but rather to the desire of the shopkeeper to attract customers. This factor is placing an increased demand on the inspectors' attention.

Assistants' half-holiday

The requirements of the Act in respect of the assistants half-holiday have been well observed. A few instances were found of assistants working after 1.30 p.m., but in each case they were given a holiday on another day, and the only infringement was the technical one of the failure of the employer to amend the half-holiday notice on the previous Saturday. Warning letters were sent in these cases.

Overtime pay

The only problem in dealing with some cases is that the assistants prefer to work on their half-day in order to get additional pay. This is not permissible under the Act.

Employment of young persons

The hours of employment of young persons (under 18 years of age) is an important aspect of the Shops Act provisions, and inspectors always give careful attention to this factor. The appropriate records are checked and if there is reason for doubt the assistants are questioned. There has been no cause for action in these cases and generally the total hours of employment rarely exceeds forty hours per week, which is well within the maximum.

Night Employment of young persons

Young persons cannot be employed after 10 o'clock at night, except in certain occupations such as in cinemas and restaurants. Attention has been given to this aspect, particularly at Christmas time, but no contraventions were found.

Welfare arrangements.

General

The welfare provisions of the Act, dealing with sanitary conveniences, washing facilities, heating, lighting, ventilation and the facilities for the taking of meals, are given full attention and it is worthy of note that the concentrated work by inspectors in former years has produced conditions in shops which must be considered generally satisfactory.

Inspections

These achievements, however, do not permit any lessening of attention by the department. There is reason to believe that without the supervision of inspectors satisfactory conditions would not in all cases be maintained.

New Work

Close attention has also to be given to alterations and extensions to premises, and the construction of new buildings, for it is known that new work is so planned that in many cases the requirements of the Act are not fully met. This entails the examination of plans submitted to the local authority and consultations with architects and owners of property. The co-operation of interested persons with this department is fully appreciated, and results in the saving of time and money, and work completed to the satisfaction of the department.

Examination of plans

Routine work

Routine inspections of existing premises for the purposes of this section (Section 38) have increased during the year, and in the main have concerned the maintenance of the existing facilities in the shops.

Old premises

In a few instances problems have arisen in providing amenities in old premises with very limited space. By tactful action and consultation the difficulties have been satisfactorily overcome, and it has not been necessary to grant certificates of exemption.

Hairdressers and Barbers.

Appointed day

The provisions of the Liverpool Corporation Act, 1955, Section, 42, relating to hairdressers and barbers came into force on the 1st May, 1956. Before that date a survey had been completed, as the result of which all known hairdressers were supplied with forms of application for registration.

Registration

There was excellent co-operation by the hairdressers and the application forms were returned, with very few exceptions, without delay. There are now 576 establishments registered with the local authority, and it is gratifying to be able to record that the whole of this procedure functions smoothly.

Inspections

The byelaws under this section have not yet been approved, but inspections are proceeding and hairdressers have been sent informal intimations of the work required to satisfy the requirements of the enactment, and of 506 items notified 301 have already been satisfactorily remedied. Altogether 1,268 visits have been made to hairdressers establishments for various purposes, including those requested by persons seeking advice.

Hairdressing in houses

One satisfactory result of this enactment has been to reveal those businesses carried on in dwellinghouses, and appropriate action has been taken, where necessary, to bring these places up to the required standard.

Hidden businesses

There is still a considerable number of such businesses hidden behind the curtains of living rooms, bedrooms and bathrooms, where conditions may be extremely unsatisfactory. Many of these persons, of course, only attend to friends, but in the absence of information it is impossible to discover them.

Places of Entertainment.

Supervision

Day and evening visits to cinemas, theatres, dance halls and other places of entertainment have been maintained during the year, for the purpose of dealing with the general cleanliness of the auditoria, seats, sanitary conveniences, staff and projection rooms, the maintenance of a suitable temperature and adequate ventilation.

Maintenance

Wilful damage

The general standard maintained in these establishments is commendably high, particularly when consideration is given to the amount of wilful damage and gross misuse which occurs in most cinemas.

Managers have an unenviable task especially in certain parts of the City, and their endeavours and promptness with which they deal with the matters brought to their attention by the inspectors have been appreciated.

Sale of ice cream and sweets

The provisions of the Food Hygiene Regulations, 1955, have been enforced in respect of the sale of ice cream, sweets, chocolates and fruit drinks. All these commodities are pre-wrapped, therefore, there is little risk of contamination.

Inspections

During the year 325 evening visits have been made in addition to day inspections, and 29 defects were found and remedied satisfactorily.

Pet Animals Act, 1951.

Licensing

There were 71 licences issued to persons carrying on business as dealers in pets, and during the year 170 visits were made to ensure that the provisions of this enactment were complied with satisfactorily.

Inspections

In only one case was action necessary, when a market stall was found to require improvement. The work was carried out to the satisfaction of the department.

Complaints

Complaints were received alleging puppies were being sold at one establishment which were either sick when the purchasers got them home, or that the puppies were sold at too early an age. Subsequent investigations failed to produce sufficient evidence on which action could be taken, and in one case a competent person declined to give evidence as to the age of a puppy.

Weaknesses of law

The results of the above investigations emphasized the absence from the Act of a provision whereby pet animal dealers should be required to keep records as to the sources of supply of puppies and other pets, and details of the ages of puppies received from the suppliers. In cases of infectious or contagious illness revealed within a few days of purchase of a puppy, it is impossible to deal with the original source in order to prevent the supply or sale of puppies which have been in contact with sick animals. Local dealers will not voluntarily disclose the source of their supplies, and until effective legal control can be enforced the position will continue to remain extremely unsatisfactory.

Fire precautions

The requirements of the Act with respect to fire prevention are supervised by the Liverpool Fire Service who report to this department matters requiring attention. A number of minor matters have been notified, and were effectively dealt with by the persons concerned.

ATMOSPHERIC POLLUTION.

Recent carefully controlled work by Dr. Percy Stocks has shown that in Liverpool the atmosphere contains a harmful irritant which is a contributory factor in the growth of cancer of the lung.

Analogy of Clean Water and Clean Food

Contamination of water or food supplies causes immediate agitation and is rated worthy of headlines, but the ill-health caused by smog often passes without comment.

Today it is with a certain horror that one talks about the cholera ravages of the last century, or the smallpox epidemics of past periods, but the ravages of smog are still complacently accepted.

Liverpool's Progress

The progress in prevention of atmospheric pollution in Liverpool, although not spectacular, is encouraging. Industrially the problem is concerned with a number of pockets where the management are non-co-operative or there are special industrial, technical or scientific reasons regarding conversion to smokeless combustion.

Two years ago there were approximately 600 guilty chimneys from industrial concerns. Today the figure has been so reduced that now this year only 100 statutory notices have been served regarding persistent offenders emitting smoke from their chimneys.

The first smoke control area is now in preparation and already 90 per cent of the buildings have been converted. A temporary set-back has taken place on the river due to the shortage of fuel oil but tug owners are alive to the methods of conversion and they are trying to instruct their stoker personnel in techniques to combat smoke and maintain fuel efficiency. Even the emission from the Clarence Dock Power Station has improved and there is a possibility of a complete solution to the problem in the near future.

Causes of Pollution

The layman considers atmospheric pollution as what he sees during his daily round, but is it realised that half of the pollution is caused by domestic chimneys and that there are many fume-producing processes, including road vehicles, trains, colliery spoilbanks and ships in coastal areas.

There is no clear answer to removing the cause of pollution and unfortunately there is a tremendous amount of work required technically, administratively and educationally.

Today, however, the combined forces and enthusiasm backed by the Ministers of Health, Housing and Local Government, and Fuel and Power, together with the local authorities' officers and the co-operative goodwill of industrial managements and householders, must succeed in securing an improvement in the colour and purity of the air.

Liverpool's Special Problem.

Investigations into Emission from Clarence Dock Chimneys

The department made respresentations to the Central Electricity Authority regarding the emission of smoke from the chimneys at Clarence Dock. As a result of these complaints special investigations have commenced and a report was received on the 22nd June, 1956 on the work undertaken, results so far achieved and the lines of future progress.

Power Station Equipment

The station was originally designed by the City Electrical Engineer, the late P. J. Robinson, and the station was located on the Clarence Dock site as being in the centre of a heavy load area, and provided with ample space for coal storage as well as having room for future extension. The first machine of 51,250 kW capacity was commissioned in 1931 and a similar unit completed a year later. In 1937 and 1938 two further 51,500 kW sets were added and in 1940 a war emergency extension was commenced. The fifth machine was operating by the beginning of 1943, whilst sixth and seventh machines were installed in 1952 and 1953, respectively. The boiler plant associated with the above machines is all of Messrs. Babcock & Wilcox manufacture and is contained in three separate boiler houses. No. 1 House contains eight boilers and discharges the resultant products of combustion to No. 1 Chimney. No. 2 House contains seven boilers installed between 1938 and 1942, and the gases are discharged to No. 2 Chimney.

Method of Firing

All the boilers in these two houses are fired by chain grate stokers equipped with forced and induced draught, the gas being treated by means of cyclone grit arrestors before discharge to the overhead flues. The latter discharges into very large "down cast chambers" where the velocity of the flue gas is reduced by approximately 80 per cent, thereby

obtaining settlement of grit particles which have eluded the cyclone arrestors. From these "down cast" chambers the gases are discharged to the base of the respective chimneys.

Pulverised Fuel Plant

The remaining boiler house contains five boiler units all fired by pulverised coal and equipped with electrostatic precipitators. These latter units are necessary on pulverised fuel plant as the quantity of grit discharged from the boiler is approximately four times as great as would be discharged from a similar unit fired by chain grate stokers. Additionally such grits are extremely fine and make collection by mechanical means difficult. From the electrostatic precipitator the gases are discharged to No. 3 chimney.

Height of Chimneys

The chimneys themselves are 350 ft. high measured from the dock floor. With respect to the existing ground the effective height will be approximately 325 ft. This height is determined by the recommendations of the Chimney Emissions Committee (1930) who suggested that chimneys should be $2\frac{1}{2}$ times the height of surrounding buildings in order to prevent downdraughts and to ensure that any small particles discharged are safely carried away far beyond the immediate locality.

Smoke Emission

At this point it should be emphasised that all complaints to date have specifically referred to smoke and not to grits and deposition of dust. The smoke is complained of owing to the density and persistence, the colour, viewed from ground level, varies between white and light brown. No complaint has been made with regard to the chimney which serves the pulverised fuel plant and if the remaining chimneys can be brought to the standard of the third then the situation will be satisfactory.

Investigations

The investigation has been divided into two parts—(*a*) mechanical, (*b*) chemical.

Mechanical

As a preliminary the firing conditions on the boilers were checked to ensure similarity to those in other Power Stations where no trouble has been encountered due to smoke persistence. No substantial discrepancies were found but several small modifications were made as a result of this examination.

Coke breeze was being burned to supplement the coal supplies in view of its favourable price relationship with coal. This fuel sometimes

gives rise to difficulties, particularly when of small size and accordingly the practice was discontinued despite the large financial loss involved.

Grit Arrestors

The grit collecting equipment on the boilers serving Nos. 1 and 2 chimneys was inspected and checked. The effectiveness was then demonstrated by testing for grit emission. The results showed that the total quantity of grits discharged to the chimneys was very small and was not only lower than the original recommendations of the Electricity Commissioners, but was capable of complying with any of the modern smoke ordinances which have been enacted both in this country and the U.S.A.

A small improvement in the appearance of the plume emitted from No. 2 chimney was obtained by opening up an interconnecting duct between Nos. 1 and 2 stacks. This had the effect of partly balancing the quantities of gas discharged from each stack counteracting inequalities of loading between the two boiler houses.

Chemical

Work has been carried out on the determination of the acid dew point of the flue gases. The measurement of this factor gives some indication of the sulphur trioxide content of the gases, and it is this component which is considered to be partly responsible for the persistence of the chimney plume.

Cause of Persisting Plume

Previous investigations suggested that acid formed during combustion would condense during passage up the chimney, such condensation being aided by the presence of fine grits forming nuclei for condensation. Emission of grit at Clarence Dock had been shown to be within generally accepted satisfactory limits, this quantity, however, was more than adequate for the provision of sufficient nuclei to produce a fume consisting of condensed acid and water droplets around the central nucleus.

Introduction of Zinc Oxide into Fuel

Further experiments showed that it was possible to depress the acid dew-point of the flue gas from a boiler by introducing zinc-oxide with the fuel. The action here is that the zinc-oxide neutralises the sulphur trioxide content of the flue gas by combining chemically to form non-corrosive compounds which are carried away in the flue gases.

On the 13th October, 1956, arrangements were made to run the boilers associated with No. 2 chimney under test conditions. The units were

loaded to their normal rating, the output from the boilers used being stabilised at the equivalent of 95 MWs. The emission from the chimney was filmed using a colour film and an independent photographer. All boiler units were then treated with an additive to the fuel in the proportion of 3 per cent zinc-oxide to the total weight of fuel. This treatment was maintained for 30 minutes, the proportion being then reduced to 1 per cent additive, 99 per cent fuel, the treatment continuing for a further 25 minutes. The time required for the additive to travel from the point of interjection, beneath the bunker outlet, to the grates was calculated and further films taken of the stack emission at suitable intervals. The acid dew-point of the gases was analysed at the base of the stack and additional samples were drawn from this point to determine the quantity of free zinc-oxide in the flue gas.

Result of Test

The results can be analysed as follows:—

With heavy additive injection the emission of solid particles from the stack would increase considerably. It should be noted that the sizing of the zinc-oxide is of the order of 25 microns or less. This increase in solid particles is reflected by a considerable increase in the condensation of water vapour, the acid dew-point at this time being completely eliminated. As the quantity of zinc-oxide more nearly approached that required to just neutralise the acid constituents, so did the intensity of the plume decrease, the best results being obtained between the period 12.50 to 13.30 hours.

The procedure used is not commercially applicable owing to the high cost of zinc-oxide as an additive and also owing to the very considerable difficulty which would be experienced in exactly proportioning the additive to the amount of coal flowing. Too much additive would be just as bad as too little. In the circumstances it is doubtful whether any solid additive would be satisfactory and it is proposed to continue the experiments using ammonia injected into the flue gases.

The Problem

At this point it is evident that the problem is most unusual. No obvious differences exist between the plant at Clarence Dock and other similar installations elsewhere which are trouble free.

Location

A possibility is that the location of the Station is a contributory factor to the type of smoke emitted. Reference to a map will show that

with winds from the sector between West and North, moisture-laden air from the sea comes inland with only a small amount of low-lying land intervening between the sea and the chimneys. Such air would be lifted, probably to a height of 2/300 feet by the time it passed over the Station, hence the stacks would be discharging into comparatively damp air where little or no dispersal due to evaporation would take place. Visual observation, over an admittedly short period, tends to support this suggestion. The appearances are, that, with winds from other directions than that mentioned above, the plume from the stacks is substantially less, and dispersal more rapid. Further investigations will be required before this theory is substantiated.

Conclusions

The investigations so far have shown that there is no easy solution to the problem of smoke emission at Clarence Dock. The problem is a diminishing one as less coal will be burnt on the older boilers as time goes on. The problem appears to be either one of chemistry or station location, and most probably is a combination of these two factors both of which are under investigation at the present time. The most important single factor is the freedom from trouble of the stack serving the pulverised fuel boilers. Unfortunately it is not possible to convert the older units to pulverised fuel firing, and oil firing would probably add to the problem owing to the high sulphur and hydrogen contents of the fuel oil. Work now proceeding is on the lines of attempting to modify the combustion on the older boilers so as to simulate the conditions found in pulverised fuel units.

Clean Air Act, 1956.

Public Opinion

When public opinion was aroused as a result of the disastrous "London Smog" in 1952, smoke abatement enthusiasts hoped for legislation which would provide for the immediate repression of smoke and other air polluting factors in no uncertain terms, particularly in the case of industry, but a characteristic feature of English law is the reluctance to adopt definite directions and codes of action.

This new Act remains true to this principle in many respects and while there is much to be grateful for, particularly with regard to smoke control areas, the desire for a clean wholesome atmosphere may not be achieved for many years unless industry, shipping and domestic fuel users give unstinted co-operation.

Main Purposes

The main purposes of the Clean Air Act, which received the Royal Assent on the 5th July, 1956, are:—

Reduction in dark smoke

(*a*) to prohibit the emission of dark smoke from chimneys, railway engines and vessels, subject to certain qualifications;

Prior approval

(*b*) to prohibit the installation of new industrial plant unless they are capable of being operated without emitting smoke;

Grit Arrestors

(*c*) to require that the emission of grit and dust from existing industrial furnaces shall be minimised and that new industrial plant burning pulverised fuel or substantial quantities of other solid fuel shall be provided with grit-arresting equipment, and

Establishment of Smoke Control Areas

(*d*) to empower the local authority by order, subject to confirmation by the Minister of Housing and Local Government, to declare "smoke control areas" in which the emission of smoke from chimneys will constitute an offence.

Additional Duties

The Act has now placed additional duties upon the public health inspectors. They have to control industrial smoke, examine plans submitted for new plant, carry out new responsibilties in respect of grit and dust emission, develop smoke control areas, and be ready to absorb any duties that the Minister may add from time to time. In addition there is considerable informal action concerned with propaganda and educational work.

Smoke Abatement.

Observations and Procedure

The results of observations from buildings and high points in the City have established that the three operational spheres still require much concentrated effort to secure and maintain improvement, as will be readily seen from this report, each particular sphere has its own complications and technical problems.

Shipping

It has been estimated that at least 500 vessels use the port daily with approximately a 25 per cent change each day, thus at least 625 ships use the port during the course of a week, many of these ships are potential smoke makers.

Routine Shipping Observations

In order to maintain constant observations of shipping, an inspector has been employed on the river and docks recording the black smoke emissions and whenever practicable and possible the offending vessel has been visited and the responsible officer informed of the nuisance.

In almost all cases where such visits and inspections were made, the cause of smoke was found to be carelessness in firing the boiler furnaces or in attending to oil burning apparatus. **Cause of Excess Smoke from Ships**

Following observations of excessive smoke emissions owners of the vessels received warning letters advising them of the nuisance and if the vessel had been boarded the cause of the nuisance and the remedial measures necessary to prevent a recurrence. Many expressions of appreciation were received during the year from owners or their agents following advice to the personnel responsible for the nuisance. **Warning to offenders**

During the year no legal proceedings have been taken against shipping companies. **Legal Proceedings**

As a result of advice given by the department to shipping companies a number of improvements have been effected including the fitting of the Smoke Eliminator Fire Doors to 3 Dredgers, and six coal burning tugs replaced by oil fired tugs. **Progress**

The number of special complaints of excessive smoke emissions numbered 140 and as a direct result 173 chimneys were observed and a total of 445 minutes excessive smoke recorded, in addition 3,418 routine observations resulted in 6,449 minutes of excessive smoke being observed. **Industry**

Subsequently, 98 Statutory Notices under the Public Health Act, 1936 were issued on the owners of the offending plants and in all but one case during the year it was found unnecessary for legal action to be taken. **Legal Procedure**

After due warning to the owner of one factory it was found necessary to issue a summons under the Public Health Act, 1936. The Magistrate imposed a penalty of £5 and made an order prohibiting any further nuisance. **Action Taken**

Subsequently the owner installed mechanical Low Ram coking stokers which have resulted in improved efficiency of the plant and complete absence of smoke nuisance.

In nearly every case the cause of the excessive smoke emission was found upon investigation and examination of the plant to be due to insufficient care being taken by the staff responsible for the firing of the boiler also the apparent lack of supervision in the preventing of atmospheric pollution by the management. **Cause of excess smoke from Industrial Chimneys**

Inefficient and Defective Plant

Investigation and routine visits to industrial premises revealed many ways in which industrialists could improve the efficiency of the plant and thereby reduce the pollution of the atmosphere by smoke, grit and dust.

A number of boiler plants were visited during the year and it was noted that the efficiency of the plant was greatly reduced due to lack of maintenance and care by the plant engineer. For example, a common fault was found to be defective brickwork setting, dirty flues and economisers resulting in black smoke and grit nuisances.

Recommendation

The inspector, in addition to advising the engineer on the best method to adopt to prevent excessive smoke emission, recommended that the boiler operator should be fully trained as well as the plant fully instrumented by the provision of carbon dioxide recorders, draught gauges and smoke density alarms, as a result, in many cases preparations have been made for these recommendations to be carried out.

Encourage firemen to qualify

The problem of established training for boiler house staff in any but the largest organisations bristles with difficulties, the chief one being the fireman. Many small firms employ one fireman, therefore they cannot allow him to attend instruction classes during the day, and it was found that boilermen generally are very reluctant to attend in the evening unless they receive a bonus or incentive, by the promise of improved status when the certificate is obtained.

Instrumentation

The instrumentation of a small boiler house is essentially the same as that facing the management in any branch of industry. When the management understood that by providing the correct instruments the efficiency of the plant could be increased by approximately 15 to 25 per cent, thus affecting a considerable saving in fuel, orders were given for the plant to be fitted with the instruments recommended.

Domestic Premises

There are 204,486 residential premises in the City and of these some 90,000 are still using old-fashioned open grates burning bituminous coal, in such a manner that during the winter months a considerable volume of smoke and tarry vapours are distilled into the atmosphere at a low level.

Observations during the year have shown that the average dwelling-house chimney rarely emits dark smoke and improvements will, in the main, be recorded when the premises are included in smoke control areas.

Legal Action

In the domestic sphere, legal action is restricted at the present time to the "firing of the chimney" due to excessive quantities of soot adhering to the brickwork.

The Domestic Problem

The problem may be divided generally into the old and the new. In the new residential areas close co-operation with the architects and residents may solve the problems. In the older residential areas many of the houses are sub-standard, and the tenants, due to housing dilapidation and lack of maintenance, may have already lost house-pride, therefore, it is unlikely they will spend money on new fireplaces on houses which are deteriorating, with defective roofs, and in most cases absence of a bathroom and hot water facilities.

Education of the Public

It was found that the best answer to this problem was by advising the citizens of the evils of atmospheric pollution by educational propaganda and information on this important aspect of health.

Smoke Control Area

Further visits to premises in the proposed smoke control area, which is bounded by the Pier Head, Chapel Street, Tithebarn Street, Hatton Garden, Manchester Street, Whitechapel, Lord Street and James Street, have resulted in many occupiers changing to smokeless fuel or alternate means of smokeless space heating such as gas or electricity.

Statistics

The area covers approximately 100 acres and it consists of 53 industrial premises, 1,770 commercial premises, 63 dwelling houses and 34 other premises including local authority and Crown properties.

At present, 2,133 tons of bituminous coal are burnt per annum on industrial plants and 1,546 tons per annum in domestic type firegrates, and in order to comply with the requirements of the smoke control area it will be necessary to replace this fuel by electricity, gas, coke, coalite or anthracite, which are approved by the Minister of Housing and Local Government for use in such areas.

Improvements

New legislation contained in the Clean Air Act, 1956, Section 11, on the establishment of smoke control areas was brought into operation on

the 31st December, 1956. Whilst visiting occupiers in the area, advice was given on the best method to be adopted to comply with an order to establish an area. As a direct result of this procedure large scale improvements have been recorded.

Costs of conversion

The cost of these conversions often exceeded £100 but it must be borne in mind that the reduction in the cost of redecoration, cleaning of furnishing and fabrics will greatly offset the initial outlay.

A number of occupiers applied for confirmation of the change in order to apply for tax rebate on the cost of new appliances and for this purpose a letter was sent.

Other Special Problems.

Railways

More than one-seventh of all the smoke discharged into the atmosphere arises from railway locomotives, and as most of it is produced by shunting engines and stationary locomotives, it tends to be concentrated in the vicinity of marshalling yards, coaling and watering points and stations.

Existing legislation such as the Railway Clauses Consolidation Act, 1845, and the Regulation of Railways Act, 1868 covers smoke emissions from railway engines.

Unfortunately this legislation is most ineffective owing to no particular body being charged with the duty of enforcing the provisions, so the only method of dealing with this type of nuisance is by the individual acting as a common informer. During the year two complaints have been dealt with by the department, by advising the responsible official after confirming a nuisance existed and in both cases the nuisance was abated satisfactorily.

Crown Property

There has been considerable smoke nuisances arising from boiler chimneys at many of the hospitals in the City, giving rise to frequent complaints from the inhabitants of the premises in the neighbourhood of the various hospitals.

As a result of a series of observations on the known offenders it was established that a considerable smoke and grit nuisance existed at a number of hospitals, and in accordance with the procedure of the Public

Health Act, 1936, premises in the occupation of the Crown are exempt from legal proceedings to secure an abatement of smoke nuisance and it was necessary to forward the complaint to the appropriate Minister. The Act lays down that "The Minister responsible if he is satisfied, after due enquiry that a nuisance exists *shall* cause such steps as may be necessary to abate the nuisance and to prevent a recurrence thereof".

Minister's reply

The Minister replied that a comprehensive scheme was in hand for the erection of new boiler houses at the various hospitals, and, in one case, it would take two-and-a-half years to complete the installation although no date of commencement was given. It was agreed the emission at another hospital was due to faulty stoking, but no apparent remedy was contemplated.

It will be necessary to maintain constant observation on the principal offenders in order to minimise what continues to be a serious source of atmospheric pollution.

Local Authority's Property

A number of complaints received during the year concerned the frequent black smoke emissions from property under the control of the Local Authority.

Every effort was made to abate the nuisances and in one case a new boiler plant was installed capable of smokeless operation, and two other premises have new plant on order and it is hoped that work will commence early in 1957 to install modern boilers fired with mechanical stokers capable of correct control resulting in smokeless combustion.

Mobile Steam Cranes

Construction work on the Otterspool River Wall extension has proceeded during the year by the aid of three steam-driven cranes, the boilers being hand-fired with bituminous coal.

These boilers are so constructed that it was impossible to maintain the steam output without causing a heavy black smoke emission whilst burning bituminous coal.

As a result of action taken the owners of the crane were successful in obtaining a supply of Welsh steam coal thereby ensuring that the plant could be operated smokelessly.

Liverpool Corporation Act, 1921

Workmen engaged in clearing a site in preparation for building cut down a number of trees which they burnt adjacent to the boundary fence of a neighbouring dwelling house.

The occupier complained to the department of the considerable smoke emission caused by burning the wet trees, and a subsequent observation of the site confirmed the complaint to be justified.

It was found necessary for a warning letter to be sent under the provisions of the Liverpool Corporation Act, 1921 which makes it an offence for the burning of refuse within 100 yards of a dwelling house so as to cause a nuisance. As a result the contractor issued instructions to the site foreman for the practise of burning trees to stop.

Gasworks

Although carbonization of coal can normally be effected smokelessly in continuous vertical retorts, this cannot be said of retorts or ovens which involve intermittent charging of coal and discharging of coke. Observations during the year have revealed no major nuisance although complaints were received of a grit nuisance associated with a gasworks due to coke falling from lorries during transportation from the works.

Other difficulties at gasworks are associated with the dissemination of dust, e.g., from handling of coal, the quenching of coke, coke grading and from the combustion of coke breeze in furnaces.

Effects of Atmospheric Pollution

From the statistics available ample evidence can be produced with regard to the damage to the health of the community by a smoke-laden atmosphere.

It requires a robust constitution and strong lungs to flourish in a polluted atmosphere. Man cannot normally maintain vigorous health under such conditions, any more than plants or trees can do so.

The effects on the human body cannot, of course, be traced so graphically as they can in vegetable life, but there is no doubt whatever that dirt and soot inhaled into the lungs inhibit their action and tend to reduce the vigour of the body and debilitate its constitution.

Damage to Buildings

The tarry matters present in soot causes it to adhere tenaciously to any material with which it comes into contact, therefore much disfiguration of public buildings in the centre of the City is due to the

accumulation of soot deposits, but, in addition to its blackening effect, soot also contributes to chemical decay, because it carries with it free acids and soluble salts which penetrate the stonework and by the action of rain cause the stone to decay and break away.

Atmospheric Pollution Measurement.

Standard Deposit Gauge

The amount of deposited impurities or "soot fall" in tons per square mile has been measured by three standard deposit gauges, sited in such a manner as to provide information regarding the amount of dirt falling in a particular area.

Co-operation with the Central Electricity Authority

In addition to the three sites maintained by the department seven standard deposit gauges are controlled by the Central Electricity Authority. The figures obtained are made available to the department through the kind co-operation of the North West Divisional Controller thus the details can be easily plotted so that any change can be readily noted.

Owen Automatic Filter

Suspended impurities in the atmosphere are measured by the Owen Automatic Smoke Filter which is designed to take regular samples of smoky matter from the air, at intervals of an hour or less. By visual comparison with a standard scale of shades, an estimate of the intensity of each smoke stain is made. With the aid of the calibration printed on the scale of shades this may be converted to an estimate of smoke concentration in milligrams per cubic metre of air.

Last July the instrument which had been sited at Garston was moved to Dale Street within the proposed smoke control area, thus figures will be available showing the improvement expected when the area becomes smokeless.

Suspended Matter

Whilst sited at Speke Road, Garston, the minimum mean monthly average was 4·6 milligrams per 100 cubic metres in March and the maximum was 8·6 milligrams per 100 cubic metres in January. During May the instrument was moved to its present site in Dale Street and the minimum concentration was 5·6 milligrams per 100 cubic metres during June and the maximum was 18·06 milligrams per 100 cubic metres in December.

Sulphur Gas Pollution.

Lead Peroxide Method

During the year a number of stations were set up to measure the concentration of sulphur dioxide in the air by exposure of small cylinders coated with lead peroxide. The sulphur dioxide reacts with the coating to form lead sulphate which is determined by analysis after a month's exposure.

This method provides a means of comparing the intensity of the sulphur pollution at different places and times. The test cylinder is protected from rain by being enclosed in a louvred box, thus it is unaffected by sulphur dioxides which may be dissolved in rain water.

Department of Scientific and Industrial Research

Co-operation with the Department of Scientific and Industrial Research in atmospheric pollution recording has continued throughout the year and results obtained by the methods described have been forwarded each month.

British Empire Cancer Campaign

In connection with the British Empire Cancer Campaign, the research in neoplasms has proceeded during the year by measuring suspended matter in the atmosphere. Air is drawn through a filter paper by an electric pump and the volume recorded by a meter.

Medical Research Council

The British Empire Cancer Campaign and the Department of Scientific and Industrial Research together with the Medical Research Council requested facilities for a number of new stations to be set up within the Liverpool boundary in order to provide material for estimation of pollution by hydrocarbons and trace elements which might be carcinogenic.

As a result of this request the department arranged to install and maintain eight new stations. The survey commenced on the 1st October and the results will not be published until the details are complete.

Inspectors' Duties.

During the year the public health inspectors engaged on smoke abatement duties have continued to advise and demonstrate to owners, engineers and firemen how to combat the excessive smoke emission by increasing the efficiency of the plant.

The district inspectors have assisted by routine observations in their district thus during periods of fog, simultaneous action is taken throughout the City, thereby considerably reducing the duration of the smog incident. **District Inspectors' Responsibility**

Informal action in respect of Crown properties including hospitals, nationalised industries (power stations, gas works, etc.) as well as local authority undertakings, continues to account for much of the inspectors' time. **Informal Action**

Domestic Heating.

Restrictions upon the emission of visible smoke from domestic chimneys raise problems which are not easily solved. The direct solution is to use smokeless fuels, namely towns gas, coke, anthracite, low temperature carbonized fuels, oil or electricity, but a large-scale change in the domestic demand would at present raise severe problems of supply. **Smokeless Fuels**

The advantages and disadvantages of the many and varied smokeless fuels can be discussed and argued out but the result is always the same, with smokeless fuels, even though more expensive, the outcome is a clean and healthy atmosphere. **Advantages and Disadvantages**

The Clean Air Act culminates years of hard work by the enthusiast, prolonged agitation, and education of the general public. **Conclusion**

This opportunity must not be wasted, as tons of precious fuel have been in the past. Now is the time to act, although the rate of progress will depend in part on technical and economic factors and in part on the interest and co-operation of the public. In particular in these early stages, it needs the help and understanding of all those in responsible positions who are able to influence and assist those who are less well informed.

SUPERVISION OF FOOD SUPPLY.

TABLE I.

NUMBER OF VISITS PAID TO PREMISES BY FOOD INSPECTORS.

Slaughter-houses (Private).	Butchers' shops.	Fruit shops.	Fish shops.	Food factories.	Provision premises.	Ice Cream premises.	Dairies, Milk shops.	Piggeries.	Food hawkers.	Knackers' yards.	Total visits.
508	7,582	6,947	7,505	2,198	1,179	1,448	2,819	435	1,384	50	32,055

Private Slaughterhouses

Private slaughtering

There are two private slaughterhouses in the City at which 21,002 pigs were slaughtered. All carcases and offals were inspected before sale for human consumption.

Knackers' Yard.

There is one licensed knackers' yard in the City where 286 animals or carcases, comprised of 74 horses, 150 cattle, 4 sheep, were dealt with during the year.

The premises are maintained in a satisfactory condition.

Stanley Abattoir.

City Abattoir slaughtering

413,815 animals were slaughtered at Stanley Abattoir, details of which are set out in the following table.

TABLE II.

Bulls.	Bullocks.	Cows.	Heifers.	Calves.	Sheep and Lambs.	Pigs.
689	31,594	41,282	1,647	35,670	232,911	70,022

The efficient inspection of all carcases and offals at the time of slaughter has again called for intensive effort on the part of the staff.

Routine Sunday slaughtering was not permitted during the year except on five consecutive Sundays commencing November 1st. **Sunday slaughter**

The Easter, Whit, and August Bank Holiday Mondays were working days, and from June to November, slaughtering started at 6 a.m. on Saturday mornings; two hours earlier than on other weekdays.

During the year one food inspector and one sampling officer left for service with other authorities, one retired after 37 years' service, and one resigned owing to ill-health. One inspector was recruited during the year. **Staff**

Diseased Conditions.

The carcases of 73,835 animals, approximately 17 per cent of the 434,817 animals slaughtered, showed abnormal conditions and a detailed examination was made in each case. 1,477 carcases were totally rejected as unfit for human consumption, together with portions of 5,551 other diseased carcases. The weight of meat condemned during the year was 264 tons. (Table 58, statistical appendix.) **Diseased meat condemnation**

In addition to the carcases totally or partially condemned because diseased conditions made them unfit for human food, organs which showed diseased conditions were also condemned; the amount during the year was 613 tons. (Table 58, statistical appendix.)

Pharmaceutical Products.

In addition to the various organs and glands which are normally used for the making of medicinal extracts—for example, thyroids, adrenals, ovaries, pancreas, pituitaries—a considerable quantity of bovine liver affected by distomatosis was sent for chemical manufacture. The amount utilised in this way during the year was 115 tons. **Medicinal products**

Boneless Fresh Meat.

The requirements of manufacturers for lean meat during the year has led to a growing trade in boned-out cow and bull carcases. Sides of beef are sawn into forequarters and hindquarters, and the bones are cut out, the resulting meat being subsequently sold in white stockinette bags. It is estimated that approximately one-quarter of the 41,282 cows slaughtered were dealt with in this way. In addition, much of the meat brought in from outside areas was similarly utilised. **Boneless meat**

Custody of Detained Meat.

Detained meat

The new accommodation for the safe-keeping, overnight, of detained carcases provided by the Markets Department last year has proved very satisfactory.

It consists of a wired-off enclosure which can be securely locked, fitted with sink, hot and cold water, with steam supply for washing and sterilising knives and equipment, into which diseased carcases can be railed after inspection, for cutting up the next day. Condemned meat is then cut off—for example chest walls, forequarters, necks, buttocks, or extensively bruised meat—and after weighing, is sent for disposal.

Disposal of Unfit Foodstuffs.

All diseased or unsound meat and offal is distinctively stained and taken to the by-product plant in the Abattoir. Here it is rendered down and produces tallow, bone meal, meat meal, and residual fertiliser. The amount of diseased offal and meat thus treated during the year was over 800 tons. (Table 58, statistical appendix.)

Unsound fish, fruit and vegetables are sterilised or boiled and subsequently used for animal feeding under guarantee.

Canned goods are disposed of by tipping at the Corporation tip, Sefton Meadows, on payment of a small charge. Canned goods were at one time eagerly sought by pig breeders, but difficulties in opening and disposal of the tins; and the availability of feeding meals have stopped this useful means of disposal.

Stanley Meat Market

12,075 boxes or packages of offal sent from Ireland were also dealt with in the meat market. Much of this offal arrived in an unsatisfactory condition.

As noted previously a considerable quantity of beef quarters brought into the market was boned-out before sale.

TABLE III.

CARCASES OF IMPORTED MEAT DEALT WITH AT THE CITY MEAT MARKET.

Beef.	Beef.	Veal.	Mutton.	Lamb.	Pork.
(quarters) 176,381	(pieces) 32,273	71	124,002	783,482	2,821

As well as the imported frozen and chilled meat above, 85,765 packages or boxes of meat, poultry, and offal were dealt with. Generally, this meat, poultry, and offal was free from pathological conditions, although decomposition made it necessary to trim and recondition on occasions. Imported meat and offal

The amount destroyed by reason of decomposition, bone-taint, brine damage, mould, or dirt-contamination was: beef 12,360 lbs.; mutton 780 lbs.; pork 1,080 lbs.; poultry 542 lbs.

Special Examination of Foodstuffs.

In addition to the routine inspection of meat, fruit, vegetables, or fish at the abattoir or the wholesale markets, special attention has been paid to fish prepared by contractors for hospitals, schools, and canteens in the City.

Visits were also made to other Corporation premises, for example, aged persons' hostels, school meals kitchens, to examine meat, fish, vegetables and groceries to ensure that the quality of foodstuffs specified was delivered. Council Food Contracts

Special visits have also been made to warehouses, cold stores, and factories to examine foodstuffs, mainly meat products, dried fish, and condensed tinned milk intended for export for which a certificate of soundness was requested by the exporter.

Poultry.

All poultry is examined on arrival at the markets before sale, and in addition, during the year, 165 boxes of sub-standard poultry from Northern Ireland were subject to a special detailed examination. This resulted in 930 head of poultry being rejected for reasons set out as follows:—

Arthritis	29
Decomposition	390
Emaciation...	398
Epithelioma	10
Fibroma	19
Ill Bleeding	31
Injury	11
Lymphadenoma	4
Oedematous Oviducts	38
	930

The amount of sub-standard poultry sent to the market has, as a result of critical inspection during the past three years, successively decreased; in 1955, 473 boxes were examined compared with 165 this year. It is believed that this grade of poultry has been directed to other markets.

In addition, 3,981 head of high-grade poultry were rejected, mainly for decomposition.

Fish Inspection.

Fish inspection

The wholesale fish market supplies an extensive area on both banks of the River Mersey. During the year, 987,366 packages, 11,411 tons, of fish were handled in addition to 34,715 packages of rabbits, poultry and game.

The inspection of this fish, game, poultry, and rabbits resulted in the condemnation of some 59 tons as unfit for human consumption. See Table 58 (statistical appendix).

It is interesting to record that 2 hake, 1 cod, and 4 plaice were found to be affected with melanotic sarcoma, carcinoma, or sarcoma lesions and growths.

On three different occasions, hake fish were, at the time of examination, found to be affected by a small black pin point discolouration of the tissue. The Department of Scientific and Industrial Research Fish Laboratory at Hull was supplied with specimens and made investigations. The condition had not been seen before, although afterwards an Iceland catfish was received there with similar markings. It was thought that the disease was due to a unicellular parasite or protozoan, and investigation was proceeding on this theory.

The routine bacteriological examination of various types of shellfish was carried out during the year and the results were satisfactory. It was not necessary to condemn any shellfish for pollution.

In addition, attention has been paid to the condition and cleanliness of fish boxes and containers; warnings given have had the desired effect on both wholesalers and senders at the coast.

Fruit and Vegetables.

Fruit and vegetable inspection

The inspection of fruit and vegetables at the North Market, Cazneau Street, Queen Square market, and the various wholesale storage warehouses has been maintained during the year. Routine sampling of citrus fruit for the presence of thiourea has been carried out. None of the samples was affected.

One consignment of Italian apples—527 boxes—was detained, after chemical analysis gave a result of metallic contamination of 3 parts of arsenic and 25 parts of lead per million. This was probably caused by spraying the apple trees with a solution of lead arsenate, as an insecticide.

This consignment of apples was not allowed to be sold on the market, and was subsequently exported to Hamburg.

The total amount of fruit and vegetables rejected during the year was some 360 tons. (Table 58, statistical appendix.)

Trichina spiralis.

Trichina examination

Routine samples of pork snippets taken from the diaphragm, legs, neck, shoulders, are submitted for examination every week to the Public Health Laboratory Service, who have developed a special technique for this purpose. In the 1,025 specimens examined, no trichinella were found.

Registration of premises where food is prepared or sold.

Registered food premises

The number of premises registered under the provisions of the Liverpool Corporation Act, 1936, for the preparation of sausages; potted or preserved food is 586.

In addition 126 manufacturers of ice cream, and 1,714 premises used for the sale or storage of ice cream are also registered under this Act.

As from 1st April, 1956, by the provisions of Section 40 of the Liverpool Corporation Act, 1955, all persons selling shellfish, together with the premises at which shellfish were sold, offered, or exposed for sale, were required to be registered by the Corporation. The number of premises and persons so registered is 144.

The Food Hygiene Regulations, 1955-1956.

Food Hygiene Regulations

During the year, 31,570 visits of inspection were made by the food inspection staff to premises where food was prepared. Details of these visits are set out in Table I on page 188.

In particular, the butchers and fishmongers have received attention in applying the Regulations, and it is pleasing to record that not one application for exemption from the provisions of the Regulations in regard to water supply, hand washing basins, clothing accommodation, or sinks, has been received.

There is a general desire to attain as high a standard of hygiene as possible, and much thought and ingenuity has been evident in an endeavour to achieve this end.

During the year, 83 notices in respect of 225 infringements of the Regulations were issued.

Food complaints.

Food complaints

During the year 173 complaints were received from members of the public. The complaints were not always justified, but all were investigated and satisfactorily settled. It was not necessary to take any legal proceedings.

Slaughter of Animals Acts, 1933-1954.

Slaughter licences

The Acts require that no person may proceed to slaughter or stun an animal in a slaughter-house or knackers yard unless he holds a licence granted by the local authority. During the year, 138 licences were issued to slaughtermen, and in addition 255 licences were issued to Mohammedans, mainly seamen, for the slaughter of sheep, which mutton was used aboard ships.

The adulteration of food and drugs.

Food and drug sampling

The importance of a pure food supply cannot be over-estimated and low quality or adulterated foods cannot be tolerated. The Medical Officer of Health is responsible for ensuring that the foodstuffs offered for sale for human consumption in his area are pure and wholesome. This entails the constant vigilance of the sampling officers who purchase

samples of foodstuffs and drugs; and after analysis by the public analyst (whose duty is to test for adulteration or impurities) appropriate action is taken. In some cases legal proceedings have been instituted; in others, advice was given to the vendor—particularly in regard to milk which proves to be of abnormal composition although genuine—and in other instances, the manufacturer or packer is advised of irregularity or technical offences in regard to labelling.

During the year 1956 a total of 3,813 samples of foodstuffs and drugs were taken or purchased, and 169 or 4·7 per cent were found to be not genuine or otherwise giving rise to irregularity. This figure represents an improvement on last year when the figure was 5·8 per cent.

Of the 3,813 samples obtained, 303 were "formal" and 3,510 "informal". An informal sample is one purchased without intimation to the vendor that it is to be analysed. Valuable information as to irregularities is obtained in this way, and a wide field of foodstuffs and drug preparations checked. Legal proceedings were instituted in 30 cases where formal samples were found not to be genuine.

TABLE IV.

LEGAL PROCEEDINGS.

OFFENCES UNDER THE FOOD AND DRUGS ACT, 1955

Legal Proceedings

Number of Informations laid.	Nature of Sample.	Nature of Offence.	Number of convictions.	Fines.	Costs.
				£ s. d.	£ s. d.
28	Milk	Containing added water ...	28	54 0 0	38 11 8
1	Milk	Deprived of milk fat ...	1	2 0 0	2 2 0
1	Beef Sausages	Deficient of meat content (16%)	1	10 0 0	1 15 0
30			30	66 0 0	42 8 8

Ice cream and water ices.

Ice Cream

During the year, 180 samples were examined for cleanliness or adulteration. Of these, 118 ice creams were examined bacteriologically, and 92 samples (78 per cent) were grade 1; 9 grade 2; 9 grade 3; and 8 grade 4.

In addition 9 samples were examined for pathogenic organisms and all proved negative.

The chemical examination of 53 samples of ice cream or water ices showed that the results were satisfactory and also that the ingredients complied with the Food Standards (Ice Cream) Order, 1953, in every instance.

The number of registered manufacturers is 126, together with 1,714 premises for the sale of ice cream. There are 11 plants where heat treatment of ice cream is carried out in accordance with requirements of the Ice Cream (Heat Treatment) Regulations, 1947-1952.

Of this number, three large-scale holder-type plants produce a considerable quantity of ice cream—approximately 6,500 gallons daily, during the season, the other eight, producing on a smaller scale. The remaining 115 makers have a modest output using only cold-mix ingredients and concentrating for the most part on water ice manufacture.

Milk supply to Hospitals and Aged Persons' Hostels.

Hospital milk

The milk supplied by contractors to hospitals and aged persons' hostels is regularly sampled at the time of delivery. 213 samples tested chemically and bacteriologically proved satisfactory.

Milk Supply to Schools, Day Nurseries, School Canteens.

School Milk

Routine sampling is carried out at these premises covering all the supplying contractors. None of the 243 samples was found to be tuberculous. One sample showed a fat deficiency, and two failed the phosphatase test for adequate heat treatment. Appropriate action was taken in each case.

Bacteriological Examination of Foodstuffs.

Bacterial quality of foods

In addition to the bacteriological examination of milk and ice cream, during the year, 296 samples of other foods were examined for suitability for human consumption, including examination for food poisoning organisms. The types of food selected were those exposed for sale in shops for display, and included meat pies, cooked meats, custard pies and trifles, cream-filled pastries, fruit jellies, cockles, shrimps, fish and meat pastes. The results as a whole were satisfactory. In a number of case bacterial contamination was noted and appropriate action taken.

Fertilisers and Feeding Stuffs Act, 1926.

Animal feeding stuffs and fertilisers

Liverpool is a centre for the milling of foodstuffs intended for cattle and poultry, and also for the manufacture of fertilisers. During the year, 49 samples of feeding stuffs and fertilisers were obtained for analysis. All samples with minor exceptions were found to conform with the manufacturers' statutory statement.

Pharmacy and Poisons Act, 1933.

Poisons registration

The Pharmacy and Poisons Act, 1933, together with the Poisons Rules regulates the sale of poisons. It is a duty of a Local Authority to carry out Part II of the Act, which deals with the registration of persons selling poisons mentioned in the Poisons List. The number of names entered in the current register is 714. It was not necessary to take any legal proceedings for contraventions of the legal enactments.

Meat and Food Inspection Classes.

Food inspection classes

The course of instruction for persons preparing for the certificates in meat and food inspection or food hygiene was, once again, well attended. Thirty-three students received a sound grounding in the theory and practice of food inspection. The course commences in September and carries on till May, on two evenings per week, one of which is devoted to practical instruction at the Abattoir; during the latter part of the course, students visit food factories, cold stores, pasteurising plants in addition to attending the Abattoir during routine slaughter.

As well as local candidates, many students come from the county areas of Lancashire, Cheshire and North Wales, and in addition there were a number of colonial students.

Examination specimens

Morbid meat specimens are also prepared for examinations conducted by the Royal Society of Health and the Veterinary School of Liverpool University. Specimens are also provided for the hospitals and University teaching schools for dissection and demonstration purposes.

The Cleanliness of Milk.

During the year the standard of cleanliness of milk coming into the City dairies for processing has been satisfactory. Regular routine samples were taken from producers within the City and from the milk

brought in daily by road from the county areas of Lancashire, Cheshire, Denbighshire, and Shropshire.

Milk tests

The total number of milk samples submitted to the Public Health Laboratory for examination was 2,857 comprised as follows:—2,174 heat treated milks; 280 tuberculin-tested milks; and 403 milks specially submitted for guinea pig inoculation for tubercle infection. The City is a specified area in which only tuberculin-tested milk or heat-treated milk may be sold. Heat-treated milks comprising pasteurised, sterilised, and tuberculin-tested (pasteurised) milks, were tested by phosphatase, methylene blue, or turbidity tests; whilst the raw tuberculin-tested milks were examined by the methylene blue reduction test and submitted to guinea pig inoculation for detection of tubercle bacilli.

TABLE V.

EXAMINATION OF MILK—METHYLENE BLUE REDUCTION TEST.

Designation	Number of samples	Satisfactory	Unsatisfactory
Tuberculin tested	280	249 (89%)	31 (11%)

TABLE VI.

EXAMINATION OF MILK—TUBERCLE BACILLI.

Designation	Number of samples	Tubercle bacilli present	Percentage Tuberculous
Tuberculin Tested.....	272	—	—
Raw Milk (undesignated)...	125	2	1·6%

Milk and Dairies Regulations, 1949.

Brucella abortus.

During the year an investigation was undertaken at a farm, following a report of *brucella abortus* infection. This investigation, the sampling and bacteriological examination of twenty-five milks, extended over a period of five months.

A detailed report of the case is set out in the section of the annual report dealing with infectious disease. (See page 63.)

Tuberculous milk.

Infected milk

During the year two cases of milk infected with Mycobacterium tuberculosis were found as a result of routine inoculation of milk samples taken from dairy herds in the City. It was not necessary to serve any notices under Article 20 of the Regulations, as the milk was being sold for pasteuration.

Following veterinary examination the cows were subsequently slaughtered at Stanley Abattoir.

Registration of Dairies.

TABLE VII.

(Food and Drug Act, 1955; Milk and Dairies Regulations, 1949.)

Number of registered dairies at the end of 1955.	New applications for registration.	Dairies removed from the register.	Number of registered dairies at the end of 1956.
450	32	14	468

(9 dairies were transferred from one person to another.)

Inspection of Dairies and Milk Shops.

Dairies and milk shops

2,819 visits of inspection were made during the year. In 35 instances infringements of the regulations were found. All were remedied on verbal intimation.

Distributors

The number of registered distributors of milk is 478. Of this number 16 have their premises outside the City boundary but bring supplies into the City daily. In addition, 1,264 persons, mainly shopkeepers, are registered as vendors of bottled sterilised milk. During the year there has been a growing demand by the public for the purchase of fresh (pasteurised) cream in fruit shops. The number of distributors of cream from such premises is 139.

Licences

The details of licences issued under the Milk (Special Designation) Regulations, 1949, are as follows.

Vendors of tuberculin-tested (raw) milk	87
Vendors of tuberculin-tested (pasteurised) milk	468
Vendors of pasteurised milk	462
Vendors of sterilised milk (at dairies)...	430
Pasteurisers licence	12
Sterilisers licence...	3

Daily Supply of Milk to Liverpool.

TABLE VIII.

DAILY CONSUMPTION OF MILK DURING 1956.

Grade of Milk.	Quantity in Gallons.
Tuberculin-tested (Farm Bottled)...	876
Tuberculin-tested	422
Tuberculin-tested (Pasteurised under licence)	27,801
Pasteurised under licence	48,207
Sterilized	14,432
TOTAL ...	91,738

Orange Drinks.

Orange drinks

All the large dairy concerns in the City have continued to produce and bottle orange drinks. Separate plant, bottles, and preparation rooms are devoted to this enterprise, but although some 398,000 bottles of orange drink were filled daily in 1955, there has been a considerable decrease in the consumption of this commodity during the year 1956.

Heat Treatment of Milk.

Pasteurised milk plant

There are 12 pasteurising plants operating in the City, 6 of which are fitted with High Temperature Short Time plant, and 6 equipped with Batch or Holder type plant. The capacity of the plants varies from 75 gallons to 2,500 gallons per hour.

All these various pasteurising plants are coupled with automatic bottle washers and mechanised filler-cappers.

Carton milk

At one dairy plant a carton making, filling, and sealing machine has been installed. This machine fashions 4,500 × ½ pint cartons from a continuous strip, fills each carton and seals it, per hour. This carton milk has proved very popular in works and factories, and eliminates the loss and misuse of bottles, as well as the risk of glass particles.

Three establishments are equipped with large scale sterilisation plants. The daily amount of milk sterilised is approximately 100,000 pints. This type of milk has proved popular in West Africa and weekly consignments are despatched there from one dairy in the City. **Sterilised milk**

The efficiency of heat treatment plants in the City (which are amongst the most up-to-date in the country) has been maintained at a high level and reflects credit on the firms concerned, who have co-operated with the Health Department by accepting suggestions and criticisms in achieving most satisfactory results. (See Table 57, Statistical Appendix.)

The licensing of places for keeping cattle in the City.

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle is required to hold a licence from the Corporation in respect of himself and also in respect of the premises. On the licence shall be stated the number and description of the animals. The expression "cattle" includes bulls, cows, heifers, oxen, calves, rams, sheep, wethers, ewes, lamb, swine, goats, and all other ruminating animals. The Corporation is required to keep a register of the licences granted in which are entered particulars of the premises and the cattle, a summary extract of which is as follows:— **Keeping of cattle and pigs**

TABLE IX.

CATTLE AND PIGS.

	1956
Licences in operation for keeping cattle at end of year	46
Number of cattle permitted on licence (Dairy cows)	1,041
Number of cattle permitted on licence (Store cattle)	424
Average number of dairy cows kept	694
Average number of store cattle kept	424
Licences in operation for keeping pigs at end of year	73
Number of pigs permitted on licence	3,790
Average number of pigs kept	2,850

During the past ten years, 1946-1956, the dairy cows in the City have been reduced from 2,142 to 694, whilst the number of pigs has increased from 1,100 to 2,850.

FOOD HYGIENE.

Introduction

The introduction of the new regulations marks the culmination of many years of painstaking educational work in the food trade. It is interesting to note that the first steps in food hygiene education were taken in the year 1757 in which pamphlets entitled "poison detected or frightful truths", accused millers of adding lime, bone ash, whiting and alum, to flour. In 1820 another book was printed on the "Adulteration of Food and Culinary Poisons" and shortly afterwards the *Lancet* encouraged an investigation into food adulteration.

First steps in Food Hygiene

The first Food and Drugs Act

The first Food and Drugs Act was placed on the Statute Book in 1860, and since then progress has been slow with the emphasis on education. Hygiene education is still very important but is more effective when backed by strong and concise legislation.

The new Regulations

The Food Hygiene Regulations 1955 are not intended to insist upon luxurious fittings, the important sections deal with insanitary premises, cleanliness and the provision of washing facilities. These are basic fundamentals in preventing food infections and therefore no aspect of the food trade is exempted.

Fruit and Vegetable trade

There is no doubt that the fruit and vegetable trade may feel a little aggrieved at being grouped with the more dangerous trades, but transmission of food poisoning does not permit of comparative degrees in the risk hazards.

Sources of contamination

Where there is any possible risk of contamination then standards must be similar. In the food trade the sources of contamination may be classified under three headings, bacterial infection, parasitical and surface contamination.

Safeguards

The new Regulations if properly complied with give adequate safeguards against any of these groups. Adequate washing facilities encourage staff to wash their hands and prevents faecal contamination of the food they handle, therefore destroying the risk of bacterial infection. Separate washing facilities for washing food or equipment assists in removing parasitical contamination in certain foods, and scrupulous cleanliness throughout all stages will tend to guard against surface contamination.

Part III of the Regulations relates specifically to persons engaged in the handling of food, and deals with the protection of food from risk of contamination (Reg. 8); personal cleanliness and habits (Reg. 9); the carrying and wrapping of open food (Reg. 10); and the control of persons suffering from certain infections.

Part III of Regulations

These requirements are not only for the attention of the employer, who, having grasped their importance and meaning, must fully advise his employees and explain to them the precautions they must take and why they must take them.

Our first consideration must be the protection of the health of the community, which, of course, means the individual—the shopkeeper, his assistants and his customers. This is the duty of all of us as citizens, but our responsibility is many times greater if we are engaged in the handling and distribution of a commodity which may become dangerous through carelessness, dirty personal habits, unsatisfactory display and storage, or a low standard of general cleanliness in the shop and storerooms.

Protection of health of community

Another aspect, and one which is highly important to business people and to the community as a whole, is the economic factor. Lost working hours by work people suffering from the associated symptoms of food poisoning is responsible for incalculable financial loss to the distributive trades, and to commerce and industry throughout the country.

Economic factor

It must be remembered that the effects spread out far beyond our circle, perhaps many have become the victims of our carelessness or lack of response to the urgency of this social problem.

The comprehensive action now being taken, which, in Liverpool, was already well in advance of the regulations, is showing encouraging results.

Results of action

Clean shops are now accepted, clean cafés, bakehouses, improved methods of distribution can be seen all round us.

Therefore co-operation by everybody in the food trade must go on bringing nearer the day when food poisoning, like other scourges of bygone ages, is a thing of the past.

Co-operation of all concerned

Food Hygiene in Cafés, Shops and Clubs.

General application of the Regulations

The application of the Food Hygiene Regulations to cafés, shops and clubs has followed comparatively smoothly upon the work already done under the old legislation, although clubs were not previously dealt with in detail except when requested by the proprietors.

So far as the subject of hygiene is concerned the focus of attention during the past year has been on the effect of the new Regulations on the respective food traders.

Effect of the Regulations

Whilst the old Section 13 of the Food and Drugs Act, 1938, lacked the detailed provisions of the new regulations, many of the new requirements were already being enforced under the wide scope of Section 13(2)(*b*), and the Liverpool Food Byelaws. For this reason the impact

No serious opposition

of the Regulations has not been spectacular, and they have not drawn any serious opposition from the trade.

It is not suggested, however, that difficulties have not been experienced

Differences of opinion.

or that the enforcement of some of the regulations has not resulted in differences of opinions. Where these have arisen consideration has been

Modifications agreed upon

given to the associated circumstances and when necessary, reasonable modifications have been agreed upon.

Structural matters

With regard to matters necessitating structural alterations in order to secure compliance with the regulations, certain problems have arisen, but these are not insurmountable and the experience of the inspectors is a useful asset to many proprietors of food premises where difficulties of this character have to be faced.

Exemption certificates

The Regulations permit the local authority to grant certificates exempting proprietors of food premises from the need to carry out certain works where they are impracticable. No requests have been made for this class of exemption.

Inspection of food premises

During the year, 14,492 visits were made to retail food shops, cafés, bakehouses, licensed premises, food factories, etc., and a total of 11,572 infringements of the Food Hygiene Regulations 1955, and 704 contraventions of the Food Byelaws were reported.

Prior attention has continued to be given to cafés, restaurants, etc., in order to ensure the maintenance of good hygienic standards, and 1,121 visits have been made to such premises, apart from observations during the course of other duties.

Court proceedings

The many Court proceedings taken during the year included a case against the proprietor of a grocer's shop in respect of the risk of contamination of food exposed on the counters, dirty condition of the floor and walls, cutting knives, weights, and the storing of unwrapped bread in a box on the floor next to a box in which a cat was sitting. There was also a cardboard box under the provisions counter containing sawdust saturated with cat urine.

The stipendiary magistrate imposed fines totalling £15 on two informations laid under Regulations 8 and 23.

Clubs

The inclusion of clubs in the scope of the Regulations has been particularly welcome, as the conditions found in many of these places have caused much concern, and revealed a serious disregard by certain committees and stewards of even the normal standards of cleanliness and maintenance of equipment and structures.

Inspection of Clubs

There are approximately 320 clubs in the City, including those licensed for the sale of intoxicants, and 816 visits have been made during the year. Schedules of work, or warning letters have been issued on almost all these establishments and much improvement has already been achieved.

Improvement

Problems

A substantial number of clubs have very limited financial resources, and some are housed in dilapidated old property. These factors present problems which cannot absolve the occupiers from complying with the Regulations, but retard the progress of improvement. To reduce the cost entailed, work has to be done by voluntary labour by the club members, and this also delays the completion of the work.

Work by volunteers

Restaurants, Cafes, Snack Bars and Dining Rooms

No problems have yet been experienced in the application of the Regulations to these premises, because these standards were already being imposed under the old Act.

Personnel

The chief difficulties relate to the faults and indifference of the workers, who are slow to appreciate their responsibilities as food

handlers. Much tact and patience has to be exercised by inspectors and managements in handling the employees, and the situation is not improved by the constant changes of staff throughout the industry.

Co-operation

Managers and supervisors, in the main, are diligent in their endeavour to comply with the Regulations, and their co-operation with inspectors is not only appreciated, but makes this onerous task easier to fulfil.

Food storage

The requirements of Regulation 25 (temperature at which certain food has to be kept) have not presented any enforcement difficulties, as the principles involved are readily appreciated by the trade.

Limited space

In some establishments lack of space has created a difficulty. Only by structural alteration (if possible), or re-arrangement of existing equipment can some room be made for a small capacity refrigerator or cold cabinet.

New cooling appliances

The development of cold radiators or space cooling appliances at comparatively reasonable prices has provided the catering trade with a simple and effective means for large capacity storage, and should be considered for adaptation in large establishments.

Food shops

Greater attention to retail food shops has also been possible during the year. Whilst the standard generally has been improved to a degree which must give considerable satisfaction to officials and public alike, experience indicates that constant supervision is essential.

Supervision is essential

Personal hygiene

It will be appreciated by all persons having some knowledge of food infections that, notwithstanding the fact that food premises may be of a first-class structural standard with modern equipment and with every facility for personal hygiene, it is possible for a single infected food handler to be the cause of a serious outbreak of food poisoning. Indeed, the success and effectiveness of the most carefully drafted legislation is almost literally in the hands of the individual and it is for that reason that the rules laid down in Part III of the Regulations, which relate directly to each person handling food, must be considered of vital importance. Real progress in the drive for clean and safe food will only be accomplished by a definite and permanent improvement in the personal hygiene of those who prepare and handle food. It is essential

The liability of the Food handler

that management and persons in charge of food premises should see to it that employees are familiar with these rules and take some steps to see that they are obeyed.

It may be argued that it is useless having legislation of this character unless the workers are educated to accept legal measures as necessary and desirable and as there are certain factors in connection with clean food handling which cannot be controlled by enforcement the willing co-operation of food handlers is essential.

The problem of the Food handler

Although the campaign to achieve a clean and safe food supply was promoted about five or six years ago, there is little doubt that the vast majority of food handlers are entirely ignorant of the real necessity for applying the simple rules of hygiene which can now be legally enforced. There is, of course, an improvement, but a surprising number of persons engaged in preparing and serving food do not appreciate the danger of contamination and it has been made evident that many people who consider themselves careful and clean in their habits often fail to observe elementary hygienic requirements through lack of knowledge of the relationship between personal cleanliness and public health. This is exemplified by the clean-looking assistant who coughs into her hand and then handles cream cakes, or by the immaculate chef who tastes the soup and then replaces the spoon in the stock, and the white garbed baker who clears the end of the savoy bag with his mouth.

The education of the Food handler

How this difficulty is to be overcome is an immense problem bearing in mind the fact that food handlers are so widely dispersed throughout the community, particularly in a large city where they number many thousands. The task calls for a combined operation in which education and public health authorities, food traders and manufacturers must play a part with the assistance of government sponsored propaganda through the medium of the press, radio and television.

In the meantime the lesson of cleanliness in food handling must be hammered home by advice and encouragement and if necessary by summary action so as to ensure that the provisions of the Regulations are strictly observed.

Infectious disease notifications

Regulation 11 requires an occupier of food premises to inform the Medical Officer of Health if any food handler under his control is

suffering from certain diseases. In order that this requirement shall work smoothly and expeditiously, books of addressed certificates are being distributed to all food traders, who have welcomed the innovation.

The necessary information can be given in a few words and this enables the department to contact the infected person and his employer without delay, particularly if the employee is not absent from work.

Seventy-eight certificates had been returned to the department by the end of the year.

Structural problems

The main problems are in respect of the installation of facilities for washings hands, food and utensils. The degree of the problem, of course, depends upon the size of the premises and the type of food trade carried on in the shop.

Utensils

In practically all small shops only a very small number of instruments and utensils are used, and the question of the need for a separate sink is sometimes difficult to assess.

Food washing

If this consideration is coupled with the question as to the need of another sink, because certain foodstuffs occasionally require to be washed before sale, the whole matter becomes seriously involved if the Regulations are to be satisfied and the safeguards for the removal of the risk of contamination are to be fully observed.

Hand washing

To meet these requirements a suitable and sufficient wash hand basin has also to be installed, making a formidable total of three separate fittings, two of which have to be served with hot water; all this must be provided even in a small shop, possibly occupied by a person in a very limited way of business, and with small financial resources.

Acceptable modifications

Obviously there has to be some agreed modification, and the problem then arises how far can these requirements be reduced and what alternatives are acceptable to ensure that all the functions of washing utensils, food and the hands of the food handler are carried out in such a manner as to prevent the risk of contamination of food.

Washing facilities used for domestic purposes

This problem is a very real one, and arises almost daily in one form or another, and is often complicated by the fact that the only sink or wash basin is in the house portion of the premises and used for all domestic purposes.

Portable bowls

The term wash hand basin in the Regulations is not defined, and whilst the generally accepted meaning is the installation of a sanitary fitting with trapped waste pipe to an external drain inlet, there is a persistent opinion that a wash hand basin could be any suitable bowl or basin used in conjunction with a sink.

Unsuitability of movable basins

Whilst in certain circumstances this contention may appear to be reasonable, the experience of the department is such that the use of portable bowls cannot readily be accepted. Far too often these utensils are treated with serious disregard; they are allowed to stand on the floor or on dirty surfaces, and the outside is rarely thoroughly cleansed, so that after a person has washed their hands they are immediately contaminated in the process of emptying the bowl.

Modifications and progress

Whatever modifications have to be accepted to overcome the difficulties in particular cases, economic and structural factors, and uninformed public or trade opinions must not be allowed to set a brake on the action necessary to implement the purposes of the Food Hygiene Regulations in all food shops.

Storage Space

Inadequate storage space in a vast number of food shops is the cause of much concern. Conditions in storerooms are often below the standard of the shop at the front, and this is usually due to the congested and untidy arrangement of the reserve stock, and the collection of boxes and cartons awaiting to be returned to the manufacturers.

This condition not only applies to old premises but, unfortunately, to new shops which have been badly designed. It is essential that this matter be given more attention by shopkeepers and architects.

New buildings

The attention of architects is also drawn to the need for more careful planning in respect of shops forming part of new large office buildings in the City.

It has been found that shops allocated to food traders cannot properly comply with the Food Hygiene Regulations because there are no drainage inlets readily accessible to receive waste water from sinks and wash hand basins. The communal facilities in the main building would not satisfy the requirements of the Regulations.

Licensed Premises.

Effect of Food Regulations

The local brewery companies have responded readily to the spirit and demands of the new food regulations in public houses. Apart from pressing forward with commendable speed with the fitting of wash hand basins, additional sinks in bars, refrigerators and similar installations where meals and snacks are served, steps have been taken in all cases to see that licensees under their control are familiar with the provisions of the regulations in so far as they concern personal hygiene and care in the handling of food and intoxicating liquor.

Co-operation between department and Brewery Companies

Senior members of the department have given their views on the effect of the regulations on the trade to representative meetings of brewers and licensed victuallers and have discussed the practical application of the law with directors, surveyors and visiting managers from the local breweries.

Inspectors have visited many premises during the busy periods in company with supervisors of the respective brewery companies and taken the opportunity of explaining the requirements of the regulations and the public health importance of clean food handling to licensees and bartenders.

This co-operative attitude on the part of the brewery companies is welcomed by the department but much reliance must be placed on individual licensees to see that a good standard of hygiene is practised by the bartenders, many of whom are employed on a part-time basis and as a rule do not acquire that sense of pride in the job which is often the case with permanent employees.

Bar hygiene and the customer

It is an unfortunate but undeniable fact that an apathetic public is a great handicap in any campaign for advancement or improvement in human welfare and this is no less true in the case of hygiene in public houses, particularly during rush hours. Customers clamouring to be served appear to have little regard as to how the glasses are washed; liquor is spilled over floors and furniture by drinkers; cigarettes are stubbed on the counter and butts thrown anywhere and the sanitary conveniences are frequently fouled and used in a careless manner by

men and women. These incidents, which are common enough, are no encouragement to the employees who are required by law to maintain a good hygiene standard.

Cleansing of drinking glasses

The effect of this is often reflected in the unsatisfactory manner in which drinking glasses are frequently washed in the busy evening periods. A series of visits were made to licensed premises during the year during the evenings and observations showed that the standard of glass washing deteriorated considerably as the closing hour approached and action was taken by warning several licensees and assistants that lack of care in the cleansing of utensils may be considered an infringement of the regulations. Representatives of the employing companies were also requested to draw the attention of all concerned to the matter and subsequent visits to these premises showed a marked improvement. It is evident, however, that closer supervision will need to be given to this aspect of the licensing trade.

The breweries are pressing forward with improvements to sanitary conveniences and new separate sanitary accommodation for male and female customers was provided in 40 public houses during the year.

Six substandard houses have been closed and three new premises opened in the suburbs which comply with all requirements and modern standards.

A total of 3,025 visits during the day and evening were made to public houses during the year.

Types of Food Premises.

The number of food premises subject to visits by public health inspectors for the purpose of securing compliance with the requirements of the Food Hygiene Regulations, 1955, and Local Byelaws are as follows:—

Bakehouses	196
Licensed premises	1,129
Fish frying establishments	417
Industrial canteens	190
School kitchens, etc.	258

FOOD FACTORIES

Brewing and beer and mineral water bottling	44
Spice manufacturers	4
Bacon curing	11
Miscellaneous food products	23
Biscuit manufacturers	5
Jam manufacturers	6
Fruit (cleaning and packing)	9
Custard and meal powder manufacturers	4
Millers (Flour, Rice, etc.)	17
Pickles	3
Sweet confectioners	13
Coffee and Tea (packing, etc.)	20
Sugar manufacturers	8
Tripe dressers	8
Edible fat manufacturers	4
Total	2,369

RETAIL FOOD SHOPS

Bread and confectionery	451
Butchers	622
Cafes, snack bars, etc.	286
Cooked meats	53
Dairies	205
Fishmongers and poulterers	237
General	1,264
Greengrocers	799
Grocery and provisions	871
Off-licensed premises	94
Sweets and minerals	1,182
Total	6,064

Bakehouses.

Bakery Hygiene

It is only comparatively recently that hygiene in the bakery has been considered a subject worthy of serious consideration by the trade as a whole and while certain progressive firms have taken considerable steps to upgrade the standard, there are many bakers and bakery assistants who still cling to the fallacy that contamination "bakes out" in the oven. This attitude is due in part to a lack of knowledge of the elementary principles of hygiene and the causes and effects of bacterial contamination of food in relation to public health.

Advice on new Food Regulations

It has, therefore, been necessary for inspectors to adopt the role of educators when engaged on 1,022 routine visits to this type of food premises during the year. An appreciable amount of time has been spent during the year giving advice and guidance on this aspect of food production and explaining why strict compliance with the new food regulations is imperative to secure a clean and safe supply of bread and confectionery.

While special attention has been directed to the part played by the individual bakery hand and the need for scrupulous personal cleanliness, considerable stress has been laid this year on the vital importance of the thorough cleansing and sterilisation of equipment such as mixing bowls, beaters, mincing machines and savoy bags which are used in the making of various fillings and convertures containing imitation cream, meat and egg products, to minimise the risk of cross infection in the event of these commodities being contaminated before delivery.

Bread vans, etc.

Among the important provisions of the Food Hygiene Regulations, the powers to enforce cleanly practices in connection with the distribution of food from vehicles is a particular concern of the baking industry where a substantial proportion of output reaches the consumer by way of retail sales in this way. The fact that opinion is often expressed that unwrapped bread is an unlikely source of food infections is no reason why van men who handle and deliver bread should not be clean in their person, clothing and habits and take all precautions to see that loaves are not contaminated by dust and dirt, etc., during delivery. The Food Hygiene Regulations clearly require this to be done. It is also worthy of note that in 1937 during an outbreak of para-typhoid fever in this City, which gave rise to 132 cases, the source of infection was traced to a carrier of *Bacterium Paratyphosus B* who was handling and infecting loaves of bread.

Personal cleansing of van men

In the past, some retail bakeries made arrangements for their van men to cleanse their hands at the homes of selected customers during the daily round, while others were instructed to call at the companies' retail shops where facilities are available, but more often than not the state of the vanmen's hands at the end of the round left much to be desired.

It is not practicable for all types of bread delivery vans to maintain a supply of hot water for washing purposes on the vehicles and pending the universal production of vehicles specially fitted for use in the retail food trade, alternative means of personal cleansing must be sought.

One system which is proving satisfactory has been adopted by most firms in this City. An aluminium dish measuring $11\frac{1}{2} \times 5\frac{1}{4} \times 3\frac{3}{4}$ inches with rounded corners and an easily removable lid is kept under the driver's seat. The flat lid of the container is marked with the number of the van and a polythene bag is placed inside which holds soap and nailbrushes. A supply of paper towels is kept on the van. The vanman obtains about a quart of hot water from a customer and it has been found that the shape of the container permits the man to wash his hands with ease by resting it on the step of the van. The container is returned to the bakery at the end of each day's work when the contents are checked.

Fried Fish Shops.

Personal attention and control has been an esential feature of the fried fish and chip business since the introduction of this branch of the catering industry nearly a century ago and today, so far as this City is concerned, the large majority of fried fish shops are small businesses owned by proprietors who reside on the same premises.

In many cases there are no paid employees as the preparation and serving is undertaken by members of the proprietor's family.

One effect of this domestic control is that the food handlers, not being members of a trade organisation with opportunities of training, have to rely on the advice of public health inspectors during routine visits to the premises as to their responsibilities under the food hygiene regulations. A special effort has therefore been made to visit all the fish frying premises in the City and it is felt that the time spent in emphasizing the need for strict compliance with regulations and the importance of clean food handling has not been wasted.

Every endeavour has also been made to obtain a reasonable standard of uniformity with regard to the provision of fixtures, such as wash

hand basins and sinks, bearing in mind the fact that domestic chores are frequently carried out in or near the rooms where business activities occur and it is pleasing to record that the suggestions and recommendations of the department have been accepted in nearly all cases without question and in view of the co-operation given by the trade as a whole on such matters it has not been necessary to use powers of enforcement to obtain a good standard of hygiene during the past year when 2,081 visits were made to this type of food premises.

DISINFECTION AND DISINFESTATION

The wide variety of duties performed by this section of the department are connected in a greater or lesser degree with almost every service for which the Health Department is responsible and as the following details will show, these duties are continuing to expand.

It may be of interest to list the principal functions of the section and then to briefly summarise the duties performed during the year:—

1. Inspection of premises for verminous condition.
2. Disinfestation treatment of verminous premises.
3. Disinfestation treatment of verminous furniture, etc.
4. Disinfestation and disinfection stations.
5. Disinfection of infectious premises.
6. Fly prevention.
7. City Mortuary.
8. Burial service.
9. Storage, distribution and collection of Home Nursing equipment.
10. Mobile meals service transport.
11. Food and general store.
12. Welfare Foods service.
13. Miscellaneous services.
14. The Liverpool Show.

1. *Inspection of Premises for Verminous Condition.*

Inspection of Premises for Verminous Conditions

Inspections of dwelling houses, hospital premises, canteens, cafe kitchens, locker rooms and various factory premises originate from a number of sources, and may be divided into the following categories:—

(*a*) The majority of inspections of dwelling houses are made on behalf of the Housing Department and they are carried out with the intention of obtaining information regarding the verminous condition of furniture and effects belonging to those families who are recommended for rehousing. These inspections are carried out on all housing estates irrespective of their location, inside or outside the City boundaries.

(*b*) A growing number of requests are received from owners or occupiers of dwelling houses who suspect that the premises are vermin infested. If, in fact, these premises are found to be verminous and disinfestation treatment is requested, the cost of such treatment is debited to the complainant.

(*c*) Hospital Management Committees are increasing their requests for inspection and treatment of those hospital premises where cockroach or steam-fly infestation is suspected.

(*d*) Inspection of staff canteens is a regular feature of this branch of the service, as these premises frequently become infested with steam-flies or cockroaches. The cost of such treatment required is debited to the owner of the premises.

(*e*) Food manufacturing processes require absolute freedom from vermin and the services of this section are requested when the manufacturer has reason to believe that minor infestations are occurring in his premises.

The department occasionally receives complaints of insect infestation but on investigation it is sometimes difficult to identify the type of insect. For the purpose of classification in these cases, the local office of the Ministry of Agriculture is always helpful.

An example of this type of case may be of interest:—

A consignment of clothing which had been imported from the Far East was found to be infested with a beetle and larvae. The insect was identified as a copra beetle and this department was able to carry out the necessary treatment to enable these goods to be safely offered for sale.

The number of inspections during the year in all these connections was 6,369 of which 2,285 were found to be vermin infested.

2. *Disinfestation treatment of Verminous Premises.*

Disinfestation

As a result of the inspections detailed in the previous paragraphs, disinfestation treatment was carried out in the following cases:—

(*a*) 522 dwelling houses treated at the request of the Housing Department.

(*b*) 340 dwelling houses treated at the request of owners or occupiers.

(*c*) 234 treatments of hospitals, staff canteens, factory premises, etc.

a total of 1,096 treatments.

Disinfestation Treatment of Verminous Furniture, etc.

3. *Disinfestation treatment of Verminous Furniture, etc.*

The disinfestation of dwelling houses usually necessitates the treatment of furniture, bedding and personal effects. The method of treatment is for furniture, bedsteads, pictures, etc., to be treated on the premises, but it is necessary for mattresses, bedding and soft furnishings to be removed to a disinfestation station for adequate treatment. The latter process is carried out with the minimum amount of inconvenience to the occupants of the premises.

Welfare Cases.

Welfare Cases

On behalf of the Welfare Section of the Health Department, an increasing number of dwelling houses and apartment rooms are disinfested. These are premises in which the occupants have been removed to hospital or are unfit to adequately clean the premises unaided.

4. *Disinfestation and Disinfection Stations.*

Disinfestation Stations

There are two stations in continual use, one is at Smithdown Road and the other at Charters Street. They are used primarily for the disinfestation of verminous articles from premises in course of treatment and the disinfection of articles removed from premises and ships in which infectious disease has occurred.

They also derive an income from the precautionary disinfection of various articles intended for export. This work is performed on behalf of various undertakings who are prepared to defray the cost of such treatment.

The amount of work carried out in this connection is:—

4,779 verminous articles disinfested.

29,677 infectious articles disinfected.

197 infectious library books disinfected and returned to circulation.

12,233 articles disinfected as a precautionary chargeable measure.

1,325 tons of miscellaneous goods, the outer wrappers of which are disinfected as a precautionary chargeable measure.

5. *Disinfection of Infectious Premises.*

Disinfection after Infectious Disease

In the event of infectious disease occurring in any premises, the necessary disinfection is carried out by staff from this section and infectious bedding and personal effects are removed to the disinfection stations for treatment.

In this connection, 1,527 infectious premises were disinfected during the year.

Requests are frequently made for treatment of premises in which disease of a non-infectious nature has occurred and in these cases, treatment is carried out, the cost being debited to the person requesting such treatment.

6. *Fly prevention.*

Fly Prevention

The principal target for this service is the breeding ground of flies, and for this purpose, regular periodic treatment of manure dumps, middensteads, etc., is carried out from early spring until autumn. This service has proved its worth in a considerable abatement of the fly menace during the summer months, and has also been instrumental in obtaining the helpful co-operation of the owners of stables and shippons.

7. *City Mortuary.*

City Mortuary

The provision and maintenance of the City Mortuary is the responsibility of the health department. It is used for the reception from the City and the river of the bodies of persons who have died in unusual circumstances.

During the year, 399 bodies were received and at the instruction of the Coroner, 356 post-mortem examinations were held.

8. *Burial Service.*

Burial Service

Section 50 of the National Assistance Act, 1948 imposes a duty on the Local Authority to arrange for the burial or cremation of persons found dead in the City, where it appears that no suitable arrangements are being made by relatives or friends.

During the year, this service arranged for the burial or cremation of 144 adults and children and 2 still-born babies.

As an auxiliary to this service, the Health Department has an arrangement with local Hospital Management Committees for the transfer of bodies between hospitals. Under this arrangement, 232 bodies were transferred during 1956.

In connection with this service, a report was received by this department of the death of a man in the Southern Hospital. The department was requested by the hospital secretary to make the necessary funeral arrangements. In this case it was essential for relatives to be traced and, with the co-operation of the Police, a sister and brother were traced in Ireland. These people made the journey to Liverpool and, with their assistance, it was possible to arrange a suitable funeral. As the relatives were strangers to Liverpool, the officers of this section were helpful in obtaining them suitable accommodation while awaiting the funeral.

9. *Storage, Distribution and Collection of Home Nursing Equipment.*

Home Nursing Equipment

The quantity of equipment being handled in connection with this service is growing continually and has assumed a considerably greater proportion than that originally obtained when the scheme was first introduced.

The storage, distribution, collection and maintenance of the varied types of equipment now in use is handled by this section of the department and, during the year, 2,714 visits were made for the purpose of providing or collecting items of equipment (compared with 2,564 visits in 1955).

10. *Mobile Meals Service Transport.*

Mobile Meals Service

A moderate extension of this service occurred during the year, as a result of which it was found that the one van provided was insufficient and an additional van was seconded to assist. The number of visits made by these vehicles for the purpose of providing meals was 7,051.

11. *Food and General Store.*

Food and General Store

This store, which is situated at Gascoyne Street Depot, continues to function in a satisfactory manner despite accommodation difficulties. The value and volume of goods handled continues to increase each year. The actual value of the turnover in 1951 was £9,000, whereas the value during 1956 was £18,000, an increase of 100 per cent, and it is expected

that there will again be a substantial increase during the coming year, due to the opening of new hostels for aged persons. Food, chandlery and general stores are supplied to 155 establishments, the majority of which are those under the control of the Health Department, but included in this number are several establishments belonging to the Children's Department, School Medical Department and one Police establishment.

The complete list of establishments which are supplied from this store is:—

25 Maternity and Child Welfare Centres.

14 Day Nurseries.

69 Domiciliary Midwives.

11 Aged Persons' Hostels.

5 Mental Health Establishments.

9 Children's Department Establishments.
Police Training College.

21 Other establishments.

12. *Welfare Foods Service.*

Welfare Foods Service

The services associated with the distribution of welfare foods are controlled by this section of the department. Full details have been reported on page 18.

13. *Miscellaneous Services.*

Miscellaneous Services

Miscellaneous services include:—

(*a*) The collection and removal of furniture and equipment to and from Aged Persons' Hostels.

(*b*) Collection, repair and delivery of Day Nursery equipment and furniture.

(*c*) Transport of equipment on behalf of the Mental Health Service.

(*d*) Various transport duties on behalf of the Children's Department.

(*e*) Two new duties which have recently been undertaken for the Midwifery Service, are the delivery to patients' houses of gas and air machines and the transport required from home to hospital of milk required for the feeding of babies who are patients in hospital.

(*f*) The moveable property of persons admitted to hospital or to accommodation provided under Part III of the National Assistance Act, 1948 is conveyed, where necessary, to and from store.

(*g*) The residents in Aged Persons' Hostels are provided with facilities for obtaining books from public libraries. The transport required for this service is provided by this section.

(*h*) The poliomyelitis immunisation scheme depends on urgent transport of the necessary vaccine. This transport has been provided at short notice by this section.

(*i*) A variety of other transport duties necessary for establishments under the control of the Health Department.

14. *Liverpool Show—July* 1956.

Liverpool Show

The increased accommodation which was placed at the disposal of the Health Department at the 1956 Show facilitated an even greater display of the functions of the department. This section played a considerable part in "behind the scenes" efforts to make this part of the Show an unqualified success. Most of the stands used in the marquees were constructed and erected by the staff of this section. These stands are available for future Shows and it is hoped that with suitable additions, they will be used at the 1957 Show.

Summary.

STAFF.

Summary

With the exception of the Welfare Foods Service, the foregoing variety of duties for which this section is responsible are performed by a total staff of 44, comprising:—

ADMINISTRATIVE STAFF.	OPERATIONAL STAFF.
1 Chief Inspector.	2 Mortuary Attendants.
5 Inspectors.	1 Mechanic.
2 Clerks.	1 Joiner.
2 Foremen.	2 Boiler Attendants.
1 Storekeeper.	11 Drivers.
	16 Disinfestors, Disinfectors, etc.

Vehicles and Maintenance.

Vehicles and Maintenance

Sixteen motor vehicles are in continual daily use and during the year have covered 101,109 miles and consumed 8,025 gallons of petrol. The complete maintenance of these vehicles is carried out by the staff at Gascoyne Street Depot.

CIVIL DEFENCE

Civil Defence Training

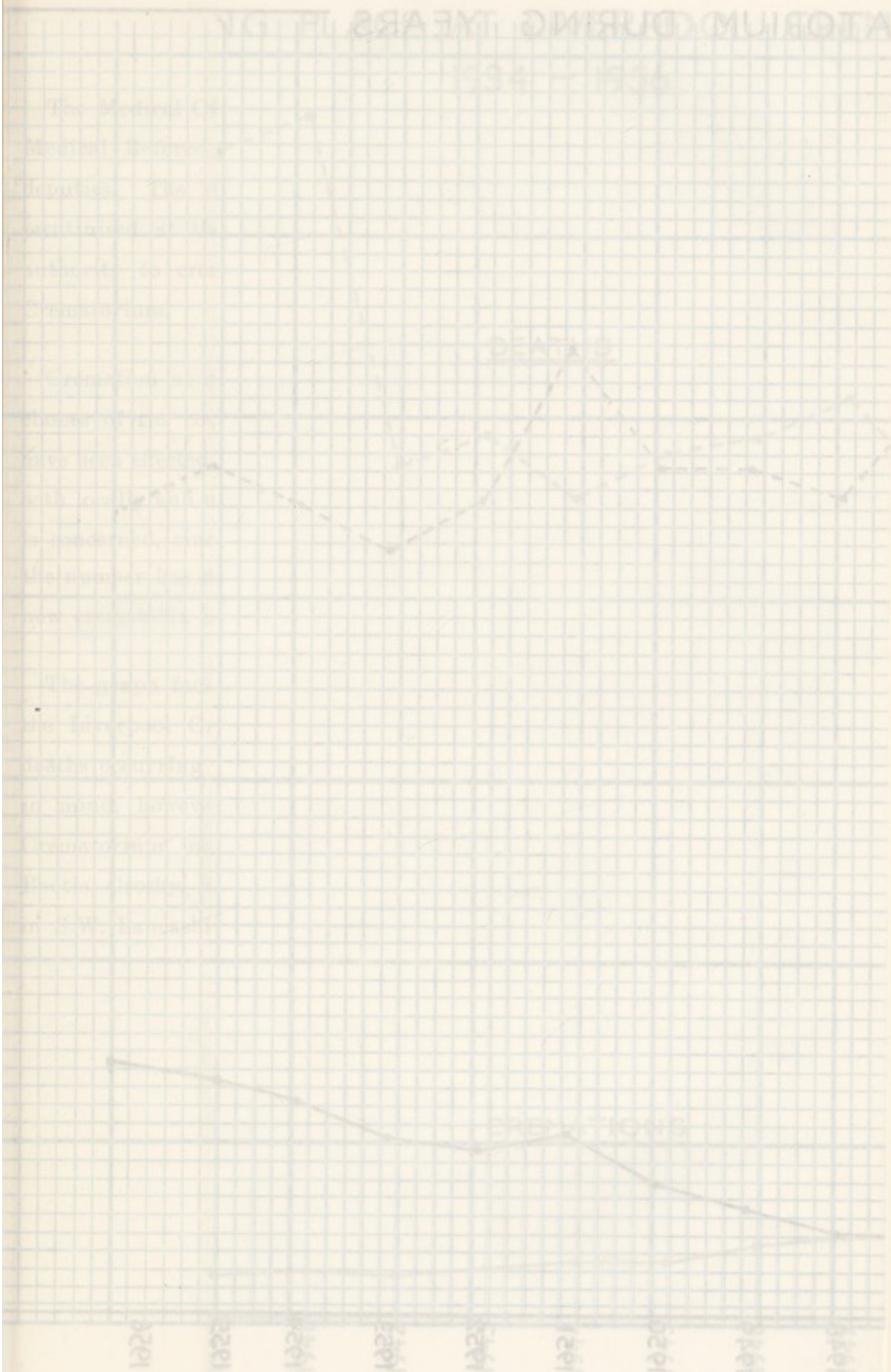
Extensive training of members of the Ambulance and Casualty Collecting Section has continued throughout 1956. During this period six training courses were arranged and 144 persons attended for training. The new training syllabus extends over 24 weeks and covers all aspects of Civil Defence, including Elementary Rescue and First Aid. Revision courses have also been held and advanced training arranged for potential officers.

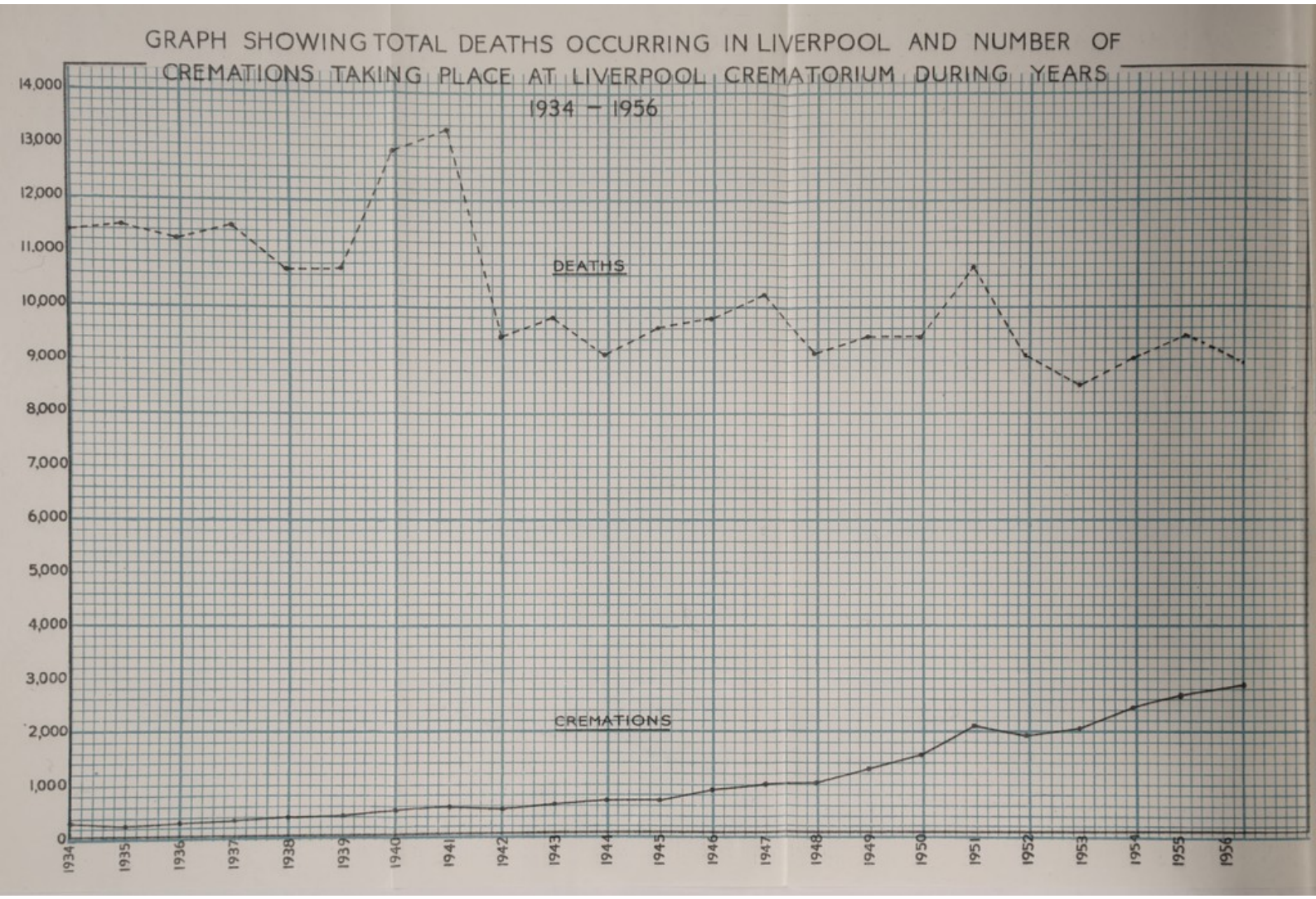
In September, two Ambulance Driver/Attendants and four Casualty Collecting Party members joined the Liverpool Civil Defence Corps Team competing in the North West Region Competition at Blackpool. In the preliminary round the Ambulance and Casualty Collecting Section team headed the list with 93 per cent of marks, but were second in the final.

The Driving School continued training drivers throughout the year, and those who have passed the official test have assisted in giving driving practice to trainees.

The total strength of the Rest Centre Sub-Section at the end of the year was 374, of whom 257 were fully trained. During the year seven courses have been held on the care of the homeless, two courses on home nursing, and three courses on first aid. A review has been carried out of the training syllabus and the number of training hours increased. In co-operation with the staff at Civil Defence Headquarters, a house-to-house canvas has been made of those volunteers who, since joining, have failed to attend for instruction and, as a result of this, 488 disinterested persons have been removed from the strength. A team from the Section took part in the Regional Competition held at Blackpool in September when the Liverpool Division won an overall trophy.

Shelter Welfare Personnel have all been contacted either personally or by letter, according to the requirements of Circular 26/55. The strength has, as a result, been considerably reduced, but there remain 14 volunteers on Rest Centre strength who have opted for Shelter Welfare duties.




GRAPH SHOWING TOTAL DEATHS OCCURRING IN LIVERPOOL AND NUMBER OF CREMATIONS TAKING PLACE AT LIVERPOOL CREMATORIUM DURING YEARS 1934 – 1956
14,000
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
DEATHS
CREMATIONS
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956

CREMATION.

Cremation

The Medical Officer of Health is appointed by the Home Office to be Medical Referee to the Liverpool Crematorium, and there are two deputies. The statutory documents connected with cremations are scrutinised at the Central Offices of the Health Department before authority to cremate is given, and there is close liaison with the Crematorium.

Cremation as a means of disposal is growing steadily amongst all classes of the community, and in recent years notable improvements have been effected at the Crematorium itself. The number of cremations both locally and nationally increases year by year. So far as Liverpool is concerned, since 1940 for example, when there were 482 cremations, the number has now grown to 2,738 per annum, despite the opening of new crematoria in adjacent areas.

The graph facing shows the increase in cremations taking place at the Liverpool Crematorium since 1934, together with the number of deaths occurring in Liverpool over the same period. It must be borne in mind, however, that the number of cremations at the Liverpool Crematorium includes cases brought in from outside areas such as Bootle, Crosby, St. Helens, etc., as there is still no other crematorium in S.W. Lancashire.

WATER SUPPLY.

The water supply in the area during 1956 was satisfactory both in quality and quantity.

Bacteriological examinations of the waters were made regularly by the Public Health Laboratory Service, samples for these routine examinations being taken both in the City and Prescot Storage Reservoirs.

The supplies from both Rivington and Lake Vyrnwy are treated by slow sand filtration and chlorination, and by lime in order to raise the pH value; further chlorination is carried out at the Prescot Reservoirs.

There are no parts of the area dependent upon stand-pipes for a supply.

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STATISTICAL APPENDIX.

TABLE 1.

BIRTH STATISTICS.

	LIVE BIRTHS.			STILLBIRTHS.		
	Males.	Females.	Total.	Males.	Females.	Total.
Legitimate ...	7,777	7,366	15,143	213	163	376
Illegitimate ...	414	387	801	7	11	18
	8,191	7,753	15,944	220	174	394

Year	Births	Birth Rate	Illegitimate Births	% of Births
1938	16,175	18·7	771	4·8
1942	13,729	20·5	871	6·3
1943	14,432	21·8	1,030	7·1
1944	15,412	23·1	1,274	8·3
1945	14,784	21·7	1,582	10·7
1946	18,528	25·2	1,351	7·3
1947	19,904	26·4	1,151	5·8
1948	17,695	22·3	1,009	5·7
1949	16,551	20·7	943	5·7
1950	16,110	20·1	968	6·0
1951	15,593	19·9	859	5·5
1952	15,839	20·0	876	5·5
1953	16,022	20·3	873	5·4
1954	15,742	20·5	847	5·4
1955	15,268	19·6	785	5·1
1956	15,944	20·6	801	5·0

Year	Registered Live Births.	Registered Stillbirths.	Total Births.	Stillbirths per 1,000 Live and Stillbirths.
1935	17,347	749	18,096	41·4
1936	17,403	708	18,111	39·1
1937	16,728	618	17,346	35.6
1938	16,175	639	16,814	38.0
1939	15,614	631	16,245	38.9
1940	15,016	519	15,535	33.4
1941	13,291	508	13,799	36.8
1942	13,729	552	14,281	38.6
1943	14,432	485	14,917	32.5
1944	15,412	492	15,904	30.9
1945	14,784	431	15,215	28.3
1946	18,528	539	19,067	28.3
1947	19,904	514	20,418	25.2
1948	17,695	479	18,174	26.3
1949	16,551	358	16,909	21.2
1950	16,110	375	16,485	22.7
1951	15,593	396	15,989	24.8
1952	15,839	400	16,239	24.6
1953	16,022	394	16,416	24.0
1954	15,742	400	16,142	24·8
1955	15,268	408	15,676	26·0
1956	15,944	394	16,338	24·1

TABLE 2.

Analysis of causes of Infant Mortality in successive quinquennia 1896-1955, and the year 1956.

(A.)—Recorded Deaths.

Years.	1 Total Births.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tuberculosis).	4 Tubercular Diseases.	5 Nervous Diseases	6 Respiratory Diseases	7 Digestive Diseases (including Diarrhœa.)	8 Malformations Premature Birth, Marasmus &c.	9 Extern Caus
1896/1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698	81
1901/1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732	56
1906/1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520	53
1911/1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953	42
1916/1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107	17
1921/1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764	12
1926/1930	95,701	9,002	978	109	401	2,553	1,670	2,981	8
1931/1935	88,644	7,904	902	82	368	2,050	1,184	3,125	6
1936/1940	80,936	6,226	573	74	519	1,457	698	2,691	8
1941/1945	71,648	5,512	341	71	403	1,704	548	2,193	13
1946/1950	88,788	5,034	311	47	213	1,109	963	2,226	11
1951/1955	78,464	2,626	83	10	28	480	132	1,792	6
1956	15,944	413	8	—	6	75	9	300	

(B.)—Death Rates per 1,000 Births.

1896/1900	*33·4	189	12·7	6·2	22·1	32·0	57·1	51·0	7·3
1901/1905	33·4	172	13·0	5·5	21·2	29·3	43·7	48·1	4·7
1906/1910	32·2	149	13·6	3·9	17·4	26·6	33·0	46·7	4·6
1911/1915	29·3	137	11·6	3·1	12·8	26·1	32·5	43·1	3·8
1916/1920	24·9	116	11·1	2·0	10·9	28·4	18·8	42·0	1·8
1921/1925	25·1	100	10·2	1·9	5·5	26·6	17·1	36·1	1·2
1926/1930	22·1	94	10·2	1·1	4·2	26·7	17·4	31·1	0·8
1931/1935	20·5	89	10·1	0·9	4·2	23·1	13·4	35·3	0·8
1936/1940	19·4	77	7·0	0·9	6·4	17·9	8·8	32·9	1·0
1941/1945	21·3	78	4·8	1·0	5·6	24·1	7·7	30·7	1·8
1946/1950	22·9	56	3·4	0·5	2·3	12·3	10·5	25·1	1·2
1951/1955	20·1	33	1·0	0·1	0·3	6·1	1·7	22·8	0·8
1956	20·6	26	0·5	—	0·4	4·7	0·6	18·8	0·5

*In column 1 the rates indicate the number of births per 1,000 of the population.

(C.)—Death Rates expressed as a percentage of the rates recorded in 1896-1900.

1896/1900	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·
1901/1905	100·0	91·0	102·3	89·3	95·9	91·5	76·5	94·0	65·
1906/1910	93·0	78·6	107·1	62·9	78·6	83·1	57·8	91·0	63·
1911/1915	87·0	72·5	91·9	50·0	57·9	81·5	56·9	84·0	52·
1916/1920	76·0	61·4	87·4	32·2	49·3	88·7	32·7	82·0	25·
1921/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8	16·
1926/1930	66·2	49·7	80·3	17·7	18·9	83·5	30·4	60·9	11·
1931/1935	61·4	47·2	79·5	14·8	18·9	72·2	23·4	69·2	10·
1936/1940	58·1	40·7	55·1	14·5	29·0	55·9	15·4	64·5	13·
1941/1945	63·8	41·3	37·8	16·1	25·3	75·3	13·5	62·0	24·
1946/1950	68·7	29·4	26·9	8·0	10·6	38·5	18·3	48·8	15·
1951/1955	60·1	17·6	8·2	1·9	1·5	19·0	2·9	44·7	10·
1956	61·7	13·8	3·9	—	1·8	14·7	1·1	36·9	6·

Deaths from certain Groups of Diseases.

Years.	(a) Infective diseases (less Diarrhœa and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhœa).	Total Deaths from (a), (b).(c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	27,205	19,869	29,763	14,747	91,584	2,015	147,005
1881-1890	19,748	17,870	32,507	13,186	86,311	2,820	146,195
1891-1900	13,515	16,714	35,819	18,491	84,539	4,223	145,522
1901-1910	13,967	16,054	32,995	18,163	81,179	6,480	150,962
1911-1920	10,417	14,946	36,480	12,282	74,125	7,603	137,223
1921-1930	7,831	12,664	29,447	8,184	58,126	9,852	117,756
1931-1940	6,473	9,413	18,196	5,987	40,069	12,619	115,632
1941-1950	2,645	6,987	15,728	4,328	29,723	13,265	98,347
1951	111	449	2,339	310	3,209	1,559	10,648
1952	91	305	1,229	292	1,917	1,591	8,994
1953	69	284	1,142	271	1,766	1,553	8,422
1954	66	244	1,251	275	1,836	1,582	8,946
1955	65	204	1,589	245	2,103	1,601	9,289
1956	56	144	1,458	215	1,873	1,590	8,842
Deaths expressed as a percentage of total deaths from all causes (Proportionate Mortality).							
1871-1880	19·2	13·5	20·2	10·0	62·9	1·4	100·0
1881-1890	14·1	12·7	23·2	9·4	59·4	2·0	100·0
1891-1900	9·3	10·8	24·6	12·7	57·4	2·9	100·0
1901-1910	8·6	10·6	21·8	12·0	53·0	4·3	100·0
1911-1920	7·9	10·9	27·3	8·9	55·0	5·5	100·0
1921-1930	6·6	10·7	25·0	6·9	49·4	8·4	100·0
1931-1940	5·6	8·1	15·7	5·2	34·7	10·9	100·0
1941-1950	2·6	7·1	15·9	4·4	30·1	13·7	100·0
1951	1·0	4·2	22·0	2·9	30·1	14·6	100·0
1952	1·0	3·4	13·7	3·2	21·3	17·7	100·0
1953	0·8	3·4	13·6	3·2	21·0	18·4	100·0
1954	0·7	2·7	14·0	3·1	20·5	17·7	100·0
1955	0·7	2·2	17·1	2·6	22·6	17·2	100·0
1956	0·6	1·6	16·5	2·4	21·2	18·0	100.0

TABLE 4.

DEATHS FROM CANCER

1946—1956

Organs Affected	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	195
Buc. Cavity	42	39	43	35	46	44	31	29	46	32	36
Digestive Organs ...	650	610	642	603	651	687	677	620	636	662	594
Respiratory System ...	234	235	252	320	331	344	346	432	383	408	448
Female Genital Organs ...	86	97	97	91	105	110	102	98	93	110	96
Breast ...	126	130	133	107	108	122	120	114	121	117	122
Other Organs	174	203	262	226	315*	218	264	215	252	235	252
Leukæmia ...	—	—	—	—	—	34	51	45	51	37	42
Total	1,312	1,314	1,429	1,382	1,556	1,559	1,591	1,553	1,582	1,601	1,590

*Including Leukæmia.

TABLE 5.

MATERNAL MORTALITY.

Year.	Births Registered.			Maternal Mortality.	
	Live Births.	Stillbirths.	Total Births.	Deaths.	Rate per 1,000 Total Births.
1930	18,881	774	19,655	75	3·81
1931	18,626	722	19,348	55	2·84
1932	18,149	827	18,976	51	2·69
1933	16,929	680	17,609	60	3·41
1934	17,593	685	18,278	51	2·79
1935	17,347	749	18,096	59	3·26
1936	17,403	708	18,111	64	3·52
1937	16,728	618	17,346	40	2·31
1938	16,175	639	16,814	33	1·96
1939	15,614	631	16,245	29	1·86
1940	15,016	519	15,535	31	2·01
1941	13,291	508	13,799	32	2·42
1942	13,729	552	14,281	34	2·38
1943	14,432	485	14,917	34	2·27
1944	15,412	492	15,904	31	1·95
1945	14,784	431	15,215	23	1·51
1946	18,528	539	19,067	19	0·99
1947	19,904	514	20,418	17	0·83
1948	17,695	479	18,174	14	0·77
1949	16,551	358	16,909	9	0·53
1950	16,110	375	16,485	7	0·42
1951	15,593	396	15,989	10	0·62
1952	15,839	400	16,289	7	0·43
1953	16,022	394	16,416	5	0·30
1954	15,742	400	16,142	8	0·49
1955	15,268	408	15,676	9	0·57
1956	15,944	394	16,338	7	0·43

TABLE 6.

DISTRICT WORK OF THE HEALTH VISITORS

Visits.	Total.
Visits to expectant mothers	5,848
Visits to infants following notification of birth ...	15,360
Total visits to infants during the 1st year of life ...	80,457
Total visits to infants aged 1 to 5 years	100,358
Visits to children discharged from Hospitals ...	3,068
Visits to cases of infantile diarrhœa	253
Visits to cases of measles of all ages	6,750
Visits to cases of whooping cough of all ages ...	2,561
Visits to other cases	9,764
Visits to aged persons	1,051

TABLE 7.

Ante-Natal Clinics.

	1956	1955
Total number of centres at which ante-natal clinics were held ...	24	25
Number of clinic sessions held per week	36	38
Number of new cases attending ante-natal clinics	3,053	3,575
Total attendances at ante-natal clinics	17,692	19,447
Total attendances at post-natal clinics	492	677
Child Welfare Clinics.		
Total number of centres at which child welfare clinics were held...	24	24
Number of clinic sessions per week	52	48
Number of new cases : Under 1 year of age	8,209	8,175
Aged 1-5 years	267	300
Total attendances : Under 1 year of age	74,756	75,182
Aged 1-2 years	7,140	7,397
Aged 2-5 years	7,893	7,923
Total under 5 years	89,789	90,502

TABLE 8.

NEO NATAL DEATHS—FIRST WEEK ONLY.

Cause.	Premature.	Full-time.	Total.
Prematurity only	51	—	51
Atelectasis. Post Natal Asphyxia	60	13	73
Respiratory Infection	14	10	24
Injury at Birth	27	19	46
Congenital Defects	14	26	40
Rhesus Incompatibility	2	5	7
Inattention at Birth and Unknown (found dead)	2	—	2
Uraemia	—	1	1
Idiopathic thrombosis of Kidney	1	—	1
Totals	171	74	245

TABLE 9.

NEO NATAL DEATHS. FEEDING.

Nil.	Water.	Breast.	Artificial.	Breast and Artificial.	Not Known.	Total.
197	5	49	4	5	15	275

TABLE 10.

NEO NATAL DEATHS AND STILLBIRTHS—BLOOD TESTS.

	Rhesus + ve	Rhesus — Ve No Anti B.	Place of Birth.				Total.
			Rhesus —ve with A.B.		Results not Traced.		
			Home	Hospital	Home	Hospital	
1st week	181	33	1	9	9	12	245
2/4 weeks	23	4	—	—	1	2	30
Stillbirths	285	62	1	21	7	14	390

TABLE 11.

NEO NATAL DEATHS—SOCIAL CLASSES.

Class	I	II	III	IV	V	Not Classified.	Total.
1st week ...	5	20	78	57	83	2	245
2/4 weeks ...	—	3	9	4	13	1	30
Totals ...	5	23	87	61	96	3	275

TABLE 12.

DOMICILIARY AND NURSING HOME BIRTHS 1946/1956.

Year.	Total Births.	Domiciliary Total Births.	Domiciliary % of Total.	Nursing Home Total Births.	Nursing Home % of Total.
1946	19,067	6,840	35·9	995	5·2
1947	20,418	7,184	35·2	952	4·2
1948	18,174	5,580	30·7	724	4·0
1949	16,909	4,769	28·0	614	3·6
1950	16,485	4,425	26·8	437	2·7
1951	15,989	4,260	26·7	392	2·5
1952	16,239	4,984	30·7	391	2·4
1953	16,416	5,094	30·4	411	2·5
1954	16,142	5,020	31·1	330	2·0
1955	15,676	4,783	30·5	313	2·0
1956	**16,338**	5,093	**31·2**	332	**2·0**

TABLE 13.

DEATHS DUE TO PREGNANCY AND CHILD BEARING.

Cause of Death.	Age.	Parity.	Gestation weeks.	Delivered.		Died.		Previous Health.	Child.	Delivery.	Lab. in hrs.	Death Post Partum.	Anaesthetic	Period of Pregnancy on booking (weeks).		
				Home.	Hosp.	Home.	Hosp.							RMP.	Mid.	Hosp.
TOXAEMIA.																
Bilaterial cortical necrosis of kidneys. Concealed & revealed accidental haemorrhage. Severe pre-eclampsia.	27	1	34		x		x	Good	S.B.	A.R.M. N.D.	8	8 hrs.	Nil	10		
Eclampsia	30	1	40		x		x	Mitral Stenosis	Normal 5 lb. 15 oz.	A.R.M. Low forceps	3	4½ hrs.	—	12		14
Obstetric shock. Hypertensive peripheral circulatory failure.	37	5	41		x		x	Good	Post mature S.B.	L.U.S.C.S. Breech	12	6 hrs.	—			30
Obstetric acute yellow atrophy of liver.	27	4	37		x		x	Fair vomiting.	S.B.	N.D.	24	48 hrs.	Nil	7		7

TABLE 14.

DEATHS DUE TO PREGNANCY AND CHILD BEARING.

Cause of Death.	Age.	Parity.	Gestation weeks.	Delivered		Died.		Previous Health.	Child.	Delivery.	Lab. in hrs.	Death Post Partum.	Anaesthetic	Period of Pregnancy on booking (weeks).		
				Home.	Hosp.	Home.	Hosp.							RMP.	Mid.	Hosp.
SEPSIS.																
Acute toxaemia widespread infection (septicaemia). Septic abortion produced by insertion of foreign body into cervix uteri.	34	5	20			x		Poor oedema	Undelivered	—	—	—	Nil	—	—	—
Toxaemia and bronchopneumonia due to peritonitis following perforation of vault of vagina. Self injection of fluid into genital passages. Self induced abortion.	36	1	12/14	x			x	Good	Abortion	—	—	24 hrs.	—	12	—	—
Pulmonary embolism. Thrombosis of pelvic veins. Pregnancy.	45	3	20	—		x		Sonne Dysentery.	—	Undelivered	—	—	—	—	—	—

TABLE 15.

DEATHS DUE TO ASSOCIATED CONDITIONS.

Cause of Death.	Age.	Parity.	Gestation-weeks.	Delivered.		Died.		Previous Health.	Child.	Delivery.	Lab. in hrs.	Death Post Partum.	Anaesthetic	Period of Pregnancy on booking (weeks).		
				Home.	Hosp.	Home.	Hosp.							RMP.	Mid.	Hosp.
Asphyxia Haemorrhage. Peribronchial Fibrosis. Caesarean Section.	36	1	40		x		x	Gross peribronchial fibrosis.	Alive 7 lb. 2 oz.	L.U.S.C.S.	24	33½ hrs.	Gen.	18	—	18
Lobar pneumonia. Bronchiectasis. Pregnancy.	28	1	35		x		x	Bronchiectasis.	Prem. S.B.	Easy forceps.	9	30 hrs.	Local			16
Left cardiac failure. Pneumonia. Reticulosis of cervical glands.	35	2	29		x		x	Reticulosis	Prem. S.B.	N.D.	—	—	Nil			10

TABLE 16.

STILLBIRTHS—ASSOCIATED MATERNAL CAUSES.

Mitral Stenosis	3
Cardiac unspecified	1
Bronchiectasis	3
Bronchitis	2
Pleurisy	1
Pulmonary Tuberculosis	3
Arrested Tuberculosis	1
Bronchitis and hyperemesis	1
Anaemia	23
Anaemia and bronchitis	3
Pernicious anaemia	1
Splenectomy at 4/12 pregnant	1
Nephrectomy	1
Pyelitis	1
Double Rt. kidney	1
Cystitis	1
Diabetes	1
Thyroidectomy	2
Epilepsy	3
Mentally retarded	1
Mental defective	1
Nervous debility	1
Reticulosis	1
Fibroids	1
Nasal infection	1
Debility	26
Congenital syphilis	1
TOTAL	86

TABLE 17

BABIES ATTENDED BY PREMATURE BABY MIDWIVES

BORN AT HOME, NURSED AT HOME AND TRANSFERRED TO HOSPITAL = 6

Birth Weight	Av. Wt. on Transfer to Hosp.	Av. Time Nursed at Home	Type of Feeding			Total
			Breast	Artificial	Mixed	
*4-5 lbs.	4 lb. 12 oz.	1½ wks.	3	—	—	4*
5-5½ lbs.	5 lb. 6 oz.	3 wks.	2	—	—	2

* 1 Case Died in Hospital age 2½ weeks. 1 Feeding not known.

TABLE 18

BABIES ATTENDED BY PREMATURE BABY MIDWIVES

BORN IN HOSPITAL AND DISCHARGED HOME FOR NURSING = 78

Birth Weight	Av. Wt. on Hosp. Discharge	Av. Wt. on Discharge from Nurse	Av. Time Nursed In Hosp.	Av. Time Nursed at Home	Type of Feeding			Total
					Breast	Artificial	Mixed	
2-3 lbs.	5 lb.	6 lb. 7 oz.	6 wks.	2½ wks.	1	5	1	7
*3-4 lbs.	5 lb. 2 oz.	6 lb. 3 oz.	4½ wks.	2½ wks.	4	6	3	13*
4-5 lbs.	5 lb. 1 oz.	6 lb. 4 oz.	2¼ wks.	2½ wks.	8	19	5	32
5-5½ lbs.	5 lb. 5½ oz.	6 lb. 5 oz.	1½ wks.	2¼ wks.	8	6	3	17
5½ lbs. and over	5 lb. 8 oz.	6 lb. 6 oz.	2 wks.	2 wks.	4	4	2	9

* 1 case transferred back to hospital.

TABLE 19

BABIES ATTENDED BY PREMATURE BABY MIDWIVES

BORN AT HOME, TRANSFERRED TO HOSPITAL AND THEN DISCHARGED HOME FOR NURSING = 6

Birth Weight	Av. Wt. on Hosp. Discharge	Av. Wt. on Discharge from Nurse	Av. Time Nursed In. Hosp.	Av. Time Nursed at Home	Type of Feeding			Total
					Breast	Artificial	Mixed	
3-4 lbs.	4 lb. 4 oz.	6 lb. 8 oz.	2 wks.	3½ wks.	1	—	—	1
4-5 lbs.	4 lb. 12 oz.	6 lb. 5 oz.	3 wks.	3½ wks.	2	3	—	5

TABLE 20

BABIES ATTENDED BY PREMATURE BABY MIDWIVES

BORN AT HOME AND NURSED AT HOME = 54

Birth Weight	Av. Weight on Discharge	Av. Time Nursed at Home	Type of Feeding			Total.
			Breast	Artificial	Mixed	
3-4 lbs.	6 lb. 1 oz.	6½ wks.	2	2	1	5
4-5 lbs.	6 lb. 3 oz.	4½ wks.	23	4	5	32
5-5½ lbs.	6 lb. 2 oz.	2¾ wks.	12	2	1	15
5½ lb. and over	6 lb. 6 oz.	1¾ wks.	2	—	—	2

TABLE 21.

CAUSES OF STILLBIRTH—INTERNATIONAL CLASSIFICATION.

Cause.	Hospital.	Domiciliary, and Nursing Home.	Total.
Maternal Syphilis	1	2	3
Diabetes	2	—	2
Chronic Nephritis	2	—	2
Mitral Stenosis	1	—	1
Ante Partum Haemorrhage	60	6	66
A.P.H. and Rhesus Incompatability ...	—	1	1
A.P.H. and Intracranial Haemorrhage ...	3	—	3
A.P.H. and Twins	2	—	2
A.P.H. and Breech	2	—	2
Toxaemia	45	—	45
Essential hypertension	16	1	17
Cortical necrosis of kidneys (Maternal) ...	1	—	1
Obstetric acute pseudo yellow atrophy ...	1	—	1
Abnormal Delivery	32	10	42
True Knot Cord, 2nd twin	1	—	1
Prolapse cord	3	1	4
Prolapse cord, 2nd twin	1	—	1
Cord round neck	5	6	11
Tight cord	1	—	1
Placenta Praevia	12	—	12
Placenta circumvallate	1	—	1
Placenta hydatidiform degen.	1	—	1
Vasa praevia torn (forceps)	1	—	1
Placental infarcts.	—	2	2
Placental insufficiency	4	—	4
Intracranial haemorrhage N.D.	—	1	1
Malformations	56	8	64
Rhesus Incompatability	20	1	21
Haemorrhagic Disease	1	—	1
Inhalation of meconium asphyxia	1	—	1
Intra uterine asphyxia normal delivery ...	10	—	10
Atelectasis normal delivery	2	—	2
Post maturity normal delivery	8	3	11
1st Twin, normal delivery Prem.	2	—	2
2nd Twin, normal delivery	2	1	3
Stillborn, no reason	29	13	42
Stillborn, B.B.A.	—	5	5
	329	61	390

TABLE 22.

STILLBIRTH RATE 1946/1956

(MUNICIPAL MIDWIVES ONLY)

Year.	Total Births.	Total Stillbirths.	Municipal Total Births.	Municipal Stillbirths.	Stillbirth Rate per 1,000 total births.	Municipal Stillbirth Rate per 1,000 total Municipal Births.
1946	19,067	539	4,802	99	28·3	20·6
1947	20,418	514	5,070	93	25·2	18·3
1948	18,174	479	4,137	70	26·3	16·9
1949	16,909	358	3,773	52	21·2	13·8
1950	16,485	375	3,548	45	22·7	12·7
1951	15,989	396	3,324	64	24·8	19·2
1952	16,289	400	3,869	53	24·6	13·7
1953	16,416	394	3,969	45	24·0	11·3
1954	16,142	400	3,922	52	24·1	13·3
1955	15,676	408	3,917	52	26·0	13·3
1956	16,338	394	3,993	49	24·1	12·3

TABLE 23.

ANALGESIA.

	Year.	Doctor present at delivery.	Doctor not present at delivery.	Total.
Liverpool Maternity District Homes (Six).				
Gas/Air	1954	18	840	858
	1955	10	699	709
	1956	27	877	904
Pethidine	1954	13	532	545
	1955	8	535	543
	1956	23	641	664
Municipal Midwives.				
Gas/Air	1954	322	2,511	2,833
	1955	392	2,696	3,088
	1956	307	2,969	3,276
Pethidine	1954	218	1,688	1,906
	1955	248	2,179	2,427
	1956	248	2,310	2,558

TABLE 24.

MIDWIVES ENGAGED IN BOTH DOMICILIARY AND INSTITUTIONAL PRACTICE AT THE END OF THE YEAR.

	Domiciliary Midwives.	Midwives in Institutions.	Total.
Midwives employed by the Authority	57	—	57
Midwives employed by Hospital Management Committees or Boards of Governors under the National Health Service Act :— Under arrangements with the Local Health Authority in pursuance of Section 23 of the National Health Service Act, 1946	12	218	230
Midwives in private practice (including midwives employed in nursing homes)	15	16	31
Totals	84	234	318

TABLE 25.

ANALYSIS OF CONFINEMENTS.

	Domiciliary Cases.				Totals.	Cases in Institutions.
	Doctor not booked.		Doctor booked.			
	Doctor present at time of delivery.	Doctor not present at time of delivery.	Doctor present at time of delivery (either the doctor booked or another).	Doctors not present at time of delivery.		
Midwives employed by Hospital Management Committees or Boards of Governors under the National Health Service Act...	4	263	32	712	1,011	13,432
Midwives in private practice (including midwives employed in nursing homes) ...	0	1	12	—	13	337
Midwives employed by the Local Authority						
Year 1955 ...	18	753	328	2,739	3,838	
Year 1956 ...	26	672	341	2,910	3,949	

TABLE 26.

HOME NURSING EQUIPMENT—LOANS DURING 1956.

	Period of Loan.					Total.
	Under 3 months.	3–6 months.	6–9 months.	9–12 months.	Over 12 months.	
Air Bed	14	1	2	1	—	18
Air Ring	311	57	28	19	18	433
Back Rest	323	73	26	9	28	459
Bed Cradle	25	10	1	1	2	39
Bed Pan	414	81	21	12	20	548
Commode	11	5	2	3	13	34
Dunlopillo Mattress ...	21	10	2	4	10	47
Lifting Pole	5	4	—	3	6	18
Nelson Bed	1	2	2	—	9	14
Rubber Sheets	263	76	23	16	35	413
Urinals	120	26	8	5	13	172
Wheel Chair	20	17	9	10	27	83
Totals	1,528	362	124	83	181	2,278

TABLE 27.

DISTRICT NURSES VISITS TO CHILDREN UNDER ONE YEAR.

ANALYSIS OF DISEASES.

Illness	Cases		Visits
	0-1 mth.	1 mth.-1 yr.	
Abscesses	5	12	103
Abscess of Buttock	1	2	31
Ascarides	—	2	8
Anaemia	—	3	33
Boils	1	—	7
Birth Mark	—	1	18
Burns	—	1	8
Bronchitis	22	181	1,384
Circumcision	—	28	232
Cervical Adenitis	—	1	7
Congestion	—	15	99
Constipation	—	11	21
Cellulitis Buttock	—	1	6
Cellulitis Cheek	—	1	15
Convulsions	—	1	7
Conjunctivitis	6	2	50
Ectopia Vesicae	1	—	63
Ear, Nose and Throat	—	8	52
Glands, swollen	1	1	28
General care	1	1	18
Gastro Enteritis	1	2	16
Intestinal	—	1	5
Infantile Eczema	1	1	10
Intussusception	—	1	28
Impetigoe	1	1	27
Laryngitis	—	1	10
Mastitis	6	3	63
Measles and Bronchitis	—	1	5
Osteomyelitis	—	1	18
Otitis Media	8	201	1,308
Ophthalmia Neonatorum	5	3	45
Pemphigus	15	—	132
Pneumonia	8	73	602
Reaction from vaccine	—	2	10
Spina Bifida	9	4	717
Septic Umbilicus	4	—	30
Septic Fingers and Toes	2	—	14
Septic Spots	17	2	145
Septic Knee	—	1	7
Scalds	—	4	34
Stomatitis	4	13	104
Tonsillitis	—	2	11
Thrush	4	1	26
Undiagnosed Respiratory Infection	—	13	70
Ulcerated Mouth	—	3	10
Total	123	606	5,637

TABLE 28.

DISTRICT NURSING—MINOR AILMENTS CLINIC.

Disease	Cases	Attendances
Quinsy	1	2
Bursitis	2	11
Boils	29	138
Abscesses	10	63
Cellulitis Leg	2	4
Septic Hand, Finger, Leg	10	39
Breast Abscess	3	19
Carbuncle Neck	10	66
Swollen Glands of Neck	5	32
Sinusitis	20	140
Tonsillitis	5	29
Otitis Media	14	104
Dental Abscess	6	13
Pre-dental Extraction Treatment	1	10
Sty	1	3
Keratitis	1	2
Bronchiectasis	1	5
Bronchitis	9	79
Asthma	3	16
Tuberculosis	10	382
Undiagnosed Respiratory Infection	1	5
Cystitis	1	9
Pyelitis	1	2
Neuritis	2	16
Tuberculosis Glands of Neck	2	42
Congestive Cardiac Failure	14	296
Diabetic	24	4,361
Rheumatoid Arthritis	1	25
Anaemia	56	1,046
Anaemia During Pregnancy	3	25
Pelvic Infection	2	10
Shingles	1	12
Hormone Deficiency	1	33
Colitis	1	6
Vincents Angina	1	5
Injury to Leg	1	13
Total	255	7,063

TABLE 29.

NUMBER OF CASES OF CERTAIN INFECTIOUS DISEASES REPORTED DURING 1956.

	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Scarlet Fever ...	48	51	57	31	49	46	54	26	31	65	103	83	644
Measles and German Measles	64	178	120	196	698	944	1088	699	414	620	761	968	6,750
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal Fever	4	5	8	1	3	2	1	3	3	1	5	2	38
Poliomyelitis Paralytic	—	—	—	1	2	3	2	2	2	3	3	—	18
Non-paralytic ...	—	—	—	—	—	—	2	4	—	7	—	1	14
Pneumonia & Influenzal Pneumonia	135	75	51	37	43	26	17	14	10	22	46	34	510
Dysentery	36	28	26	57	71	36	30	15	9	19	24	18	369
Whooping Cough ...	153	99	113	198	211	286	306	325	264	194	215	195	2,559
Food Poisoning ...	4	3	3	7	43	12	36	27	71	76	13	12	307

TABLE 30.

County Borough of Liverpool, 1956.

Food Poisoning.

1st Quarter	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTAL
10	62	134	101	307

Outbreaks due to Identified Agents.

Outbreaks due to :—	Total Outbreaks.	Total Cases.
(*a*) Chemical poisons	—	—
(*b*) Salmonella organisms	1	5
(*c*) Staphylococci (inc. toxin)	7	162
(*d*) C.I. Botulinum	—	—
(*e*) Other bacteria	—	—
	8	167

Outbreaks due to Undiscovered Cause.

Total outbreaks—nil. Total cases—nil.

Single Cases.

Agent identified.	Unknown cause.	Total cases.
140	—	140

TABLE 31.

AGE PERIODS OF DEATHS FROM TUBERCULOSIS DURING 1956.

Age Periods.	Respiratory		Meninges and C.N.S.		Other Forms	
	Males.	Females.	Males.	Females	Males.	Females.
0— 1	—	—	—	—	—	—
1— 4	2	—	—	—	—	1
5— 9	—	—	—	—	—	—
10—14	—	—	—	—	—	—
15—19	—	—	—	—	—	—
20—24	—	3	—	—	—	—
25—34	5	8	—	—	—	1
35—44	6	9	—	—	1	—
45—54	18	4	—	—	—	—
55—64	28	7	—	—	—	—
65—over	38	9	—	—	2	2
Totals ...	97	40	—	—	3	4

TABLE 32.

TUBERCULOSIS CASES ON DISPENSARY REGISTER.

Diagnosis	Respiratory			Non-Respiratory			Total			Grand Total
	Adults.		Children	Adults.		Children	Adults.		Children.	
	M.	F.		M.	F.		M.	F.		
-New Cases examined during the year (excluding contacts): (Definitely Tuberculous)	486	365	86	36	54	29	522	419	115	1,056
-Contacts examined during the year :										
a) Definitely tuberculous ...	14	35	45	—	—	1	14	35	46	95
b) Diagnosis not completed ...	16	15	61	—	—	—	16	15	61	92
c) Non-tuberculous	316	767	2,226	—	—	—	316	767	2,226	3,309
-Cases written off the Dispensary Register as Recovered	134	133	48	17	22	10	151	155	58	364
-Number of Cases on Dispensary Register on Dec. 31st 1956 :—										
a) Definitely tuberculous ...	3,983	3,734	882	294	346	345	4,277	4,080	1,227	9,584
b) Diagnosis not completed ...	48	33	63	—	—	—	48	33	63	144

Number of attendances of patients at the Dispensaries during the year 1956 ...	38,136	Number of patients under medical treatment at home on 31st December, 1956...	1,422
Number of visits paid by the Tuberculosis Medical Officer to the homes of patients during 1956	1,563		
Total number of cases vaccinated with B.C.G. during 1956 :— Children ... ... 1,629 Others 1,208	2,837	Total number of visits paid to the homes of patients by Tuberculosis Visitors during 1956	32,255

TABLE 33.

Disease.	Reasons for non-notification.						
	No. of Deaths.	No. of cases not notified before death.	Diagnosis made at a post-mortem examination. (Includes Coroner's Cases.)	Diagnosis delayed owing to clinical difficulties.	Doctor thought case had been notified by another Practitioner.	Notification forgotten.	Patient died before notification could be effected.
espiratory	137	6	4	—	—	—	2
on-Respiratory ...	7	3	1	—	—	—	2

TABLE 34.

DEATHS FROM RESPIRATORY TUBERCULOSIS.

Years.	Cases notified.	Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1946	1,478	2·01	579	0·79	0·46
1947	1,479	1·96	599	0·79	0·47
1948	1,618	2·04	630	0·79	0·44
1949	1,619	2·02	542	0·68	0·40
1950	1,572	1·96	481	0·60	0·32
1951	1,531	1·95	406	0·52	0·27
1952	1,569	1·98	269	0·34	0·21
1953	1,382	1·75	258	0·33	0·18
1954	1,135	1·44	232	0·29	0·16
1955	1,082	1·39	185	0·24	0·13
1956	1,016	1·31	137	0·177	0·109

TABLE 35.

DEATHS FROM NON-RESPIRATORY TUBERCULOSIS.

Years.	Cases notified.	Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1946	237	0·32	79	0·10	0·08
1947	234	0·31	85	0·11	0·09
1948	228	0·29	85	0·11	0·07
1949	211	0·26	68	0·08	0·05
1950	164	0·20	64	0·08	0·04
1951	160	0·20	43	0·05	0·04
1952	139	0·17	36	0·04	0·03
1953	123	0·16	26	0·03	0·02
1954	147	0·19	12	0·01	0·02
1955	118	0·15	19	0·02	0·01
1956	101	0·13	7	0·009	0·012

TABLE 36.

MENTAL DEFICIENCY

ADMISSIONS OF DEFECTIVES TO HOSPITALS IN 1956

Hospital	M.D. Act S.6 (Judicial Order)	M.D. Act S.8 (Court Order on indictable offence)	M.D. Act S.15 Place of Safety	Admission to other than non-certified accommo-dation	Total
LIVERPOOL REGIONAL HOSPITAL BOARD HOSPITALS—					
Newchurch	1	—	—	—	1
Ashton House ...	4	—	—	—	4
The Manor	1	—	—	—	1
Whitecross	—	—	4	—	4
Olive Mount	—	—	—	8	8
Ormskirk	—	—	—	2	2
Crow Wood	—	—	—	3	3
MANCHESTER REGIONAL HOSPITAL BOARD HOSPITALS—					
Calderstones	5	2	—	—	7
Brockhall	2	2	—	—	4
Cranage Hall	4	—	—	—	4
Mary Dendy	2	—	—	—	2
Royal Albert	2	—	—	—	2
Swinton	5	—	—	—	5
Lisieux Hall	1	—	—	—	1
Atherleigh	—	—	1	—	1
TOTAL	27	4	5	13	49

TOTAL 1955, 48*

* In addition 11 children already in Olive Mount under Children's Department remained there when Regional Hospital Board took over.

TABLE 37.

MENTAL DEFICIENCY

LIVERPOOL PATIENTS IN REGIONAL HOSPITAL BOARD ACCOMMODATION AT 31ST DECEMBER, 1956

	Males		Females		Total
	Under 16	Over 16	Under 16	Over 16	
LIVERPOOL REGIONAL HOSPITAL BOARD HOSPITALS—					
Newchurch	—	—	10	101	111
Greaves Hall	—	61	—	—	61
Ashton House	—	—	—	30	30
The Manor	—	—	—	14	14
St. Catherine's	—	5	—	—	5
(1) Whitecross	14	1	14	4	33
(1) Sefton	—	1	—	2	3
(1) Whiston	—	—	—	1	1
(2) Olive Mount	17	—	3	—	20
(2) Ormskirk	2	—	—	—	2
(2) Crow Wood	1	—	2	—	3
(2) Westminster House	—	12	—	1	13
TOTAL	34	80	29	153	296
MANCHESTER REGIONAL HOSPITAL BOARD HOSPITALS—					
Calderstones	3	285	1	188	477
Brockhall	17	191	11	186	405
Cranage Hall	4	9	—	3	16
Mary Dendy	—	14	—	3	17
Royal Albert	—	13	2	2	17
Swinton	4	—	8	—	12
Lisieux Hall	—	48	—	—	48
Gillibrand Hall	—	—	—	16	16
Chorley	—	1	—	19	20
Ulverston	—	—	—	2	2
Clitheroe	—	1	—	—	1
(1) Atherleigh	—	—	1	—	1
TOTAL ...	28	562	23	419	1,032
OTHER REGIONAL HOSPITAL BOARD HOSPITALS—					
TOTAL ...	—	4	1	12	17
STATE INSTITUTIONS—					
Moss Side	—	5	—	3	8
Rampton	—	4	—	10	14
TOTAL ...	—	9	—	13	22
GRAND TOTAL	62	655	53	597	1,367

NOTES : (1) Places of safety.
(2) Not Mental Deficiency Act accommodation.

Figures do not include 31 patients on licence and 4 escaped but still under Order.

TABLE 38.

Mental Defectives.

Waiting List for Institutional Care.

Waiting list at 31.12.56	115, comprising
Urgency 3 (highest)	68
Urgency 2	23
Urgency 1	10
Urgency 0	14

These figures can be classified as follows :—

(*a*) In age and sex groups.

Urgency	Under 6		6—16		Over 16		Total
	male	female	male	female	male	female	
3	3	4	14	7	26	14	68
2	—	2	11	2	4	4	23
1	1	—	4	1	2	2	10
0	1	—	1	2	7	3	14
	5	6	30	12	39	23	115

(*b*) Time on waiting list.

Urgency	Over 3 yrs.	2—3 yrs.	1—2 yrs.	6 mths—1 yr.	Under 6 mths.	Total
3	32	12	8	10	6	68
2	10	3	5	2	3	23
1	3	1	3	—	3	10
0	8	—	1	2	3	14
	53	16	17	14	15	115

(*c*) Classification of defectives.

Urgency	High grade	Medium	Ambulant low	Cot & Chair	Total
3	8	26	25	9	68
2	3	12	5	3	23
1	2	7	1	—	10
0	5	7	1	1	14
	18	52	32	13	115

NOTE :—Waiting list figures do not include the following :—

In places of safety	38
In Regional Hospital Board accommodation other than certified M.D. hospitals	46

TABLE 39.

Residential Accommodation

The total accommodation available for use on 31st December, 1956, was as follows:—

	Beds
Westminster House	879
Aigburth House...	52
Beechley	43
Brookfield	19
Croxteth Lodge	31
Holt House	58
Lismore	36
Moreno House	36
New Grafton House	88
New Parkfield House	27
Park House	20
	1,289

TABLE 40.

PARTICULARS OF PERSONS ADMITTED TO RESIDENTIAL ACCOMMODATION AND DESCRIPTION OF THE PREMISES FROM WHICH THEY WERE ADMITTED.

1956	1 Vacated Private House	1A Vacated Corporation House	2 Flat	3 Living with Relatives	4 One Room	5 Misc. Lodgings Res. Accom. etc.	Total
January ...	5	—	1	11	9	13	39
February ...	4	—	—	12	8	13	37
March	5	—	—	9	9	14	37
April	2	—	2	5	7	10	26
May	3	—	1	7	6	13	30
June	2	—	3	13	5	7	30
July	3	1	—	9	4	10	27
August ...	4	3	1	6	10	6	30
September	2	—	1	11	5	7	26
October ...	3	—	—	7	7	6	23
November ...	2	—	1	17	5	6	31
December ...	6	1	1	7	4	5	24
TOTAL ...	41	5	11	114	79	110	360

TABLE 41.

AGED PERSONS MAINTAINED IN ESTABLISHMENTS PROVIDED BY OTHER LOCAL AUTHORITIES AND BY VOLUNTARY ORGANISATIONS. STATEMENT OF ADMISSIONS, DISCHARGES AND DEATHS.

Authority or Organisation	Remaining 31.12.55	Admitted	Discharged	Died	Remaining 31.12.56
British Legion Home, Ripon ...	2	1	—	—	3
British Legion Home, Bwlch ...	—	1	—	—	1
Christadelphian Homes, Southport	1	—	—	—	1
Church Army Home, Bootle ...	3	1	—	—	4
Convent of the Good Shepherd, Liverpool	6	—	—	—	6
52/54, Croxteth Road, Liverpool (Old People's Hostels Association)	6	3	—	—	9
"Maryland," Formby	2	1	—	—	3
Methodist Home, Liverpool ...	9	1	2	—	8
Methodist Home, Colwyn Bay ...	1	—	—	—	1
Red Cross Home, Portmadoc ...	1	—	—	—	1
Redhill Bethesda Home	1	—	—	—	1
Salvation Army Home, Bootle ...	7	2	1	2	6
Salvation Army Home, Liverpool	14	6	2	—	18
Salvation Army Home, Penketh	2	1	—	—	3
Salvation Army Home, West Kirby	1	—	—	—	1
Salvation Army Home, Wicksted	—	2	1	—	1
25, Sefton Drive, Liverpool (Old People's Hostel Association) ...	13	3	3	—	13
"Stapely," Home for Aged Jews, Liverpool	22	8	3	1	26
"Sundale," Linnet Lane, Liverpool	2	2	—	—	4
Turner Memorial Home, Liverpool	20	5	2	7	16
W.V.S., St. Michael's Mount, Liverpool	7	2	1	—	8
Home and Hospital for Jewish Incurables	—	1	—	—	1
Charles Best House, Parkgate ...	—	2	—	—	2
Bristol Corporation	1	—	—	—	1
Croydon Corporation	1	—	1	—	—
Portsmouth Corporation	1	—	—	—	1
Cumberland County Council ...	1	—	—	—	1
Flintshire County Council ...	1	—	—	—	1
Glamorganshire County Council	1	—	—	—	1
Lindsey County Council	1	—	1	—	—
Staffordshire County Council ...	1	—	—	—	1
TOTALS	128	42	17	10	143

TABLE 42.

TEMPORARY ACCOMMODATION PROVIDED AT LOWER BRECK ROAD UNDER SECTION 21 (1) (*b*) OF THE NATIONAL ASSISTANCE ACT

Remaining 31.12.55	Admitted	Discharged	Remaining 31.12.56
58	831	821	68

TABLE 43.

WELFARE VISITORS

The following Table includes details of some of the work of the welfare visitor and the property officer during the year :—

Number of personal applications for advice and help ...	319
Number of visits paid (including 13 visits to handicapped persons)	1,607
Number of re-visits (including 10 re-visits to handicapped persons)	8,490
Number of persons admitted to :—	
(*a*) residential accommodation	360
(*b*) hospital	41
Number of visits in connection with the protection of the property of persons admitted to hospital, etc., and the effects of deceased persons with no known relatives ...	1,230
Requests for assistance, either by letter or telephone, during the year numbered	1,701

TABLE 44.

The following Table shows the number of registered blind persons in Liverpool :—

Age	Males	Females	Total
0	—	—	—
1	2	—	2
2	4	—	4
3	—	4	4
4	2	5	7
5—10...	13	15	28
11—15...	7	3	10
16—20...	7	16	23
21—30...	39	21	60
31—39...	46	34	80
40—49...	73	78	151
50—59...	123	88	211
60—64...	70	78	148
65—69...	88	110	198
70 and over	228	523	751
TOTALS ...	702	975	1,677

TABLE 45.

The following Table shows the number of registered partially-sighted persons in Liverpool :—

Age Groups	Males	Females	Total
0— 1	—	—	—
2— 4	1	—	1
5—15	47	29	76
16—20	10	16	26
21—49	15	8	23
50—64	12	18	30
65 and over ...	22	86	108
TOTALS ...	107	157	264

TABLE 46.

FOLLOW-UP OF REGISTERED BLIND AND PARTIALLY SIGHTED PERSONS

	Cause of Disability			
(i) Number of cases registered during the year in respect of which Section F of Form B.D.8 recommends :—	Cataract	Glaucoma	Retrolental Fibroplasia	Other
(*a*) No treatment	17	11	—	60
(*b*) Treatment (medical, surgical or optical) ...	35	22	1	60
(ii) Number of cases at (i) (*b*) above which on follow-up action have received treatment	14	14	1	41

TABLE 47.

HANDICAPPED PERSONS MAINTAINED IN ESTABLISHMENTS PROVIDED BY OTHER LOCAL AUTHORITIES AND VOLUNTARY ORGANISATIONS.

STATEMENT OF ADMISSIONS, DISCHARGES AND DEATHS.

Authority or Organisation	Remaining 31.12.55	Admitted	Discharged	Died	Remaining 31.12.56
Catholic Blind Institute, Liverpool	17	3	2	1	17
Herefordshire County Association for the Blind	1	—	—	—	1
Jewish Blind Home, Surrey ...	2	1	—	1	2
Manchester & Salford Blind Aid Society	1	—	—	—	1
Royal National Institute for the Blind, Hoylake	1	—	—	—	1
David Lewis Epileptic Colony ...	7	3	—	—	10
Langho Epileptic Colony ...	19	—	2	—	17
Maghull Homes for Epileptics ...	43	7	5	1	44
St. Elizabeth's Home for Epileptics, Much Hadham ...	2	—	—	—	2
Cotebrook Home for Cripples ...	1	—	—	—	1
Hostels for Invalid Women, London	1	—	—	—	1
National Spastics Society ...	1	—	1	—	—
British Council for Welfare of Spastics	—	1	1	—	—
Ernest Ayliffe Home for the Deaf	2	1	—	1	2
National Institute for the Deaf, Barrowford	1	—	—	—	1
National Institute for the Deaf, Bath	1	—	—	—	1
TOTALS	100	16	11	4	101

TABLE 48.

AWARDING OF POINTS FOR MEDICAL CONDITIONS OTHER THAN TUBERCULOSIS

Housing Points Scheme.

SUMMARY OF ANNUAL STATISTICS FOR THE YEAR ENDED 31ST DECEMBER, 1956

	Nos. Dealt With	Nos. Awarded Points	Nos. Awarded No Points
RESPIRATORY SYSTEM—			
Upper Respiratory Tract Infections	144	24	120
Bronchitis/Emphysema	435	289	146
Asthma	124	100	24
Bronchiectasis	45	43	2
Pneumonia	33	16	17
Bronchial Carcinoma	1	1	—
CARDIOVASCULAR SYSTEM AND BLOOD DISORDERS—			
Acute Rheumatic Fever	22	21	1
Angina	10	8	2
Coronary Thrombosis	18	18	—
Hypertension	59	59	—
Valv. Disease of Heart	55	55	—
Varicose Veins/Ulcers	6	6	—
Pernicious Anaemia	1	1	—
Anaemia	54	31	23
DIGESTIVE SYSTEM—			
Gastric Ulcer	58	28	30
Diabetes	20	20	—
Gastro Enteritis and Colitis	3	1	2
Gastric Carcinoma	2	2	—
GENITAL URINARY SYSTEM—			
Nephritis	7	7	—
Kidney Removal	1	1	—
FEMALE GENITO URINARY SYSTEM—			
Urino Genital Carcinoma	—	—	—
ENDOCRINE SYSTEM—			
Thyrotoxicosis	11	11	—
C.N.S.—			
Disseminated Sclerosis	23	23	—
Poliomyelitis	18	18	—
Spastic Paraplegia	12	12	—
MUSCULO SKELETAL SYSTEM—			
Arthritis	82	78	4
Rheumatism	55	47	8
Amputation	12	12	—
Muscular Dystrophy/Spondylitis	1	1	—
MENTAL DISEASES—			
Anxiety State and Nervous Debility	381	86	295
Neurasthenia	62	18	44
Mental Defectives	38	33	5
OTHERS	576	328	248
TOTAL	2,369	1,398	971
Transfers—Recommended 531 / Not Recommended : 595 — TOTAL ...	1,126		
Cases recommended to Allocation (Special) Sub-Committee	40		
Cases pending completion	530		
GRAND TOTAL ...	4,065		

TABLE 49.

PARTICULARS OF SHOPS INSPECTIONS

APPROXIMATE NUMBER OF SHOPS IN THE CITY—16,850

INSPECTIONS		CONTRAVENTIONS		
			Reported.	Remedied
Retail food shops	7,627			
Retail non-food shops ...	5,434	**Shops Act, 1950.**		
Cafes, restaurants, etc. ...	1,121	Welfare	1,485	1,217
Clubs	816	Closing, etc. ...	3,358	3,349
Hairdressers	1,268	Food Hygiene Regulations, 1955	8,403	4,337
Pet Stores	170	Food Byelaws	568	504
Wholesale shops	156	Public Health Act, 1936	1,178	789
Wholesale warehouses ...	23	Pet Animals Act ...	3	—
Places of entertainment ...	325	Prevention of Damage by Pests Act, 1949 ...	34	31
Half-holiday Closing.		Liverpool Corporation Act, 1956		
Visits to shops after 1 p.m.	65,841	(Hairdressers) ...	306	301
Evening Closing.				
Visits to shops	57,939			
Sunday Closing.				
Visits to shops on Sunday ...	5,172			

TABLE 50.

Factories Acts, 1937 and 1948.

Part I of the Act.

1. INSPECTIONS for purposes of provisions as to health (including inspections made by public health inspectors).

Premises (1)	M/c. Line No. (2)	Number on Register (3)	Number of			M/c. Line No. (7)
			Inspections (4)	Written Notices (5)	Occupiers prosecuted (6)	
(i) Factories in which Sections 1, 2, 3, 4, and 6 are to be enforced by local authorities ...	1	1,341	1,292	98	—	1
(ii) Factories not included in (i) in which Section 7 is enforced by the local authorities ...	2	3,816	7,152	594	—	2
(iii) Other premises in which Section 7 is enforced by the local authority (excluding outworkers premises)	3	74	184	5	—	3
TOTAL ...		5,231	8,628	697	—	

TABLE 51.

2. Cases in which DEFECTS were found. (If defects are discovered at the premises on two, three or more separate occasions they should be reckoned as two, three or more " cases ").

Particulars.	M/c. Line No.	Found.	Number of Cases in which Defects were found.			Number of Cases in which Prosecutions were instituted.	M/c Line No.
			Remedied.	Referred To H.M. Inspector.	Referred By H.M. Inspector.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Want of cleanliness (S.1)...	4	41	41	3	11	—	4
Overcrowding (S.2) ...	5	—	—	1	—	—	5
Unreasonable temperature (S.3) ...	6	5	5	—	5	—	6
Inadequate ventilation (S.4)...	7	—	—	—	—	—	7
Ineffective drainage of floors (S.6) ...	8	1	1	2	—	—	8
Sanitary Conveniences (S.7)—							
(*a*) Insufficient ...	9	12	10	—	2	—	9
(*b*) Unsuitable or defective ...	10	714	694	—	37	—	10
(*c*) Not separate for sexes ...	11	4	3	—	2	—	11
Other offences against the Act (not including offences relating to outwork)...	12	104	104	11	4	—	12
TOTAL ...	60	881	858	17	61	—	60

TABLE 52.

SUMMARY OF PROSECUTIONS (CASES HEARD) FOR THE YEAR 1956

Act.	Section.	No. of Informations or Complaints.	Penalties.	Costs.	Orders.
			£ s. d.		
Public Health Act, 1936	75	12	7 0 0	—	—
Public Health Act, 1936	94	97	167 0 0	—	50
Public Health Act, 1936	95	1	—	—	—
Public Health Act, 1936	154	4	1 0 0	—	—
Public Health Act, 1936	290 (6)	28	45 10 0	—	—
Liverpool Corporation Act, 1921	468	4	11 0 0	—	—
Public Health Act, 1936 ... Byelaws under Public Health (Smoke Abatement) Act, 1926. Section 2 (Industrial)	94, 101, 103	1	5 0 0	—	1
Shops Act, 1950—					
Evening Closing	—	5	9 10 0	—	—
Half Holiday	—	1	0 10 0	—	—
Sunday Trading	—	1	0 10 0	—	—
Food and Drugs Act, 1955 and Food Hygiene Regulations, 1955	13 and 123	2	15 0 0	—	—
TOTALS		156	£262 0 0	—	51

TABLE 53.

RAT DESTRUCTION IN SEWERS

PROGRESSIVE SUMMARY OF TREATMENTS

Sewer manholes treated.	Initial Treatment 1953	Maintenance Treatments.						
		1954 (1)	1954 (2)	1955 (1)	1955 (2)	1956 (1)	1956 (2)	1956 (3)
Pre-baited	16,378	15,756	13,326	13,224	13,523	11,600	11,547	11,090
Pre-bait takes ...	9,329	9,178	6,222	4,873	2,910	4,734	2,086	2,950
Complete pre-bait takes on one or both days ...	8,662	7,531	5,264	4,303	2,313	3,770	1,152	2,217
Poison baited ...	11,141	10,946	7,655	6,827	4,511	7,545	3,516	4,625

ANNUAL TEST BAITING

Test Baiting Divisions	Year 1953	Year 1954	Year 1955	Year 1956
Total number of manholes	6,337	8,753	13,731	13,873
Number of manholes tested	797	902	1,428	1,382
Number of manholes showing takes ...	68	75	114	33

TABLE 54.

SUMMARY OF RODENT INFESTATIONS AND DISINFESTATIONS OF BUILDINGS AND LANDS DURING THE YEAR 1956.

Description of Premises	Infestations				Reinfestations during the Year				Category		Total infestations and reinfestations	Total remedied
	Premises	Rats	Rats and Mice	Mice	Premises	Rats	Rats and Mice	Mice	Major	Minor		
Shops	615	134	26	455	35	2	—	33	—	650	650	679
Factories	303	126	33	144	32	5	3	24	—	335	335	355
Warehouses	312	196	41	75	21	11	1	9	3	330	333	341
Dwellinghouses	2,957	1,158	24	1,775	68	21	1	46	—	3,025	3,025	3,037
Other buildings and lands	876	290	44	542	67	9	2	56	2	941	943	999
Food premises (included in above)...	(756)	(202)	(50)	(504)	(50)	(9)	(1)	(40)	(3)	(803)	(806)	(737)
TOTAL	5,063	1,904	168	2,991	223	48	7	168	5	5,281	5,286	5,411

NOTE :—Infestations remedied include 592 outstanding from 1955.

TABLE 55.

Part VIII of the Act

OUTWORK

(Sections 110 and 111)

Nature of Work.	Section 110			No. of prosecutions for failure to supply lists.	Section 111		Prosecutions.	M/c. Line No.
	M/c. Line No.	No. of out-workers in August list required by Section 110(1)(*c*).	No. of cases of default in sending lists to the Council.		No. of instances of work in unwholesome premises.	Notices served.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
earing apparel—making, etc. ...	13	245	1	—	—	—	—	13
TOTAL ...	70	245	1	—	—	—	—	70

TABLE 56.

SMOKE ABATEMENT

Improvements.

Change from solid fuel to electricity	277
Change from solid fuel to gas	255
Change from solid fuel to oil	36
Change from bituminous coal to coke	43
No. of chimneys raised	7
Change from hand firing to mechanical stoker	5
Improved mechanical stokers fitted	5
Increased boiler power/or load reduced	5
Reconstructed or improved furnaces	5
Constructed or improved incinerators	3
Smoke indicators fitted	9
No. of mirrors fitted	3
Carbon Dioxide Recorders installed	3
Water meter fitted	1
Steam meter fitted	1

Requests for Advice.

(1) Boiler installations	16
(2) Incinerators	10

Progress in Proposed Smoke Control Area.

No. of open fires abolished	589
No. of gas pokers fitted	166
Change from solid fuel to electricity	276
Change from solid fuel to gas	254
Change from solid fuel to oil	20
Change from bituminous coal to coke	39

Particulars of Inspections.

No. of special complaints received during year	140
No. of chimneys observed following complaint	173
Total minutes of excess smoke	445
No. of routine observations	3,418
Total minutes of excess smoke	6,449
No. of ships observed following complaint	12
Total minutes of excess smoke	164
No. of routine observations of ships	3,364
Total minutes of excess smoke	7,518
No. of special visits	579
No. of premises re-visited	1,773
No. of incidental calls	767
No. of advisory visits	70
Total No. of observations	6,967
Total No. of visits	3,189

Contraventions. Public Health Act, 1936.

No. of Section 102 notices	124
No. of Section 103 abatement notices	98
No. of warning letters to occupiers	26
No. of informations laid	1

Liverpool Corporation Act, 1921

Section 472 excess smoke	268
No. of warning letters to occupiers	268

TABLE 57.

EXAMINATION OF HEAT TREATED MILK FROM PLANTS IN THE CITY.

Class of Milk.	Number Tested.	Appropriate Test.	Number of Samples.	
			Passed.	Failed.
Pasteurised...	1,141	Phosphatase ... Methylene Blue	1,133 1,134	8 7
Sterilised	202	Turbidity ...	202	0
Tuberculin Tested (Pasteurised)	831	Phosphatase ... Methylene Blue	827 826	4 5
TOTAL	2,174	Phosphatase ... Methylene Blue Turbidity ...	1,960 1,960 202	12 12 0

TABLE 58.

QUANTITY OF FOOD CONDEMNED FOR DISEASE OR FOUND UNFIT FOR HUMAN CONSUMPTION

	Tons	Cwts.	Qrs.	lbs.
Beef, Veal, Mutton, Pork	264	11	3	3
Offal	613	12	1	23
Fish (Wet)	36	17	—	22
Fish (Dry)	9	5	—	6
Shellfish	2	3	3	11
Poultry	8	17	1	25
Game	1	1	2	13
Rabbits and hares	—	3	3	2
Fruit	140	4	2	21
Vegetables	220	18	2	20
Nuts	—	15	1	18
Dried Fruits	4	15	—	—
Canned Goods	36	5	—	15
Sundries (Sausages, cereals, jellies, etc.) ...	4	15	1	21
Total quantity of food condemned ...	1,344	7	2	4

TABLE 59.

CARCASES AND OFFAL INSPECTED AND CONDEMNED IN WHOLE OR IN PART

	Cattle excluding Cows	Cows	Calves	Sheep and Lambs	Pigs	Horses
Number killed ... 434,817 ...	33,930	41,282	35,670	232,911	91,034	—
Number inspected 434,817 ...	33,930	41,282	35,670	232,911	91,034	—
All Diseases except Tuberculosis and Cysticerci.						
Whole carcases condemned ...	10	111	192	539	105	—
Carcases of which some part or organ was condemned ...	6,133	15,409	1,411	32,485	6,962	—
Percentage of the number inspected affected with disease other than tuberculosis and cysticerci	18·14%	37·47%	4·49%	14·17%	7·76%	—
Tuberculosis only.						
Whole carcases condemned ...	64	415	12	—	29	—
Carcases of which some part or organ was condemned ...	1,207	6,027	7	—	2,717	—
Percentage of the number inspected affected with tuberculosis	3·7%	15·60%	0·05%	—	3·01%	—
Cysticercosis.						
Carcases of which some part or organ was condemned ...	9	3	—	1	—	—
Carcases submitted to treatment by refrigeration ...	9	3	—	—	—	—
Generalised and totally condemned	—	—	—	1	—	—

TABLE 60.

CARCASES AND QUARTERS OF HOME-KILLED MEAT BROUGHT INTO THE CITY MEAT MARKET FROM OTHER DISTRICTS

Beef	Beef	Veal	Mutton	Lamb	Pork
(quarters 87,512	(pieces) 7,829	4,843	5,516	90,399	59,684

TABLE 61.

METEOROLOGICAL SUMMARY, 1956.

Recorded at Liverpool Observatory and Tidal Institute, Bidston.

Month	Mean Barometric Pressure in.		Temperature °F				Rainfall in.		No. of days with rain	Sunshine hrs.	
			Mean		Mean Max.	Mean Min.					
	1956	Normal	1956	Normal	1956	1956	1956	Normal	1956	1956	Normal
January ...	29·80	29·92	40·2	39·7	43·7	36·2	2·94	2·30	22	67·3	51·6
February ...	30·30	29·93	33·7	40·1	38·0	29·1	0·19	1·76	6	91·3	66·6
March ...	29·94	29·92	42·9	42·3	49·0	37·4	1·25	1·76	14	137·6	112·3
April	29·98	29·92	44·7	46·7	49·7	39·5	2·76	1·65	11	171·9	162·4
May	30·14	29·97	53·2	52·1	60·0	47·5	0·74	2·05	7	273·9	202·0
June ...	30·03	29·99	54·4	57·3	59·6	49·4	1·56	2·04	22	170·0	205·1
July	29·91	29·95	59·2	60·2	65·4	54·5	4·71	2·68	20	154·1	184·0
August ...	29·78	29·92	54·9	59·8	60·3	51·3	8·71	3·14	23	158·6	168·8
September ...	29·92	29·96	57·5	56·3	62·8	52·6	2·94	2·69	13	107·4	131·6
October ...	30·14	29·90	49·9	50·0	54·1	45·5	1·76	3·18	15	111·7	96·4
November ...	30·13	29·88	45·1	44·3	47·7	41·1	1·39	2·70	12	46·5	59·2
December ...	29·94	29·87	42·8	41·0	46·7	38·9	1·89	2·66	21	21·4	41·1
Year ...	30·00	29·93	48·2	49·1	53·1	43·6	30·84	28·61	186	1511·7	1481·1

The normal is the long period average for that time of year.

August, 1956, was the wettest month on record, also the coldest August on record.

TABLE 62.

MISCELLANEOUS STATISTICS.

Area of City	27,818 acres
No. of inhabited houses at 31st December, 1956...	203,838
No. of structurally separate dwellings occupied (1951 Census)...	195,981
Rateable Value :	
1st April, 1956	£9,802,178
31st December, 1956	£9,993,774
Sum represented by a Penny Rate :	
Actual 1955/56	£28,443
Estimate 1956/57	£39,126

TUBERCULOSIS—1956. TABLE No. 63.

ANALYSIS OF NEW CASES.

| | Diagnosis | | | | | | | Form of Disease | | | | | Race | | | | | Social Class | | | | | Housing Conditions | | | | | Contact History | | | | | | | | | B.C.G. | | Sex | | Age Groups | | | | | | | | |

TABLE 64.

TABLE SHOWING POPULATION, BIRTH-RATES, DEATH-RATES, INFANT AND MATERNAL MORTALITY RATES, ETC., OF A NUMBER OF THE LARGER AUTHORITIES FOR THE YEAR 1956.

Name of Authority	Birmingham	Bradford	Bristol	Cardiff	Kingston-upon-Hull	Leeds	Leicester	Liverpool	Manchester	Newcastle-upon-Tyne	Nottingham	Sheffield
Registrar General's estimated population for 1956	1,110,800	286,400	440,500	249,800	300,200	508,600	284,000	773,700	686,200	277,100	312,500	499,000
Comparability factor—												
(a) Births	0.94	1.00	0.99	0.94	0.96	0.98	0.99	0.93	0.96	0.96	0.95	1.01
(b) Deaths	1.08	0.95	0.88	1.12	1.24	1.15	1.06	1.23	1.18	1.14	1.13	1.13
Crude birth rate per 1,000 population	16.63	16.8	15.14	17.88	18.58	15.8	15.4	20.60	17.44	17.73	16.50	14.11
Birth rate as adjusted by factor...	15.63	16.8	14.99	16.81	17.84	15.5	15.2	19.16	16.74	17.02	15.67	14.25
Crude death rate per 1,000 population	10.88	14.1	12.25	11.24	10.7	11.3	11.3	11.43	12.35	11.83	11.15	11.73
Death rate as adjusted by factor	11.75	13.4	10.78	12.59	13.3	13.0	12.0	14.05	14.57	13.49	12.60	13.25
Infant mortality rate per 1,000 live births	24.6	28.2	19.34	27.76	28.86	26.9	19.7	25.91	29.92	24.628	21.92	23.6
Neonatal mortality rate per 1,000 live births	17.6	19.3	14.54	19.03	19.18	19.0	13.7	17.36	20.14	17.708	15.11	18.0
Stillbirth rate per 1,000 total births	22.95	25.08	24.86	25.7	24.48	21.6	23.3	24.11	26.36	28.86	23.67	21.95
Perinatal mortality rate per 1,000 total births	37.44	41.7	36.70	41.00	36.2	37.5	36.2	38.68	43.77	43.882	35.61	37.2
Maternal mortality rate per 1,000 total births	0.63	0.41	0.292	0.66	0.71	0.61	0.45	0.43	0.24	1.186	0.76	—
Tuberculosis rates per 1,000 population												
(a) Primary notifications—												
Respiratory	0.93	0.85	0.690	1.18	0.89	0.81	0.78	1.313	0.86	1.231	1.04	0.801
Non-respiratory...	0.10	0.07	0.109	0.12	0.09	0.11	0.092	0.130	0.08	0.245	0.11	0.074
(b) Deaths—Respiratory	0.14	0.09	0.084	0.14	0.15	0.11	0.095	0.177	0.15	0.148	0.11	0.184
Non-respiratory...	0.01	0.01	0.014	0.004	0.013	0.02	0.011	0.009	0.02	0.011	0.01	0.020
Death Rates per 1,000 population from—												
Cancer (all forms including Leukaemia and Aleukaemia)	2.08	2.33	2.11	2.08	2.04	1.94	2.02	2.054	2.23	2.132	2.01	2.188
Cancer of Lungs and Bronchus	0.45	0.46	0.40	0.396	0.48	0.44	0.363	0.579	0.59	0.458	0.42	0.535
Meningococcal infections	0.00	0.007	0.00	0.012	0.006	0.00	—	0.005	0.01	0.0036	0.00	0.008
Whooping Cough	0.01	0.00	—	—	0.003	0.00	—	0.006	—	0.0036	—	—
Influenza	0.03	0.04	0.14	0.04	0.035	0.05	0.056	0.022	0.05	0.0288	0.05	0.040
Measles	0.00	0.00	—	—	—	—	—	—	—	—	0.00	—
Acute Poliomyelitis and Encephalitis	0.01	0.00	—	0.012	0.003	—	—	0.001	0.01	—	—	0.002
Diarrhoea (under 2 years)	0.02	0.024	0.00	0.004	0.01	0.02	0.007	0.006	0.01	—	0.01	0.008
Diarrhoea (under 2 years) (per 1,000 live births)	0.97	1.45	0.30	0.22	0.57	1.37	0.46	0.314	0.50	—	0.58	0.57

TABLE 65.

NOTIFIABLE DISEASES (OTHER THAN TUBERCULOSIS) DURING THE YEAR 1956.

Disease.	Number of Cases Notified.													Total Deaths
	At all Ages.	At Ages—Years												
		Under 1	1—	2—	3—	4—	5—	10—	15—	20—	35—	45—	65—	
Scarlet Fever	644	2	22	42	59	99	370	42	5	2	—	1	—	—
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever (including Paratyphoid)	13	—	—	1	—	—	—	1	2	2	3	2	2	1
Puerperal Pyrexia	819	—	—	—	—	—	—	1	103	637	75	3	—	—
Pneumonia	510	78	29	37	24	17	62	18	7	35	43	92	68	91
Cerebro-spinal Fever	38	17	11	—	3	—	2	2	2	1	—	—	—	4
Poliomyelitis (Paralytic)	18	1	2	3	2	1	4	1	1	2	1	—	—	1
Poliomyelitis (Non-paralytic)	14	—	—	—	1	1	3	6	2	1	—	—	—	—
Dysentery	369	31	56	48	39	26	86	14	9	30	14	8	8	1
Ophthalmia Neonatorum	141	141	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	65	—	—	—	—	—	—	—	3	5	8	34	15	—
Malaria	9	—	—	—	—	—	—	—	1	7	1	—	—	—
Measles	6662	391	825	1068	1063	945	2306	47	13	2	1	1	—	—
Whooping Cough	2559	326	337	379	348	337	796	30	—	5	1	—	—	5
Food Poisoning	307	28	17	6	2	3	21	34	8	86	40	51	11	—
Totals	12168	1015	1299	1584	1541	1429	3650	196	156	815	187	192	104	103

CITY OF LIVERPOOL.

TABLE 66.

Infant Mortality during the year 1956.

Net deaths from stated causes at various ages under One Year.

CAUSE OF DEATH	Under 1 day	1 to 2 days	2 to 3 days	3 to 4 days	4 to 5 days	5 to 6 days	6 to 7 days	1 to 2 weeks	2 to 3 weeks	3 to 4 weeks	Total deaths under 28 days	28 days to 2 months	2 to 3 months	3 to 4 months	4 to 5 months	5 to 6 months	6 to 7 months	7 to 8 months	8 to 9 months	9 to 10 months	10 to 11 months	11 to 12 months	Total deaths under 1 year
Tuberculosis of Respiratory System	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
,, Meninges, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
,, Intestines, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
,, Other Organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Syphilis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping Cough	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	—	—	1	—	4
Meningococcal Infections	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	2
Acute Poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chickenpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Psychosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Meningitis (non-tubercular)	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	3
Influenza	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
Pneumonia	—	—	—	—	—	—	—	—	—	—	—	15	14	8	5	5	2	3	1	1	1	1	56
Bronchitis	—	—	—	—	—	—	—	—	—	—	—	6	6	4	1	—	—	—	—	—	—	1	18
Enteritis	—	—	—	—	—	—	—	—	—	—	—	2	1	—	2	—	—	—	—	—	—	—	5
Malformations	16	3	3	2	3	2	—	6	7	2	44	7	5	7	—	1	1	—	2	—	—	1	68
Injury at Birth	27	8	6	6	2	2	1	2	1	—	55	—	—	—	1	—	—	1	—	—	—	—	57
Infections of Newborn	1	1	2	4	1	1	1	3	4	7	25	—	—	—	—	—	—	—	—	—	—	—	25
Other Diseases of Early Infancy	95	18	13	9	2	—	4	5	—	1	147	1	—	1	—	—	1	—	—	—	—	—	150
Other Causes	3	—	1	—	1	—	—	—	—	1	6	4	6	1	3	1	1	—	1	1	—	—	24
Totals	142	30	25	21	9	5	6	16	12	11	277	38	33	23	12	9	5	5	4	2	2	3	413

Net Births in the year { Legitimate ... 15,143 / Illegitimate ... 801

Net Deaths in the year of { Legitimate Infants 385 / Illegitimate Infants 28

TABLE 67.

CITY OF LIVERPOOL.

DEATHS REGISTERED DURING THE YEAR 1956

CAUSE OF DEATH	SEX		AGE—BELOW																						Totals.
	Males.	Females.	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	Over 90	
ALL CAUSES	4577	4265	413	18	11	16	13	27	14	27	38	51	66	111	151	279	430	614	838	1092	1389	1418	1084	569	173	8842
I.—Infectious and Parasitic Diseases	130	64	8	2	3	2	1	3	...	1	3	10	7	9	10	17	19	20	24	24	28	13	5	...	...	200
II.—Neoplasms	887	721	...	3	2	2	1	4	2	4	4	10	18	21	48	84	140	204	230	236	244	172	98	53	8	1698
III.—Allergic, Metabolic Diseases, etc.	26	86	...	...	...	...	...	1	...	...	...	1	2	2	1	4	3	5	16	24	16	16	16	3	...	112
IV.—Diseases of the Blood	9	24	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	3	1	2	5	5	8	5	1	33
V.—Mental, and Psychoneurotic Diseases	4	69	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	5	3	12	21	15	11	4	73
VI.—Diseases of Nervous System	531	634	6	...	1	2	2	4	1	4	1	3	6	9	13	22	40	63	115	160	210	224	172	90	17	1165
VII.—Diseases of Circulatory System	1564	1477	2	...	...	...	...	1	...	5	7	6	11	32	34	79	139	199	255	302	519	588	460	252	90	3041
VIII.—Diseases of Respiratory System	818	640	75	6	...	...	...	1	1	1	3	2	5	7	20	35	48	79	139	186	243	281	201	97	28	1458
IX.—Diseases of Digestive System	114	101	9	...	...	1	...	...	1	1	1	2	1	4	3	5	16	15	21	31	45	23	28	3	3	215
X.—Diseases of Genito-urinary System	92	69	...	1	...	1	...	1	...	...	2	1	4	5	6	7	7	5	11	12	25	32	23	16	2	161
XI.—Diseases of Pregnancy	...	7	...	...	...	...	...	...	...	...	...	2	2	2	...	1	...	...	...	...	...	...	...	...	...	7
XII.—Diseases of Skin	2	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	1	...	1	1	...	6
XIII.—Diseases of Bones	15	20	2	...	...	...	...	...	1	...	...	...	...	1	1	1	2	1	4	8	8	4	1	1	...	35
XIV.—Congenital Malformations	42	47	68	6	1	...	...	...	3	...	3	...	...	3	...	2	...	...	1	...	1	1	...	...	...	89
XV.—Diseases of Early Infancy	133	99	232	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	232
XVI.—Senility and Ill-defined Diseases	16	61	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	6	9	21	22	12	77
XVII.—Deaths from Violence	188	142	8	...	4	9	8	12	5	11	12	14	9	16	15	20	23	18	14	21	26	27	35	15	8	330
Class 1.—Tuberculosis of Respiratory System	97	40	...	1	1	...	...	...	...	...	3	7	6	7	8	16	6	16	19	22	20	3	2	...	...	137
Tuberculosis of Meninges, etc.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Intestines, etc.	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	2
Tuberculosis of Other Organs	3	2	...	...	...	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	1	...	...	...	5
Syphilis	18	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	4	5	2	6	5	2	...	...	28
Typhoid Fever	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	4	1	4	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Meningococcal Infections	3	1	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Acute Poliomyelitis	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Infectious Diseases	10	7	2	...	1	...	1	3	...	1	...	2	...	1	1	1	...	...	...	...	1	3	...	...	...	17
Class 2.—Malignant Neoplasm of Buc. Cavity	27	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3	3	10	6	3	6	2	...	36
Malignant Neoplasm of Digestive Syst.	303	291	...	...	...	...	...	...	...	...	1	...	2	7	9	15	40	46	86	102	112	92	46	32	4	594
Malignant Neoplasm of Respiratory Syst.	374	74	...	...	...	...	...	...	...	...	1	1	5	4	15	31	52	92	83	71	53	31	10	1	...	448
Malignant Neoplasm of Breast	2	120	...	...	...	...	...	...	...	...	...	...	2	5	7	12	15	17	9	20	18	9	4	3	1	122
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