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REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

FOR

1965

BY THE

MEDICAL OFFICER OF HEALTH



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HOME HELP SERVICE



REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

FOR THE
YEAR
1965

BY

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

Medical Officer of Health

CONTENTS

	Page
THE HEALTH COMMITTEE	vi
PREFACE	ix
VITAL STATISTICS	1
MATERNITY AND CHILD WELFARE	6
Midwifery Service	7
Health Visiting Service	11
Maternity and Child Welfare Clinics	15
Chiropody Service	16
District Nursing Service	17
Day Nurseries	18
HOME HELP SERVICE	20
HEALTH EDUCATION	22
EPIDEMIOLOGY	25
IMMUNISATION AND VACCINATION	34
CONTROL OF RADIATION HAZARDS	44
MEDICAL CARE OF IMMIGRANTS	46
TUBERCULOSIS	47
VENEREAL DISEASE	54
MENTAL HEALTH SERVICE	59
Community Care	59
Mental Subnormality	61
Hostels	65
Hospital Patients	67
AMBULANCE SERVICE	70
OCCUPATIONAL THERAPY	73
HOUSING POINTS SCHEME	80
MEDICAL EXAMINATIONS	84
ENVIRONMENTAL HEALTH CONTROL... ..	87
Housing and Slum Clearance	89
Shops Acts	92
Offices, Shops and Railway Premises Act, 1963	95
Supervision of Food Supply	97
Meat Inspection	98
Food Hygiene	103
The Adulteration of Food and Drugs	106
Factories Inspection	108
Industrial Nuisances	109
Licensed Premises	110
Atmospheric Pollution	110
Rodent Control	112

CONTENTS—cont.

	Page
CITY ANALYST...	117
DISINFECTION AND DISINFESTATION	124
TRANSPORT OF THE HANDICAPPED...	128
CIVIL DEFENCE	129
CREMATION	131
WATER SUPPLY	132
STATISTICAL SECTION...	133, <i>et. seq.</i>

STATISTICAL SECTION

	Page
VITAL STATISTICS	133
MATERNITY AND CHILD WELFARE	143
EPIDEMIOLOGY	147
TUBERCULOSIS	149
MENTAL HEALTH SERVICE	154
AMBULANCE SERVICE	156
MEDICAL EXAMINATIONS	159
HOUSING POINTS SCHEME	160
ENVIRONMENTAL HEALTH CONTROL	160
Shops Inspection	160
Factories Act	162
Housing and Slum Clearance	163
Atmospheric Pollution	165
Rodent Control	168
Food Inspection	170
Meat Inspection	170
CITY ANALYST	171

HEALTH COMMITTEE—1965/66

CHAIRMAN:

ALDERMAN IAN ISIDORE LEVIN

DEPUTY-CHAIRMAN:

COUNCILLOR NORMAN SELIG BARNETT

ALDERMEN:

ALFRED NATHANIEL BATES

ALEXANDER GRIFFIN, J.P.

ROBERT MEADOWS (appointed 8.6.65)

WILLIAM MCKEOWN

(resigned 17.6.65)

MICHAEL JOHN REPPION

JOHN SHEEHAN

JOHN MATTHEW TAYLOR, J.P.

(died 11.10.65)

FRANK WOOLFENDEN

COUNCILLORS:

GEORGE ACKERS

ALBERT BROWN

CHARLES HENRY BROWNE

MARION BROWNE (Mrs.), M.B.E.

FRANCIS JOSEPH BULLEN

(died 21.4.66)

DANIEL CUMELLA

GEORGE ERIC DELOOZE, J.P.

FRANK GAIER

WILLIAM GILBODY

PATRICK GRANNELL

BARRY VICTOR GROOMBRIDGE

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CYRIL TAYLOR

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Mr. J. FARRER BARNES

W. J. TRISTRAM, C.B.E., J.P.

Representing the Medical Profession:

S. B. LEVY, ESQ., V.R.D., M.R.C.S., L.R.C.P.

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Principal Medical Officer
(Maternity and Child Welfare) ESTHER M. E. RAMSAY,
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Principal Assistant (Admin.) ... A. C. JAMES, Dipl.P.A.

Chief Food Inspector ... A. D. H. JOHNSTONE

Chief Ambulance Officer... ... A. GUINNEY

Chief Disinfecting Officer ... R. C. SYMES

PREFACE

I have the honour to submit my 14th Annual Report as Medical Officer of Health of the City of Liverpool, and the 118th report in the series. As usual, this report describes the work of the various sections of the Health Department and includes in more detail some recent developments in our activities.

In the field of vital statistics one of the most interesting changes noted in 1965 was the continuing fall in the total number of live births in the City; 14,553 births were recorded compared with 15,625 in 1964, a fall in the birth rate to 20·2 compared with 21·4 in the previous year. A disturbing finding was a further significant rise in the illegitimate birth rate to 8·2 per cent compared with 7·7 per cent in 1964 and 6·9 per cent in 1963. There is little general change in the infant mortality and perinatal mortality rates.

Reference has been made in many previous reports to the continuing trend towards a greater proportion of hospital deliveries with a corresponding reduction in home confinements. But in 1965, the trend greatly accelerated with the number of home deliveries falling from 4,075 to 2,726. The way the changes have occurred is dramatically shown by the following comparison of the figures of home confinements over the last six years:—

1960	—	4,967
1961	—	4,936
1962	—	4,768
1963	—	4,096
1964	—	3,648
1965	—	2,726

There has been a corresponding increase in the number of women discharged home early from maternity hospitals and full details are given on page 8. Many problems have been created by this changing pattern which the slight increase in the birth rate has accelerated.

The training schemes for Part II pupil midwives introduced in 1964 have continued satisfactorily throughout the year. Ninety-seven pupils took the course and 94 of them qualified as midwives.

Full details are given of babies placed on the register of children at special risk. Out of 14,553 live births, 2,652 were placed on this register.

The register of children with congenital abnormalities showed 495 children reported during 1965. Limb defects (186) were by far the commonest type of abnormality noted followed by defects of the heart and great vessels (62) and alimentary system (44).

One of the most important and significant events in 1965 was the opening in May of a number of cervical cytology clinics to undertake the early detection of cancer of the cervix. Smears collected at the clinics are inspected at the University Pathological Laboratory. Although few women took advantage of this service in the first few months, the numbers were rapidly building up by November. This test is combined with an examination to exclude cancer of the breast and, if required by the general practitioner, a haemoglobin determination and urine test.

In December, 1965, the long-awaited new clinic in Netherfield Road was opened. These modern premises take the place of accommodation formerly rented at the Victoria Settlement and have already been greatly appreciated by the residents of the area.

During the year, the contact between health visitors and general practitioners increased and many more visits were paid by health visitors to doctors' surgeries to discuss family problems.

The work carried out by health visitors for the aged showed a dramatic increase and 8,190 visits were paid to elderly persons compared with 6,054 in the previous year. Monthly meetings with social workers were held throughout the year in six different districts of the City.

The number of children in attendance at Child Welfare Clinics showed a slight reduction. However there was a large increase in the number of chiropody treatments given in the year, the figure rising to 33,137 compared with 28,591 in 1964.

The district nursing services continued as in previous years with an increase in the total visits to patients to 386,442. Training courses for district nurses continued satisfactorily and 20 nurses were trained as Queen's Nurses during 1965.

During the year, a visit was paid by representatives of the Ministry of Health to certain of the day nurseries in the City; their report expressed satisfaction regarding the type of nursing care given. Upper Parliament Street Day Nursery has now been approved as a training nursery for students and now all twelve day nurseries in the City are approved training establishments. In 1965 there was a further increase in the number of private nurseries and child minders registered—these now number 37.

It is most satisfactory to report a 27 per cent increase in the number of home helps employed in the City. At the end of the year 583 home helps were working. The acceleration in recruitment in this important medico-social service is emphasised by the figures for the last five years:—

Year	No. of home helps employed
1961	234
1962	322
1963	404
1964	458
1965	583

The total number of households given home help assistance in the year rose to 5,028, an increase of 300.

1965 was a most satisfactory year for infectious diseases in the City and generally there was a steady reduction in cases notified. No case of diphtheria or poliomyelitis was reported; pulmonary tuberculosis notifications fell to an all time low level of 249. Another very welcome reduction was in the cases of whooping cough, only 425 cases being notified compared with 666 in 1964 and 1,762 in 1963. Full details of a family outbreak of paratyphoid B in which infection was traced to dogs and terrapins is given in the text of the report.

Efforts continued during the year to increase the percentage of the child population which is fully immunised or vaccinated against diphtheria, whooping cough, poliomyelitis, and smallpox. Although a check is always made on all school entrants to find out which immunisations they need, it is important that primary immunisation or vaccination be carried out in the first year of life. Special arrangements have continued to ensure that health visitors can give poliomyelitis oral vaccine while carrying out routine visiting, and the percentage of young children fully protected against this disease is steadily rising although it has not yet reached a level that is ideal.

Reference was made in last year's report to the increased incidence of venereal disease. In 1965 the level of gonorrhoea fell from 1,569 male and 422 female to 1,151 male and 368 female infections. However, the number of cases of syphilis traced continued to rise to 134 cases compared with 113 in 1964, 79 in 1963 and 45 in 1961. Although a third of the cases of syphilis were contracted abroad, there is clearly need to increase the efforts to trace sources of infection.

Further developments in 1965 at New Hall, Fazakerley were the completion of the new hostels for the mentally subnormal. During the year 70 such persons were admitted to the hostels and a further 11 were provided with temporary care. Four patients left at their own request and only one, a man of depraved habits, has had to revert to hospital care. Approximately 75 per cent of those admitted came from hospital care and the remaining 25 per cent direct from the community. A few revealing histories are given in the general text of the report illustrating the great improvement to many mentally subnormal patients brought about by hostel care. Already, New Hall has been accepted as part of the community and local residents of the area come in to social functions.

The greatest difficulties with these hostels have not been connected with the behaviour of residents but with the problem of recruitment of staff who are in very short supply. It is evident that, when the remaining hostels are open, it will be necessary to experiment with types of staff if recruitment problems are to be solved.

It is disappointing that the new workshops at New Hall did not open in 1965 but they should be completed in 1966. The work carried out at the three improvised workshops shows a steady increase. An indication of the steady development is given by the amounts of wages distributed to the mentally subnormal working there. Details are as follows:—

1962	£2,514
1963	£5,865
1964	£5,275
1965	£6,225

There has been a steady increase in the variety of sub-contracted work now being undertaken at New Hall, an important point as the opening of the new workshops will provide greater opportunity for the mentally subnormal.

Community care has continued to be one of the most important aspects of mental health work carried out in the City. In the past difficulties have occurred because the service was not always informed about hospital discharges, but it is satisfactory to report that the position has now greatly improved. A senior mental welfare officer now visits the appropriate hospital when a discharge is contemplated and spends some time with each patient discussing problems.

It is satisfactory to be able to report a reduction in the total number and percentage of compulsory admissions to hospital arranged in 1965. The emergency admissions fell from 76.7 per cent to 59.9 per cent of all admissions and informal admissions rose from 14 per cent to 23.2 per cent. The changing trend towards greater use of informal admission which has been a feature of the past five years is clearly shown in the table on page 68 of the main report.

The number of patients moved by the ambulance service fell very slightly during the year. The success of the cadet training scheme, mentioned in last year's report, has continued and a further seven cadets successfully completed the course and became fully operational during the year.

A most satisfactory development in the field of rehabilitation was the opening in February, 1965 of the new occupational therapy unit at New Hall, Fazakerley. This unit has a staff of three full-time occupational therapists, one part-time therapist and a male technician.

Approximately 25 patients drawn from the physically and mentally handicapped, attend daily, many of them being brought from their homes to the unit by specially designed transport.

A change during the year has been the commencement of clinical sessions by the Deputy Medical Officer of Health at all rehabilitation units, and this has proved to be of considerable value in guiding patients and staff along correct lines of rehabilitation and also resulted in a greater degree of co-ordination between this service, hospitals, general practitioners, the school health services and the welfare services. Many more young handicapped have been dealt with and there is no doubt there is a considerable need for the provision of pre-vocational training services for severely handicapped young persons who have just left special schools. The experience gained in these rehabilitation units has been invaluable in planning a new scheme of co-ordination of services designed to help the young handicapped following the recent joint circular on this subject from the Ministry of Health, and the Department of Education and Science.

The valuable work carried out by the occupational therapy service in the fields of housing the handicapped and providing a domiciliary service for those unable to leave home has been helped considerably by an improvement in recruitment. The equivalent of thirteen full-time occupational therapists were employed for most of the year. This was a marked improvement on previous years and made possible a much greater degree of continuity of service.

The transport service for the handicapped has shown an important further development with an increase in the fleet to 24 vehicles, and plans exist to extend it very soon to 38 vehicles. Many of these new vehicles are specially designed with a hydraulic lift incorporated so that persons in wheelchairs may be carried. The number of persons using the service has now risen to 230 but the potential needs are considerably higher than this. This service continues to transport the handicapped to training centres and workshops for the mentally handicapped, occupational therapy rehabilitation centres, special schools, establishments run by voluntary organisations and welfare service centres.

The demand for housing priority on medical grounds has continued to increase and 9,487 general cases applied for help during the year compared with 8,575 in 1964. 835 cases were awarded housing points and, in addition, 161 applicants were recommended to the Director of Housing for special priority rehousing; 60 of these had been accommodated by the end of the year. In addition, 179 tuberculosis cases were recommended for special priority rehousing during the year, of whom 89 were rehoused.

The work of the medical examination section of the Health Department continued to increase and a total of 3,457 examinations were undertaken.

The environmental work of the department has continued to increase. During the year, under slum clearance procedures, detailed surveys were carried out on 5,386 houses made up of 5,000 houses included in clearance areas and 386 houses dealt with as individual unfit houses. Twenty-one compulsory purchase orders were submitted to the Ministry of Housing and Local Government for confirmation and fifteen public inquiries were held during the year. Other work described in the main part of the report in the housing field describes the problem of houses in multiple occupation and consideration of applications for improvement grants.

Work under the Offices, Shops and Railway Premises Act continued and 5,414 visits were made during the year with 742 cautionary letters sent out in respect of 4,665 infringements found during inspections.

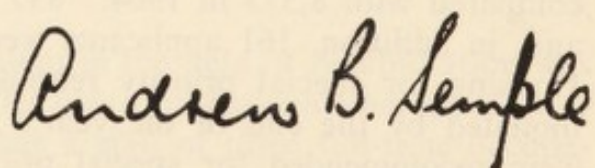
Enforcement of food hygiene has been heightened during the year with an increase in the number of inspections. Much educational work has also been carried out and courses in food hygiene for employees in the food trade have been held.

One further Smoke Control Order became operative during the year and another was confirmed by the Minister of Housing and Local Government. Sixteen Smoke Control Orders are now operative covering the central area of the City and the Wards of Aigburth, St. Mary's, Speke, Allerton, Woolton, Childwall, Dovecot and parts of St. Michael's and Church. In all, 57,000 premises have been dealt with.

I express my gratitude and appreciation to all my staff in the Department who have worked so hard during the year. I also acknowledge with thanks the help given by the chief officers and members of other Corporation Departments. I would also like to record my appreciation to the Chairman of the Health Committee, Alderman Ian Levin and his Deputy-Chairman, and I am pleased to thank the members of the Health Committee for the kindness and courtesy with which they have considered the reports and recommendations made to them during the year.

I am,

Your obedient servant,

A handwritten signature in dark ink, reading "Andrew B. Semple". The signature is written in a cursive style with a large, prominent initial 'A'.

Medical Officer of Health.

VITAL STATISTICS

	1963	1964	1965
Area (land and inland water)—acres	27,818	27,818	27,819
Population (Estimated by Registrar-General)	739,740	729,140	722,010
Deaths (all causes)	8,908	8,131	8,300
Death rate per 1,000 (unstandardised)	12.0	11.2	11.5
Live Births	15,775	15,625	14,553
Live Birth rate per 1,000 population... ..	21.3	21.4	20.2
Percentage of illegitimate live births	6.9	7.7	8.2
Stillbirths	351	283	269
Stillbirth rate per 1,000 total (live and still) births	21.8	17.8	18.1
Total Births (live births and still births)	16,126	15,908	14,822
Infant Deaths (under one year)	412	339	327
Infant Mortality rate per 1,000 live births	26.1	21.7	22.5
" " " " 1,000 legitimate births	26.0	21.9	22.1
" " " " 1,000 illegitimate births	28.3	19.2	26.7
Neo-Natal Mortality rate (First four weeks) per 1,000 related live births	16.4	13.1	14.8
Early Neo-Natal Mortality rate (first week) per 1,000 related live births	13.8	11.1	13.1
Perinatal Mortality rate (stillbirths & deaths during first week) per 1,000 total live and stillbirths	35.2	28.7	31.0
Maternal Deaths	4	3	1
Maternal Mortality rate per 1,000 total births	0.248	0.189	0.067
Deaths from:—			
Pulmonary Tuberculosis	54	38	42
Death rate per 1,000 population (unstandardised)	0.073	0.052	0.058
Non-pulmonary Tuberculosis	4	3	1
Death rate per 1,000 population (unstandardised)	0.005	0.004	0.001
Respiratory Diseases	1,641	1,368	1,288
Death rate per 1,000 population (unstandardised)	2.2	1.9	1.8
Cancer (all forms)	1,578	1,720	1,727
Death rate per 1,000 population (unstandardised)	2.1	2.4	2.4

BIRTHS

During the year, 14,553 live births were registered within the City, which represents a birth rate of 20.2 per thousand of the estimated mid-year population. Illegitimate live births were 8.2 per cent of the total live births and numbered 1,197. This figure was a further increase in the percentage of illegitimate births, which is higher than it has been for nineteen years. The birth rate within the City continued to be higher than the average for England and Wales, which for the year 1965 was 18.1 per thousand.

STILLBIRTHS

The 269 stillbirths registered in the City during the year represent a stillbirth rate per thousand total (live and stillbirths) of 18.1. The stillbirth rate among illegitimate babies was 26.8 and among legitimate babies was 17.4 per thousand.

MORTALITY

There were 8,300 deaths registered within the City during the year, 4,259 males and 4,041 females. This gives a general death rate of 11.5 per thousand as compared with a death rate of 11.2 for the preceding year. The number of deaths from cancer of the lung was 493.

Deaths from tuberculosis during the year were 43 as compared with 41 in the previous year. The trends of mortality of certain specified diseases are given in the tables in the statistical appendix.

INFANT MORTALITY

The infant mortality rate rose during the year to 22.5 per thousand live births as compared with 21.7 for the previous year. A total number of 327 infant deaths occurred, of which 32 were illegitimate children. This represents an illegitimate infant mortality rate of 26.7 per thousand and a legitimate mortality rate of 22.1 per thousand. The neo-natal mortality rate (first four weeks) and the early neo-natal mortality rate (first week) increased from 13.1 to 14.8 and 11.1 to 13.1 per thousand related live births respectively. The principal causes of infant mortality are represented in the diagram below.

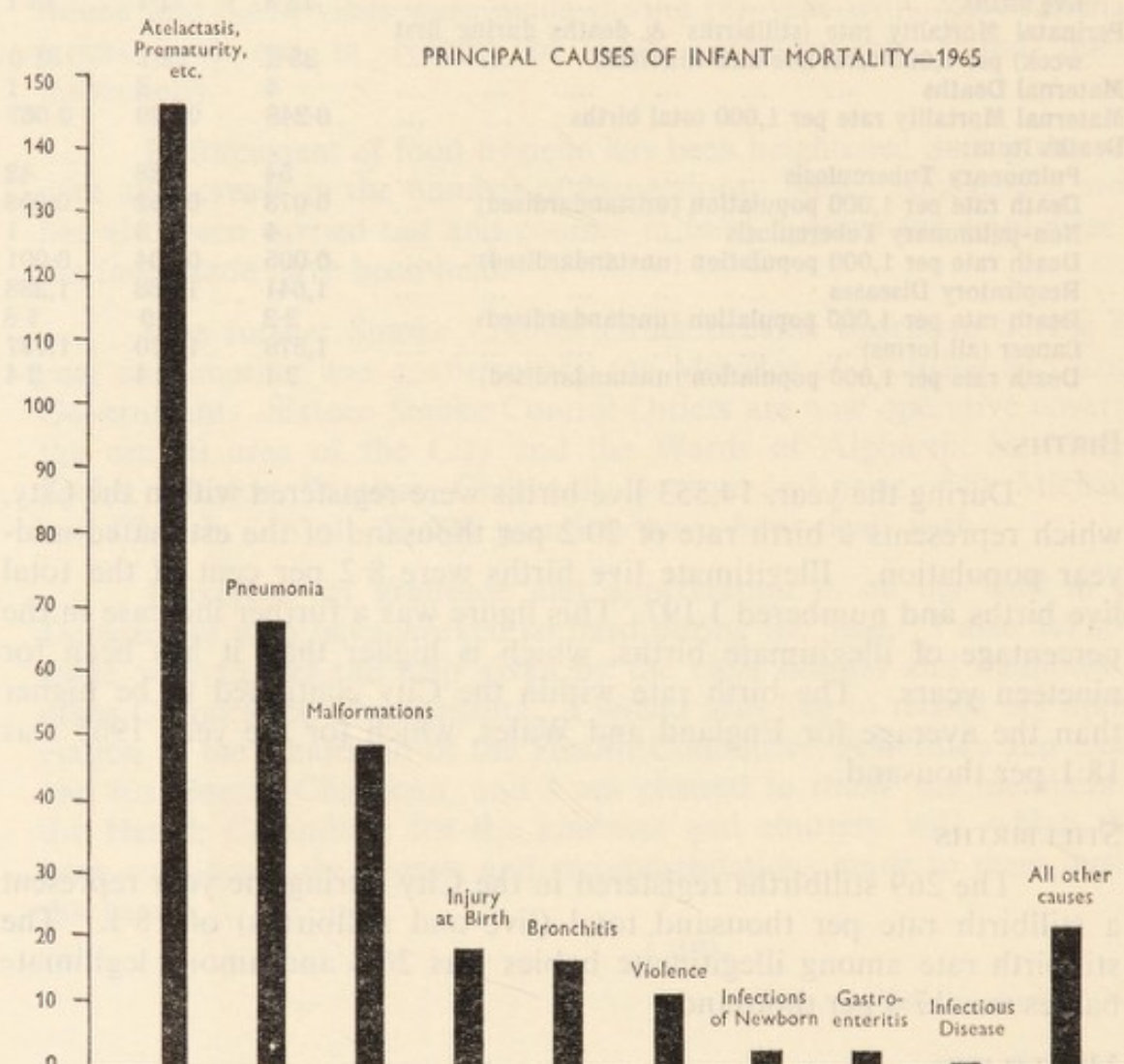
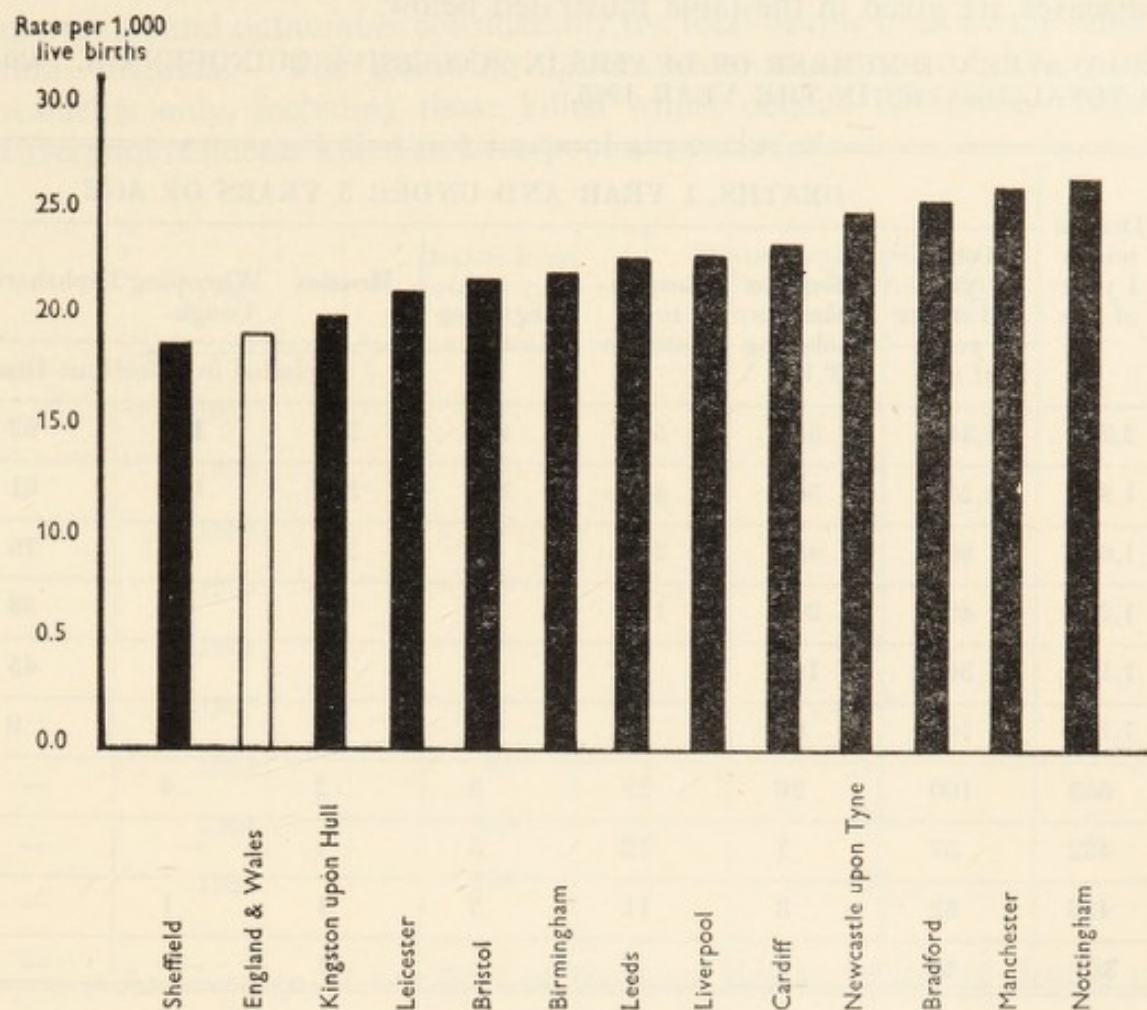


CHART SHOWING INFANT MORTALITY RATE FOR A NUMBER
OF THE LARGER AUTHORITIES FOR THE YEAR 1965



PERINATAL MORTALITY

This rate, which is the number of stillbirths and the number of deaths in infants under one week per thousand births is being increasingly used in statistics and it represents very fairly the hazards of child-birth. During 1965 the rate was 31.0 compared with 28.7 in 1964.

CHILD MORTALITY

The various causes of child mortality both in total and for specific diseases are given in the table illustrated below.

YEARLY AVERAGE NUMBER OF DEATHS IN SUCCESSIVE QUINQUENNIA, 1920-1964, AND TOTAL DEATHS IN THE YEAR 1965.

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	Infectious Diseases (including T.B.).	Respiratory Diseases	Digestive Diseases	Measles	Whooping Cough	Diphtheria	Scarlet Fever
						Included in Infectious Diseases			
1920-24	2,278	1,349	557	513	121	202	109	62	28
1925-29	1,879	1,252	564	461	121	227	118	61	23
1930-34	1,601	890	456	278	63	200	72	79	9
1935-39	1,283	487	243	147	30	79	46	58	3
1940-44	1,140	366	160	94	17	27	23	45	1
1945-49	1,100	168	67	36	13	8	15	9	—
1950-54	553	100	26	22	5	2	4	—	—
1955-59	432	57	7	12	5	1	—	—	—
1960-64	426	52	3	11	3	1	1	—	—
1965	327	42	3	6	—	1	—	—	—

DEATHS FROM CANCER

The total number of deaths from cancer during the year was 1,727 as compared with 1,720 in 1964. The number of deaths from cancer of the respiratory tract decreased slightly from 527 to 493.

DEATHS CAUSED BY MOTOR VEHICLE ACCIDENTS

Motor accident deaths form an increasing proportion of annual mortality, and outnumber considerably the total deaths from all the infectious diseases. The following figures relate to deaths of Liverpool residents only, including those killed whilst outside Liverpool. Non-Liverpool residents killed in Liverpool are excluded:—

Year	Deaths from motor vehicle accidents	Deaths registered outside Liverpool (included in previous column.)
1957	93	21
1958	78	13
1959	98	25
1960	119	22
1961	112	24
1962	81	12
1963	86	17
1964	105	21
1965	115	20

An average of one-fifth of the total deaths relates to deaths of Liverpool residents occurring outside the City.

MATERNITY AND CHILD WELFARE

REGISTER OF CHILDREN AT SPECIAL RISK

During 1965 a total of 14,553 live births were notified, and 2,652 of these babies were included on the special register. These children, together with any on the register in 1964, were reviewed at six-monthly intervals by health visitors, clinic medical officers and general practitioners, to determine whether they had developed any handicap. Within the infant community there is a vulnerable group more likely than the average to develop an abnormal condition, and the special register is kept to identify these children, and so enable any necessary assistance to be given at the earliest opportunity. At the end of 1965, 6,123 children were included on the register. The reasons for their inclusion during 1965 are set out below.

Suspected abnormalities	...	...	...	202
Breech	...	...	...	145
Pre-natal causes	...	...	...	238
Perinatal causes	...	...	...	653
Premature	...	...	...	545
Twins	...	...	...	270
Caesarean	...	...	...	422
Family history	...	...	...	62
Rh and other incompatibilities	...	...	...	115
Total				2,652

Handicapped Children's Register

A register of children with congenital abnormalities, or any other handicapping condition, was kept during 1965, as in other years. The Medical Officer of Health was notified of any abnormality obvious at birth by the hospital and domiciliary midwifery services, and an abnormality, or handicap, developing later, was referred from the register of children at special risk, from the health visitor, or from a hospital. A similar register of congenital abnormalities is maintained at Alder Hey Children's Hospital and there is regular interchange of information on the subject.

During 1965, 495 children were notified, and the abnormalities occurred in different systems as shown below.

Central nervous system	...	...	...	79
Eye, ear	...	...	...	11
Alimentary system	...	...	...	44
Heart and great vessels	...	...	...	62
Respiratory system	...	...	...	3
Urinary genital system	...	...	...	27
Limb defects	...	...	...	186
Other skeletal	...	...	...	8
Other systems	...	...	...	42
Other malformations	...	...	...	33
Total				495

Cervical Cytology

In May, 1965, a number of clinics were opened in Liverpool to undertake the early detection of cancer of the cervix. This condition can be diagnosed before it becomes invasive by inspecting smears under a microscope. The smears were collected at clinics and inspected by the University pathological laboratory. At first very few women availed themselves of the opportunity of this test, but by November, the numbers attending had increased, and more clinics were opened. These clinics were arranged in all parts of the City so that travelling time and distance were reduced. When this test was carried out, an examination was also made to exclude cancer of the breast, and if required by the general practitioner, a haemoglobin determination and a urine test were also undertaken. The results of the various investigations were sent to the general practitioner concerned.

Before the end of the year, two large firms had made enquiries regarding arrangements for their employees, and this will be done early in 1966.

There is no doubt that the amount of this work will increase, and it is hoped to have increased laboratory facilities in 1966. Details are as follows:—

Number of tests carried out since May, 1965	...	185
Number of cases of pre-invasive cancer detected	...	1

MIDWIFERY SERVICE

During the year 399 midwives notified their intention to practise midwifery in the City, this was 22 more than in 1964. Notifications from hospital midwives numbered 312, 66 came from domiciliary midwives and 21 from midwives in nursing homes or private practice.

The number of domiciliary births was 2,726 compared with 4,075 last year. This decrease in home births has been brought about by the scheme for planned early discharge from hospital. The result is shown by the increased number of patients who were nursed at home after hospital confinement; this was 5,794 in 1965, 2,012 more than in 1964. A table is given showing the number of mothers discharged from each hospital and the day when they were discharged. The total number of patients discharged from hospital to the care of the midwives was 6,426, but of these, 632 were premature babies who were cared for by three specially trained midwives.

The table below shows how the pattern of discharge from hospital between the second and sixth day altered during the last year.

		2nd day	3rd day	4th day	5th day	6th day
1964		191	480	304	273	518
1965		643	636	589	690	1,166

Medical Aid

The midwives called in medical aid to 694 cases for different abnormalities. In 610 cases a doctor had already been booked for maternity medical service.

Puerperal Pyrexia

Cases of notifiable puerperal pyrexia numbered 265 during the year, of these 258 occurred in hospital and seven in the home of the patient.

Staff

The midwifery staff at the end of the year consisted of:—

- 1 Non-Medical Supervisor
- 2 Assistant Supervisors
- 1 Training Superintendent
- 1 Tutor
- 50 Full-time Midwives
- 3 Premature-baby Midwives
- 4 Part-time Midwives

As, during the year, the number of home confinements decreased, only three full-time and three part-time midwives were appointed in place of twelve who left the staff.

Four midwives, near to retiring age, volunteered to help part-time midwives in nursing the patients discharged home from hospital early in the puerperium. In addition to the post-natal nursing, this scheme also included ante-natal visits to ascertain if conditions were suitable for the reception of the mother and baby soon after delivery. These visits increased from 2,994 in 1964, to 4,537 in 1965.

Training of Part II Pupil Midwives

The training scheme continued with pupil midwives from Sefton General Hospital, Liverpool Maternity Hospital, Mill Road Maternity Hospital and Broadgreen Hospital.

An average of 25 pupil midwives each quarter worked under the supervision of their district teaching midwives, and tutorials and practical teaching were given by the tutor and the training superintendent. Ninety-seven pupils took the course and 94 qualified as midwives; two joined the staff. At the end of the year, 27 pupils were still in training. During 1965, 37 midwives worked as approved district teachers.

Student nurses undergoing obstetric training at Sefton General Hospital, Liverpool Maternity Hospital and Broadgreen Hospital, continued to visit the domiciliary service and spend a day on the district. An average of 25 students every three months spent a morning visiting with a midwife and attended a child welfare clinic in the afternoon.

Accommodation

Thirty midwives occupied 27 corporation houses or flats; eight midwives lived in furnished accommodation.

Transport

Forty midwives were car owners and drivers, twelve midwives were cyclists and nine used public transport.

Equipment

The number of trilene inhalers for analgesia was increased to 32, and in addition gas/oxygen apparatus was purchased for trial, as the use of this equipment is considered better for the baby than gas/air.

The scheme for autoclaving pre-packed bowls and instruments has been extended, and by the end of the year covered all districts where pupil midwives worked and the central area of Liverpool.

Ante-natal Care

Ante-natal care of the mother was carried out at 32 general practitioners' clinics, at local authority clinics run by the midwives and also by visits to the patients' homes. Midwives attended 1,580 sessions with the family doctors, 314 sessions at medical officers' clinics and 2,516 at their own clinics. Visits to homes of patients numbered 19,539.

Domiciliary Deliveries

The total number of home confinements was 2,677 which was a decrease of 971 compared with last year.

The midwives paid 46,388 visits to their booked cases and 20,184 visits to mothers and babies discharged early from hospital. This latter figure is nearly double that of last year. They also paid 6,606 visits to patients referred from hospitals for the assessment of home conditions, an increase of 1,680.

Post-graduate Course

The statutory courses were attended by nine midwives and one of the assistant supervisors.

Transfusion Unit

The emergency obstetric flying squad was called out 47 times to the homes of patients. Blood transfusion was given in thirteen cases.

Reasons for calling the unit were:—

Retained placenta	21
Post partum haemorrhage	17
Ante partum haemorrhage	2
Others, including abortion, eclampsia, illness of the baby, etc.	7

Patients transferred to hospital numbered 25, while 22 were able to remain at home.

Emergencies

Midwives were called to emergencies by the ambulance service on 43 occasions. These were cases who were booked for hospital, but called the ambulance too late, or patients with no ante-natal care at all. In all, 34 mothers were transferred to hospital in labour or immediately after delivery, seven mothers and babies were nursed at home, while two mothers stayed at home but the babies were transferred to hospital.

Consultants were called to midwives' cases eight times, on four occasions because of the condition of the mother and the other four because of concern for the baby.

Premature Babies

Thirty-three premature babies were born at home and 30 were able to remain there while three were transferred to hospital. Six premature babies born in hospital were later discharged to the care of the specially trained midwives. Three sets of twins were born at home, and among those babies discharged from hospital, there were nineteen sets of twins and 25 babies who were one of twins.

Midwives caring for premature babies made 383 visits to home deliveries and 2,649 visits to those discharged from hospital. They also visited 148 homes before the babies were discharged, to advise the mothers on conditions suitable for small babies.

Equipment loaned was as follows:—

Cot Blankets... ..	7
Hot water bottles and covers ...	32
Gowns	4
Vests	4

Maternal Deaths

Only one death was recorded in 1965. This occurred in a young woman of 22 years who was admitted to hospital in an almost moribund condition, and who died eleven hours after admission. Her death was due to a severe streptococcal infection following a septic abortion, and serves to stress the very vital dangers present in unskilful attempts to end a pregnancy. This patient was in very early pregnancy and had not obtained ante-natal advice from either her doctor or a midwife.

HEALTH VISITING SERVICE

December, 1965, saw the long-awaited new clinic in Netherfield Road opened. Great interest has been shown by the families in this area and they are delighted with the premises, which replace accommodation rented from the Victoria Settlement and used by the Maternity and Child Welfare Section since 1941, when the original centre in Netherfield Road was bombed. Much rebuilding is going on round the clinic and when this is completed it will become a centre of great activity.

During 1965, contact between the general practitioners and the health visiting staff increased and more health visitors visited the surgeries to discuss family problems. Each practice was supplied with a list of clinics and the names of the health visitors working from each. As a result more telephoned requests for visits and information were received from general practitioners.

The end of the year, unfortunately, saw a decrease of four health visitors in the health visiting staff, which now consists of:—

- 1 Superintendent
- 1 Deputy Superintendent
- 1 Assistant Superintendent
- 78 Health Visitors
- 1 State Registered Nurse, full time
- 12 State Registered Nurses, part time

Training.

In September, 1965, the newly formed Training Council for Health Visitors presented a revised syllabus and regulations governing the academic qualifications of all candidates accepted for training. Thirty-six students began training in September under these new regulations, fifteen sponsored by the Liverpool County Borough and the remainder by other local authorities in England and Wales.

Fifteen health visitors attended a course of further training arranged by Liverpool University to prepare them as field work instructors, a requirement of the new training council, for the instruction of students in practical health visiting.

Ante-natal Care

More babies were born in hospital and, therefore, more mothers attended hospital ante-natal clinics and fewer attended local authority clinics. Nevertheless, a great deal of work was done in the district centres, teaching expectant mothers. Six health visitors continued to visit the hospital ante-natal clinics and helped to deal with many social problems. They extended an invitation to each patient to attend one of the nineteen mothercraft classes held each week throughout the City.

Two other members of the staff continued as members of a team at the Liverpool Maternity Hospital and Walton Hospital, who speak

regularly to groups of expectant mothers and their husbands. Another member of the staff visited Mill Road Maternity Hospital to conduct a mothercraft class in the ante-natal teaching unit. In addition, nearly 3,000 visits were paid to expectant mothers in their own homes.

Care of Children

During the year, there was a slight decrease in the number of children born within the City, but this was compensated by the number moving in shortly after birth, and altogether 16,029 infants were visited for the first time. The total visits paid to children under the age of five years was 176,602. At these visits, the health visitor was concerned with health education and social advice to encourage and promote the attainment of complete health by all members of the family. Where any deviation from the normal mental and physical progress was noticed, the health visitor took steps to seek advice and altogether 648 children were referred to the School Health Department for special examination. These referrals were classified as follows:—

Mental and physical assessment ...	70
Hearing tests	29
Educational tests	26
Speech defects	21
Eye defects	301
Orthopaedic defects	201

Special attention was given to the Phenistyx test for phenylketonuria, and tests were made on newly born babies between the tenth and fourteenth day, and again between the fourth and sixth week. During the year 14,448 of these tests were carried out. Three cases of phenylketonuria were diagnosed during the year; one in an infant of one month and the other two cases in older children who had shown a false negative reaction to the test. In connection with this condition, the health visitors arranged for a further urine test to be undertaken at Alder Hey Hospital. This work is being carried out in conjunction with the hospital to obtain information which may lead to a more reliable test. These tests began in May, 1964, and by 31st March, 1965, 10,053 babies had been tested; 81·7 per cent of the babies born in that period.

Problem Families

During the year the co-operation of other agencies was sought for 4,675 cases; 2,648 more than in 1964. The agencies contacted were:—

- General Practitioners
- Medical Social Workers at Hospitals
- Welfare Department
- Health Inspectors
- Mental Health Service
- Probation Officers
- National Assistance Board
- Disablement Resettlement Officer
- Home Help Service
- Children's Department
- National Society for the Prevention of Cruelty to Children

Four families with special problems went to Brentwood Rehabilitation Centre for periods of not less than three months, and in each case the husband visited and stayed during some weekends. This helped the families considerably, and the husbands came to appreciate their responsibilities more fully.

One hundred and sixteen applications were dealt with under Section 28 of the National Health Service Act from elderly persons and others who needed a change from their home environment to assist them to recover from illness, or to prevent them from becoming physically or mentally ill. Thirty-five mothers and young children went away for periods of at least a fortnight's convalescence.

Care of the Elderly

Work by health visitors among the elderly is increasing year by year and 8,190 visits were made to people over the age of 60 years compared with 6,000 in 1964. Many of these old people came to the notice of the health visitor during daily visiting in their area. They saw someone who was obviously in need of help, or noticed premises which were neglected but inhabited. The majority of elderly persons, however, were referred by consultants, general practitioners or friends and neighbours. Altogether, 2,229 elderly persons were under surveillance from health visitors at the end of the year, 430 of these being referred by the consultant geriatrician from Newsham General Hospital, who was assisted in his assessment of the need, urgent or otherwise, of their admission to hospital by the reports which he received from health visitors. In this work much time was spent contacting other agencies so that all the necessary welfare services were available for those who required them.

Vaccination and Immunisation

During 1965, 2,523 children received their primary smallpox vaccination, an increase of 654 compared with 1964, when 1,869 children were vaccinated. It is encouraging to see this figure showing an increase, but there is great difficulty in persuading mothers to have their babies vaccinated during the second year of life.

Vaccination against poliomyelitis showed a considerable increase compared with 1964. Details are as follows:—

	1964	1965
No. of doses given in clinics	24,064	33,953
No. of doses given at home	3,000	6,756

Immunisation against diphtheria, whooping cough and tetanus also increased, the number of injections given at clinics being 17,117 in 1964 and 20,662 in 1965.

Patients Discharged from Hospital

Visits continued to patients discharged from hospital to ensure

that all their needs were met and that instructions were clearly understood and were being carried out. Progress reports regarding young children were sent back routinely to the hospitals concerned. Similar reports were provided for adults when they were necessary. Visits made to patients discharged during the year amounted to 5,338, and 889 further visits were made to ensure that patients were making full use of home nursing equipment loaned by the Health Department.

Other Specialised Work

Visits to patients suffering from diabetes were carried out by one health visitor who attended three hospitals in the City and visited all patients referred to her by the consultant. She worked with patients of all ages and helped them to understand their instructions regarding treatment and diet, demonstrating the administration of insulin and advising on diet, and the health and welfare of these cases. Through collaboration with the Disablement Rehabilitation Officer she helped many to obtain suitable employment and during the year paid 1,180 visits to 456 patients in all parts of the City.

Another health visitor worked very closely with the neurological unit at Walton Hospital. Patients were visited at home at the request of the consultant. Five hundred and sixty-six patients required nearly 2,000 visits. Both these aspects of health visiting are most exacting and take a great deal of time and patience.

Three health visitors worked with paediatricians at a Children's and a General Hospital, providing useful information about patients and their families. Two health visitors attended children's clinic sessions held in general practitioners' surgeries, to give help and advice to mothers and young children.

Social Workers' Meetings

Six of these meetings were held monthly at the following centres:—

West Derby Community Centre

Toxteth Domestic Mission

Victoria Settlement

David Lewis Club

Childwall Valley Church Hall

Speke Community Centre

Lunch was served and health visitors and other social workers in the area were invited to attend to meet each other and discuss the problems, if any, affecting the community of the particular area. During the year, these meetings were most useful and informative.



New Gas/Oxygen Apparatus

MIDWIFERY SERVICE

Trilene Demonstration at Midwife's Clinic





House Corner

DAY NURSERY—FREE PLAY

Choice of Playthings



The following is a summary of the valuable work carried out by the nurse assisting in the follow up of women and children suffering from venereal disease.

Number of cases written to...	...	...	...	...	310
Numbers of letters despatched	...	...	...	...	469
Number of cases reporting after receipt of letter...	...	...	...	...	151
Number of letters returned (dead letter office)	...	...	...	...	17
Number of cases visited	...	...	...	...	231
Number of visits made	...	...	...	...	865
Number of cases reporting after visiting	...	...	...	...	149
Number of cases promising, but failing to attend	...	...	...	...	16
Number of cases removed or not known at address given	...	...	...	...	31
Number of cases not contacted	...	...	...	...	24
Number of cases refused to attend...	...	...	...	...	9
Number of cases transferred to other clinics	...	...	...	...	2

This work, at all times, requires a very tactful approach.

MATERNITY AND CHILD WELFARE CLINICS

Twenty-seven centres operated throughout the year, but the number of ante-natal clinics was again reduced. Nine clinics now hold ten sessions each week while the total number of child welfare sessions was 62 each week. Attendances of mothers at ante-natal clinics for pre- and post-natal examinations and for blood examinations numbered 1,285, and 870 patients were referred by their doctors for blood tests and altogether 1,922 separate tests were made.

The number of midwives' clinics increased from twenty to 22 weekly and 1,721 mothers attended, making 10,042 attendances.

The number of mothercraft and relaxation classes increased from eighteen to nineteen weekly; 830 mothers attended these classes and made 3,694 attendances. Two of these were held each week in Mother and Baby Homes.

There was a slight decrease in the number of children under the age of five years attending the clinics, 18,272 attended compared with 18,573 in 1964. The total number of attendances made by these children was 98,003.

Clinic Attendances

	1964	1965
Total number of centres at which ante-natal clinics were held	10	9
Number of clinic sessions held per week (medical)	11	10
Number of cases attending ante-natal clinics (doctors' sessions)	1,691	1,285

DISTRICT NURSING SERVICE

The District Service provides nursing for any patient who requires care in his own home. Midwifery patients who suffer from an infectious condition may be nursed by the district nurse.

During 1965, 386,442 nursing visits were made to 13,355 patients between the hours of 8.30 a.m. and 1.15 p.m. and 3.0 p.m. and 6.30 p.m., and 4,473 visits were paid later in the evening to patients requiring sedatives and analgesics. In addition, 2,091 ambulatory patients who were fit to attend a clinic received 14,820 treatments. This is an increase of 608 patients and 1,888 treatments since 1964.

The following tables show the amount of work undertaken by the district nursing service in 1965 compared with that in 1964:—

	1964	1965
Patients	13,229	13,355
Visits	377,737	386,442
Number of patients aged 65 years or over ...	5,600	5,604
Number of visits to such patients	194,190	206,481
Number of children under 5 years	880	860
Number of visits to such patients	4,782	4,241
Number of late night visits	4,885	4,473

Number of patients attending clinics.

	1964	1965
District Nursing Centres	333	273
Toxteth Health Centre	1,150	1,818

Number of treatments given to above patients.

	1964	1965
District Nursing Centres	6,269	4,580
Toxteth Health Centre	6,663	10,240

Certain changes have taken place in the type of nursing which has been undertaken. It will be seen that fewer children were nursed, and that although the number of patients over 65 years of age increased by only four, the number of visits paid to them increased by 12,291. There was also a slight drop in the number of evening visits, which may indicate a change in pharmaceutical products, rather than a change in nursing practice.

The increased number of visits paid to patients over the age of 65 may be due to the following causes:—

1. Patients are living longer.
2. More facilities are available for nursing patients in their own homes. The provision of bed linen on loan and the very valuable laundry service enabled patients to remain at home. During the

year 78,000 disposable pads were supplied to incontinent patients. This was 31,500 more than were supplied during 1964. More patients who were not attended by the district nurses made use of this service and their life was made more pleasant. The majority of these patients were referred by health visitors, thus stressing the close co-operation between these two branches of the nursing service. Waterproof bags were provided when necessary for the disposal of these pads and other dressings. The provision of lifting equipment and walking aids also helped patients and the nursing staff. These services enabled patients to be nursed in their own homes who would otherwise have had to enter hospital.

3. Auxiliary help was given to the district nurses during the year by bath attendants for the chronic sick.

Training

During 1965, twenty nurses including one male nurse were trained as Queen's Nurses.

- 12 trained for Liverpool
- 3 trained as independent students
- 2 trained for the Isle of Man
- 1 trained for Anglesey
- 1 trained for Caernarvonshire
- 1 trained for Bootle

Twenty-six students from other authorities attended the three-week lecture blocks and students from St. Helens and Wallasey also attended the weekly study half-day for theoretical instruction.

During the year, nine state-enrolled nurses attended the ten-week course of instruction.

The district nurses also attended a study day arranged by the department. One group visited Fazakerley Hospital and another group attended Sefton General Hospital.

During the year 431 student nurses, post-registration students, hospital sisters and tutors accompanied the district nurses on their rounds. The opportunity thus afforded gave the visiting nurses an insight into the social background of the patients and the scope of the domiciliary service.

Twenty-one lectures* were given in hospitals and lectures were also given to D.P.H. students. A number of talks publicising the district nursing service were also given to various organisations.

DAY NURSERIES

In September, 1965, a visit was paid by representatives of the Ministry of Health to certain of the day nurseries in Liverpool. They expressed their satisfaction regarding the type of nursery care given,

though they were worried by the inconvenience caused to the staff by old, converted premises. At this visit, Upper Parliament Street day nursery was approved as a training nursery for students taking the examination of the Nursery Nurses Board. All twelve day nurseries in Liverpool are now approved training nurseries. During the year, twenty Health Department students sat the examination for the certificate of the Nursery Nurses Examination Board, and eighteen were successful at their first attempt.

During 1965, there was a further increase in the number of private nurseries and child minders registered; at the end of the year, 37 were registered in comparison with 33 in 1964. These groups provide accommodation for 872 children between the ages of two and five years. Before registration, the premises were visited by a medical officer and by a representative of the Fire Service, and the person in charge was interviewed by a medical officer of the Health Department. This was to ensure that the groups were properly housed and cared for. The increase in the number of private groups shows the need for more provision outside the home for children from the age of three years. These children need to meet and play with their contemporaries, and this does not seem possible under the present and future housing and City development.

HOME HELP SERVICE

A home help is employed to care for a patient who is ill in his own home, for an aged or infirm person living alone or with others who are in a similar position, and for children under school age in the absence of the mother. It is understood that in all cases other assistance is unavailable.

She must be honest, reliable and have commonsense for she frequently must make decisions in an emergency. She must be able to adapt herself to the conditions of the home in which she is working and these can vary from the very comfortable to the squalid. In fact, she should not be classed as a 'cleaner', a term which is often used.

STAFF

The number of home helps increased from 458 in December, 1964, to 583 in December, 1965. Liverpool is fortunate in that there is rarely a shortage of recruits for this employment and 253 home helps were engaged during the year. However, despite the efforts made to retain staff by careful deployment, a pleasant training scheme and social facilities, 128 members left the section in 1965. One of the more convincing reasons given for resignation was depression caused by concern for the aged persons they assisted. A too sympathetic home help can take her concern into her own home and this is resented by her family.

DECENTRALISATION

It is essential that a staff working away from the office should be able to communicate easily with the organiser if problems arise and in recent years communication has become difficult due to telephone vandalism and sparsity of "off peak" transport. It became obvious during the year that decentralisation was necessary and it is hoped that district accommodation will be found during 1966.

TRAINING

The training course continued to be held at the Mabel Fletcher Training College with instruction in basic nursing and invalid care including cookery. In order to see for herself the type of instruction required, one member of the college staff accompanied an organiser from the section on several home visits. This was in her free time.

SOURCES OF REFERENCE

Applications for service were received from the usual sources including general practitioners, the National Assistance Board, voluntary societies, etc. The number of applications from the Children's Department, who are endeavouring to keep children at home whenever possible, increased. Some confusion has arisen in recent years regarding the address of this section and in order to prevent delay in the provision

of service, a letter was sent to the principal sources of reference in August, 1965, asking that direct application be made; this improved matters considerably.

STATISTICS

The total number of households assisted in 1965 was 5,028. This comprised 2,169 households already receiving help on 1st January, 2,269 new cases and 590 for which service recommenced during the year.

Of this total number 3,359 were aged or chronic sick patients who received varying amounts of service depending on their needs. It is interesting to note that three of these patients have received service for sixteen years. The withdrawal of the home confinement grant has affected the number of maternity cases supplied and the number dropped from 160 in 1964 to 126 in 1965.

CHARGE FOR SERVICES

The standard charge for service remained at 3s. 0d. per hour. Most applicants requested a reduction of charge, and of the 5,028 patients helped, 3,205 received free service. A new scale of assessment and a standard charge of 5s. 0d. per hour will come into force in April, 1966.

HEALTH EDUCATION

A wide variety of lectures on many and varied topics has been given during the course of the year by medical officers, health visitors and public health inspectors. The sections of the public requesting these lectures have varied from established teaching groups to clubs and social organisations. In addition to formal lectures members of staff have taken part in discussions and panels arranged by different organisations. Co-operation by health visitors with the Fire Brigade during National Fire Prevention Week was of particular interest.

LIVERPOOL SHOW

Some aspects of the work of the public health inspector were portrayed, including insect pest control, cause and prevention of timber decay, and a number of appliances suitable for installation in Smoke Control Areas was displayed. This type of exhibit is of great interest to the public, especially as the number of owner/occupiers of houses continues to increase, and these persons are concerned to obtain as much information as possible, to enable them to protect their property. Various aspects of the work of the public health inspectorate in environmental control, the ambulance service and the occupational therapy service were also displayed.

PARENTS' CLUB

The Norris Green Parents' Club meets twice a month. It has a high membership of enthusiastic parents. A health visitor attends each of the meetings and much valuable health education is achieved.

SMOKING AND LUNG CANCER

As in previous years emphasis has been placed on health education in this sphere. Talks, films and film strips have been used in schools and at meetings of various public groups. In addition the Health Department has accumulated a stock of Cancer Education aids in the form of posters, leaflets, a flannelgraph and film strips. As well as being used by the Departmental staff, these are available for issue and loan to various other bodies such as youth clubs and voluntary organisations.

Group instruction in schools has been used extensively for anti-smoking propaganda. Between 130/140 departments have been visited for this purpose. The film most used is "This is your Lung", although "Spotlight on Smoking" has had to be used when the former film was not available. The need to hire films has hampered progress in this direction but the department now owns a copy of "This is your Lung" which it is anticipated will be very helpful.

SCHOOLS

During the past year there has been an expanding programme of Health Education in schools, especially in the projection of films.

Health Education methods used in schools may be divided into three categories:—

(a) Individual instruction to children in school where the school nurse feels there is a need or at the request of the child. This is one of the advantages of a permanent weekly visit to school. Children know when and where to find their school nurse and can talk to her in confidence.

(b) Instruction given to groups of children in school, usually on a single topic. This instruction is given in a short series of talks, between four and six talks at weekly intervals by arrangement with the head teacher. The topics are widely varied with the age group, type of school, vicinity of school and intellect of the children.

(c) Instruction given to larger groups on one subject. A film is usually used preceded by an introduction given by the school nurse and concluded by a discussion and clarification of any points in the film which have not been understood.

In the past, health education in schools has been limited to senior girls. This has been extended to include senior boys, and younger children.

A Liverpool training college asked seven of their students to do their teaching practice in a junior school on the subject of "Germs" with eight-year-old children. A health visitor joined the tutor in college for his tutorials with the students and in school as an observer. This was most helpful both to observe the teaching technique and the type of material which interested this age group.

Films shown in Schools

Spotlight on Smoking	The Smoking Machine
This is your Lung	The Pulse of Life
The best of Yourself	Nothing to eat but Food
Prepare for Loveliness	Room for Hygiene
Women of Tomorrow	No Toothache for Noddy
Where there's a Will	

Films Strips used in Schools

Good Grooming	Care of our Teeth
Care of our Feet	Children's Feet
Home Safety	First Aid
Prevention of Tuberculosis	Nursing Sick Children at Home
Vaccination and You	

The film strips are a useful addition to visual aids used, but school children are more and more expecting films, preferably colour if any sort of projection is used.

MERSEYSIDE CANCER EDUCATION COMMITTEE

During the year the Administrator of the Merseyside Cancer Education Committee, Mr. W. Duffy, continued the provision of public education concerning cancer.

Seven talks were given to church groups in Liverpool and nine talks were given to secular organisations.

Mr. Duffy also gave eight lectures in all to third-year hospital nurses, six at Broadgreen Hospital and one each at Alder Hey and the Northern Hospital.

EPIDEMIOLOGY

The number of cases of notifiable infectious disease occurring in 1965 compared with 1963 and 1964 is shown in the table below:—

Disease							Notified Cases 1963	Notified Cases 1964	Notified Cases 1965
Diphtheria	...	...	...	...	...	...	3	1	—
Dysentery	...	...	...	...	...	...	383	313	259
Paratyphoid Fever	...	...	...	...	...	...	8	3	12
Erysipelas	...	...	...	...	...	...	26	17	21
Food Poisoning	...	...	...	...	...	...	63	31	72
Malaria (contracted abroad)	...	...	...	...	...	...	10	11	6
Measles	...	...	...	...	...	...	4,827	7,124	7,319
Meningococcal Infection	...	...	...	...	...	...	15	15	16
Ophthalmia Neonatorum	...	...	...	...	...	...	97	88	79
Acute Primary and Influenzal Pneumonia	...	...	...	...	...	...	349	208	205
Poliomyelitis	...	...	...	...	...	...	1	1	—
Puerperal Pyrexia	...	...	...	...	...	...	356	315	265
Respiratory Tuberculosis	...	...	...	...	...	...	391	273	249
Non-respiratory Tuberculosis	...	...	...	...	...	...	43	28	34
Scarlet Fever	...	...	...	...	...	...	495	638	628
Whooping Cough	...	...	...	...	...	...	1,762	666	425
Acute Encephalitis	...	...	...	...	...	...	—	—	2

The general pattern of the incidence of infectious disease in 1965 was similar to that in 1964. The incidence of whooping cough was slightly lower than in previous years and the disease was slightly milder than in 1964. There were no cases reported of the unusually severe form which was prevalent in 1963. No case of diphtheria was reported in 1965.

DYSENTERY

During 1965, 259 cases were notified. This is the lowest level of notification for several years.

Notified cases of dysentery

1954	494
1955	920
1956	369
1957	484
1958	931
1959	407
1960	515
1961	335
1962	296
1963	383
1964	313
1965	259

When a case is notified it is visited and, as soon as possible, a bacteriological diagnosis made. The situation is then assessed and the need for exclusion of contacts is considered. Food handlers and young children are invariably excluded from work or school when found to be positive carriers. In other cases of older children and people not handling food, careful consideration is given to the need for exclusion and this is avoided if it is at all possible, provided that at the same time the spread of disease can be adequately prevented. In some circumstances exclusion can lead to unnecessary hardship, either where the person is excluded from work and so suffers, or where because a child is excluded from school, the parent is unable to go to work. An analysis of the findings on visiting is given in the table below:—

				Dysentery 1965	
				Sonne Dysentery	Flexner Dysentery
1. Original uncorrected notifications...	...	...	...	500	2
2. Corrected notifications	...	...	...	257	2
3. Notified cases, bacteriologically negative but with symptoms	...	...	...	243	—

Exclusion of Children from School

The total number of children excluded from school on account of infectious disease was 327, and the average period of exclusion was 21 days. There was a considerable range in the period of exclusion, the longest period was 112 days and the shortest period was one day.

POLIOMYELITIS

No case of poliomyelitis occurred in Liverpool during the year.

FOOD POISONING AND SALMONELLA INFECTION

It is very satisfying to be able to report once again that during 1965, food poisoning and Salmonella infection did not present a major health problem. It is now customary to classify outbreaks of food poisoning and Salmonella infection into three groups, (a) general outbreaks which comprise two or more unrelated cases due to a common cause, (b) family outbreaks where two or more cases are related, or (c) single cases not connected with any other.

The total number of cases coming to the attention of the Department was 128. Of these, 88 occurred as family outbreaks in 31 instances, and 40 occurred as sporadic cases. A table giving the organisms found in notified cases is listed below:—

Organism	Number of persons from whom organism was isolated
<i>Salmonella montevideo</i>	3
<i>Salmonella brandenburg</i>	1
<i>Salmonella dublin</i>	1
<i>Salmonella chicao</i>	1
<i>Salmonella infantis</i>	57
<i>Salmonella anatum</i>	11
<i>Salmonella panama</i>	1
<i>Salmonella stanley</i>	4
<i>Salmonella typhimurium</i>	33
Cause unknown	16

It will be seen from this table that there has been a change in the pattern of distribution of salmonellae. *Salmonella infantis* has emerged as the predominant salmonella, taking the place of *Salmonella typhimurium*.

SALMONELLA INFANTIS INFECTION

The first cases were seen in the Merseyside area towards the end of July and the first notified in Liverpool was in August. In September there were a further two, in October 25, November twenty and December nine, giving a total of 57 for the year. The age group predominantly affected was young adults and equally between males and females, although cases occurred at all ages. The 57 cases occurred in 32 separate households and in general the course of the disease was mild.

The distribution of the signs and symptoms is shown in the table below:—

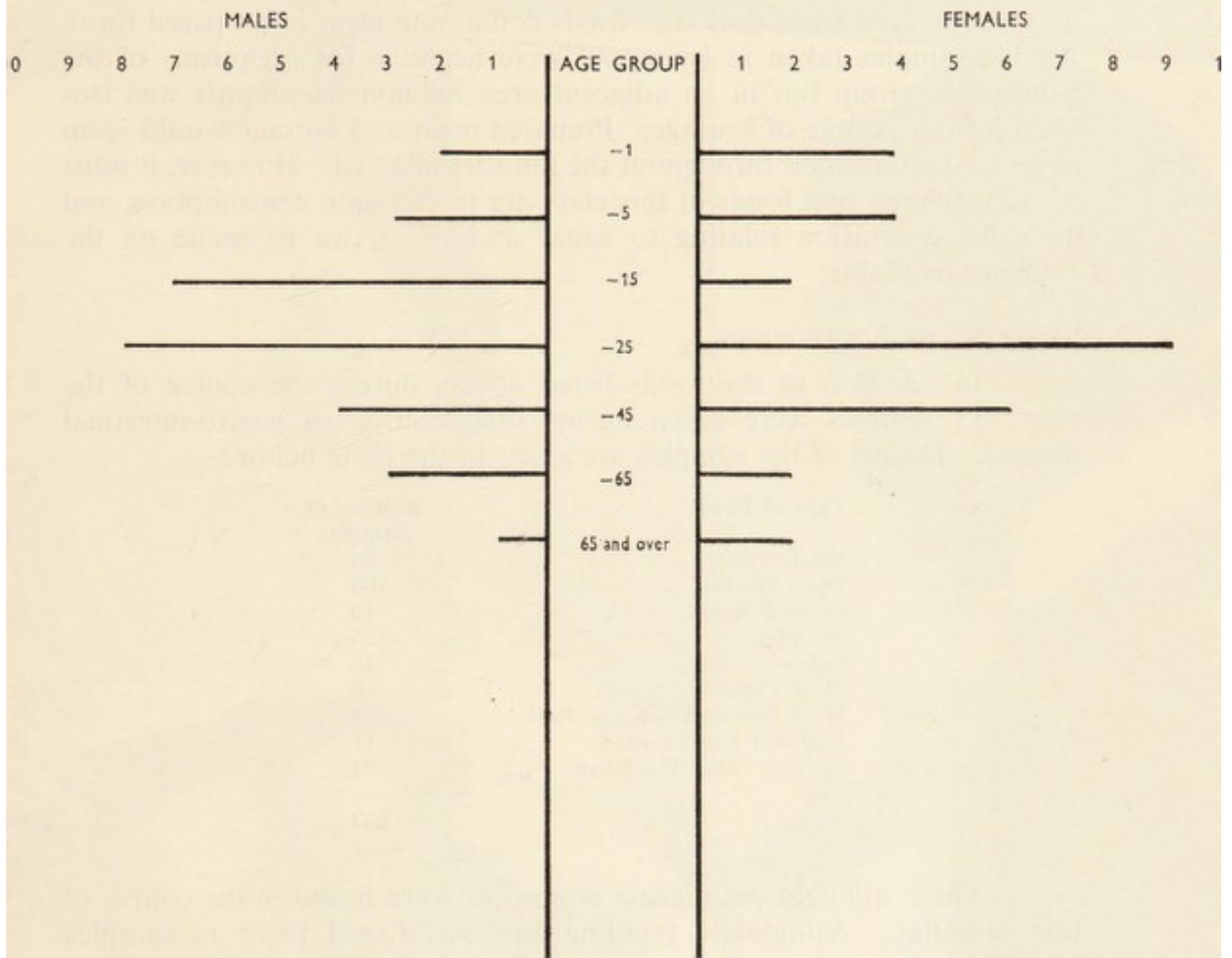
Salmonella Infantis—1965—Analysis of Symptoms

	SYMPTOMS					
	Pyr- exia	Abdominal pain	Diarrhoea	Vomiting	Blood in faeces	Mucus in faeces
57 Isolations ... 28 with Symptoms						
Total Number ...	13	21	24	17	—	—
Minimum duration in days	1	1	1	1	—	—
Maximum duration in days	11	8	12	11	—	—
Mode in days ... (commonest duration)	1	5	5	1	—	—

SALMONELLA INFANTIS — 1965

NUMBER OF POSITIVE EXCRETORS PER POSTAL DISTRICT	
POSTAL DISTRICT	NUMBER OF EXCRETORS
4	4
5	5
6	1
7	5
8	6
11	5
13	7
14	11
15	1
19	1
24	3
25	8
TOTAL	57

SALMONELLA INFANTIS—1965—BREAKDOWN BY AGE GROUPS



The cases were distributed fairly widely over the City with a slight predominance in the Dovecot area.

One feature of the *Salmonella infantis* infections was the length of time of persistence of positive excretions. This would account for cases occurring together in the same household. In the 32 households there were 151 contacts. These included 57 positive excretors, twenty of which were admitted to hospital; at the end of the year, 22 still remained positive. During the investigation of the households affected, 64 samples of various foods were taken with a particular concentration on sausage, cold roast pork and foods containing meat in prepared form. All the samples taken in Liverpool were negative for organisms of the *Salmonella* group but in an adjacent area *Salmonella infantis* was isolated from a sample of sausage. Prepared meat and sausage would seem to be a common food throughout the families affected. However, it must be remembered that foods of this class are in common consumption, and no valid conclusion relating to cause and effect can be made on the evidence available.

SAMPLING OF FOODSTUFFS

In addition to the foods listed above, during the course of the year 253 samples were taken during investigation of gastro-intestinal disease. Details of the samples are given in the table below:—

Type of Food	Number of Samples
Sandwiches	24
Open Meats	106
Canned Meats... ..	19
Shellfish	25
Cakes	15
Meat Paste	5
Meat Pies and Sausage Rolls	24
Egg and Egg Products	11
Various other Foodstuffs	24
	253

Three different pathogenic organisms were found in the course of this sampling. *Salmonella typhimurium* was found twice in samples of ox tongue, *Salmonella thompson* was found in a sample of egg albumen, and *Salmonella anatum* was found in pork sausages. In each instance, appropriate action was taken to condemn the food involved and no further infection was reported from the source subsequently.

PARATYPHOID 'B'

During the months of March and May, a highly contained family outbreak of infections due to *Salmonella paratyphi* 'B' phage type battersea occurred. Seven of the family infected lived in the Liverpool area and another close family contact lived in St. Helens. There were many unusual features of this outbreak and a great deal of close study was



DISTRICT NURSING SERVICE



HEALTH EDUCATION
Health Visitor giving instruction on Home Safety

given to elucidating the origin. This has led to a completely new concept of the role of the dog as an animal vector in this disease. Hitherto it has been generally considered that the dog played merely a passive role excreting the organisms only when taking in these organisms inadvertently in its food. The investigations of this outbreak in Liverpool have shown that dogs not only can become passive carriers but also can be actively infected, suffering from the disease in much the same way as humans, excreting the organism and infecting humans by their excreta. Furthermore, the infection can be transmitted from mother to pup in the milk. In addition, transmission from dog to pet terrapins was observed. The investigation of the terrapins showed that it was unlikely they became actively diseased as did the dogs but remained merely as passive carriers. At the same time as the dogs and terrapins were infected, a pet African sparrow died but on bacteriological examination no abnormality was found.

The first untoward incident in the family was when a tortoise that had been owned by the family for several years died without apparent reason. Two years later the pet boxer bitch dug up the remains and ate part of them. Subsequently during the investigation some of the remains were examined bacteriologically and it was found that although the surrounding area had been contaminated by the bitch, the organism was not lying dormant in the tortoise remains.

In the middle of March, the bitch gave birth to eight pups. The next morning five of these were found dead and three days later one further pup died. Unfortunately, the remains of these were all disposed of before bacteriological examination could be carried out. The bitch and her two surviving pups remained healthy and apparently unaffected. However, on subsequent sampling of their excreta they were all found to be infected with *Salmonella paratyphi* 'B' phage type battersea. The animals were isolated and kept under observation in the hope that they might recover from the infection but when this was found not to be so, they were painlessly destroyed and a post-mortem examination carried out. It was then discovered that the blood and practically all the internal organs were infected with the paratyphoid bacilli and the infection had produced antibodies in the blood, indicating that the organisms had established themselves and were multiplying in their host. In other words, the animals had become chronic carriers of the disease and thus capable of infecting persons in contact with them.

In the home was a bowl of terrapins and it was the habit of the boxer bitch and later her pups to drink the terrapin water and to lick and nuzzle the terrapins and it is not surprising therefore that they too became infected, although they did not become chronic carriers as had the dogs. During the whelping of the bitch, she and her pups were the object of family attention, being constantly fondled and so came into much more than normal contact with the persons in the house.

There was an additional way in which infection could have been spread between animals and the humans, namely a tin opener which had been used at times for opening the tins of dog food and at times for opening human food, not being washed in hot water, being merely wiped after use.

The first person to be affected was the eldest son, a young man who was employed as a bus conductor. A few days after the pups were born, while he was going home on his bus, he felt overheated accompanied by sweatiness, dizziness, a slight headache, and photophobia. He also had abdominal pain, diarrhoea and vomiting which lasted for three to four days. His symptoms then gradually subsided and he remained symptom-free. His father was affected at roughly the same time, but in his case he had no headaches, abdominal pains or symptoms other than a brisk series of attacks of diarrhoea.

His mother was affected a day later with rather more serious symptoms of vomiting, almost continuous diarrhoea for a day, followed by prolonged intermittent diarrhoea and low back pain. She became seriously debilitated and it was several weeks before she made a full recovery. The eldest daughter was taken ill shortly after her mother with very similar symptoms but in a milder form. The next daughter was taken ill a little later still with similar symptoms. The youngest daughter remained completely unaffected throughout. The eldest boy's fiancée, who lived in St. Helens and who had very close contact with the family visiting Liverpool regularly and being visited by the son took ill with nausea and diarrhoea. She was only moderately affected. The grandmother who lived in Liverpool and who visited practically every day gave an inconsistent story of her symptoms wishing to minimise these and not be too bothered with the whole matter. However, it would appear that she did have some diarrhoea and she looked quite unwell at times. All but one of the family were found to be infected and admitted to Fazakerley Isolation Hospital for treatment where they made a slow but uneventful recovery. The homes in which the infected animals were housed presented a serious problem of disinfection, and after the animals were removed, careful repeated disinfection with formaldehyde and autoclaving of bedding combined with careful cleaning was carried out.

With so many persons in the family being affected, an extremely large number of contacts were involved and these were all systematically examined for infection. Over 300 were examined but only three were found to be affected by the *Salmonella paratyphi* 'B' organism. These were two boys and a girl who were very close family friends and who visited regularly and also played with the pups. They suffered no ill effects. They were admitted to Fazakerley Isolation Hospital for treatment and their carrier state cleared up eventually.

During the whole of this incident, very close co-operation was maintained between the Isolation Hospital, the Public Health Laboratory Service, the family doctor, the staff of Liverpool University Veterinary School, the innumerable contacts, shops providing food, together with personnel of the places of work of the cases or carriers. Although widespread dissemination of infection could have occurred the outbreak was confined to a small family circle.

INFLUENZA

The influenza spotting scheme was again put into operation during the winter months. A small number of isolated cases occurred in the autumn and during the last week of December, particularly over the Christmas period when there was a small outbreak of Type 'A' influenza. This carried on into the beginning of January. On the whole the disease was quite mild although there was a slight increase in deaths amongst elderly persons affected.

IMMUNISATION AND VACCINATION

DIPHTHERIA IMMUNISATION

The number of persons receiving a primary course of diphtheria immunisation in 1965 was 10,829. This represents 1,000 less than 1964.

Prior to 1963, immunisation in schools was carried out by a team of doctor, nurse and clerk visiting schools independently of school medical inspections. In 1963 this procedure was altered, immunisation being performed by the school doctor, nurse and clerk attending the school for medical inspection, wherever it was possible to do so. Special arrangements to complete primary courses at clinics or on re-visits to the school supplemented this routine. This produced a marked improvement in response. This was observed in an immediate increase, not only of booster doses given in schools but also of primary courses. These primary courses included not only those missed by the pre-school general practitioner and child welfare services, but also a back-log of older children, who should have been immunised in their early years in school. Once this back-log of missed cases was cleared, as would be expected, the number of primary immunisations carried out in schools was correspondingly reduced.

In addition to the clearing of a back-log of missed immunisation in schoolchildren, there has been an increased effort to immunise pre-school children with the effect that less children now enter school in an unimmunised state. As a result, the total number of primary immunisations in school was only 1,401 in 1965, compared with 2,732 in 1964. On the other hand, in pre-school children a rise from 5,710 in 1964 to 6,023 in 1965 was achieved. There was also a slight increase in booster doses for diphtheria immunisation from 7,190 in 1964 to 7,255 in 1965.

TABLE A

PRIMARY DIPHTHERIA IMMUNISATIONS—1956-1965

Where immunised	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Maternity and Child Welfare Clinics ...	4,547	4,479	6,861	5,789	13,091	5,479	5,016	5,263	5,710	6,023
Schools ...	2,070	3,008	2,316	3,245	3,926	1,332	1,464	1,362	2,732	1,401
General Practitioners ...	3,702	3,713	5,761	5,102	8,929	6,375	3,523	3,399	3,397	3,405
Total ...	10,319	11,200	14,938	14,136	25,946	13,186	10,003	10,024	11,839	10,829

TABLE B

Number of children immunised against diphtheria at various age groups

Age at date of immunisation	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	Estimated immunisation rate
1 -	2,593	4,125	3,820	3,286	3,945	2,913	5,322	8,546	8,214	8,369	629	2,572	3,246	3,340	3,312	Total under 5 years of age 31,337, being 39.7% of the population of this age.
2 -	2,594	1,035	2,396	2,311	2,176	2,913	1,229	2,686	2,386	4,206	630	2,481	4,255	4,234	4,462	
3 -	1,987	1,036	197	380	353	1,786	1,229	218	387	683	4,084	2,481	346	740	633	
4 -	545	576	197	57	109	290	399	218	60	212	1,209	676	346	205	445	
5 -	383	381	118	57	26	89	123	135	60	50	978	153	214	204	437	
6 -	331	301	55	53	26	43	59	64	57	50	858	162	102	225	437	
7 -	998	1,568	1,527	1,485	1,230	391	975	1,075	1,016	2,692	622	704	767	1,230	425	Total 5-9 years of age 63,969 being 80.7% of the population of this age.
8 -	867	1,179	812	790	654	415	259	571	540	1,435	663	143	289	868	130	
9 -	326	286	718	699	579	368	459	253	478	1,266	585	142	89	262	45	
10 -	326	196	580	565	468	297	370	409	194	1,020	472	78	61	71	61	
11 -	274	180	481	466	386	245	307	339	320	422	388	107	50	122	23	
12 -	190	177	87	155	57	55	71	58	81	1,669	234	52	102	120	90	Total 10-14 years of age 51,595, being 65.7% of the population of this age.
13 -	177	126	74	128	47	46	60	49	68	1,469	412	26	—	60	122	
14 -	68	59	35	60	22	22	28	23	33	681	191	29	34	59	63	
15 -	57	44	34	58	21	20	26	21	30	662	186	29	—	15	61	
over 15	26	28	32	55	20	19	25	20	28	658	184	—	—	—	31	
Total	320	14	13	20	10	17	—	—	—	—	4	—	—	—	—	
	12,062	11,311	11,176	10,625	10,129	10,319	11,200	14,938	14,145	25,966	13,186	10,003	10,024	11,839	10,829	

TABLE C

DIPHTHERIA IMMUNISATION—1965

	Where Immunised	Year of Birth			
		1962-65	1958-61	Others under 16	Total
Primary Course	Maternity and Child Welfare Clinics ...	5,650	356	17	6,023
	General Practitioners	3,196	171	38	3,405
	Schools	6	947	448	1,401
	Total	8,852	1,474	503	10,829
Booster Doses	Maternity and Child Welfare Clinics ...	86	467	24	577
	General Practitioners	291	676	123	1,090
	Schools	2	4,013	1,573	5,588
	Total	379	5,156	1,720	7,255

WHOOPIING COUGH IMMUNISATION

The pattern of whooping cough immunisation follows closely that of immunisation against diphtheria, since the two vaccines are commonly given together as triple vaccine in infancy, combined with tetanus, although in schools it is now common to give diphtheria and tetanus antigen, since whooping cough immunisation in this age group carries a small number of untoward reactions, and whooping cough at this age is much milder than in infancy. It is therefore not the practice as a routine to carry out whooping cough immunisation at school immunisation sessions.

There was an over all increase in the number of primary courses of whooping cough immunisation from 8,937 in 1964 to 9,197 in 1965. The level of booster doses remained fairly constant, being 1,264 in 1964 and 1,303 in 1965.

TABLE D

WHOOPIING COUGH IMMUNISATION—1965

	Where Immunised	Year of Birth			
		1962-65	1958-61	Others under 16	Total
Primary Course	Maternity and Child Welfare	5,578	237	3	5,818
	General Practitioners	3,183	161	35	3,379
	Total	8,761	398	38	9,197
Booster Doses	Maternity and Child Welfare	82	167	16	265
	General Practitioners	290	635	113	1,038
	Total	372	802	129	1,303

TETANUS IMMUNISATION

During 1965, there was not such a great demand for tetanus immunisation as had been found in 1964. The large number in 1964 was made up, not only from triple antigen, but from combined diphtheria and tetanus antigen used in schools and from persons requesting full courses of tetanus immunisation, who had previously missed being immunised with the triple antigen.

It was found in 1965 that the majority of persons in this latter category had already been immunised and so the pattern of immunisation against tetanus mirrored that of diphtheria and whooping cough.

A total of 10,844 primary courses was completed, only slightly more than the diphtheria immunisation figure. 7,233 booster doses were carried out, from which 5,576 were administered in schools.

TABLE E

TETANUS IMMUNISATION—1965

	Where Immunised	Year of Birth			
		1962-65	1958-61	Others under 16	Total
Primary Course	Maternity and Child Welfare	5,648	357	21	6,026
	General Practitioners	3,196	171	50	3,417
	Schools	6	947	448	1,401
	Total	8,850	1,475	519	10,844
Booster Doses	Maternity and Child Welfare	85	465	16	566
	General Practitioners	291	673	127	1,091
	Schools	2	4,006	1,568	5,576
	Total	378	5,144	1,711	7,233

TABLE F

PRIMARY COURSES OF ANTIGEN

Diphtheria/tetanus/whooping cough and poliomyelitis, combined antigen ...	78
Diphtheria/tetanus and whooping cough, combined antigen	9,117
Diphtheria and tetanus, combined antigen	1,629
Tetanus antigen	20

TETANUS REGISTER

Although an adequate register has been established in the Health Department, no duplicates have been established, either at Myrtle Street or Alder Hey Children's Hospitals. With the large increase in the number of children who have been immunised against tetanus, the value of this register is diminishing. Very few enquiries indeed were made during the course of the year.

SMALLPOX VACCINATION

The trend in diminution of the number of infants vaccinated which resulted from the change of policy from vaccination in the first year of life to vaccination in the second year of life has now halted. In 1965 there was a slight increase on the number vaccinated in 1964.

The total number of primary vaccinations carried out in 1965 was 4,691, the number of re-vaccinations 343. Of these, approximately half were vaccinated at local authority clinics and half by general practitioners.

The number of vaccinations for purposes of persons travelling abroad increased from 2,837 in 1964 to 3,781 in 1965.

TABLE G
SMALLPOX VACCINATIONS—1962-1965

	1962	1963	1964	1965
Births	16,479	15,775	15,625	14,553
Total Primary Vaccination	15,224	1,454	3,722	4,691
Total Re-vaccinations	3,692	341	349	343
	18,916	1,795	4,071	5,034
Total Vaccinated at Clinics	7,535	648	1,962	2,621
Total Vaccinated by General Practitioners ...	11,381	1,147	2,109	2,413
Total	18,916	1,795	4,071	5,034

POLIOMYELITIS VACCINATION

A very successful programme of poliomyelitis vaccination was carried out during 1965. Between 1963 and 1964 an increase in primary courses of 100 per cent and a nearly sevenfold increase in booster doses was achieved. This improvement continued into 1965. Primary courses increased from 12,207 in the previous year to 16,914 and the number of booster doses rose from 6,890 to 23,945. The incidence of poliomyelitis in Blackburn accounted for a small part of this increase but the greater part was due to a general all-round stepping-up of the efforts of both the Health Department and general practitioners.

Due to a low acceptance by the public of poliomyelitis immunisation during the early years after the vaccines were first introduced and a shortage of vaccine which allowed for only limited age groups to be immunised initially, the overall level of immunisation of school children is not quite as high as desirable, approximately 66 per cent of children up to 15 have been protected.

This will require the co-operation of all members of the public and there is a need for the full appreciation that, should an attitude of apathy and not bothering to have children protected re-appear, then poliomyelitis as a crippling disease could once more become a hazard to the community.

TABLE H

POLIOMYELITIS IMMUNISATION—1965

Completed Primary Course

Where Immunised	Year of Birth					Others under 16	Others over 16	Total
	1965	1964	1963	1962	1958-61			
Maternity and Child Welfare Clinics ...	2,084	4,087	1,471	1,291	1,467	213	1,692	12,305
General Practitioners	784	1,638	416	361	276	73	385	3,933
Schools ...	—	—	2	2	490	182	—	676
Total ...	2,868	5,725	1,889	1,654	2,233	468	2,077	16,914

Reinforcing Doses

Maternity and Child Welfare Clinics ...	—	91	308	726	2,423	2,288	8,227	14,063
General Practitioners	—	58	105	138	1,260	943	1,787	4,291
Schools ...	—	—	—	2	3,437	2,152	—	5,591
Total ...	—	149	413	866	7,120	5,383	10,014	23,945

TABLE J

Number of children immunised against poliomyelitis at various age groups

Age at date immunisation	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	Estimated immunisation rate
1 -	—	45	395	458	376	1,402	464	831	2,662	2,868	Total under 5 years of age 31,765 being 40.2% of the population of this age.
2 -	—	502	2,977	3,789	3,027	3,752	1,727	3,543	5,362	5,725	
3 -	144	1,221	1,461	2,848	1,512	3,364	851	455	2,114	1,889	
4 -	240	1,434	2,678	1,238	889	3,182	775	154	516	1,654	
5 -	272	1,443	2,594	2,054	341	4,072	453	62	321	553	
6 -	205	1,446	2,427	1,934	697	1,881	322	40	173	895	Total 5-9 years of age 45,419 being 57.3% of the population of this age.
7 -	372	805	2,450	1,961	542	3,724	117	22	42	144	
8 -	415	2,855	1,242	1,789	529	3,622	155	8	26	88	
9 -	508	3,037	2,197	874	462	3,398	210	6	8	107	
10 -	544	3,098	2,288	1,606	243	3,371	263	8	8	49	
11 -	—	3,611	2,399	1,336	479	1,585	134	7	6	74	Total 10-14 years of age 52,124 being 66.4% of the population of this age.
12 -	—	—	3,897	1,582	375	3,177	62	9	7	55	
13 -	—	—	7,411	1,253	392	3,172	114	3	6	58	
14 -	—	—	5,884	1,029	396	3,327	80	11	2	49	
15 -	—	—	5,923	852	286	2,824	68	7	1	13	
over 15	—	—	4,734	1,551	14,582	355,519	6,197	409	429	2,077	
	2,905	20,803	53,659	28,266	25,713	406,239	13,896	6,041	12,207	16,914	

YELLOW FEVER CLINIC

A total of 10,109 persons received vaccinations and immunisations for international travel at the Hatton Garden Clinic, which is held every afternoon for this purpose. Of these, 3,806 were immunised against yellow fever, 3,781 were vaccinated against smallpox, 775 received a course of T.A.B. and 1,747 were immunised against cholera.

TABLE K

VACCINATIONS FOR
INTERNATIONAL TRAVEL—1965

Month	Yellow Fever	Smallpox— Number of persons vaccinated	T.A.B.— Number of full courses	Cholera— Number of full courses	Total
January ...	390	276	43	170	879
February ...	335	312	70	154	871
March ...	271	397	67	150	885
April ...	319	450	68	142	979
May ...	291	382	79	109	861
June ...	372	396	106	112	986
July ...	346	328	91	141	906
August ...	327	337	86	156	906
September ...	328	259	71	189	847
October ...	219	237	40	165	661
November ...	286	203	24	120	633
December ...	322	204	30	139	695
Totals ...	3,806	3,781	775	1,747	10,109

ANTHRAX IMMUNISATION

It is very pleasing to report the success of a Liverpool pioneer scheme for anthrax immunisation. For some time anthrax immunisation has been offered by the Health Department to persons at special risk. This has now been nationally accepted and the Minister of Health has advised all local authorities, hospital authorities and general practitioners, while the Minister of Labour has advised factories through his Factories Inspectorate, of the desirability of immunising workers exposed to the special risk of contracting the disease, these being those working in such establishments as tanneries, glue, gelatine and bonemeal factories and woollen mills, who are regularly handling such materials as wool, camel hair, horse hair, hides and hoof and horn meal, particularly those imported from India, Pakistan, the Middle East, China, Africa, Asia, Central and South America. A register of factories where workers are exposed to this special risk is now kept in the Health Department and all the firms on this register are regularly contacted recommending immunisation of their workers against anthrax. Where difficulties exist for the firm to make their own arrangements, a doctor from the Health Department can visit the firm, or alternatively the employees can attend the Hatton Garden Clinic. During the year, ten employees at special risk received anthrax immunisation. At the end of the year there were twelve firms registered, these dealt with wool and hair, skins, hides, bones and bonemeal.

CONTROL OF RADIATION HAZARDS

REGISTERED USERS UNDER RADIOACTIVE SUBSTANCES ACT, 1960

During 1965 the Register of Users remained static.

Close liaison was kept up throughout the year between the Health Department, the Fire Service and the Factories Inspectorate, with frequent exchange of information. In one large factory in which there were installed two moderate sized gamma ray sources, a series of small fires occurred. In each instance a medical officer from the department attended the fire so that any advice regarding radiation hazards could be dealt with instantly on the spot. In no instance was there any risk of breakdown of the control measures, the fire being contained before this eventuality could arise. In view of the repeated nature of these incidents, an investigation was carried out by the Fire Prevention Officer in conjunction with the staff of the factory and improvements in the dust extraction and the ducting systems were implemented.

USE OF RADIOACTIVE SOURCES IN EDUCATIONAL ESTABLISHMENTS

During the year new regulations for the prevention of hazards in educational establishments came into force. These have the purpose of ensuring that a standard of safety is reached that is both reasonable and appropriate to the level of the work done, and the necessary measures are taken to achieve this standard. For the purpose of administering the safety requirements, a medical officer and physicist were appointed under the Medical Officer of Health. All the proposed premises where radioactive sources were to be used were inspected by these officers, and in addition, where necessary, by the Fire Prevention Officer. In practically every case, some improvements in the standards of safety and handling of the radioactive sources were achieved. One X-ray crystallography unit was found to be insufficiently safe and was taken out of use pending modernisation and adaptation. A proposal to use a neutron source in one case had to be refused, and is at present being re-examined with a view to reducing the size of the source and increasing the control measures, so that it may be used completely free of any health hazard, or fire risk. Tables listing the sources at present held in the City, excluding hospitals and the University, are given below:—

RADIOACTIVE SEALED SOURCES—EDUCATIONAL ESTABLISHMENTS

Nature of Source	Size of Source	Number of Sources
SCHOOLS		
Americium 241	0.125 microcuries	23
Cobalt 60	5 "	27
	1 "	1
Plutonium 239	0.1 "	7
Radium 226... ..	5 "	18
	3 "	6
Strontium 90	0.125 "	24
	9 "	17
	1 "	7
Thorium Oxide	1 gramme	2
Thorium Hydroxide	25 grammes	1
TRAINING COLLEGES		
Americium 241	0.125 microcuries	1
Cobalt 60	5 "	1
Plutonium 239	0.1 "	2
Radium 226	5 "	2
Strontium 90	1 "	2
	9 "	1
	0.125 "	1

RADIOACTIVE SEALED SOURCES—INDUSTRIAL ESTABLISHMENTS

Nature of Source	Size of Source	Number of Sources
Carbon 14	1 microcurie	1
	0.5 "	1
	0.75 "	1
Carbon 14 } Iron 59 } Sulphur 35 }	Total not exceeding 2 millicuries	3
Caesium 137	0.5 millicuries	1
Thallium 204	20 "	1
	24 "	1
Strontium 90	12 "	2
	2.5 "	6
	469 "	1
Iridium 192	500 "	1
Thulium 170	300 "	1

MEDICAL CARE OF IMMIGRANTS

MEDICAL ARRANGEMENTS FOR LONG-STAY IMMIGRANTS.

At the beginning of the year, the Ministry of Health introduced a scheme under which the medical inspectors at the ports endeavour to obtain destination addresses from those immigrants who are referred to them. They then forward these addresses to the Medical Officers of Health of the areas concerned, who arrange for the immigrants to be visited and be given general information about the health services, and be persuaded to get themselves and their dependants registered with general medical practitioners with a view particularly to chest X-ray where this is appropriate.

On receipt of each advice note of the arrival of an immigrant in Liverpool arrangements are made for a health visitor to call at the address given. Quarterly returns of figures relating to the visits are made to the Ministry of Health.

Although the tracing of immigrants is laborious and time-consuming, there has been little difficulty in obtaining co-operation when first anxieties have been dispelled. A small but constant problem remains of incorrect addresses being given and temporary accommodation being given as permanent places of residence. Whenever possible, when this latter occurs, the information is passed on to the appropriate Medical Officer of Health of the area to which the immigrant has moved.

A summary of the results for the year is given below:—

Advice notes received relating to 189 persons.

Successful first visits made relating to 160 persons, of whom one was subsequently notified as a new case of pulmonary tuberculosis.

Not Liverpool addresses: 12.

Not traced during the period: 17.

TUBERCULOSIS

STATISTICS

There was a further reduction in the year of new cases found. A total of 283 was discovered, consisting of 249 pulmonary and 34 non-pulmonary cases. This is a reduction of eighteen on 1964 and gives an incidence rate of 0.34 per 1,000 for cases of pulmonary tuberculosis and 0.05 per 1,000 for cases of non-pulmonary tuberculosis. The figures for 1964 were 0.37 per 1,000 and 0.05 per 1,000, respectively.

During the year, 597 cases were removed from the Register, consisting of 571 pulmonary and 26 non-pulmonary. These included those cases who had recovered during the year.

At the commencement of the year the number of cases on the Register was 4,498. Of these, 4,216 were pulmonary and 282 non-pulmonary. This gave a prevalence rate per 1,000 of the population of 5.84 pulmonary and 0.39 non-pulmonary with an over-all tuberculosis prevalence rate of 6.23 per 1,000 at mid-year.

The total number of cases remaining at the end of the year was 3,962, comprising 3,683 pulmonary and 279 non-pulmonary. Thus, it may be seen that the overall reservoir of cases is continuing to decrease.

The number of new cases found as the result of illness was 202 which is nineteen less than the previous year. The number of new cases found by examination of apparently healthy persons was 81. The proportion of cases detected in apparently healthy persons has remained little different from previous years. Other statistical details are given in the tables in the appendix.

Of the total new cases of pulmonary tuberculosis 176 were male and 107 female, giving a percentage ratio of 62.2 male to 37.8 female. Details of the distribution in age groups and sex are given in the statistical appendix.

There were 42 deaths from pulmonary and one from non-pulmonary tuberculosis in 1965, a total of 43 tuberculosis deaths. These represent rates per 1,000 of the population of 0.058 pulmonary and 0.001 non-pulmonary and 0.06 for all forms.

TUBERCULOSIS AFTER-CARE AND PREVENTION

The full complement of tuberculosis visitors for the year remained at sixteen, who were distributed between the four clinic areas. After the closing of the Central Chest Clinic and Chest Hospital, re-distribution and allocation of work was carried out. The clinic continued in new premises at the Liverpool Clinic for those cases who would normally have attended the Central Chest Clinic and for whom difficulty might arise were they to be transferred to one of the other clinics. As a general policy as far as possible, new cases were absorbed in the remaining three

clinics. In practice, it has been found that this arrangement has worked very smoothly although the initial case load for this new central clinic was heavier than was expected. The areas covered by the tuberculosis visitors were re-designated to allow for movements of population with town development and housing transfers to outside the City boundary. In addition the areas were enlarged and instead of a solitary visitor dealing within each area with her own individual case load, the work of each area was divided between two visitors working as a team. This has had the great advantage of continuity of work in the absence of one visitor, or during times of staff changes from persons leaving and new appointments being made. In addition a greater element of discussion and general improved standard resulted since the visitors were no longer working in the degree of isolation that could have been experienced when they had an individual and personal case load. As in recent years, visits have remained concentrated on cases of greatest need and on re-visiting cases where social and particularly housing conditions were affecting the disease or where persons were waiting either for re-housing or transfer. Details of the work in relation to re-housing appear in the section on the Housing Points scheme. In general, the aim has been to concentrate a greater amount of time on fewer cases in an attempt to eradicate sources of infection. Much more attention and group work are being given to each individual problem. This policy would appear to pay dividends as is shown in the reduction of tuberculosis.

Use of Section 172

The value of Section 172 of the Public Health Act, 1936, has been in the main not in its use but in the fact of its existence, lending power to persuasion in cases who might otherwise refuse hospital treatment. During 1965 in one instance only was action under Section 172 of the Public Health Act, 1936, necessary. The circumstances were as follows:—

A young married woman of 36 years of age with four children had for some years been leading an extremely unstable family life. She was separated from her husband who had been serving a recent prison sentence for breaking and entering and who normally only saw her very occasionally. Three of her children were in the care of the Children's Department of the Lancashire County Council as she was unable to provide a normal home for them. In October she took up residence in Part III accommodation in Lower Breck Road accompanied by her six-year-old son. It was found that she was seriously ill with tuberculosis and her sputum was positive, thus she was capable of infecting other persons. With some difficulty she was persuaded to attend for treatment and to go for admission to Cleaver Hospital; however, on arrival at the hospital she refused to stay in and in spite of every attempt to persuade her, adamantly refused further care. An order for compulsory admission under Section 172 was obtained and she was removed to Aintree Hospital. Hardly had she been admitted when she became acutely mentally ill and it was necessary in her interest to remove her to

Rainhill Mental Hospital for urgent treatment. An application was made to the court and a variance made substituting Rainhill Hospital for Aintree Hospital where she could have both mental and anti-tuberculosis treatment. At the time of writing this report she is recovering from a condition which might well have proved fatal. No further cases have been infected by her, and her children are progressing satisfactorily under the supervision of the Children's Department of the Lancashire County Council.

B.C.G. VACCINATION

During the year, B.C.G. vaccination of new-born babies continued in both the clinics and maternity wards of the Sefton General, Walton, Mill Road and Liverpool Maternity Hospitals. The total number of babies vaccinated throughout all these units in the City was 635.

B.C.G. Vaccination of Teacher Trainees

Students at teacher training colleges and university were offered B.C.G. vaccination. During the year thirteen teacher trainees were Heaf tested, giving six positive results, the remaining seven were vaccinated with B.C.G. In addition, 34 university students were given B.C.G. vaccination at Walton Hospital.

B.C.G. Vaccination of School Children

Vaccination was offered to 10,849 school leavers and 9,265 parents signed the consent form. The number Heaf tested in schools was 8,601, of which 1,352 (15·7 per cent) were positive reactors. This number includes 397 (4·6 per cent of total number tested) who had previously had B.C.G. or a history of tuberculosis. The number of children given B.C.G. vaccination was 7,246 being 84·2 per cent of the total number tested, and 66·8 per cent of the number to whom vaccination was offered. The corresponding percentages in 1964 were 84·4 and 64·1 respectively.

MASS RADIOGRAPHY

Mr. C. C. Warmer, Organising Secretary, Liverpool Regional Hospital Board, writes:—

The Liverpool Regional Hospital Board administers the Mass Radiography Service. A static unit operates at 9a, Hood Street. Two mobile units cover South West Lancashire and Wirral in addition to visiting industry in the City of Liverpool.

The static unit at Hood Street examines individuals from three main sources:—

- (i) Cases referred by general practitioners mainly within the City.
- (ii) Local business firms, shops and offices.
- (iii) General public volunteers.

The numbers X-rayed by the three units in 1965 were as follows :

No. 1 Unit	(Hood Street)	35,961
No. 2 Unit	(Lancashire)	52,185
No. 3 Unit	(Cheshire)	50,789
Total		<u>138,935</u>

Of the 35,961 examinations made by No. 1 Unit, 8,739 were referred by general practitioners.

All prospective employees of the City Nursing Service are X-rayed by the Hood Street unit before their engagement, as are candidates for employment in the Education Service, and recruits to the City Police Force. The entry medical examination of Corporation employees and superannuation medical examinations include a chest X-ray, and this is carried out by the Mass Radiography Service.

The Mass Radiography Service co-operates closely with the Health Department by arranging visits of the mobile units to factories and other premises in the City whenever an active case of pulmonary tuberculosis is discovered.

The number of cases of active pulmonary tuberculosis discovered in 1965 by the Hood Street unit was 33; of these, 26 were Liverpool residents. A further 25 active cases resident in the City were discovered by the mobile units, making a total of 51 Liverpool cases brought to light by the Mass Radiography Service.

TUBERCULOSIS WELFARE

During 1965, 103 cases have been the subject of reports to the National Assistance Board with a view to determining their eligibility for special rates of allowances applicable to cases of tuberculosis. The National Assistance Board constantly review persons in receipt of allowances and request confirmation that individuals are still receiving treatment, or are under the supervision of the Chest Physician. The department co-operates fully in this matter and supplies the Board with the information necessary. In addition, constant liaison is maintained with the Ministry of Labour Rehabilitation Centre in order to assist in suitable cases. A summary of the cases dealt with during 1965 is as follows :—

Total cases referred by the Ministry of Labour for rehabilitation	...	...	20
(a) Examined and found fit for light, part-time or full-time employment	...	11	
(b) Not fit for employment	...	...	—
(c) Failed to attend for examination	...	...	—
(d) Certified as non-tuberculous	...	...	—
(e) Cases not yet examined	...	...	9
Actual number of patients reported by Ministry of Labour as placed in employment	...	...	3

During 1965, four patients have had occupational therapy at home and two have attended the Occupational Therapy Units.

WORK OF THE CHEST CLINICS

The statistical survey of the work done during 1965 at the four chest clinics is given in the statistical appendix. The Chest Physicians have kindly contributed the following reports:—

Dr. F. E. Crawley, from the South and Central Chest Clinics, writes:—

The fall in the number of patients on the tuberculosis register continues inevitably, as the figures represent in general the total of the diminishing number of notifications over the past six or seven years in a disease for which a cure can almost certainly be guaranteed, and for which supervision for more than six years is rarely necessary nowadays.

Two years ago in this area of the City, new notifications increased. This was followed by a reasonable fall in the figures for 1964. The identical number of notifications in 1965 indicates a diminution in the incidence of pulmonary tuberculosis in this area, since this year the figures covered the whole year in the enlarged area as against a relatively short time in 1964.

For the first time, the number of patients dying directly from tuberculosis is a single figure.

In the main the disease is of slight extent and a quarter of the patients notified in each of the past two years have not been considered to need treatment at home or, in some cases, whilst continuing at work.

There is the problem of a small number of patients at home in a potentially infective state mainly because of failure of treatment in drug resistance cases or failure to accept adequate treatment, and this number does not appear to have lessened.

The Central Chest Clinic now held at the newly designated Liverpool Clinic is small in numbers on the register and in the volume of work performed. It does not have the appeal among many of the local populace of the clinic formerly held in the Liverpool Chest Hospital. This may improve when the former associations of the Liverpool Clinic have become less apparent and the improvement in the out-patient facilities there should help in this respect. Certainly an effective clinic is required in this area with its high incidence of tuberculous infection. The position is possibly slowly improving but the clinic is not yet serving its purpose in providing an acceptable centre for the supervision and diagnosis of tuberculous patients or a diagnostic centre acceptable to the general practitioners for investigation of non-tuberculous conditions.

Dr. W. D. Gray, from the North Chest Clinic, writes:—

I am pleased to report from the North Chest Clinic a further drop in new notifications for tuberculosis from 75 to 65, and our register of cases is now reduced to 1,291 from 1,441.

During the year we only had 15 deaths from pulmonary tuberculosis and 29 cases of tuberculosis died from other causes. The latter are mainly older patients dying from complications such as emphysema and cor pulmonale following their old tuberculosis. This death rate is the lowest ever recorded in our clinic area.

The number of patients removed from the register as recovered was 137. Attendances at the clinic were 5,879, of whom 1,987 were due to non-tuberculous cases. The proportion of the latter is increasing slightly each year. Contacts examined numbered 508 with three new cases discovered among them while 410 B.C.G. vaccinations were given, and 650 tuberculin tests performed.

Although the amount of active tuberculosis is reducing year by year, the total amount of work for the chest clinic remains stable, and could in fact increase when it is realised that we have a service to offer to the chronic respiratory case as well as to the patient with tuberculosis. Many of these cases need the social aid of the tuberculosis visitor with regard to housing, and putting them in touch with the appropriate statutory bodies such as National Assistance just as much as the tuberculosis patient, and we are extremely grateful to the Local Authorities in Liverpool who have recognised that tuberculosis visitors may be used in such a way to help these patients.

Dr. D. Osborne Hughes, of the East Chest Clinic, writes:—

During 1965 a further 221 patients were removed from the tuberculosis register as having recovered from their disease; of the 104 patients who were diagnosed during the year as tuberculous only two had been on the register previously, having recovered and later relapsed.

Of the 30 deaths in tuberculous patients in only 12 cases was tuberculosis considered a primary cause of death.

Very few newly diagnosed cases of respiratory tuberculosis are now regarded as having a bad prognosis, but obviously the earlier the diagnosis is made and the less disease there is present, the more quickly will the patient be fully restored to health—in the light of this, the increase in negative sputum males from 22 to 32 is outweighed by the reduction in sputum positive males from 34 to 27 so that the overall increase from 56 in 1964 to 59 in 1965 is not so serious as it would appear.

Annual B.C.G. vaccinations are now approaching 900—the acquisition of a Dermo-Jet gun has made our B.C.G. clinics speedier and quieter—the absence of any sort of needle acts as a considerable reassurance to children of all ages.

There are now four tuberculosis visitors attached to the clinic and, in addition to the routine work with the tuberculous, they also visit non-tuberculous patients who attend the clinic. This year we shall lose by retirement our senior visitor, who has been on the staff since the clinic opened in 1950. Her encyclopaedic knowledge of tuberculous families is, fortunately, less extensive than at the beginning of her career and she will have the pleasure of recalling that she played an active part during the most successful years of the anti-tuberculosis campaign.

1950		1951		1952		1953		1954		1955		1956		1957		1958		1959		1960	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
12	31	13	32	14	33	15	34	16	35	17	36	18	37	19	38	20	39	21	40	22	41
23	42	24	43	25	44	26	45	27	46	28	47	29	48	30	49	31	50	32	51	33	52
34	53	35	54	36	55	37	56	38	57	39	58	40	59	41	60	42	61	43	62	44	63
45	64	46	65	47	66	48	67	49	68	50	69	51	70	52	71	53	72	54	73	55	74
56	75	57	76	58	77	59	78	60	79	61	80	62	81	63	82	64	83	65	84	66	85
67	86	68	87	69	88	70	89	71	90	72	91	73	92	74	93	75	94	76	95	77	96
78	97	79	98	80	99	81	100	82	101	83	102	84	103	85	104	86	105	87	106	88	107
89	108	90	109	91	110	92	111	93	112	94	113	95	114	96	115	97	116	98	117	99	118
119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162
163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184
185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206
207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228
229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272
273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294
295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316
317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338
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361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382
383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404
405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426
427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448
449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470
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581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602
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625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646
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669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690
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713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734
735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756
757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778
779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
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823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844
845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866
867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888
889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910
911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932
933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954
955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976
977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998
999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020

Percentage of Syphilis

The number of cases of syphilis contracted each year has fluctuated with an overall significant downward trend in the post-war years. A very slight upward trend has occurred in the last four years which is similar to the experience of the country as a whole. Although seen as a proportionate increase, more than double in the last five years, this slight upward trend is expected when the total figures are examined it will be seen that the new cases is a small fraction of say, the 1946 figure of 654 which represented a rate of 1.4 per thousand of the population.

During the last five years, 31 women and 79 men were infected with syphilis. The group infected during the last five years is shown in the following table. It will be seen that the group infected during the last five years is a small fraction of the total group infected during the last five years. When the special proportion of a large group are taken into consideration it will be seen that this is a good record of the success in control measures. These can only apply to persons infected locally.

VENEREAL DISEASE

INCIDENCE OF GONORRHOEA

Male cases showed the lowest total (1,151) since 1960 (1,013) and female cases (365) registered a fall of 13·5 per cent on the 1964 total (422). No case under the age of fifteen years came under treatment.

Statistics over the years are as follows:—

Age in years	1946		1960		1961		1962		1963		1964		1965	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Under 15	—	4	1	2	—	5	—	1	—	2	—	—	—	—
15-17	21	17	27	15	24	27	42	25	37	31	49	43	23	21
18-20	262	79	116	77	180	94	184	86	204	85	228	129	143	94
21-25	978	141	340	122	416	138	429	106	427	122	541	140	418	149
26-30	870	88	227	54	295	56	294	36	302	57	377	66	281	59
31-35	513	53	133	17	155	21	148	20	149	23	170	29	130	19
36-40	259	29	98	8	102	16	79	13	85	10	91	8	70	10
41-45	135	5	33	2	52	3	44	6	49	3	70	2	51	7
46 and over	74	6	38	4	49	4	42	4	64	3	43	5	35	6
Total	3,112	422	1,013	301	1,273	364	1,262	297	1,317	336	1,569	422	1,151	365

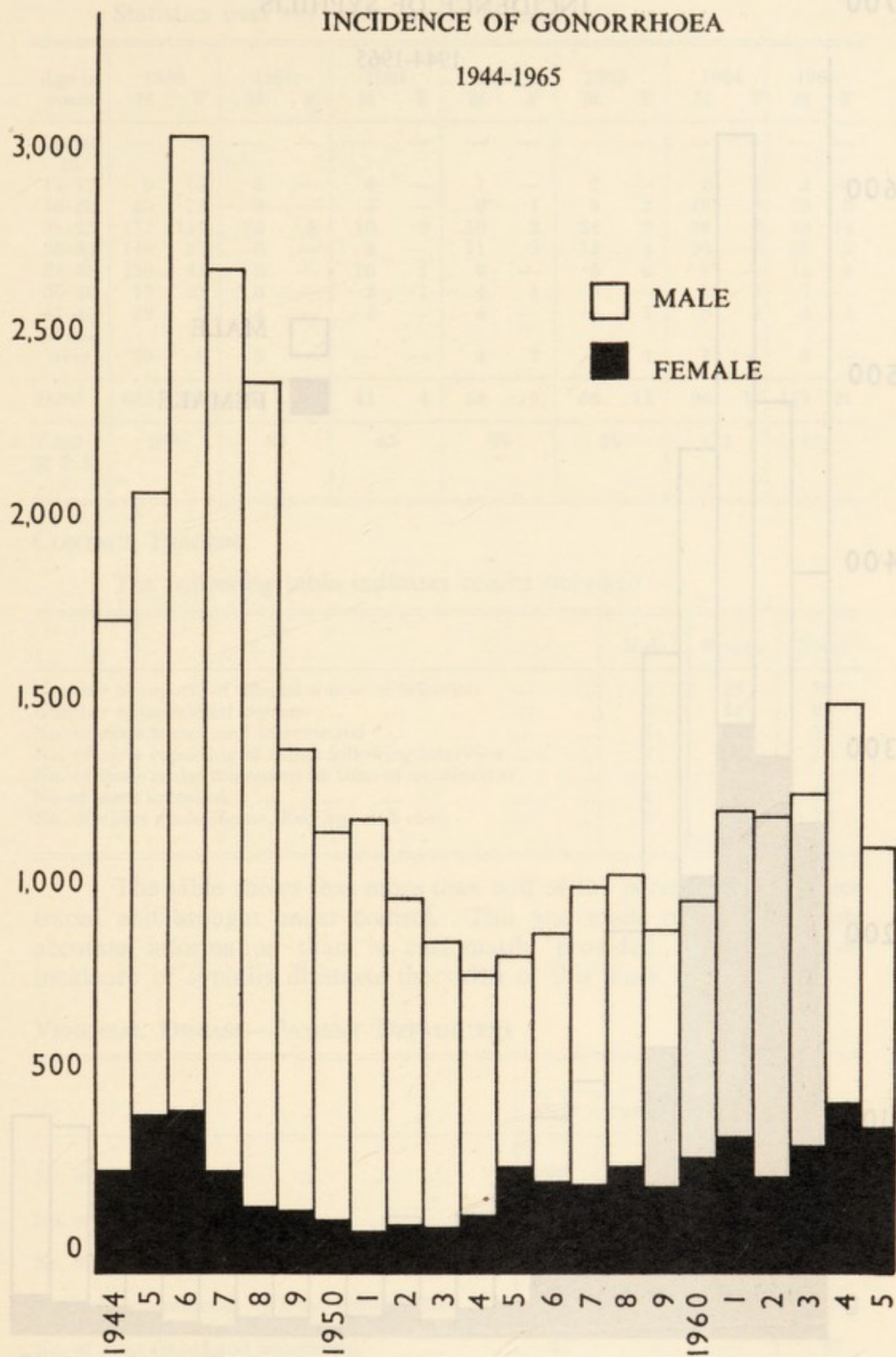
INCIDENCE OF SYPHILIS

The number of cases of syphilis contracted each year has fluctuated with an overall significant downward trend in the post-war years. A very slight upward trend has occurred in the last four years which is similar to the experience of the country as a whole. Although seen as a proportional increase, more than double in the last five years, this might suggest need for concern; when the total figures are examined it will be seen that 134 new cases is a small fraction of, say, the 1946 figure of 986, which represented a rate of 1·4 per thousand of the population.

Out of the total of 134 cases, 21 women and 70 men were infected in this country, 43 men were infected abroad. The age group mainly affected is the young adult. No children under 15 have contracted the disease for many years now and very few under the age of 18; only two boys were infected during 1965. When the special problems of a large seaport are taken into consideration it will be seen that this is a good record of the success in control measures. These can only apply to persons infected locally.

INCIDENCE OF GONORRHOEA

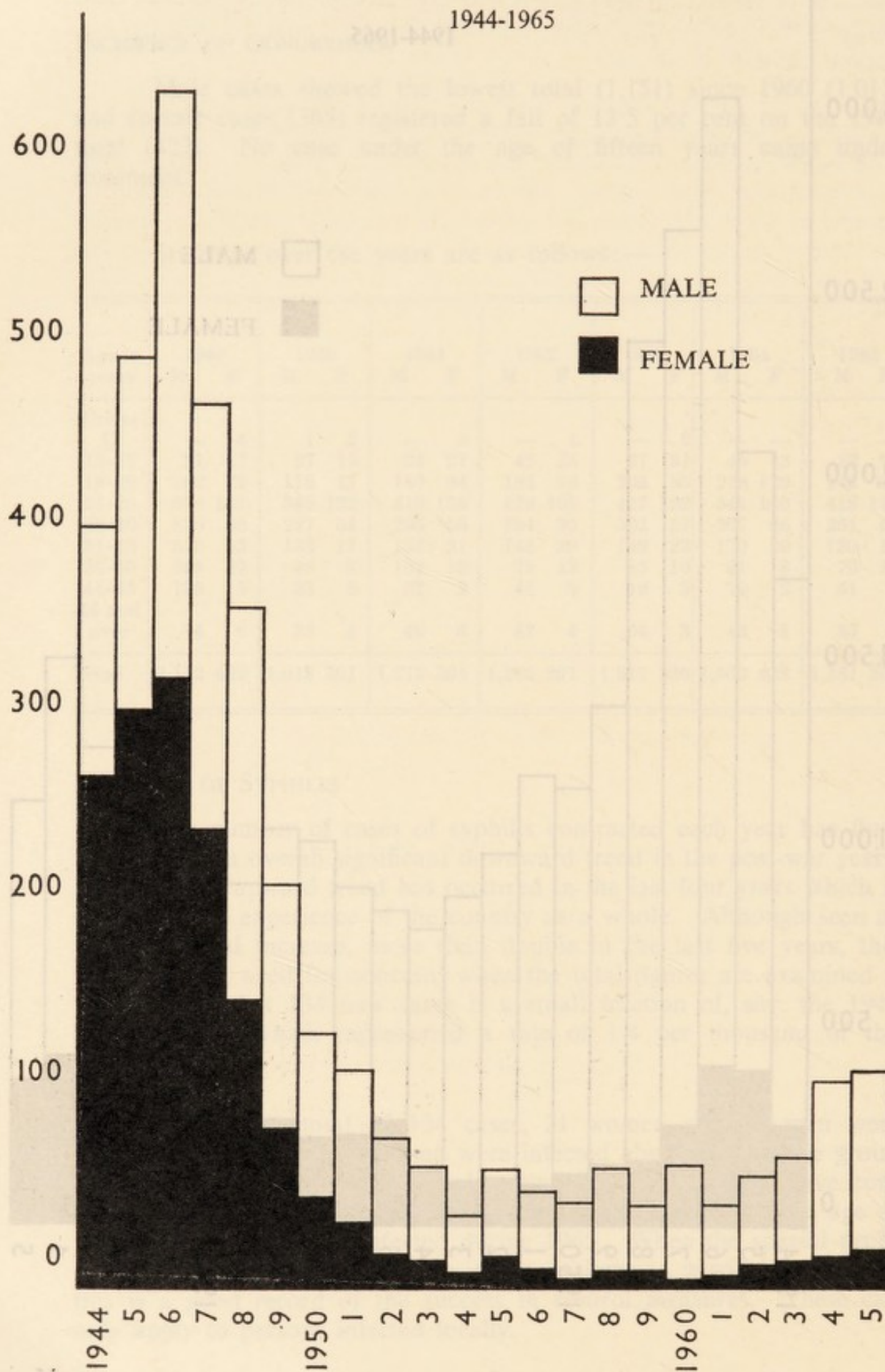
1944-1965



700

INCIDENCE OF SYPHILIS

1944-1965



Statistics over the years are as follows:—

Age in years	1946		1960		1961		1962		1963		1964		1965	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Under 15	—	2	—	—	—	—	—	—	—	—	—	—	—	—
15-17	9	15	4	—	4	—	1	—	2	—	2	1	2	—
18-20	40	71	9	—	5	—	6	1	9	3	18	5	12	3
21-25	177	111	25	1	10	2	19	3	24	2	36	6	42	14
26-30	149	57	6	—	8	—	11	3	14	4	20	3	23	2
31-35	136	41	6	—	10	1	9	—	9	2	9	—	14	1
36-40	73	23	5	—	2	1	4	1	5	—	3	1	7	—
41-45	32	5	4	—	2	—	4	—	—	1	5	1	5	1
46 and over	39	6	3	—	—	—	4	2	3	1	3	—	8	—
Total	655	331	62	1	41	4	58	10	66	13	96	17	113	21
Total M & F	986		63		45		68		79		113		134	

CONTACT TRACING

The following table indicates results obtained:—

	Male	Female	Total
Number of reports of alleged source of infection ...	2	28	30
Number of individual persons ...	2	24	26
No. of cases traced and interviewed ...	1	15	16
No. of cases reporting at Clinic following interview ...	1	14	15
No. of cases under treatment at time of notification ...	—	1	1
No. of cases untraced ...	1	9	10
No. of visits made (home, lodging, club etc.) ...	5	67	72

The table shows that more than half of the persons notified were traced and brought under control. This was made possible by more accurate information than is customarily provided. The notes on incidence of syphilis illustrate the value of this work.

VENEREAL DISEASE—PATIENT DEFAULTERS

			Con-genital	Total
	Male	Female		
No. of cases written to ...	1,069	866	8	1,943
No. of letters despatched ...	1,155	1,614	10	2,779
No. of cases reporting in response ...	466	440	6	912
No. of letters returned by Dead Letter Office ...	160	32	—	192
No. of cases traced and transferred ...	61	6	—	67

VENEREAL DISEASE—RESULTS OF HOME VISITS

			Con- genital	Total
	Male	Female		
No. of cases visited	497	539	—	1,036
No. of visits made	1,066	1,851	—	2,917
No. of cases attending following visits	228	322	—	550
No. of cases promising to attend but failing to do so	40	40	—	80
No. of cases removed or not known at address given	119	99	—	218
No. of cases not contacted, no access, away from home, etc.	57	41	—	98
No. of cases who refused to re-attend	29	27	—	56
No. of cases removed and transferred for follow-up	24	10	—	34

CASES REFERRED BY ANTE-NATAL CLINIC

Two cases only were referred from the above source for fuller investigation of doubtful findings. One case proved to have latent syphilis, the other gonorrhoea. Normal delivery followed, without subsequent complications to mother or child.

INFANTILE INCIDENCE

Fifteen cases of ophthalmia neonatorum, two of vulvovaginitis, all gonococcal, came to notice. In no instance was the mother a defaulting patient of a Special Clinic.

MENTAL HEALTH SERVICE

Further developments took place in the Mental Health Service during 1965, particularly at New Hall, Fazakerley, where the long-awaited residential hostels were opened. Visiting of mentally disordered people continued on a large scale and steps were taken which have resulted in closer liaison with the hospital service. As regards training and occupation of the mentally subnormal, there is, unfortunately, a waiting list of adults who cannot maintain employment and who wish to attend a centre where they can work in a congenial and sheltered atmosphere. To meet this need the new workshop at New Hall for 300 people will be ready for opening early in 1966, and its establishment is looked forward to, not only by these people but by all who have seen how this activity can help the mentally subnormal and widen their horizons.

The training of children has been facilitated by increases in the door to door transport between their homes and training centres; the Committee has felt that though this service is expensive, there is no alternative if those who are most severely handicapped are to be given an equal opportunity to develop.

STAFF

The Mental Health Service is in competition with other social services in its search for staff. Trained and experienced officers are in short supply, and the new national courses, though now well established, cannot supply all needs in the near future. The same difficulty is evident in the recruitment of hostel staff, and additionally, here the trend seems to be away from all forms of residential employment. The following was the staff establishment at the end of the year.

Principal Medical Officer (Mental Health).

9 Senior Social Work Staff.

21 Mental Welfare Officers (including three trainees).

60 Supervisory Staff at Training Centres and Workshops.

9 Supervisory Staff at Hostels.

10 Administrative and Clerical Staff.

In addition there were 68 domestic staff.

The policy of seconding staff to full-time courses is being continued and at the end of the year six officers were on the Social Workers (Younghusband) Course and four on the course for the Diploma for Teachers of the Mentally Handicapped.

COMMUNITY CARE

Briefly speaking, all the activities of the Mental Health Service are devoted to community care, that is, to the welfare of the mentally

disordered whilst they are outside hospital; thus their training, employment, occupation in sheltered workshops, even their life in hostels can all be considered part of it.

In the narrower sense of visiting people in their homes and giving them help and advice, the work has gone on as usual, with each mental welfare officer having a number of patients or clients on a case load. A difficulty of nomenclature may be touched on here in passing. The term 'patients', hitherto in general use, is perhaps not always appropriate with its connotation of hospitals and treatment, and the word 'clients' seems increasingly popular as an alternative, especially on the part of students coming back from courses. Whether this term, with its suggestion of a business-like transaction is preferable, is a little doubtful.

The total of 17,271 visits was about the same as last year and represents an average of six visits to one patient, though of course, this average means little, as needs vary so widely. Many visits may be needed in the first weeks after the discharge of a patient from a psychiatric hospital whilst a mentally subnormal person, well cared for by his family, may need only an infrequent call.

Mention has often been made in past reports about the difficulty in providing community care when the service is not always informed about hospital discharges. The position has now greatly improved and a feature of the year's work has been the attachment of a senior mental welfare officer who visits the appropriate hospital when the discharge of a patient is contemplated and spends time with each such patient to discuss the problems which may confront him and ensure that the transition to home life is made as smoothly as possible.

At the end of the year there were 1,625 mentally ill and 1,183 mentally subnormal adults, and 366 mentally subnormal children on the active visiting list.

Community service to the mentally ill is largely geared to the hospitals and most of the officer's time is spent in helping ex-patients and their families to prevent recurrence of illness. It may be mentioned, for example, that of 90 people attending the Occupational Therapy Unit at the Mental Health Centre in Johnson Street during the year, only one had not had previous hospital treatment.

MENTAL HEALTH CENTRE, JOHNSON STREET

This unit caters for 25 to 30 patients and is fully attended each day. Its object is to give patients a chance to adjust to life in the community in a friendly, sheltered and unhurried atmosphere. Many of those attending live alone in poor accommodation with few facilities for cooking, washing, etc.; others live with elderly parents and have the responsibility of running a household.

The routine of the unit therefore places emphasis on shopping for and cooking the mid-day meal (which this year has been provided free of charge) and on personal appearance, so essential for employment and so apt to be neglected. A washing machine and drier were installed during the year and are in constant use for personal laundry. It has been encouraging to watch solitary and timid people blossom and start to take part in the social activities.

A monthly magazine has been produced and a weekly evening social to which relatives and friends are invited is very successful. Twenty people have found employment during the year.

One of the solitary people was John, aged 26, who had had a number of periods in hospital. It was an achievement on the part of the visiting officer to persuade him to attend the unit. He greatly improved in confidence and went with other patients on the annual holiday (this year at Blackpool), and in the end applied for a job on his own and got it. It says well for the unit that six months later he is still keeping in contact and is looking well and happy.

MENTAL SUBNORMALITY

Turning to the mentally subnormal, the service has a great deal more to offer than might be gathered from articles seen from time to time in the more sensational papers about "forgotten people". Apart from the help and advice extended by the officers in the course of their home visiting, the facilities for training and occupation, sheltered employment and hostel residence have been and are being greatly extended as can be seen from the following figures.

	Open at 31.12.48		Open at 31.12.65		Expected to be open 1966	
	Bldgs.	Accom.	Bldgs.	Accom.	Bldgs.	Accom.
Hostels	—	—	7	77	13	150
Workshops	—	—	3	180	1	300
Adult Training Centres ...	—	—	1	60	2	120
Junior Training Centres ...	1	100	5	320	5	320

It will be noticed that no hostels, workshops or adult training centres existed when the service commenced in 1948; about 50 adults occupied a back room in the one centre that was then open. The last few years have seen a striking change in the attitude both of the local authorities and the community generally towards the mentally subnormal

adult. Nobody who has seen New Hall in operation can doubt that the more opportunities are given, the more these people respond, and it may be felt that, in an increasingly complex society, even greater specialised provision will have to be made for this type of person. In any event this is a field which offers wide scope for experiment to assess the full potential of the mentally disordered.

The work, during the year, of each of the various types of establishment for the mentally subnormal, can now be detailed.

Workshops

It has been a disappointment that the new workshop at New Hall did not open in 1965, but it is nearing completion and should be ready about Easter, 1966. Meantime, good work has continued at the three buildings in use, which have been fully attended all the year. The scheme was continued by which all the money earned by the workers in carrying out sub-contracted work for various firms is distributed among them on a points system, which takes into account their attendance and effort, as well as their ability. The amount distributed was a record since the scheme started in 1962, the amounts each year being:—

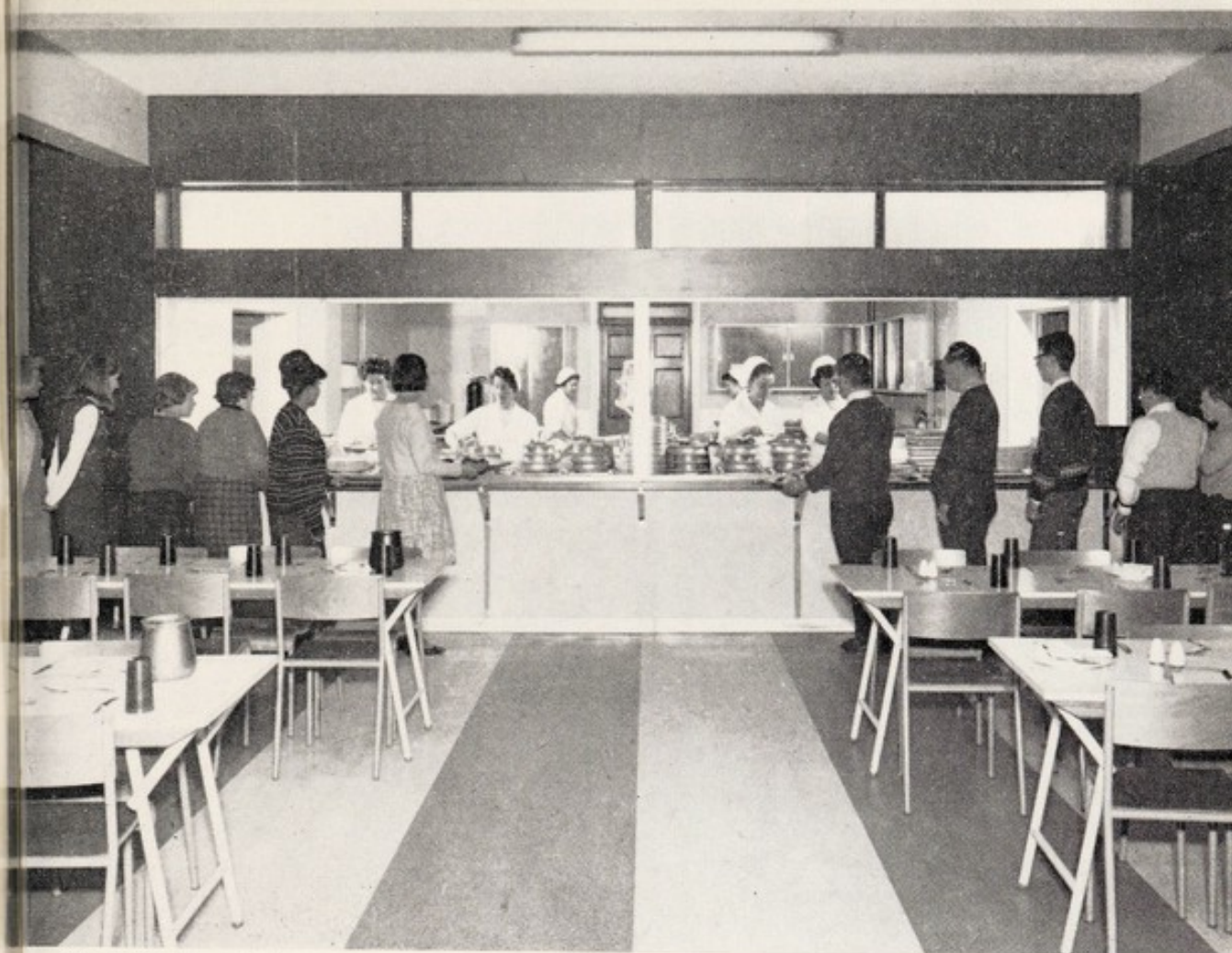
1962	...	...	£2,514	1963	...	...	£5,865
1964	...	...	£5,275	1965	...	...	£6,225

Very few people graduated to outside employment during the year for the reason that there has been no influx of new attenders, particularly of special school leavers who are, of course, of higher grade. The absence of flow means that the present attendance at the workshops consists largely of severely subnormal people, the majority of whom, though happily engaged in the work provided, are not likely to be able to do an unsheltered job at any time. This fact underlines, of course, the need for the new workshop.

Adult Training Centre

There is a great deal of interest in adult training all over the country and it is evident from enquiries received, that the Liverpool scheme is being watched by other authorities. All adult training and occupation are being concentrated at New Hall, but a clear distinction is drawn between the training centre and the sheltered workshop. In general, the training centre acts as a clearing house for transfer from junior centres at age sixteen and special school leavers are also admitted on trial. After a short period those suitable graduate to the workshops.

This is the theory, but of course the delay in opening the new workshop has prevented the full operation of the scheme. Seventeen people over the age of sixteen are remaining in junior centres for the time being, and there is a long waiting list of special school leavers also.



Central Dining Hall

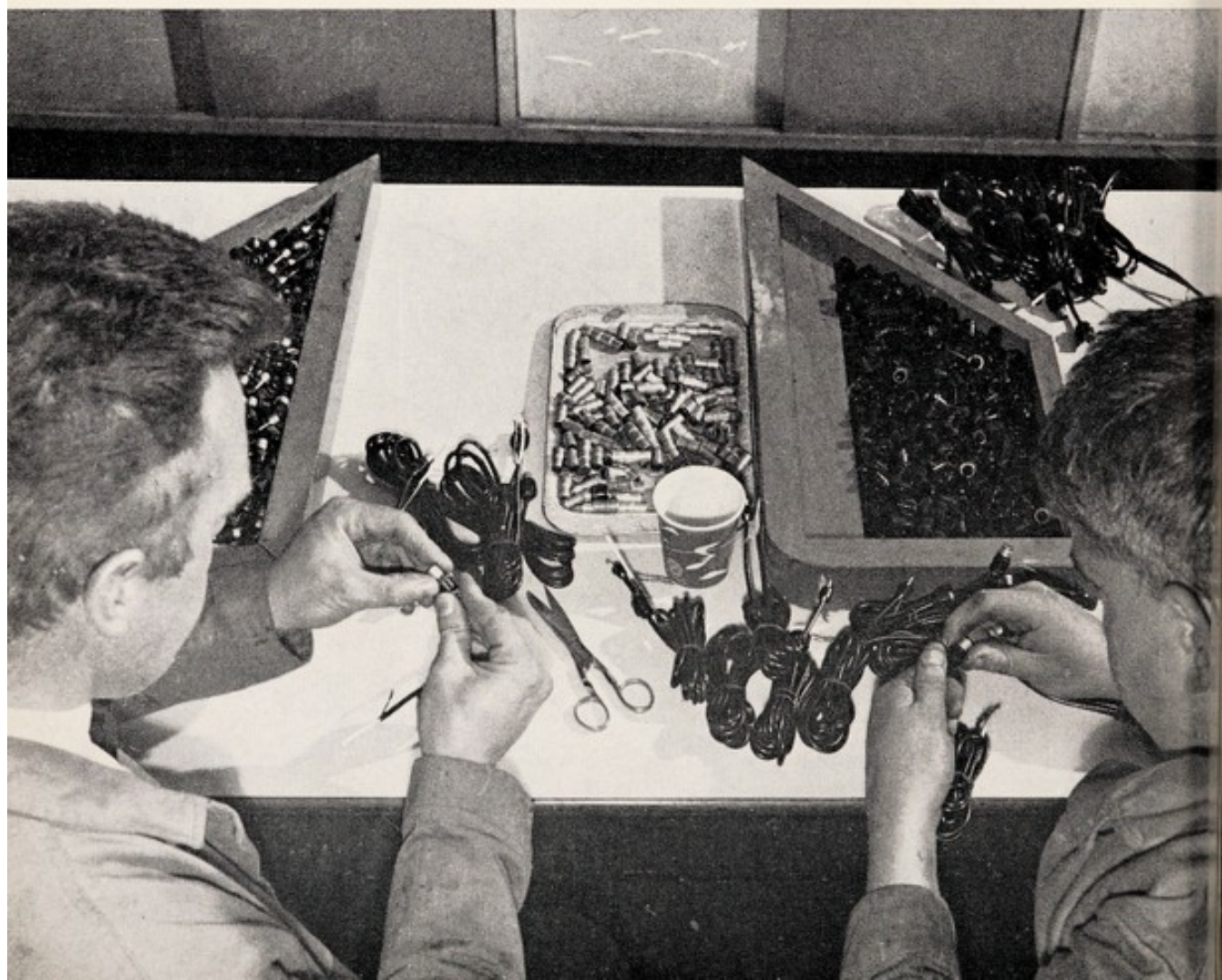
MENTAL HEALTH SERVICE—NEW HALL

Workshop





MENTAL HEALTH SERVICE—NEW HALL WORKSHOP



It is intended to open a second adult training centre at New Hall in one of the buildings which will be vacated when the new workshop opens.

Junior Training Centres

The Mental Health Act confirmed previous legislation in leaving the training of children "unsuitable for education at school" in the hands of Local Health Authorities and not Education Authorities. This principle does not have universal approval and in the past year the subject has been much aired in public. An assessment of the position in Liverpool at this time will, therefore, be of interest.

During the year 70 children were notified as unsuitable for education in school (of whom 41 were notified before the age of five). Altogether there were at the end of the year 366 such children. This number has remained fairly constant over the years and has been used as a basis in planning future needs. It can be seen from the table below that 320 junior training centre places are at present available. Nearly all children can, therefore, find a place almost immediately in a centre. Attendance at centres is excellent, if it is borne in mind that many of the children are more than usually susceptible to minor ailments, and undoubtedly the new door to door transport has been of great help, 61 persons now being taken on these vehicles and 235 travelling on the special buses.

Parental opposition to the attendance of a child at a centre, very common in former years, is now rare. The Mental Health Act provides, of course, that compulsion can be used to obtain attendance, but this has not been necessary. The number of children and staffing ratio are as follows:—

Centre	Accommodation	Supervisor	Assistant Supervisors or Trainees	Children's Helps
Princes Road	80	1	8	2
Garston	60	1	5	2
Dovecot	60	1	5	2
New Hall (Cherry Tree) ...	60	1	5	2
New Hall (Laburnum)	60	1	5	2

Medical Officers of the School Health Service carried out examinations throughout the year and saw all children shortly after their first attendance in addition to their periodic checks.

Children so severely subnormal cannot be usefully trained in large classes—their attention wanders, they need much more individual help, they progress slowly and only with much repetition. The need for a higher supervisor-child ratio is recognised, as can be seen from the statistics given. Those who feel all centres should be incorporated in the educational system point to the fact that most supervisors are less highly trained than most teachers. This is true—salaries are lower, training in the past has been largely 'in service' and some supervisory staff have not the academic background to take advantage of advanced training.

This raises an important question, "to what extent is academic training useful in this work?" Undoubtedly, the full-time courses to which staff are now seconded must give officers a deeper insight into problems presented by the mentally subnormal and it will be interesting to see, in the years to come, how far this will be reflected when the children they are training grow up.

As may be gathered from the foregoing, much expansion has taken place in the training and sheltered employment provision made by this authority but this should not allow an attitude of complacency to develop.

There will always be a need to improve the facilities for mentally subnormal children and adults, and this is a field which will continue to provide scope for experimentation, particularly in relation to the type of work which the subnormal adult can do.

A great deal of emphasis is now laid on the need for staff employed in junior and adult training centres and in sheltered workshops for the mentally subnormal to obtain a qualification, and this authority has for several years been seconding staff to courses leading to a diploma for teachers of the mentally handicapped in junior training centres. There can be no doubt that such full-time courses of one or two years' duration result in staff having a wider academic knowledge of the problems presented by mentally subnormal children, but at the same time one must wonder whether the costs incurred by the local authority will be reflected in a better end-product when these mentally subnormal children become adults.

If one considers that the majority of the adults who are now earning money in the authority's sheltered workshops attended junior training centres when these centres were almost entirely staffed by persons without a diploma, but with practical in-service training, then it must be said that a useful end-product has been achieved. In addition a number of these adults have progressed to employment in open industry.

At this stage, of course, these comments must be regarded as random thoughts since it will take some years for the children now being trained by qualified staff to reach adulthood and progress through the adult training centre to the sheltered workshop, but it will be interesting at some future date to see whether this group achieves more than the present group of adults.

HOSTELS

Seven out of the thirteen hostels planned at New Hall have been opened for over a year and the remaining six, after some delay, are expected to be ready in 1966. It will be remembered that when hostels were planned there was a good deal of anxiety as to how they might best be operated. Their slow and uneven development over the country may well suggest that Local Health Authorities are in some doubt about their scope and purpose, though they are one of the forms of community care upon which the Mental Health Act placed such great emphasis. Some mentally subnormal and mentally ill people were spending their lives in hospitals who could, with support, live outside. Hostels are intended to give that support, and to be successful they should be a real part of the community and not just substitute hospitals. They should offer a wider life than can be lived in a hospital, and should either be a permanent home or a half-way house to completely individual life. Whether New Hall measures up to these requirements can be judged from this account of the first full year's working.

Seventy residents have been admitted and another eleven have had temporary care. Four have left at their own request and only one, a man of depraved habits, has had to revert to hospital care. At the end of the year there were 46 people in residence and the following figures indicate their background.

Admitted from hospitals for the mentally subnormal	...	...	...	...	...	32
Age groups 20-29...	...	...	...	...	...	10
30-49...	...	...	...	...	...	13
50 and over	...	...	...	...	...	9
(It is of interest that 27 of those admitted have been in hospital over ten years.)						
Admitted from community	...	...	...	...	...	14
Age groups 16-19...	...	...	...	...	...	3
20-29...	...	...	...	...	...	4
30-49...	...	...	...	...	...	6
Age 62	...	...	...	...	...	1

It had been thought that accommodation at the hostels might be swamped by a rush of entrants and especially that there might be a great exodus from hospitals. This has not happened and it may seem that the idea that a great number of people were in hospital unnecessarily was exaggerated. Nevertheless, the stories behind some of the admissions

are evidence of the need for hostel accommodation. Mary, for example, is 29, a poor, frail woman, who was a drudge in an appalling home from which she was admitted to a hostel. Her horizons have been widened by hostel life and she has some pleasure in life for the first time.

A description of a typical day in hostel life may not be very exciting, but perhaps it compares not very unfavourably with that of many people in their own homes. Let us take John, who is nearly 40 and had previously spent nearly all his life in institutions. He shares a room with three friends instead of a dormitory for 40 as he did in hospital. At seven o'clock he gets up and shaves (electric razor), has a good breakfast prepared by this housemother, and after tidying up his bed, has time to sit in the lounge and listen to the radio before he goes off to the New Hall workshop at about 9.15 a.m. If it is Friday he draws his "wages" for his week's work which might be any of the following:—wire-stripping, salt-top assembly, packing wax drinking cups, assembly of cardboard boxes, soldering of television components. His working day consists usually of about four hours work interspersed with a good deal of recreation. He has dinner in the dining hall, serving himself and joining in the clatter and chatter, which make the place indistinguishable from a works canteen, and has a walk afterwards before he does some more work. Then back home to the hostel at 3.30 p.m. where, with plenty of hot water available, he has acquired a new habit of having a daily bath. He changes his working clothes before tea and receives a visitor afterwards—his mother who, though unable to care for him, has never lost touch. He takes her to the shop and social centre on the New Hall estate where they have a cup of tea and then proceed to the central hall where a film is being shown. A light supper prepared by the houseparent is ready for him and he goes to bed about 10.30 p.m.

James' background is completely different. Of unknown parentage, he was cared for as a child by a local midwife and later was fortunate to find other good friends who allowed him to occupy a room above a shop and treated him as one of the family. The shop began to fail and the friends wanted to return to their native Yorkshire but they could not do so without making provision for James. He was now 62, well set in his ways and well-known in the district and doubts were expressed as to whether he would stay at New Hall; but he agreed to give it a trial and in a very short time settled in and is now really happy and contented there. His friends come over from Yorkshire to see him and he is as at home in the Fazakerley district as he used to be in his old haunts.

Of course the routine is not always free from disturbance. There have been isolated cases of drunkenness at the weekend and one youth was caught taking some entirely useless articles from a store, but it is felt that in the first year a way of life has been developed which does com-

bine protection with a great degree of freedom. It must be remembered that residents are free to walk out if they please—that so few have done so is in itself a testimony to the success of the venture. It is also an achievement that New Hall is now accepted as part of the community; local people are coming in to social functions and talking to the residents with much understanding. Some residents are members of a Church Young Men's Fellowship and are being prepared for confirmation; others are attending evening classes.

In fact, recruitment of the right kind of hostel staff is perhaps a bigger problem than the conduct of the residents. We are not alone in getting a poor response to advertisements—at least one Authority was not able to open a newly built hostel for lack of staff—and it is evident that when the remaining six hostels are opened we must be ready to experiment when necessary.

HOSPITAL PATIENTS

The emphasis on community care must not be allowed to obscure the important work done by the mental health service in relation to hospitals. Every day and night in the year the duty mental welfare officer is on hand to take in to psychiatric hospitals, patients needing admission under the procedure of the Mental Health Act. Then there are the assessment of mentally subnormal persons needing hospital care, arrangements for short-term care and reports for Mental Health Review Tribunals. It is, in fact, obvious that the service touches hospital administration at many points and that close co-operation is essential.

A great deal has been done during the year to foster this co-operation. The attachment of a senior officer to the psychiatric hospitals generally receiving Liverpool patients has proved most useful. This officer sees the hospital consultants, social workers and the patients who are almost ready for discharge and takes action to smooth the process of resumption of life in the community.

This is only one of many factors which have resulted in a definite drawing together of the work done by the service with that of the Regional Hospital Board and individual hospitals.

In past reports, reference has been made to the numbers of mentally ill persons referred to the service for compulsory admission to psychiatric hospitals and in comparison with other local authorities, Liverpool seems to have had a much higher proportion of such admissions.

It is gratifying to report that a different picture has emerged this year when, for the first time, there has been a marked reduction in the total number of compulsory admissions and, in particular, in the proportion of compulsory emergency admissions under Section 29 of the

Mental Health Act, as can be seen from the following table showing the numbers of direct admissions made through the mental health service.

Type of admission	1961	1962	1963	1964	1965
COMPULSORY:					
Section 29 (emergency)					
Number of admissions	944	1,116	1,083	958	777
Percentage of total admissions	84.8	83.2	83.1	76.7	59.9
Section 25 (observation)					
Number of admissions	85	56	65	88	199
Percentage of total admissions	7.6	4.1	5.8	7.0	15.3
Section 26 (treatment)					
Number of admissions	13	9	13	10	4
Percentage of total admissions	1.2	0.7	1.0	0.8	0.3
Section 60 (court)					
Number of admissions	20	18	22	19	17
Percentage of total admissions	1.8	1.3	1.7	1.5	1.3
INFORMAL:					
NORMAL:					
Number of admissions	51	144	109	174	299
Percentage of total admissions	4.6	10.7	8.4	14.0	23.2

It can be seen from this table that the percentage of emergency admissions has dropped from a peak of 84.8 per cent in 1961 to 59.9 per cent in 1965, whilst, at the same time, informal admissions arranged through the mental welfare officers have risen from 4.6 per cent to 23.2 per cent. It should be noted that the figures quoted relate only to patients admitted by mental welfare officers and not to the total admissions of patients from Liverpool to psychiatric hospitals.

There are many possible explanations for this reduction in emergency admissions, but it is considered that the main reasons are the much closer working relationship already referred to, which has arisen in the past year between the Local Authority and the hospital service, and the continued efforts to impress on family doctors the need to regard admission to hospital for treatment of mental illness in the same way as they would regard admission for treatment of physical disorder.

It is to be hoped that this trend will continue, though it must be accepted that there is probably a level below which the need for compulsion is unlikely to fall.

Turning to the mentally subnormal, the compulsory procedure for admission to hospital has almost disappeared (apart from Orders made by the Courts) as can be seen by comparing admissions with those of ten years ago, thus:—

				1955	1965
Admissions under Compulsory Procedure					
By Court Procedure	...	...	...	9	11
By Other Procedure	...			40	2
Informal admissions	...	...	...	2	37

It is still not possible to obtain hospital care immediately for all needy cases but the waiting list has been greatly reduced. At the end of the year it stood at 49, including 30 urgent cases. A review was then in progress during which very helpful discussions were held with Regional Hospital Board officers. One of the main problems appears to be the difficulty in staffing existing hospitals, and this is perhaps all the better appreciated this year in view of our own difficulties in staffing hostels.

Parents have again been afforded relief for short periods from the care of mentally subnormal persons in their charge by the provision of temporary care in hospitals, voluntary homes, and for the first time in the New Hall Hostels, as follows:—

164	admitted to Regional Hospital Board Hospitals,	total stay	486 weeks.
68	„ Orchard Dene,	„ „	169 weeks.
8	„ other Voluntary Homes,	„ „	24 weeks.
13	„ New Hall Hostels,	„ „	33 weeks.

Increases in short-term care, more training centre and workshop accommodation, more family advice and help, hostels (and the knowledge parents have that hostels are available in emergency)—these factors seem to be beginning to have an effect on the demand for hospital places. It should not be forgotten, however, that there are over 1,500 mentally subnormal patients from Liverpool in hospitals.

In last year's report the results of the activities of the Mental Health Review Tribunals, set up under the Mental Health Act to deal with applications for discharge from compulsory detention in hospital were discussed in some detail. A number of cases were cited in which discharge by the Tribunals had been followed by the failure of the patients in their life in the community. A mental welfare officer is usually, though not always, asked to appear before the Tribunal to give the point of view of the Liverpool Health Authority which, of course, has to try to provide after-care for a discharged patient, and it was suggested in the report that the high proportion of failures might in some measure be due to disregard of the officer's evidence.

It so happens that in 1965, the proportion of discharges was less; only one of the nine cases in which mental welfare officers attended the proceedings was discharged and it will be interesting to see whether this is coincidence or whether the Tribunals are in fact, being more cautious in the light of experience.

AMBULANCE SERVICE

CADET TRAINING SCHEME

Although the year 1965 was not marked by any outstanding developments in the ambulance service, attention was directed to a number of matters involving long-term planning which will bear fruit in future years. As will be recalled from my previous report in 1964, the cadet training school was introduced to recruit the right type of person into the service, the object being to produce a more experienced driver before allocation to full operational duties, and to give the ambulance service in future years a better type of potential officer. It is now clear that the introduction of cadets was a step in the right direction.

One of the difficulties affecting staff establishment which caused concern was the high average age of the operational staff and arising from this, the increasing number of personnel who were, for medical reasons, incapable of carrying out their full operational duties. As there was every indication that the problem might become more acute in the future, certain proposals relating to new staff had to be prepared. In addition, consideration had to be given to the effect the motor industry coming to Liverpool would have on the service, and the recruiting proposals which were put into operation have justifiably alleviated some of the problems. Whilst the service is still below strength the recruitment of cadets made it possible to allow operational staff who were required to do other work such as helping in the control room, etc., to be moved back on full operational duties. It also allowed the control room to be fully manned during the peak period, so creating more efficiency in answering messages. Cadets also play a big part whilst working with the hospital transport officers in helping patients at the hospitals and enabling a quicker turn round of ambulances. One of the biggest things they have undertaken has been at Walton Hospital which is at present undergoing a large building programme and it is necessary to transfer patients daily by ambulance to various hospital departments. The cadets have been carrying out this work under the supervision of the transport officer throughout the year, and this has taken a tremendous pressure from the service. A charge of £2,000 per annum is made to the hospital for this service which has done much to offset the cost of running the cadet scheme, and, taking into consideration the many duties a cadet can carry out, normally done by other experienced operational staff, the cost must now be considered negligible.

Eleven cadets were recruited in January, 1964, and seven finished the full course, sat the preliminary examinations of the Institute of Ambulance Personnel in April, 1965, and became fully operational in June, 1965. Since then, eleven were recruited in October, 1964, and seven will complete the course and sit the examinations in April, 1966. A further ten were also recruited in October, 1965.

STAFF TRAINING

Efforts continued throughout the year to encourage members of the staff to train to a higher standard in first aid. Three first aid classes were held in which 57 members enrolled, and 100 per cent successful results were gained. Eleven members of the staff sat the intermediate examinations and eight the final examination of the Institute of Ambulance Personnel. In addition, fifteen driver/attendants enrolled for a course in preparation for the intermediate examinations which are to be held in April, 1966.

CASE LOAD OF PATIENTS

The overall number of cases moved throughout the year amounted to 271,320 which was a slight decrease on the previous year of 1,155, and once again credit must be given to the Ambulance Control and Hospital Transport Officers for the efficient co-ordination of all journeys. Ambulance vehicles travelled a total of 1,021,834 miles using 42,117 gallons of petrol and 13,872 gallons of diesel oil.

COMMUNICATIONS

Details of emergency calls received during 1965 are as follows:—

		(A)	(B)	(C)
Month		Accident/ Emergency Calls	False calls with good intent	Malicious False calls
January	...	1,875	113	10
February	...	1,657	126	9
March	...	2,002	128	7
April	...	1,934	126	11
May	...	2,021	144	11
June	...	1,920	111	13
July	...	2,082	153	8
August	...	2,084	147	18
September	...	1,970	127	14
October	...	1,996	130	11
November	...	2,017	136	11
December	...	2,207	181	13
Total	...	23,765	1,622	136

(1) The totals shown in columns (B) and (C) are to be taken as *being included in column (A)*, but are shown thus for statistical purposes.

VEHICLES

The vehicle fleet now totals 76, consisting of 42 ambulances, 30 dual purpose vehicles, and four sitting case cars. At the end of 1965 the ages of the vehicles were as follows:—

Age of vehicles in years	Under	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	Over
	1										10
	16	1	12	10	11	8	5	—	5	6	2

STAFF

The staff of the service consist of:—

- 1 Chief Ambulance Officer
- 1 Assistant Ambulance Officer
- 1 Senior Controller
- 1 Training Officer
- 4 Controllers
- 4 Assistant Controllers
- 3 Telephone Operators
- 7 Hospital Officers
- 3 Station Officers
- 2 Clerks
- 1 Copy Typist
- 1 Storekeeper
- 12 Shift Leaders
- 111 Male Driver/Attendants
- 10 Female Driver/Attendants
- 17 Cadets
- 8 Labourers
- 2 Apprentice Mechanics
- 6 Mechanics
- 1 Foreman Mechanic

OCCUPATIONAL THERAPY

During 1965 the occupational therapy section was almost fully staffed, there being only one full-time vacancy for the greater part of the year. Staff changes did occur but, in contrast to previous years, long breaks in the continuity of service to patients were avoided and waiting lists held to manageable proportions. The frustration of not being able to deal adequately with patients due to shortage of time available was greatly reduced.

REHABILITATION UNITS

The rehabilitation unit at Rumney Road has continued to deal with a large number of patients and the new unit at Longmoor Lane has gradually become more fully operational. The work at both these units has been greatly enhanced in recent months through the holding of clinical sessions by the Deputy Medical Officer of Health. It is felt that these are of great value in guiding both patients and staff along correct lines of treatment, providing a more unified policy towards the patient, in the light of the services available through the local authority.

Rumney Road Unit

Rumney Road Rehabilitation Unit has continued along lines previously indicated. Provision of new equipment has enlarged the scope of activities available which now include picture framing, printing of Christmas cards, simple wrought iron work and indoor gardening as well as the previously noted treatments of basketry, weaving and woodwork. There is a steady demand for bath seats and other aids, many of which are produced by the male patients in the woodwork section. They have also constructed a set of stairs which can be used in the assessment of and practice by patients who may have lost their ability to negotiate such a hazard. Also available for assessment is a self-propelled wheelchair with various special features including different types of arms, leg rests and ball-bearing arm supports which can be very useful to the patient with loss of strength in his arms. The rehabilitation kitchen continues to provide useful service though certain long-awaited structural improvements are still necessary. Hairdressing sessions for the ladies have recently been introduced. It is often difficult, if not impossible, for a handicapped woman to visit a hairdresser, but the tonic effect of a new "hair-do" has to be seen to be believed. It is frequently the first step on the way to a new appreciation of a fact that, even though one is handicapped, the maintenance of self respect is an important matter.

Longmoor Lane Unit

This unit has just completed its first year. During this period the staff consisted of three full-time therapists, one part-time therapist and a male technician. Approximately 25 patients attend daily, the more severely handicapped being carried by the handicapped persons

transport service whilst those able to use public transport, do so. Both physically and mentally handicapped patients are treated and ages range from sixteen to 84 years. A group of severely handicapped young people is gradually forming and this is felt to be particularly worth-while as such persons are so frequently neglected.

One of the most valuable aspects of work at this unit is that of assessment of individual capabilities. A wide range of equipment is available including walking aids, chairs of different heights, self-lift chairs, hoists and two well-equipped kitchens, one for use of patients in wheel chairs, and the other for those who can stand to work.

Independence of dressing, washing and feeding can also be assessed and gadgets provided where necessary. Several severely handicapped young spastics, who previously had to be fed, can now feed themselves due to the weighting of their cutlery with lead and padding of handles to give a wider grip.

Liaison is established with the domiciliary occupational therapist dealing with each case and, when suitable aids or adaptations have been suggested by the unit staff, it is her job to assess their suitability with reference to the home background and to put in hand the necessary arrangements for their supply.

This co-operation within the occupational therapy service is illustrated by the case of Mrs. M. who suffers from multiple sclerosis. Her home situation is very difficult as her main source of help is her mother-in-law who suffers from severe rheumatoid arthritis and was finding the care of Mrs. M. increasingly arduous. The domiciliary occupational therapist recommended attendance at Longmoor Lane Unit in order to improve independence and for assessment of usefulness of aids. It was found that, by the provision of an electric hoist and ceiling track, Mrs. M. could move herself from bed to commode and back again. Through attendance at the unit she was able to become adept at this before the equipment was installed in her home, and now saves her mother-in-law a considerable amount of labour. Mrs. M. also works in the kitchen at the unit and will be supplied with kitchen aids for use at home. She is also making clothing adapted to life in a wheelchair, e.g., a skirt with a split back for ease of toiletry. Domiciliary visits will continue to be made to ensure that the equipment is being used to the best advantage.

Mentally ill patients are also treated at the Longmoor Lane Unit. One such is Mrs. H. who has a long history of schizophrenia. When first referred to the unit she had just been discharged from hospital after two years as an in-patient. She was very withdrawn and only able to carry out simple construction work but step by step she progressed from elementary tasks to housecraft, dressmaking and printing; all of which

she performed well and with increasing confidence and independence. When faced with new equipment like a newly acquired washing machine she quickly became competent in its use. Socially, Mrs. H. is much more at ease and before long it is hoped to place her in outside employment through the agency of the Disablement Resettlement Officer, who is in regular liaison with the occupational therapy units.

The woodwork section at Longmoor Lane, under the supervision of the technician has provided work for many of the male patients in the provision of a wide variety of aids for the handicapped. A rehabilitation lathe has been purchased and it is hoped this will enlarge the scope both of treatment and finished products.

TRAINING

The number of occupational therapy students who have spent part of their clinical training in the department has increased. This arrangement has proved advantageous to both therapists and students; the former are kept in touch with current trends in training whilst the latter are able to see the type of work which their three-year course will fit them to perform.

SOCIAL EVENTS

These have consisted of similar expeditions to previous years, a day outing in the summer to Prestatyn, the Christmas party, the Carol service at the Cathedral and the holiday at Caernarvon. On each occasion the number of people taking part increased.

Holiday for Handicapped

This year the hotel at Dinas Dinlle was occupied for two weeks by handicapped persons from Liverpool. Although the weather was poor the project was again a great social success, many people wishing to book immediately for the 1966 holiday.

Carol Service

To enable more of the voluntary societies to take part the carol service was arranged at the weekend. This alteration was very successful and many more people attended than last year. In order to give the congregation a greater feeling of participation, lessons were read by the Deputy Medical Officer of Health, a consultant physician and two people in wheelchairs. The singing was led by the Cathedral choir who also performed solo items. The enthusiastic support given by the Cathedral staff is evidence that this event is likely to become a regular feature of the Christmas arrangements at the Cathedral.

HOUSING

Many cases of physically handicapped patients living in unsuitable accommodation which required structural alterations of varying

degree were brought to the attention of the occupational therapy service. In some cases it was impossible to carry out satisfactory alterations and rehousing was therefore considered. For many years handicapped persons have been satisfactorily housed in prefabricated dwellings in various parts of the City. Present plans for the demolition of this type of property mean a consequent increase in the need for suitable accommodation for handicapped people. Slum clearance is also adding to the difficulties of rehousing the disabled, and, it is becoming increasingly apparent, that the provision of dwellings specially designed for the physically handicapped, each of whom is a member of a family with individual needs, should receive serious consideration. It is hoped that 1966 will see specific development along the desired lines.

The present difficulties can be illustrated by the following example. Early in 1965 a medical housing transfer was recommended for a family of five which included a daughter confined to a wheelchair through spinal disease. Provision of a ground floor bedroom and bathroom was necessary, together with a space outside the home for the erection of a garage, when the girl became old enough to be provided with an invalid car. In June, a house which could be suitably adapted was reserved and steps taken to arrange for the necessary alterations. It was considered unwise to arrange the removal of the family until the work was completed but unfortunately, progress was so slow, that by the end of the year, the work had not even been started. This sort of delay is not unusual in many of these cases and, for this reason, permission has been sought for the provision of a certain number of specially designed homes for the handicapped, as an integral part of the building programme of the local authority over the next few years. Existing Council houses are not easily adapted and alterations made are seldom completely satisfactory. This is an additional reason for the proposed provision of purpose-built housing for the handicapped.

Living conditions for handicapped persons can also be eased by the provision in blocks of flats of at least one main entrance with a ramp in place of steps, plus the elimination of steps from the entrance to individual flats in that particular block. Such provision would be a great assistance, not only to the aged and handicapped, but also to mothers with prams, and its omission from the accommodation provided at present is very often sufficient reason to make it unsuitable. The fitting of electric wall fires in bathrooms instead of hallways would also be of great help to the aged and the handicapped.

It may be of interest to record that the family with six children, two in wheelchairs, mentioned in the report for 1964 are now very happily rehoused in their adapted accommodation.

REHABILITATION

During the year four patients have entered regular employment after leaving occupational therapy units and others may be moving in

this direction almost unknown to themselves. It may be recalled that in the report for 1963 a case was outlined of a man who had been unable to work for twenty years because of mental and physical illness. At that time he had progressed sufficiently to attend a course of training under the Ministry of Labour. Unfortunately the completion of his training did not lead to immediate employment and it was necessary to have him back at the unit. He applied for numerous jobs, many of them far above his capabilities, and was turned down repeatedly. He was offered suitable employment a number of times but refused it at the last minute. He was eventually told that if he refused any further suitable offers he would have to stop attending the unit. This had the desired effect and, at the time of writing, he has been in continuous employment for six months. Many patients find the final step of returning to work after years of illness extremely difficult, and a great deal of help and encouragement is necessary before rehabilitation in open employment is accomplished.

DOMICILIARY SERVICE

The domiciliary service has been concerned mainly with the supply of aids and the provision of structural alterations although some patients, whom it is impracticable to transport to rehabilitation units, receive occupational therapy in their homes. The following case histories illustrate the nature of the work done:—

Mr. N. suffers from lesion of the cervical spine resulting in partial paralysis of his limbs. There was much muscular wasting and movement was extremely limited. The aim of the therapist was to enable Mr. N. to be as independent as possible through the supply of aids, and increase muscle power and joint mobility by means of crafts such as basketry. The basketry tools had to be adapted to enable Mr. N. to grip them, following which, he was able to achieve a good standard of work. Aids for bathing, a long handle comb and razor together with eating aids were supplied and velcro patent fastenings were fitted to his clothing to replace buttons and zips. Mr. N. benefited considerably from the increased independence thus afforded and is now considering an application for an invalid vehicle to enable him to go out.

Mrs. S. who is aged 62, has had a double above-knee amputation due to arterial disease and a stroke which has rendered her left arm useless. Her husband, who suffers from coronary thrombosis, asthma and bronchitis, is unable to lift her. Before leaving hospital Mrs. S. was supplied with a bed the same height as her commode, fitted with a lifting pole to enable her to transfer herself from one to the other. The couple were rehoused in a specially adapted ground floor flat, the entrance being ramped to give easy access for the wheelchair. A track was fitted to the ceiling of both bedroom and bathroom to enable transfer to be carried out by an electric hoist between wheelchair, bed,

bath and toilet. The structure of the flat did not permit the provision of wide doorways but Mrs. S. can be moved about in her Ministry of Health outdoor chair without too much difficulty.

Mr. H. was first visited in January, 1964. He suffers from multiple sclerosis and, at the time of the original visit, was able to walk and climb stairs and only requested help for bathing purposes. A bath board and rails were fitted. Due to increasing difficulties a special type of shower was also supplied and as his condition was likely to deteriorate the question of rehousing was considered. After careful consideration it was decided that the present accommodation was more suitable provided a downstairs bathroom could be fitted. The house had a readily accessible garage for his invalid vehicle, the rooms and doorways were easy to negotiate in a wheelchair and one of the downstairs rooms could be used as a bedroom. A downstairs bathroom was provided through dividing a large kitchen and incorporating an adjacent pantry. In this case a period of rapid deterioration raised many unforeseen difficulties some of which have still to be overcome. It is thought unlikely that the end result can be completely satisfactory but much time and trouble have been spent in achieving the best possible results in view of the nature of the handicap.

P. is now thirteen and has been visited by an occupational therapist since she was nine. Because of her severe heart condition she was unable to attend school but a home teacher visited. With the occupational therapist P. has done a variety of crafts all to a high standard. The occupational therapist felt she should be encouraged to have more self confidence in dealing with people outside her family and to this end a puppet play was suggested. P. wrote the script, made the puppets and scenery with her usual enthusiasm until the day the performance was to be held before children from the neighbourhood and her teacher. This was a disaster as P. was literally dumbstruck and was only with great difficulty persuaded to move the puppets whilst her mother read the words. In spite of further encouragement there has been no progress in enlarging her horizons. At the suggestion of one of the students, postal Girl Guiding was commenced and is proving successful. Typing lessons are also being given by the occupational therapist and these too are proving of interest and will possibly be of help when employment is considered.

K. was first referred to the occupational therapy service in 1963 when she was 28. She is deaf and dumb and her mother was having great difficulty with her at home due to temper tantrums and a refusal to go out. After many attempts the domiciliary therapist eventually persuaded her to walk to a nearby unit. Here she did a variety of tasks and became accepted in the group. She took part in all available activities including the holidays and day outings and her tantrums



Food Poisoning Investigation

Slum Clearance Progress





Aids for the Handicapped

Home Help with Handicapped Person



became much less frequent. Her favourite activity was cleaning and when the new occupational therapy unit at Longmoor Lane was opened, she was offered employment on a part-time basis. This involved travel by public transport. At first she was accompanied to and from work by an occupational therapist but eventually was able to travel alone and is now a useful member of the domestic staff. It may be possible some day for her to take outside employment, but, at the moment she still needs a sheltered environment.

HOUSING POINTS SCHEME

HOUSING PRIORITY FOR GENERAL MEDICAL CASES

During 1965 a total of 9,487 general medical cases applied for assistance in rehousing and, of these, 835 were awarded points. In addition, 161 cases were recommended to the Director of Housing for special priority rehousing, 60 of these having been accommodated by the end of the year.

A total of 4,718 general medical cases applied for transfer during the year. In view of the fact that over half the total applications received were requesting a transfer from one corporation property to another, it was necessary to limit the number of recommendations made on medical grounds. A limited number of 225 cases was recommended for transfer on general medical grounds to the Director of Housing, 74 of these having been accommodated by the end of the year. The outstanding cases will be carried forward to be dealt with during 1966.

DETAILS OF SCHEME

The allocation of points is designed to enable the Medical Officer of Health to give assistance to those cases which, for reasons 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 five points can be given. In many cases this brings the applicant into the allocation group and he is assured of rehousing.

2. By arrangement between the Director of Housing and the Medical Officer of Health, 200 new lettings are made available each year for urgent priority rehousing on health grounds. Of these, 80 are allocated for the rehousing of families in which tuberculosis has been diagnosed. The remaining 120 premises are available for the urgent priority rehousing of families in which there are medical conditions other than tuberculosis. In addition, 250 lettings are made available for transfers. These are allotted equally between medical and tuberculosis cases.

In all cases recommended for urgent priority, the Director of Housing notifies the Medical Officer of Health whenever an offer of accommodation is made to the patient. This is followed later by a notification of acceptance or refusal on behalf of the patient. If the offer has been declined, the Director of Housing is notified whether or not the refusal is justified on medical grounds. If this is so, then an offer of more suitable accommodation is made as soon as possible.

As examples of the type of case assisted during 1965, particulars are given of the following four cases:—

(1) A man, suffering from a severe progressive cancerous condition, was unable to continue his employment as a School Caretaker. As his accommodation was tied to his post, he had nowhere to live on his discharge from hospital. This man was offered accommodation without stairs.

(2) A young married woman was suffering from severe mental depression, a contributory factor of which was adverse housing conditions, to such an extent that she had attempted suicide. Adequate accommodation was provided, in view of her medical condition and for the sake of her young family of four children.

(3) A young woman, after a complicated birth of a baby, was left with a mental and severe physical affliction, resulting from heart and brain damage due to haemorrhage. Because she could not receive adequate care and attention in her existing accommodation, she and her family of four children were offered a three-bedroomed house.

(4) A young married couple were both suffering from severe medical conditions. The wife, severely crippled with rheumatoid arthritis, had a Ministry of Pensions vehicle, but had been requested to return it because of inadequate garage facilities. Her husband, because of a severe heart condition, could not climb the stairs in their existing accommodation. This couple were offered a flat without stairs with garage facilities.

Where an applicant is an authorised 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 certificate obtained. The case is then assessed in the usual manner.

It will be appreciated from the figures given, that the number of applications received for transfer from one Corporation property to another is almost as great as those requiring rehousing from private accommodation to Corporation property. A great number of these have genuine grounds for a medical transfer, but because of the excessive demand and shortage of accommodation, the Housing Department find it impossible to meet their needs. A new category of recommendation to the Director of Housing was introduced this year. This stated that, although the applicant could not be included in the list of Priority Transfers, there were certain medical factors to be taken into account, if the Housing Department were able to effect a transfer. For example, a recommendation of accommodation accessible without the use of stairs might be made for a person suffering from a serious degree of breathlessness following a heart attack.

Similarly recommendations of special medical requirements on rehousing are made when seriously affected persons are rehoused following slum clearance or compulsory purchase orders.

PRIORITY RE-HOUSING OF TUBERCULOSIS CASES

In tuberculosis cases, a report is submitted by the tuberculosis visitor giving such details as the type and extent of the disease, the state of infectivity and any family history of tuberculosis, along with details of the present housing conditions. Extra housing points, to the maximum number of five, can be awarded and, in addition, those cases which appear to be sufficiently urgent to merit special priority are visited personally by a Medical Officer, who then may recommend their inclusion in a special tuberculosis priority scheme. The number of cases rehoused under this scheme during 1965 was 89 out of 179 recommended.

In cases where the sufferer was already housed in Corporation property but the property was inadequate, either to ensure adequate isolation in the home, or in cases where the family size had increased and overcrowding existed, a recommendation of transfer to other Corporation property was made. During 1965, 66 transfers of this nature were effected from 175 recommended by the Medical Officer of Health.

Examples of the type of case assisted are as follows:—

(1) This family comprised a young mother and father, a son aged four, and a daughter aged six. They had no home of their own, being forced to share the three-bedroomed house of their grandparents with yet another family of relatives consisting of two adults and one child. Both the mother and son were found to be suffering from pulmonary tuberculosis. A special priority recommendation on medical grounds for re-housing was made, but before this could be effected, in an effort to alleviate the overcrowded living conditions, the mother, father and son moved to one-roomed accommodation, splitting their family and leaving their daughter in the care of her grandparents. A new priority recommendation was made and this young family were subsequently allocated a three-bedroomed house and so reunited under more favourable living conditions, thus reducing the risk of spread of the disease to the other two families.

(2) A young woman of 30, suffering from pulmonary tuberculosis, was living with her husband, a son aged one and three daughters aged eight, seven, and two, in an old prefabricated Corporation dwelling. This was intended originally to serve a temporary housing need and was approaching the end of its useful life, being difficult to repair and maintain in a reasonable state, due to its age and temporary construction. One bedroom was so damp that it could not be used and the whole family had to sleep crowded into the remaining bedroom. The mother

had been receiving treatment for her tuberculosis for several years, during which she suffered two relapses—due in part to the unsatisfactory overcrowded living conditions, where there was an obvious risk of spreading the infection to the other members of the family. A recommendation for a priority transfer was made and the family were rehoused in a three-bedroomed house.

MEDICAL EXAMINATIONS

During 1965 a total of 3,457 medical examinations of employees was carried out by the medical officers in the Health Department. These examinations were of three types—(1) for entry into the Corporation service for officers, (2) for entry into the superannuation scheme for manual workers, and (3) by reason of extended sickness. In this latter category examination is carried out to determine—

- (a) Whether the employee remains fit to continue in his existing employment;
- (b) Whether modifications will be required; and
- (c) Whether extension of sick pay is indicated or whether retirement is necessary.

Seventy-eight candidates were examined on behalf of other local authorities. Of the examinations undertaken for the Corporation, 1,662 were for new appointments of officers, 1,285 for admission of manual workers to the superannuation scheme, 199 for extension of sick pay and 311 in consideration of the suitability of their present employment. Included among these were 67 Mersey Tunnel workers who are given periodical examinations because of the nature of their work. This year there were no employees of the Water Engineer's Department needing special examination for work in compressed air in the shaft and tunnel under the Manchester Ship Canal. Several hundred reports were obtained from doctors in hospitals and general practice. In consultation with the patient's general practitioner or hospital consultant, where appropriate, it was decided after medical examination that 229 were permanently unfit for work and should be retired, 25 manual workers were found unfit for entry into the superannuation scheme and six officers were medically unfit to take up new appointments, a total of 260 persons, being almost 8 per cent of those examined. A list of the medical conditions causing unfitness appears in the following table:—

Respiratory Diseases.					Psychiatric Diseases.				
Chronic Bronchitis	...	...	...	71	Anxiety State	...	...	...	7
Tuberculosis	...	...	...	8	Depression	...	...	...	8
				79	Mental defect	...	...	...	4
					Schizophrenia	...	...	...	2
					Other	...	...	...	1
									22
Cardiovascular Diseases.					Carcinoma.				
Hypertension	...	...	...	19	Bronchus	...	...	...	3
Coronary disease	...	...	...	28	Stomach	...	...	...	1
Cardiac failure	...	...	...	3	Colon	...	...	...	2
Arrhythmia	...	...	...	4	Genito-Urinary	...	...	...	2
Valvular disease	...	...	...	1	Carcinomatosis	...	...	...	1
Other	...	...	...	6					9
				61					

Nervous Disease.

Cerebrovascular disease	6
Nerve affections... ..	1
Epilepsy	1
Other	6

14

Alimentary Diseases.

Peptic ulcer	5
Hernia... ..	1
Intestinal conditions... ..	3

9

Orthopaedic Conditions.

Fractures and injuries	7
Arthritis	17
Spinal lesions	18
Other	8

50

Other Conditions.

Blood	2
Endocrine	7
Deafness	3
Kidney disease	3
Eye disease... ..	5
Genito-Urinary	3

23

Total Conditions causing unfitness... 267

Total Persons found unfit 260

Number of unfit persons with more
than one cause of unfitness ... 7

SCREENING OF CROSSING PATROLS

During the course of the year, 55 school crossing patrols underwent screening examinations carried out by three specially trained members of the nursing staff who had been instructed in interview technique, in the measurement of blood pressure, hearing testing and vision testing including examination for restriction of the visual field. Where abnormalities occurred these were referred to a medical officer for assessment. It is pleasing to report that although many persons were referred for medical treatment, for refraction for spectacles, or recalled for re-examination, not one was found to be permanently unfit for crossing patrol work.

CARDIOVASCULAR AND RESPIRATORY SURVEY

This survey continued throughout the year, new entries being interviewed and a questionnaire completed; 1,019 electrocardiograms were carried out during the year.

Thirty-three serious abnormalities were detected. Of these, 26 suffered from cardiac ischaemia due to coronary artery disease, three were found to be affected by auricular fibrillation and one by paroxysmal tachycardia. Two congenital abnormalities were detected, one being a bundle branch block. It is interesting to observe that in as many as eight cases of cardiac ischaemia and in one case of auricular fibrillation, the defect was detected for the first time, the patient being totally unaware of the condition, even though symptoms may have been present. All the persons in whom defects were found are being followed up in close conjunction with their general practitioners and the consultant cardiologists.

In the follow-up of these persons care has been exercised to avoid drawing undue attention to the condition and creating undue anxiety. So far no alarm has been caused, the early detection of the condition has been appreciated and early fears of the probability of creating introgenic cardiac neuroses would appear to be unfounded.

DISABLED PERSONS

With the introduction of parking restrictions in the City many disabled persons might have been seriously affected. In order to alleviate any undue hardship a system of priority parking badges has been introduced. These are issued on the authority of the Medical Officer of Health only in serious cases and only when fully justified. Applicants are required to submit to a thorough medical assessment. Unless stringent medical restrictions are maintained the scheme could become unwieldy and be subject to misuse.

A total of 35 persons were examined during the year for which fifteen priorities were granted.

RADIATION WORKERS

Persons working with radioactive substances or sources of ionising radiations, in the Corporation employment, undergo periodic general health checks and blood tests. During the year 26 such persons were examined. All were found fit for these special duties. Scrutiny of their radiation exposure doses by computation and dosimetry is regularly carried out. In no case was an excessive exposure detected.

ENVIRONMENTAL HEALTH CONTROL

General

For many years publicity, both locally and nationally, has been given to the number of unfit houses in the City and it is, therefore, very gratifying to be able to report considerable progress was made in the slum clearance drive by the representation of 5,000 houses in clearance areas, and 386 houses were dealt with by individual action.

There has been steady progress in the drive for "clean air", one Smoke Control Order became operative and a further Order was confirmed.

A number of inspectors has been continually engaged on the new duties under the Offices, Shops and Railway Premises Act, 1963 and whilst the general inspections were concentrated within the central area of the City, special inspections were carried out at various premises in respect of which complaints or notification of accidents had been received.

Staff

It has long been realised that the efficacy of the public health inspector's work depends, to a great degree, on sufficient staff being available to carry out frequent routine inspections, so as to ensure a satisfactory standard is maintained at all times, and every effort has been made to provide a constant source of recruitment by means of the comprehensive training scheme within the department. During the year, thirteen students obtained the Diploma of the Public Health Inspectors Education Board qualifying for appointment as public health inspectors. However, in this same period, three senior inspectors retired and seven inspectors resigned, having obtained posts with other authorities.

Details of Work

A total of 30,913 requests was received for inspectors to visit premises and altogether a total of 283,187 visits and inspections was carried out under various enactments and 14,820 notices were issued under the Acts and Byelaws.

During the year, 35 prosecutions were taken and the penalties and costs which were imposed amounted to £117.

Work in default of owners was carried out to 246 houses. The expenditure incurred is recoverable under the appropriate enactment.

The Public Health Act, 1961 empowers the Corporation to clear drains after giving 48 hours' notice. Notices in respect of choked drains numbered 1,189 and it was necessary for the Corporation to clear 114 drains in default of the owners. The cost incurred will be recovered in accordance with the Act.

Defective drains cause rodent infestation, flooding and subsidence. Drainage systems tested to remove these problems numbered 1,044 and notices were issued in respect of 350 drainage systems which were found to be defective. In addition, 32 choked or defective public sewers were referred to the City Engineer's Department for action under the provisions of Section 24 of the Public Health Act, 1936. The cost incurred will be subsequently recovered from the owners of the property involved.

The weekly meeting of the Special Sub-Committee has enabled immediate action to be taken to clear choked drains and remedy other urgent defects. This procedure constantly reduces the period of time during which tenants can suffer discomfort.

Other departments have co-operated by forwarding references in respect of matters requiring the attention of inspectors and 3,933 references were forwarded to other departments.

Inspectors visit houses to make enquiries following notifications of certain infectious diseases. The number of visits to premises in connection with cases of infectious disease amounted to 1,374 and the number of enquiries regarding contacts was 214.

Investigations have continued in connection with ingestion disease enquiries and inspectors obtained information about contacts and modes of infection. The number of specimens submitted for bacteriological examination amounted to 5,077 from 3,774 persons, of which 892 from 529 persons proved positive.

There are thirteen registered common lodging houses in the City, twelve providing accommodation for 917 males and one providing accommodation for 95 females. The public health inspectors made 210 visits both day and night, resulting in 21 notices being issued in respect of byelaw infringements and on 32 occasions it was necessary to give the keepers a verbal warning.

A total of 5,209 beds were examined and 2,008 beds and articles were found to be verminous, 1,991 being cleansed by the local authority and seventeen articles being destroyed under the supervision of the public health inspectors.

Eight seamen's lodging-houses exist in the City, five of which are unlicensed and three licensed, under byelaws. These houses provide satisfactory accommodation for British seamen and other nationalities, including Chinese, Arab, Somali and Indian. The total accommodation available is 777 beds, and public health inspectors made 83 day and night inspections. Infringements of the byelaws were reported on five occasions, and the necessary action was taken to comply with the requirements of the legislation.

Under the terms of licences issued from the Home Office, inspectors supervised the exhumation of six bodies during the year and the remains of two persons were shipped abroad.

Inspections of trial holes were made on sixteen filled-in sites to ascertain whether the ground was free from faecal or offensive animal or vegetable matter.

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 on the canal.

The inspectors of the Port Health Authority made 52 inspections of canal boats in the docks during the year.

No case of infectious sickness was reported as having occurred during the year on any canal boat visiting the district. The population resident on canal boats numbered 68, all men.

Sewerage

The City sewerage system in general is adequate. Reconstruction of a number of very old passage sewers has been undertaken by the City Engineer's Department as well as major schemes for flood prevention.

The north and south sewage disposal works extensions are being constructed in stages to meet the anticipated increase in sewage flow for the two works.

HOUSING AND SLUM CLEARANCE

Since slum clearance recommenced after the last war, the record figure of 25,559 houses has been represented as unfit for habitation and included in clearance areas or dealt with individually.

During the year, a detailed survey was made of 5,386 houses, 5,000 of which were subsequently included in clearance areas and the remaining 386 dealt with by individual unfit procedure. The population figure of 19,613 persons occupying these houses is an indication of the magnitude of the task of rehousing.

Thirty-four Clearance Areas were represented during the year involving 5,000 houses classified as suitable for demolition having regard to the standard of fitness as laid down in the Housing Act, 1957, and 5,089 houses in 47 Clearance Areas were made the subject of nineteen Compulsory Purchase Orders. Twenty-one Compulsory Purchase Orders were submitted to the Minister of Housing and Local Government for confirmation and one Clearance Order in respect of three houses was also made and submitted for confirmation.

Fifteen Public Inquiries were held involving a total of 1,730 houses in fifteen orders, and during the year, eight Clearance Orders involving 107 houses and nine Compulsory Purchase Orders involving 1,266 houses were confirmed.

Families rehoused from houses included in confirmed Compulsory Purchase Orders numbered 878, and 57 families were rehoused from houses included in confirmed Clearance Orders.

The Demolition and Closing Orders (Special) Sub-Committee dealt with a large number of individual unfit houses under the provisions of Part II of the Housing Act, 1957, a total of 386 dwellinghouses being represented to the Sub-Committee as unfit for human habitation. These premises were occupied by 688 families.

The Sub-Committee considered the condition of 481 houses during the year. Of these it was resolved that demolition orders be made in respect of 115 houses, and closing orders in respect of 344 houses. Undertakings to make the premises fit for human habitation within a specified period of time were accepted in respect of thirteen houses, and in nine cases notice of intention to purchase was served. In addition, 107 considerations in respect of rooms and parts of premises occupied as separate dwellings which were unfit for human habitation were considered, and in 105 cases it was decided that closing orders should be made and, in respect of two premises, the Sub-Committee accepted undertakings from the owners that the works be carried out to make the premises fit for human habitation.

Following upon the rehousing of the occupants in premises subject to operative orders 298 houses were demolished and 224 were closed and sealed. In addition, 50 dwellings being parts of premises were also closed.

Premises were reinspected where owners had carried out works as required to make them fit for habitation, and as a result of the works undertaken the Committee during the year rescinded eleven closing orders and six undertakings.

Two appeals were lodged in the County Court against the decision of the Committee to make closing orders, and subsequently both appeals were withdrawn. Three cases remained undecided at the beginning of 1965 and in one case the appeal was still pending at the end of the year. In so far as the other two cases were concerned the Judge varied the decision of the Committee, in one case he substituted a closing order and in the other case the owner's undertaking to carry out the repairs was accepted by the Court. In this particular case the undertaking was later revoked by the Sub-Committee, the premises having been made fit for human habitation.

The Special Sub-Committee of the Housing Committee, whose terms of reference are to deal with special cases where eviction is being threatened and where the premises are not unfit for human habitation,

dealt with six cases during the year. The Sub-Committee resolved in five cases to negotiate with the owners for the purchase of the property and should the negotiations not be successfully concluded it was resolved that compulsory purchase powers be implemented. No action was taken in respect of one case, the tenant having accepted a new tenancy agreement.

Houses in Multiple Occupation

Reports were submitted to the Special Sub-Committee in respect of eleven premises which did not comply with the Houses in Multiple Occupation Regulations made under the Housing Act, 1961, and the Committee resolved that notices be issued requiring the owners to carry out necessary improvements and provide additional amenities as required by this enactment. During the year notices were issued in respect of 52 items.

A total number of 32,399 visits has been made by public health inspectors to dwellinghouses, under the provisions of the Rent Act, 1957, since the Act first became operative on the 6th July, 1957, and 8,842 applications for certificates of disrepair have been received. Some 3,250 tenants have applied for certificates as to the non-remedying of defects specified in undertakings given by landlords, and 2,537 applications have been received from owners for certificates as to the remedying of defects in undertakings which they have given to tenants. Figures in 1965 were:—

Total number of applications for certificates of disrepair	157
Applications withdrawn	4
Number of notices served on landlords of the Local Authority's intention to issue certificates of disrepair (Form J)	157
Number of undertakings to carry out repairs received from landlords (Form K)	83
Number of certificates of disrepair issued to tenants (Form L)	48
Number of landlords who completed the repairs within the statutory period following the service of Form J	8
Number of applications (Form O) from tenants who have applied after owners have failed to comply with undertakings given (Form H or K)	14
Number of certificates (Form P) issued to tenants	12
Number of applications (Form O) from owners who have completed their undertakings	62
Number of certificates (Form P) issued to owners	46
Number of applications (Form O) not finalised during the year	16
Number of applications (Form M) received from owners for a cancellation certificate	49
Number of objections to cancellation received from tenants	15
Number of cancellation certificates issued	25

If the landlord is not satisfied that all the defects as listed on the certificate of disrepair are reasonable he has a right of appeal to the County Court. Similarly, the tenant can appeal if he does not accept the decision of the local authority regarding the cancellation of the certificate on the application of the owner.

Where premises are subject to a certificate of disrepair the tenant has a legal right to reduce the rent payable in respect of a dwellinghouse until all the works as specified on the certificate have been remedied satisfactorily. Likewise, if the owner fails to carry out the works as listed on the undertaking, within the statutory period of six months, the tenant is also entitled to reduce the rent payable until such time as the defects have been remedied to the satisfaction of the local authority.

The owner is entitled to appeal to the County Court if the local authority refuse to cancel the certificate of disrepair. The tenant also has a similar right of appeal if the local authority indicate their intention to cancel the certificate. If the occupier has lodged an objection within the statutory period, this objection can only be lodged with the local authority if the works specified on the certificate of disrepair have not been completed satisfactorily.

Improvement Grants

During the year, 577 houses were inspected following enquiries regarding improvement grants, and of 73 formal applications for discretionary grants, 63 were approved. Applications were also made in 151 cases for standard grants and 152 were approved. This number includes several applications which were made at the end of 1964.

Loans on Mortgage

During the course of the year the City Council again considered applications for loans on mortgage from prospective owner/occupiers and 1,516 houses were inspected for this purpose.

Overcrowding

A total of 171 families living in overcrowded conditions was referred to the Director of Housing, although he is unable to offer alternative accommodation in all cases because of the housing shortage.

SHOPS ACTS, 1950 to 1965

This title indicates recent additions to the Shops Act, 1950, which together with the Shops (Airport) Act, 1962 and the Shops (Early Closing Days) Act, 1965, may be cited as the Shops Acts 1950 to 1965.

The Shops (Early Closing Days) Act, 1965, which came into operation on 5th August, 1965, has brought about a considerable change in the enforcement of the Shops law. All local authority half-holiday orders are now revoked, thus permitting shopkeepers to choose their own early closing day.

The weekly half-holiday in this City was previously fixed, by orders, for Wednesday for the majority of retail trades, and Saturday was the alternative day. This requirement was, for enforcement purposes, simple and effective, and when other duties permitted an inspector could deal with whole streets and enter only the few shops found to be open.

Shopkeepers, now able to select their early closing day, although required to display a notice indicating the day, are not required to notify the local authority. Thus a great deal of time will ultimately be required to be given to the enforcement of this new enactment, not only with regard to the observance of an early closing day, but to ensure that the provisions concerning staff holidays are properly fulfilled.

In the few months that have passed since most of the provisions became operative, there has not been a widespread move to change from the generally accepted day, Wednesday. However, there are a number of complaints being received, especially in respect to ladies' hairdressers, some of whom, outside the central area of the City, are illegally observing a six-day trading week. Such complaints received immediate attention and it was usually sufficient to advise the shopkeeper of the requirements of the Act.

During the year a successful application by the ladies' hairdressers in the central area, for exemption from the early closing day provisions, has now brought the whole of the retailing trade in the locality into the scope of six-day opening.

In addition to this, the revocation of Half-holiday Orders had the effect of granting six-day trading to butchers, bread dealers, fish and poultry dealers, chemists, and traders in fruit and vegetables, cut flowers and plants, throughout the City.

General Duties

The enforcement duties under the various Shops Act requirements have mainly been in connection with complaints concerning traders not observing the relevant closing hours, the employment of young persons and certain welfare requirements for staff. Some of the complaints about shops being open during prohibited hours have concerned trading on Sundays from fried fish and chip shops. A few of these establishments are being kept open until 1 a.m. or later and also in the evenings on Sundays, and as the result of investigations two fish fryers were successfully prosecuted and fined. Routine shops inspections have been made this year in conjunction with the Offices, Shops and Railway Premises Act, 1963.

A total of 15,501 inspections of retail shops of all classes, cafes, hairdressers, pet shops, warehouses, clubs and places of entertainment have been made during the year. These are in addition to the routine

and special visits to shops on the early closing day, in the evening and on Sundays which totalled 3,216.

Hairdressers and Barbers

Work in connection with the provisions of Section 42 of the Liverpool Corporation Act, 1955, and the Byelaws for hairdressers, has mainly been connected with applications for registration of new businesses, transfers to new owners and inspections on request to furnish specifications of work for the guidance of newcomers to the trade.

During the year, fifteen new hairdressers and seventeen transfers of ownership were approved, and the total number of such businesses on the register at the year-end was 753. There were 57 inspections, and nineteen infringements were dealt with by special letters.

Places of Entertainment

Cinemas, theatres and other places of entertainment in the City number 41 and, in co-operation with the Licensing Justices' Department, day and evening visits were made to these establishments. Inspections were made of toilet facilities for customers, staff and entertainers, and food departments, such as bars and kiosks, including hand washing facilities for food handlers. It is interesting to note that the sale of sweets, ice cream, cigarettes and hot-dogs has recently been extended in one case to the supplying of fish and chips for consumption on or off the premises.

Infringements and defects found during these inspections were readily dealt with by the managements, and formal action by the department was not necessary.

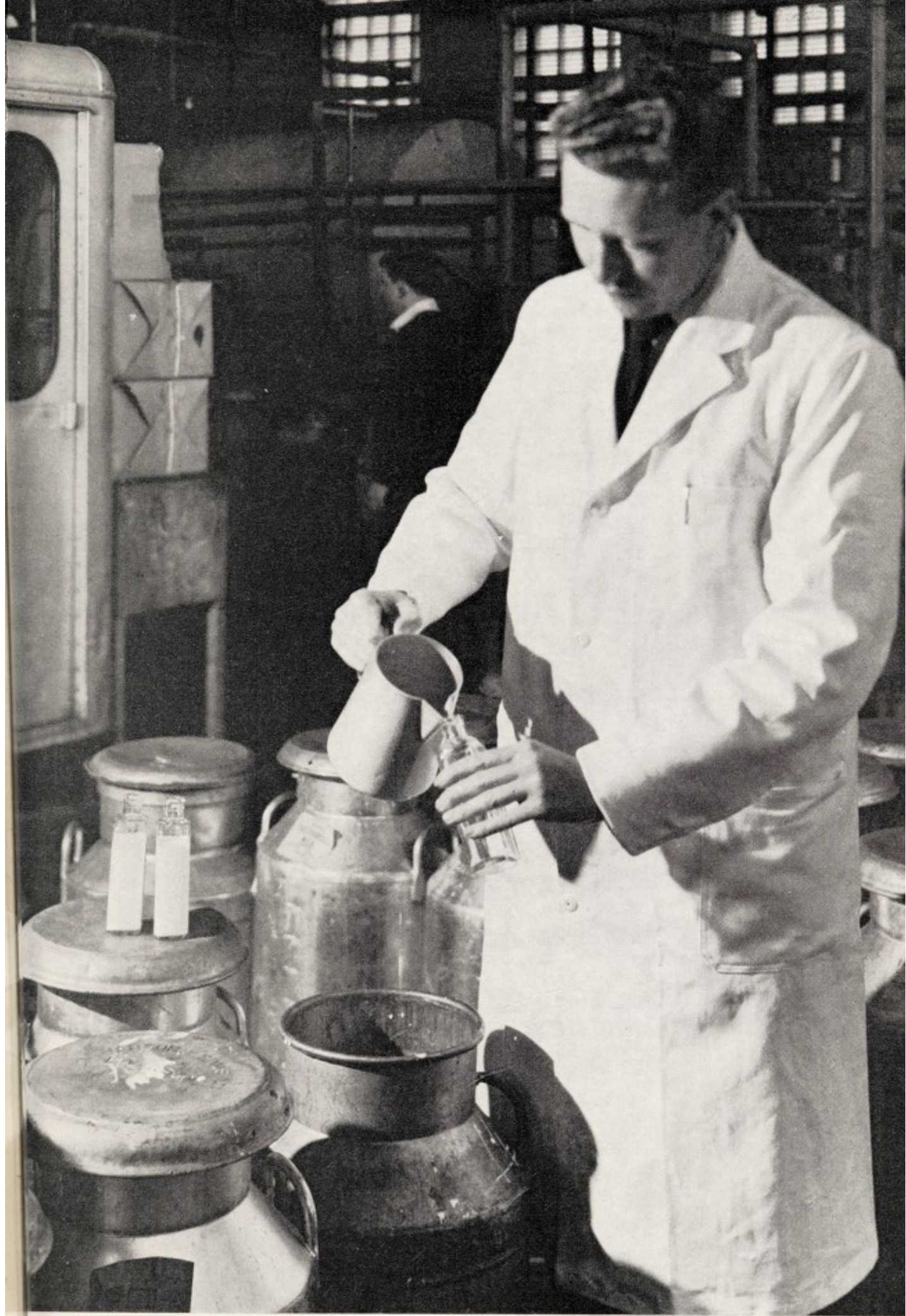
Pet Animals Act, 1951

The premises regulated by this enactment are fully inspected upon receipt of applications for new licences and the renewal of existing licences, and further visits are made to ensure that infringements are dealt with satisfactorily. The Liverpool Fire Service reports to this department on those matters relating to the fire precaution provisions of the Act and their recommendations were incorporated in the conditions of the licences.

The number of pet animal dealers licensed during the year was 44 and 59 visits were made to their premises; 35 infringements were dealt with satisfactorily by the occupiers.

The Animal Boarding Establishments Act, 1963

Duties similar to those under the Pet Animals Act, 1951, are carried out under the above enactment and eight establishments have been licensed.



MILK SAMPLING



FOOD HYGIENE—CANTEEN KITCHEN

The Riding Establishments Act, 1964

The duties relating to the inspection and approval of premises regulated by this new legislation have been delegated to this department. Unlike the requirements of the Pet Animals Act, 1951 and the Animal Boarding Establishments Act, 1963, this Act, dealing with riding establishments, makes it incumbent upon the local authority, in determining whether to grant a licence to any person at any premises, to have regard to the person's qualification, either by experience in management of horses or otherwise. In this connection a local authority is required, under the Act, to appoint a veterinary surgeon or practitioner to inspect any premises in respect of which a licence has been applied for under the Act. Such an appointment has been made, and, in addition to the report by the veterinarian, a public health inspector deals with structural and other matters regulated by the Liverpool Byelaws for stables. Two applications for licences were received and approved.

THE OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

General and incidental inspections of offices, shops, warehouses, catering establishments, canteens, wholesale premises, receiving and repair depots have been systematically carried out throughout the year, and in order to meet other special requirements in the central area of the City, there has been a concentration of effort in this locality by a team of inspectors. Additional to this, inspectors in the outer districts have dealt with the requirements of this enactment during inspections associated with complaints or routine duties.

The receipt of notifications of the employment of persons (form O.S.R.1) declined considerably during the period under review. Whereas the number received up to the end of 1964 was 8,612, only 1,321 notifications were submitted during 1965, and the majority of these came in after action by this department or by Fire Service inspectors. The major reason for this situation is that insufficient national publicity has been given to the requirements of this enactment, and many employers, especially those in a small way of business, are still unaware that this requirement for registration is additional to other recent legislation which also deals with the employment of staff. The position has now been reached where inspectors must spend additional time dealing with requests by employers for information on this and many other aspects of the Act.

Arising out of the general inspections already carried out, a great deal of follow-up work has been necessary, which has included meeting owners or agents for properties, architects, occupiers of premises and contractors, and it is worthy of note that there has been a ready and, in most instances, immediate co-operation between the many persons affected and this department. A considerable amount of work, much of it costly, has already been completed.

Delays and deferments of action have occurred, but these usually have been associated with structural or drainage difficulties. An example of this relates to the poor ventilation of offices created, by occupiers, through the sub-division of large rooms. Such alterations often cause small internal units to be formed, perhaps as telephonists' rooms, which are deprived of natural light and ventilation. The problem of ventilating these offices is increased by the restrictions necessary to meet the fire precaution measures relating to ventilation openings and ducts on to corridors and staircases in multi-let buildings.

By the end of the year, 5,414 visits had been made and 742 cautionary or advisory letters sent with respect to 4,665 infringements found during inspections.

Accidents

The provisions of the Act relating to the notification of accidents are becoming more widely observed, although the increase in the number of notifications, a total of 473 for the year, emphasises the hitherto undisclosed fact that there are a very considerable number of accidents in non-industrial occupations. The information received tends to indicate that there are many more accidents, some of them probably due to unsatisfactory working conditions, which are not notified to the appropriate authority.

The majority of accidents notified have been found to be due to the carelessness or default of the injured person, but an appreciable number of incidents, such as falls on stairways and through unguarded or inadequately guarded floor openings, have been due to traditional and long accepted trade practices. Hatches and steps to cellars from licensed bars, butchers' shops and certain other shop premises, which have been accepted as standard and comparatively reasonable means of access to storeplaces, have now been highlighted as potential accident hazards.

Some of these faults, which are usually of a structural nature, can be corrected easily and quickly, but there are many requiring extensive building alterations and consultations with this department.

All accident notifications (O.S.R.2) are carefully examined and the relevant details coded in accordance with the Ministry of Labour's classifications. This information is collated and recorded in a quarterly return sent to the Ministry through the Deputy Superintending Inspector of Factories.

Following the examination and the coding of the accident notifications, inspectors visit the premises and investigate the circumstances of every accident which may have arisen through some default or oversight by the employer, even though the injured person may have caused the accident through their own carelessness. It has not been necessary

to take court proceedings, but cautionary letters have been sent in respect of many of the incidents, and this action has resulted in the removal of many unsatisfactory conditions, and the provision of suitable aids for lifting goods and articles and for reaching high level fixtures and fittings.

H.M. Factories Inspectorate are responsible for many classes of premises regulated by the Offices, Shops and Railway Premises Act, 1963. In a number of locations the demarcation of duties is not precise, and in such cases consultations and co-ordination between that department and the local authority have been extremely helpful and satisfactory.

SUPERVISION OF FOOD SUPPLY

Close supervision of the food supply of the City has again been maintained throughout the past year. Public health inspectors have made daily visits to the Wholesale Fish Market, the Wholesale Fruit and Vegetable Markets at Queen Square and Cazneau Street and St. John's Retail Market. In addition, the various food and canned goods warehouses in the City were visited frequently and during the year, 1,721 special food complaints made by representatives of the wholesale and retail trades have been dealt with satisfactorily.

Routine inspection is carried out on all poultry and game entering the wholesale market prior to sale to the retail trade; 1,581 lbs. were rejected and destroyed as a result of these inspections, due mainly to decomposition and refrigerator perish.

An extensive retail trade throughout Merseyside is supplied by the Wholesale Fish Market. Daily inspections at this market resulted in the rejection of 47,616 lbs. of fish and 66 lbs. of rabbits as being unfit for human consumption.

The daily examination of fresh fruit and vegetables at Queen Square, the North Market and at various wholesale warehouses sited throughout the City has been maintained during the year and resulted in the rejection of 170,692 lbs. of various fruits and 448,368 lbs. of vegetables as being unfit for human consumption. In addition, 60,310 lbs. of coconuts and other nuts were rejected.

Daily visits have been made to a variety of food premises including shops, warehouses and food factories for the purpose of the inspection of canned goods and grocery sundries. A large proportion of the foodstuffs rejected as being unfit for human consumption was disposed of at a Corporation controlled tip, and smaller consignments were removed by the City Engineer's (Cleansing) Department and subsequently tipped under their supervision.

The examination of canned goods and grocery sundries resulted in the rejection of some 136,149 lbs. as being unfit for human consumption. In addition, some 8,343 packages of frozen foods were rejected due to the breakdown of refrigerator cabinets.

Details of the various categories of canned goods, etc., rejected are set out in the table below:—

	<i>lbs. wt.</i>
Canned Meats	68,869
Canned Fruit and Vegetables ...	16,654
Canned Fish, Milk and Soups ...	3,359
Dry Groceries, etc.	47,267

To ensure compliance with the Merchandise Marks Act, 1,618 visits were made to provision merchants, butchers and greengrocers. Any infringements observed were immediately rectified and routine visits confirmed that the instructions given were being adhered to in every case.

Foodstuffs intended for export are required to be accompanied by a certificate of soundness to their destination, and these consisted mainly of bacon, canned goods, cream cakes and various cuts of fresh and pickled meat. Inspections of 102 consignments were carried out and all were found to be fit for human consumption and export from this country and the necessary certificates issued.

Investigation into food complaints originating from members of the public was carried out with regard to foreign bodies and the question of nature, substance and quality of various foodstuffs. A total of 602 complaints were received, thoroughly investigated and completed generally to the satisfaction of the complainants.

MEAT INSPECTION

The introductory remarks to the report for last year stated that "the year has been one of the most difficult in the modern history of the meat trade" and this report for 1965 could well be assessed in a similar statement. The hopes of the meat trade for an easier trading period have remained unfulfilled; the prices of livestock have not showed any appreciable change, with a continuing shortage of choice quality bullock carcasses as well as a scarcity of cow beef.

The supplies of frozen and chilled imported meat have fluctuated, and indeed, one well known firm of importers has ceased to operate in the Stanley Market.

The home lamb season started late in the year, as graziers tried to "put a back" on the lambs, but after the first spring lambs had been sold the lamb trade settled down to a humdrum level of mediocrity

which has not been surpassed. The hill lambs at the back end of the year were amongst the poorest seen in the last ten years.

Owing to the high price of beef, the sale of pork increased substantially, and this was reflected in the figure for pigs slaughtered, which increased by some 16,000.

The total number of animals slaughtered in Liverpool was 454,484. Compared with last year's figure of 489,051, the main decrease was in sheep and lambs by some 30,000, and although pig slaughter increased by 16,053, there was a drop in the number of cows slaughtered by some 6,000, but the number of bullocks dealt with increased by approximately 4,000.

The number of bulls slaughtered, 37, was the lowest recorded, but ironically this is for the better. The policy of artificial insemination from Ministry centres has eliminated the scrub bull, and thus improved both the milk yield in dairy herds and the quality of the livestock, whilst the calf subsidy has meant that more beef-cattle (bullocks) are available, but of course the price remains high.

Animals Slaughtered

Details of the number of animals slaughtered during the year are as follows:—

Calves	Pigs	Sheep	Bullocks	Cows	Heifers	Bulls	Total
1,865	132,163	271,005	35,003	13,770	641	37	454,484

Diseased Conditions

Of the 454,484 animals slaughtered and inspected, 2,013 whole carcasses were totally rejected as diseased and unfit for human consumption, together with part carcasses from 10,012 other animals. In addition, organs from 86,013 animals were rejected for diseased conditions. A summary of the reasons for condemnation is set out in the statistical appendix.

Diseased meat and offal—disposal and treatment

The amount of diseased meat and offal rejected was 369 tons. All this material was dealt with in the City Council's by-product plant within the abattoir, where it was rendered down and sterilised. The resultant inedible tallow and meat meal was sold for manufacturing processes and animal feeding stuffs. The plant also handles blood from the slaughter units which is dried and sold as high nitrogen content fertiliser.

The meat traders, as owners or agents, are paid for this raw material—meat, offal, or blood, the weight and type of meat being certified from the meat inspection records and payment made by the Markets Department.

Meat Inspection Charges

The City Council, in 1963, decided that charges for meat inspection would be made on the scale of 2s. 6d. per bovine animal (other than a calf); 6d. per sheep or goat; 9d. per pig or calf. The income received by the Council for the inspection of the 454,484 animals slaughtered during the year ended 31st December, was approximately £18,000.

Tuberculosis

The overall incidence of tuberculosis found during routine inspection in bovine carcasses was, as last year, less than one per cent. However, it is interesting to record that tuberculosis in pig carcasses rose from 0.32 per cent in 1964 to 1.37 per cent this year. This rise is most difficult to explain away, as for instance, the eradication scheme eliminates the tubercular cow, and so tuberculous milk, whilst compulsory sterilisation, by boiling of all pig swill, should reduce infection through swill to vanishing point. The possibility of avian type infection has not been overlooked, but this is not confirmed by our post mortem findings.

The number of reactor cattle sent in for slaughter by the veterinary officers of the Ministry of Agriculture, Fisheries and Food under the eradication scheme was 21 (four bullocks, seventeen cows). Of this total, three carcasses were rejected in part for systemic infection, seven showed tubercular lesions in the organs, and eleven did not show any lesions in the organs or systemic lymphatics. This finding was confirmed by microscopic or biological tests of selected tissue or lymph nodes carried out by the Ministry.

Pyæmia in Pigs

The incidence of pyæmic infection in pig carcasses still gives cause for concern. Last year it was reported that 103 carcasses showed some bone lesions. This year the figure was 100, and it is clear that, from a public health viewpoint, all pig carcasses should be split through the vertebrae, into sides before leaving the slaughterhouse or market for retail sale, as the pelvic and lumbar bones are, in the main, the usual sites of infection.

On the Liverpool market, through the co-operation of the wholesalers, pork is sold in sides or cut up into legs, loins, bellies and fore-ends, and the sale of a whole unsplit pig is becoming quite rare.

General diseased conditions—Sheep and Lambs

Those met with during the year in sheep and lamb carcasses were the familiar ones—pleurisy, pneumonia, peritonitis, sepsis, distomatosis

and arthritic conditions. The number of carcasses wholly condemned for diseased conditions was 1,413, together with part carcasses from 4,583 other sheep or lambs out of the total number of 271,005 slaughtered, and compares with the previous year, when 1,956 whole, and 5,869 part carcasses were rejected out of 316,494 carcasses inspected. In General, the quality of carcasses was only fairly good, with hill sheep and lambs very poor as a whole.

Calves

Out of 1,856 calves slaughtered, 225 carcasses were wholly condemned for acute enteritis or umbilical pyaemia ("joint ill") together with part carcasses from another 47 calves—mainly injury of legs, back, or pelvis, due to careless handling in transit. Good veal calves were extremely scarce, the bulk of those slaughtered being small "bobbie" calves which the breeder did not wish to rear.

Cattle

Of the 49,451 cattle slaughtered, consisting of 35,003 bullocks, 13,770 cows, 641 heifers and 37 bulls, the quality varied from choice to average with the exception of the cows, which were very mixed with a high percentage of "boners". This is a fairly consistent pattern, the choicest beef being sold to shipping companies and luxury hotels, a high proportion of kosher meat for the London market, and the poorer cow carcasses for manufacturing purposes.

The number of carcasses or offal found to be diseased at the time of slaughter and inspection was 98,038. This figure is approximately 22 per cent of the 454,484 animals slaughtered, but compares favourably with the previous year when the figure was 26 per cent.

Meat Market

The large quantities of frozen or chilled beef, lamb, mutton and offal (tails, kidneys, livers, hearts) sold daily on the meat market are subject to inspection. The imported meats on the whole were in good condition. Mould growths, brine staining, decomposition, or transit damage were the main causes for rejection.

The quality of some of the home-killed carcase meat sent in for sale from rural areas, however, was poor; and in some cases, the inspection standards were low, carcasses arriving on the market being found to be oedematous, arthritic, emaciated, abscessed, amongst other pathological conditions, although bearing the "inspected and passed" stamp of a local authority. On such occasions the responsible officer of the particular authority was advised without delay. The amount of such meat condemned as unfit for human consumption was approximately three tons.

Carcasses and meat dealt with in the market, *excluding* the meat and offal from the 454,484 animals slaughtered in the City, were as follows:—

Origin	Beef Hinds/Fores	Carcases Mutton/Lamb	Carcases of Pork	Carcases of Veal
Imported chilled or frozen	25,301	721,754	1,369	6
Slaughtered outside Stanley Abattoir ...	21,470	161,863	112,680	3,083

In addition to the above, 165,325 packages of imported meats were handled.

Transport of Meat

The meat-carrying vehicles working out of Stanley market are regularly inspected to ensure that requirements in regard to hygiene are observed. In general, a satisfactory standard is maintained, but there are minor infringements from time to time which are dealt with as they arise. A number of butchers prefer to transport meat in shooting-brake type vehicles fitted with metal tray insets rather than use the service of professional meat carriers. On one occasion a trader was seen to have a small dog in the passenger seat of such a motor car separated from the meat by a wire screen across the seat, and it required considerable forbearance to convince the trader that dogs were prohibited in meat-carrying vehicles by the regulations. In another instance, a van partly loaded with boxed frozen offal, had to be unloaded and washed inside before it was allowed to leave the market forecourt. On another occasion, a furniture van, part loaded with household equipment and furniture was driven in by a Muslim butcher with the intention of transporting mutton carcasses to his shop for sale. There is little doubt that, in each of these cases, an explanation of the regulations and the reasons for the particular requirements thereof has done more for future hygienic practice than punitive legal enforcement could achieve.

Slaughtering Licences

During the year, 119 licences were granted by the City Council to slaughtermen, Muslims, and ritual cutters of the Shecita Board to slaughter animals in the abattoir. In addition, 55 licences were granted to Mohammedan seamen for the ritual slaughter in the abattoir of sheep, the carcase meat being purchased by shipping companies for consumption by Mohammedan members of ships' crews.

New Refrigeration Unit

The new refrigeration unit and meat conditioning rooms were nearing completion at the end of the year. This large refrigerating unit will have adequate capacity to deal with all requirements in this field, and it is confidently hoped that the necessity for slaughtering on Sundays will cease.

Installation of Line Cattle Slaughter

During the year discussions have taken place with the consulting engineers responsible for planning a layout of a new cattle slaughter line system and this exchange of ideas and suggestions has proved most valuable. The present unsatisfactory method of dealing with bovine stomachs described in previous reports continues meanwhile, and it is hoped that progress in this field will not be delayed.

Pharmaceutical Raw Material

Various organs and glands, for example, ovaries, adrenals, thyroids, and pituitaries taken from sound healthy carcasses after inspection, were collected in quantity and sent for processing for medicinal use. In addition, some 29 tons of distomatotic livers were sent to pharmaceutical manufacturers for making liver extract.

Specimens for Teaching Purposes

Requests for supplies of uteri, cysts, embryos, eyes, hearts and blood from the various departments of the Liverpool University, training colleges, schools and hospital laboratories have, as in past years, been met. Various specimens were also set up for the Veterinary Department of the Liverpool University, and for the examinations of the Royal Society of Health.

Training Courses

The courses for those preparing for examinations in meat and food inspection or food hygiene were well attended. Thirty-eight students received instruction in the theory and practice of meat and food inspection, together with the law relating thereto. Practical work included visits to processing dairies, ice cream plants, food factories, docks, cold stores, abattoir and meat market.

FOOD HYGIENE

Enforcement and advisory duties in all categories of food premises have been carried out in conjunction with duties under the Offices, Shops and Railway Premises Act, 1963; Shops Act, 1950; Public Health Acts and Licensing Act, 1961. Matters dealt with included the licensing or registration of these premises for the sale or manufacture of ice cream, the sale of milk, and investigations of complaints of unsound food or the presence of foreign bodies in food. In addition, inspections were made of street traders' barrows and carts, and mobile shops and canteens. The total number of inspections was 12,064.

Infringements of the Food Hygiene (General) Regulations, 1960, to the number of 2,017, were dealt with by warning letter and by court proceedings in respect of seventeen informations. Fines totalling £63 were imposed by the magistrates in these cases.

It is encouraging to record that many shopkeepers have retained a conscientious endeavour to maintain hygienic standards in their establishments and to put into practice the advice given by inspectors. It is regrettable, however, that there are still far too many food premises where standards are only maintained when under the supervision of officials of this department. One of the contributory causes of this is the unconcern of certain traders for instruction or training. They appear to be totally unaware of the basic elements of food hygiene and are therefore unable to instruct their employees properly or realise the necessity for them to attend courses on this subject.

In order to give an opportunity to persons in the catering and retail trades to obtain suitable instruction, a series of lectures in food hygiene has been held at the University School of Hygiene. These are certificated courses and have proved invaluable in providing accurate and practical teaching for traders and their staffs. Many employers have shown commendable interest, encouraged their personnel to attend the courses and, in many instances, paid the fees for the lectures and examination.

There has, once again, been further opportunity for members of the department to talk to church and other voluntary organisations on the subject of food hygiene, and also on the work of the Health Department in general. Some firms have also requested lectures to their staffs, and these have been very successful. Another aspect of our educational activities has been to distribute a variety of posters and leaflets on food hygiene to be displayed or used by traders. The question of dogs being taken into food shops by customers is another problem which is causing much concern to this department and to the more thoughtful shopkeepers, and special cards are being distributed indicating the danger of contamination to food and requesting persons not to take dogs into food premises. Shopkeepers are usually ready to display these cards, but there are quite a number who prefer not to make use of them, because they are afraid of offending their customers.

As much time as possible is given to the general supervision of food trading in streets, and inspections of barrows, carts and mobile shops of all kinds are carried out as routine duties and in connection with complaints. These have been few during the year, and related not only to unhygienic conditions but also to the presence of mobile shops in certain localities.

New proposals are now before Parliament whereby it is hoped to strengthen the existing local legislation which will enable a comprehensive form of registration of street traders, their vehicles and storage premises, to be enforced.

In connection with the registration of ice cream premises and dealers, seventeen new applications and 27 transfers to new vendors have been approved, together with one new manufacturer and nine transfers of manufacturers' businesses.

All other food premises, including cafes, snack bars, fried fish shops, and retail food premises have been given as much attention as other urgent duties have permitted. A total of 2,198 infringements were reported and dealt with appropriately.

Regulations 16 and 19

Whilst it is not possible to give exact figures to indicate the number of food premises in each category which fully comply with Regulations 16 and 19 of the Food Hygiene (General) Regulations, 1960, it can be stated that all such premises are provided with hand washing facilities. It is known, however, that in a number of small shops these facilities comprise a portable bowl used in conjunction with a sink, and that hot water is supplied by means of a pan or kettle. Many of these facilities have already been changed to wash-hand basins with water heating appliances installed over the basin and the remainder will be dealt with in due course.

The provisions relating to Regulation 19 apply to all the categories except off-licence shops, a small number of canned goods dealers, and certain sweets retailers. Those premises which require sinks for washing utensils, equipment or food are equipped for the purpose, and such infringements which exist relate to the need for the replacement of damaged or old equipment or an extension of the existing facilities to meet additional demands of the business. These matters are dealt with when inspections are made for routine or other purposes.

FOOD PREMISES—1965

Food Trade							Approximate Num' er
Licensed premises	...	...	...	...	...	...	1,040
Off-licence premises	...	...	...	...	...	...	170
Ice cream vendors	...	...	...	...	...	...	1,935
Bread and confectionery	...	...	...	...	...	...	420
Butchers and cooked meats...	...	...	...	...	...	...	800
Cafes, snack bars, etc.	...	...	...	...	...	...	400
Dairies (Registered)	...	...	...	...	...	...	723
Fishmongers and poulterers	...	...	...	...	...	...	200
General	...	...	...	...	...	...	1,140
Greengrocers	...	...	...	...	...	...	850
Grocery and provisions	...	...	...	...	...	...	950
Sweets, minerals, etc.	...	...	...	...	...	...	1,270
Fish frying establishments	...	...	...	...	...	...	490
Food Factories	...	...	...	...	...	...	2,300
Local authority meals, canteens and kitchens	...	...	...	...	...	...	225
Clubs—Licensed	...	...	...	...	...	...	271
Clubs—Registered	...	...	...	...	...	...	222
Clubs—Other	...	...	...	...	...	...	175

THE ADULTERATION OF FOOD AND DRUGS

During the year, 3,593 samples of food and drugs were procured and analysed and of this number 154 or 4·3 per cent were found not to be genuine or otherwise irregular.

The samples taken comprised 495 formal and 3,098 informal. An informal sample is one procured without the statutory intimation to the vendor that it is to be analysed. Valuable information as to irregularities may be obtained in this way. Milk being such a widespread and staple source of food supply must figure prominently in any sampling programme and 2,364 samples of milk were procured for analysis. Statutory action was taken in respect of milk, fishcakes, and steak and kidney pie and fines totalling £45 and £43 costs were imposed. These details included cases heard early in 1966, following offences in 1965.

Samples of ice cream, ice lollies and frozen confections submitted for chemical analysis or bacteriological examination numbered 162. A total of 126 ice cream samples were examined bacteriologically and 75 were found to be Grade 1; twenty Grade 2; nine Grade 3 and 22 Grade 4. Appropriate action was taken in respect of samples found unsatisfactory and advice given to manufacturers concerning sterilization of the processing plant.

In addition to the bacteriological examination of ice cream and milk 253 samples of other foods were examined for their suitability for human consumption, including examination for food poisoning organisms. The foods selected were those to be eaten without further cooking and included meat pies, sausage rolls, sandwiches, cooked meats, cakes and shellfish. The results generally were satisfactory.

Examination of Milk

Regular routine samples of milk were taken from processing plants and milk producers within the City and the standard of cleanliness and efficiency of pasteurisation continued to be satisfactory. The total number of milk samples submitted to the Public Health Laboratory for examination was 1,905, comprising 1,765 heat-treated milks and 140 raw milks. Of the 1,765 heat-treated milks, six failed the phosphatase test for efficiency of pasteurisation and, in every case, the processing plant was examined and the fault rectified. In addition, 135 samples failed the methylene blue test for bacterial quality. The majority of these failures were from cartoned milk from automatic vending machines.

Ten methylene blue failures were reported from the 140 untreated milk samples taken, and the result of guinea pig inoculation of the milk tested for the presence of tubercle bacilli proved that all samples were negative.

The milk supply to hospitals, aged persons hostels, schools and other Corporation establishments is sampled regularly and 240 samples

were tested chemically and bacteriologically. All samples proved to be genuine.

The milk supply of the City consists of heat-treated milk or "untreated" milk and a small percentage of the daily consumption consists of this untreated milk. Of the 140 samples of untreated milk, 92 were specially tested for the presence of *brucella abortus*. These samples were procured from milk produced within the City area and from farm-bottled milk produced in outside areas. Samples from two herds proved to be positive. As the milk produced from both herds was already being sent for pasteurisation it was not necessary to serve the requisite notice on the producers. Further samples from the herds proved negative.

New registration certificates in respect of milk distributors and their premises numbered 43 and a similar number of licences were required for the sale of designated milk. In all, 965 visits were made. This frequent check on registered premises revealed that 270 businesses had ceased to operate, 20 dairies required to be transferred from one person to another and 43 new registrations were required to be effected. At the same time the public health inspector ensured that the requirements of the Milk and Dairies (General) Regulations, 1959 and the Milk (Special Designation) Regulations, 1963 were strictly complied with.

During the year, 465 visits were made to milk processing plants for the purpose of sampling when the installations were in operation. Special attention was paid to the temperature, the functioning of the recording and indicating instruments and the holding times.

There are five pasteurising establishments in the City consisting of three high-temperature, short-time pasteurising plants and two of the batch or holder type. In each instance the units are coupled to mechanical bottle-washing plants, filling and capping machines with adequate cold-room accommodation. In addition there are three milk sterilising plants in the City.

The processing dairies continue to be well maintained and effective in operation.

The Liverpool Corporation Act, 1921 empowers the local authority to grant licences to all persons keeping dairy cows, store cattle and pigs, subject to the premises being of the required standard. There are fifteen cowsheds and 26 piggeries in the City.

Other sampling

The Liquid Egg Pasteurisation Regulations, 1963 forbid the use of unpasteurised liquid egg with the object of preventing the ingestion of organisms capable of producing food poisoning in the consumer. There are no egg pasteurisation plants in the City and seven samples

were taken during the year and submitted for the alpha-amylase test. All samples proved satisfactory.

During the year, 35 samples of animal feeding stuffs and fertilisers were obtained from City mills for analysis. With minor exceptions all samples were found to conform with the manufacturers' statutory statement.

FACTORIES INSPECTION

Detailed particulars relating to the administration under Section 153 of the Factories Act, 1961, are given in the statistical appendix.

The inspections under the Offices, Shops and Railway Premises Act, 1963, have revealed a number of demarcation problems in industrial and allied premises. These, however, have been dealt with in a satisfactory manner by close co-operation between the district inspector of factories and the public health inspector.

Frequent visits are made to food factories by the public health inspector, and under the provisions of the Food Hygiene (General) Regulations, 1960 a satisfactory standard of both personal and structural hygiene is obtained, thus ensuring a clean food supply to the public.

Outworkers

In order to ensure that premises used by outworkers, whether dwellinghouses or business premises, are suitable and wholesome, close supervision and investigation is carried out when the twice-yearly return is submitted by employers, giving names and addresses and the type of work involved.

Details are as follows:—

(1) Number of outworkers during the year...	...	...	180
(2) Number of returns received from other authorities	...	...	2
(3) Number referred to the Medical Officers of Health of districts outside the City	...	...	17

Rag Flock and Other Filling Materials Act, 1951

Details of the number of premises where rag flock is manufactured, stored or sold under licence are as follows:—

Licensed to manufacture rag flock...	...	1
Licensed to store and sell rag flock	...	5
Registered for use of filling materials	...	76

The number of samples submitted to the prescribed analyst was four. All samples were found to conform to the requirements of the Act.

Agriculture (Safety, Health and Welfare) Provisions Act, 1956

Visits made to nursery gardens, farms, market gardens and small holdings numbered 93, and all were found to comply with the requirements of the Act.

INDUSTRIAL NUISANCES

Offensive Trades

A number of complaints was received during the year necessitating continuous observations on certain plants in order to prevent the emission of foul-smelling vapour and gases into the atmosphere over a wide area of the City. The cause was plant breakdown in the majority of cases although, in other cases, it was due to the human element.

Other Nuisances

Amongst nuisances from other types of business premises were a chemical smell from a dry cleaning factory and cooking fumes from a large restaurant situated in the central area found to be entering offices on the upper floors of the building. In both cases remedial measures were achieved by the installation of metal ducting leading to a terminal, well above the roofs of adjoining premises.

Dust

Apart from a small number of dust complaints from various parts of the City the major problem arose from demolition of buildings in the central area redevelopment scheme; food shops, large general stores, and office buildings were affected. Owners made many complaints of damage to stocks and of unhygienic working conditions for staff. The main contractor, on the advice of the public health inspector, maintained constant water spraying on the site, and arranged for daily cleansing of the street surfaces in the area, coupled with the spraying.

Noise

Complaints of noise received by the department varied between noise from machinery and handling of equipment in factories situated in residential areas, to noise from occupiers of dwellinghouses, for example, wireless and television sets kept too loud, and barking dogs whose owners were out at business. After appropriate observations, which at times necessitated late evening and early morning visits, advice and guidance to the offenders invariably achieved a satisfactory solution.

Noise from pneumatic drilling in the central area redevelopment scheme was adjusted by arrangements being made for this work to be carried out, as much as possible, before or after normal working hours.

LICENSED PREMISES

During 1965, ten applications were received under the Licensing Act, 1964, by the Clerk to the Justices for new club registration certificates. Following the issue of specifications, adaptations and improvements at an estimated cost of £3,500 were carried out to the premises concerned. Subsequently the Stipendiary Magistrate granted the necessary certificates and all the applications were approved.

Under the provisions of this enactment the Stipendiary Magistrate is empowered to renew a certificate of registration for a period of twelve months, but after the second and subsequent application, if the Court thinks fit, the certificate can be renewed for a period of up to ten years. During the year, 73 clubs were reinspected when applications were made for renewal of certificates and in nine cases it was necessary to issue specifications of works subsequently carried out at an estimated cost of £550.

The Stipendiary Magistrate renewed registrations in respect of 71 clubs, the other two clubs had not completed the necessary works at the end of the year. During 1965 two clubs who had applied for registration during 1964 withdrew their applications, and two other registered clubs surrendered their certificates upon obtaining new Justices On Licences.

The total number of registered clubs at the end of the year was 271, and a further 55 clubs are subject to On Licences under Section 55 of the Licensing Act, 1964.

In addition to the club registration certificates, eighteen premises were visited and inspected in connection with applications for Justices' Licences to hold excise licences authorising the sale of intoxicating liquor. These included proprietary clubs, licensed restaurants, bingo halls, and off-licence premises. Approval was given after the necessary works had been satisfactorily completed at a cost of £4,500.

As a result of these applications there are now 169 off-licence premises for the sale of beer, wine or spirits, twenty restaurants are licensed for the sale of intoxicating liquor and three premises are subject to residential restaurant licences authorising the sale of intoxicants.

ATMOSPHERIC POLLUTION

Smoke Control Areas

One further Smoke Control Order became operative during the year and another was confirmed by the Minister of Housing and Local Government. In accordance with the programme policy, surveys of two more smoke Control Areas were completed and the details are to be submitted for declaration by the City Council, and confirmation by the Minister of Housing and Local Government.

Operative Smoke Control Areas

Sixteen Smoke Control Orders are now operative, covering the central area of the City and the wards of Aigburth, St. Mary's, Speke, Allerton, Woolton, Childwall, Dovecot and parts of St. Michael's and Church. Some 57,000 premises are now subject to smoke control and a further 3,000 are included in the Order recently confirmed.

Fuel Supplies

The delay which was experienced following the issue of the circular concerning supplies of smokeless fuels has been overcome, as there is now a plentiful supply of suitable fuels for burning in improved grates, and it is possible to report that the co-operation of owners and occupiers of houses affected by Orders enabled the public health inspectors to ensure that the majority of the conversions required were carried out expeditiously.

Atmospheric Pollution

All the houses owned by the local authority and affected by the recent Smoke Control Orders have been inspected, and with the co-operation of the occupiers and contractors the work has proceeded with minimum delay.

Abatement of Industrial Smoke

Smoke emissions from chimneys serving industrial boiler plants continue to be less frequent, and very few direct complaints were received from the public during the year. Routine inspections and observations were maintained by public health inspectors and it was not necessary for formal action to be taken on any occasion.

The continued introduction of diesel-propelled river craft has completely altered the scene of shipping on the Mersey and only isolated instances of smoke emission occurred, mainly from vessels running against the tide or manoeuvring in mid-river.

Railways

The progress achieved by British Rail in removing out-worn, coal-fired locomotives continues. Smoke emissions still arise at shunting depots and marshalling yards, but steam locomotives are steadily being reduced in number and it is anticipated that they will disappear almost completely in the near future.

Warren Spring Laboratory

This section of the Department of Scientific and Industrial Research continues to accept the results of the investigation into atmospheric pollution in the City and correlate the readings which are forwarded to them each month from three different types of instrument.

Special Visits

The services of public health inspectors are still requested by engineers, architects, works managers, contractors and householders. Advice is given on the desired instrumentation of boiler plants, heights of chimneys, methods of firing and attention to furnaces, the fixing of domestic firegrates, and their efficient use when burning solid smokeless fuels.

A total of 184 new furnaces was installed and approval was requested in respect of 51 installations, all of which were approved without modification.

Plans of proposed new chimneys examined in accordance with Section 10 of the Clean Air Act, 1956, numbered 95. In four cases the height of the chimney was increased in order to meet the requirements of the authority and two plans were withdrawn.

RODENT CONTROL

The rodent control section continued to work throughout the year to eradicate rodent pests from buildings, lands and sewers in the City. Although many rat and mouse infestations were found either by notification or detected by routine survey, they were generally of a very slight degree. Practical assistance for the destruction of rats and mice was given to owners and occupiers of buildings and sites upon request, and, in addition to the considerable amount of operational work undertaken, steps were taken whenever necessary with a view to preventing further infestation.

Duties of Local Authorities and Occupiers

It is the statutory responsibility of every local authority under the Prevention of Damage by Pests Act, 1949 to take steps to secure, so far as is practicable, that its district is kept free from rats and/or mice, and to enforce the duties of owners and occupiers under its provisions.

To rely upon the enforcement of the Act without the local authority providing practical assistance to owners and occupiers for the destruction of rats and mice would be inadvisable. The exacting process of prescribing treatments either by informal or formal notices to owners and occupiers, and subsequent visits necessary to ensure that the notices were being complied with would, as a general practice, be too slow to be effective with the limited inspectorial staff available.

The possibility of food contamination by rats and mice always exists where they are present, and routine surveys were carried out at food factories, warehouses, retail food shops, and catering establishments as a preventive measure.

Continuous attention to suspected defective drains and sewers and the remedying of defects in conjunction with systematic treatments of lands, buildings and sewers, has helped to remove the health dangers from rodents and the risk of food contamination by them.

Systematic Survey

Systematic routine survey of lands and buildings in the dockside and central areas and in other places where rodents are most likely to be found was again carried out during the year, but unfortunately, due to staffing problems, the number of surveys carried out was much reduced. The infestations detected during these surveys were all of a minor degree.

The rodent control staff examined 20,094 sites during the year in connection with routine survey and investigation of complaints, and a further 65,436 visits were made entailing operational work and re-examination of buildings and lands during or following treatments. Public health inspectors also made, in connection with other matters, 78,075 inspections under the Act.

Rodent Infestation

Infestations—Buildings and Lands

During the year, 5,245 sites were found to be infested; 3,033 by rats, 52 by rats and mice, and 2,160 by mice only. The majority were only slightly infested and details are shown in the statistical appendix.

The sites principally affected were warehouses and factories within the dockside districts as may be expected, but with a continual fall in degree of infestation. The central areas of the City are still maintaining a decrease in rat population as a result of the steps taken year by year.

The transportation of rats, and mice in particular, conveyed in goods delivered to premises was again the means of causing occasional slight infestation during the year. The conveyance of rats in this way would account for ship rats being found some distance away from the dockside areas.

The rat infestations found within the middle belt of the City were again mainly slight and for the most part confined to yards of dwelling-houses and public passages.

Defective Drains

As part of the investigations to trace the source of common rat infestations, references relating to drains to the total of 1,210 were sent to the public health inspectors, 1,041 relating to dwellinghouses and 169 for other premises. Of the drainage tests applied during the year,

defects were found in 162 and 49 cases respectively, and the necessary action was taken to have the drains repaired.

A number of infestations could be prevented if all disused drains were completely abolished at the time of demolition work and the drain connections to the sewers effectually sealed.

Development of agricultural land for new housing estates caused a disturbance of rats from their customary habitats. These enter buildings under construction and also dwellinghouses.

Complaints

Complaints relating to rats and/or mice to the total of 9,614, an increase of 102 over the previous year, were received and promptly investigated. Of the 1,725 dwellinghouses affected by rats, 1,371 infestations were solely confined to the external parts of the premises.

Occupiers generally have become accustomed to availing themselves of the services of the rodent control section and requests for assistance were made on the slightest sign of rats or mice in or near their premises. Details of infestations and disinfestations are shown in the statistical appendix.

Rodent Disinfestation

During the year, 4,761 buildings and lands were disinfested from rats and/or mice. The practice of providing free assistance to the occupiers of dwellinghouses was continued during the year with an appreciable change in the number requiring their premises to be disinfested.

Owners or occupiers of buildings and lands other than private dwellinghouses who desire the assistance of the department for the destruction of rats or mice are required to reimburse the local authority for the expenditure incurred. The demand for such assistance is quite appreciable and 1,491 requests, a decrease of 81 from the previous year were received. Occupiers, in addition, requested the department to examine their premises at regular intervals on a servicing basis in order to maintain expert supervision to detect the slightest indication of rodent activity, and so be in a position to give prompt and skilful attention when disinfestation is required. A wide variety of business premises in all districts of the City was dealt with in this way and the full cost of both the inspection and operational service was charged to the occupiers concerned, the work being in no way subsidised out of the rates. All the occupiers concerned readily agreed to the recommendations made by the department for the actual destruction of rats and mice, and it was not necessary to serve notices for treatment as specified under the Act.

Of the 4,986 infestations and reinfestations remedied during the year, 4,537 were treated by rodent operatives and of these, 4,512 were cleared by the use of poisons and the remaining 25 were remedied by trapping only. The effectiveness of the rodenticides used is apparent when having regard to the number of infestations remedied on one poisoning treatment, being 3,804 out of a total of 4,512. Of the others, 553 required two treatments, 131 three treatments and 24 four or more treatments. The remaining 449 infestations were remedied by the occupiers or their contractors under the guidance and supervision of the rodent control inspectors or by the repair of defective drains under the supervision of public health inspectors.

Estimated Number of Rats Killed

It is estimated that at least 22,918 rats in buildings and on lands were destroyed during the year as a result of poison treatments; 1,949 dead rats were actually collected during operations and 97 were caught in traps.

The species of rats collected were 1,090 *rattus norvegicus* ("brown" or "common" rat) and 956 *rattus rattus* ("black" or "ship" rat). Of the rodents collected, 87 were sent to the Public Health Laboratory for examination and the remainder were 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 destroyed by this method is quite considerable when taking into account the large amount of poison bait actually consumed by mice, namely 9,913 ounces.

Rat Destruction in Sewers

Sewer Treatments

With the main object of reducing rat infestation of buildings and lands that may have its source from the sewer, maintenance treatments for the destruction of rats in sewers were again applied during the year with satisfactory results, as indicated in the table in the statistical appendix.

There are 26,305 sewer manholes in the City and the total baits eaten or partly eaten by rats during the maintenance treatments carried out were 1,883, 1,726, and 1,615 respectively, compared with 9,329 on the initial treatment in the year 1953. Included in the 1,615 bait takes during the last treatment are 67 takes recorded after treatment of the part or whole divisions not normally treated but dealt with by annual test baiting.

In the outer districts 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, test baiting was applied as a precautionary measure and details are shown in the statistical appendix. Where evidence of rats was found during the test baiting, treatments were applied to localised infestations, however slight. A modern method for the destruction of rats in sewers was commenced during the latter part of December.

During the work of preparing sewer manholes for baiting it was necessary to refer to the City Engineer's Department 646 items of work that required attention before treatments were applied for rat destruction. The items included the removal of rubbish from baiting points, clearing of choked or partly choked sewers and easing of manhole covers.

Preventive Measures

Most owners and occupiers of premises showed a readiness to comply with the suggestions and advice given to them by the rodent control staff. In addition to the action taken by public health inspectors under the Public Health Act, 1936, to have the many defective drains remedied, two notices were served under the Prevention of Damage by Pests Act, 1949, relating to dwellinghouses for non-structural work.

It is pleasing to note that during the year it was not necessary to institute legal proceedings under the Prevention of Damage by Pests Act, 1949.

CITY ANALYST

The City Analyst has two separate functions. He is the official Public Analyst, an officer who must be appointed by every Food and Drugs Authority, and whose appointment requires the approval of the Minister of Agriculture, Fisheries and Food and the Minister of Health, and also the Corporation Chemist who is available to all Corporation Departments as they may require him and his services.

It is laid down that "A person appointed to be a public analyst under the Act (The Food and Drugs Act 1955) shall either—(a) hold a diploma of Fellowship or Associateship of The Royal Institute of Chemistry of Great Britain and Ireland and certificate granted by that Institute after an examination by them in the chemistry (including microscopy) of food, drugs and water, or (b) have held immediately before these regulations came into operation an appointment as public analyst".

The duties as Corporation Chemist include several functions concerned with public health, such as regular examination of the water supply and of the atmosphere at various points in the town. The duties of chemist to the Port Health Authority come into both functions, as imported food and other materials have to be examined from the aspect of conformity with the Food and Drugs regulations and from the aspect of their effect on health in general.

The main function of the public analyst is to examine foods and drugs on sale to the public, samples of which are obtained and submitted by the inspectors of the Health Department. The largest number of samples is of milk, as this is the commodity which comes from the most numerous sources and which has the shortest period between production and final disposal. It is delivered to the pasteurising plants where it is dealt with in bulk, and from this point any irregularity of individual supplies is evened out and the source of such an irregularity can no longer be traced. For this reason the milk is sampled as it is received at the pasteurising plant. Samples are also taken as it reaches the consumer so that any irregularity of treatment in the plants can be checked.

The summary of the results of the milk tested during the year was as follows:—

Total Number of Samples	...	2,418
Average Fat content	...	3.75%
Average Solids-Not-Fat	...	8.76%
Average Total Solids	...	12.51%
Adulterated Samples	97	= 4.0%

The adulterated samples consisted of:—

Milk Deficient of Fat	...	45
Milk Containing added water	...	50
Milk containing added water and deficient of fat		2

This proportion of adulterated samples does not give a representative picture of adulteration, as nearly all these samples were in connection with three or four instances of adulteration in which repeated samples from the same source were taken for investigation.

In the early part of spring there were, as usual, a number of samples of milk which were deficient in non-fatty solids but which showed no evidence of the presence of added water. These milks are not regarded as adulterated but as abnormal. At this period of the year it is always found that the proportion of solids reaches its minimum and sometimes fails to reach the statutory limit of 8.5 per cent of non-fatty solids. It is however contended that herds can be maintained in such a way as to avoid this abnormality, and this is done in the case of many dairy cattle.

OTHER FOODS

A regular check is kept on locally prepared foods such as sausages, fishcakes, etc. and the following were reported against:—

Fish cakes containing 12 per cent and 17 per cent of fish instead of 35 per cent as required by the Food Standards Order;

Beef sausage containing 48 per cent, 48 per cent, 46 per cent, 40 per cent and 30 per cent meat of which not more than half was fat, and

Pork sausage containing 63 per cent, 59 per cent, 57 per cent and 48 per cent meat of which not more than half was fat,

compared with the Food Standards Committee recommendation that beef sausage should contain not less than 50 per cent of meat, pork sausage should contain not less than 65 per cent of meat, and the proportion of fat should not exceed 50 per cent of the total meat content.

The use of sulphur dioxide preservative is allowed in sausages (up to 450 parts per million) if its presence is declared either on the parcel or by notice displayed in the shop. Three samples of beef sausage were found to contain an undeclared preservative.

Other items of local manufacture which were found to be below standard were two samples of marzipan slightly deficient of almonds (both contained 23 per cent instead of 25 per cent) and a sample of ice cream which only contained 4.6 per cent of fat instead of the required 5 per cent. A sample of butter was found to contain 16.1 per cent of water instead of the legal maximum of 16 per cent.

CANNED GOODS

Two samples contained objectionable amounts of tin in the contents. In one case, "Tropical fruit" in an unlacquered can contained

250 parts per million, which is the permitted limit, but was likely to contain more on keeping for a longer period. In the other case a canned tomato paste gave 350 parts per million, which can be considered excessive.

The meat content of canned meat products which was given as a recommendation by the Food Standards Committee in 1962 has been generally accepted in this country, but several samples did not conform to the standards:—

“Chopped Pork” contained 75 per cent and “Braised Pork Kidneys” 57 per cent instead of 95 per cent meat.

“Canned Casserole Steak” contained 62 per cent meat instead of 95 per cent.

“Casserole Steak in Gravy” stated to contain not less than 80 per cent meat, contained 77 per cent.

“Chopped Chicken in Jelly” contained 67 per cent and “Lunch Meat Loaf” contained 56 per cent meat instead of 80 per cent. “Chopped Chicken in Jelly” (72 per cent), “Stewed Steak with Gravy” (72 per cent and 70 per cent), “Casserole Steak in Rich Gravy” (66 per cent), “Beef Steak with Gravy” (62 per cent), “Beef Mince with Gravy” (56 per cent), “Beef Steak with Gravy” (55 per cent), and “Beef with Gravy” (53 per cent) should all have contained 75 per cent of meat, and “Irish Stew” (32.5 per cent) should have contained 35 per cent of meat.

Other canned goods to which exception was taken were:—

A fruit juice (apple and apricot) which claimed a minimum of 7.5 milligrams of Vitamin C per fluid ounce only contained 3.1 milligrams per fluid ounce.

A “Creamed tapioca milk pudding” contained a little added water in addition to the milk.

A “Lemon pie filling” was incorrectly labelled in that the ingredients were not listed in the order of the occurrence of their amounts (a very small amount of lemon oil preceded starch and fat).

Two samples of unsweetened condensed milk were unsatisfactory, the first being deficient of both fat and total milk solids and the second being slightly deficient in total contents. If diluted according to instructions on the label, the resulting fluid would have been deficient in fat and total milk solids.

A soft drink contained a little more lead than is permitted in this commodity by the Regulations.

Two canned meat samples were wrongly labelled. The ingredients included jelly in one case and gravy in the other, but these were not included in the main description. In one case, “with jelly” should

have been added to "pork tongue" and in the other "with gravy" should have been added to "savoury minced steak".

One can of "corned beef loaf" was 5 per cent deficient in the weight of its contents.

DRUGS

Very little was found wrong in the samples of drugs submitted, the most important irregularity being the complete absence of iodine from an ointment which should have contained 0.28 per cent. Another failed to declare the presence of sugar in its statement of ingredients and a third, although it was a "substance recommended as a medicine" gave no designation of the constituents or active ingredients.

INSECTICIDES

Samples of fresh foods (fruits, vegetables, etc.) both on sale locally and on importation were examined for chemicals which might have gained excess as washes or sprays and had not been properly removed. In addition to the older types of compound (lead, arsenic, sulphur, mercury, etc.) there are many newer organic chemicals now used as sprays, insecticides, fungicides and growth regulators. The investigation of these involves specially trained staff and new apparatus, in particular the Gas-Liquid Chromatograph whereby amounts of hundred-millionths of a gram can be measured and identified, after suitable separation and preparation. Until this apparatus is in operation, extracts of fruit and vegetables are tested for their effect, after purification, on strains of flies bred specially for this purpose.

Work continued through the year on the nuts imported for the presence of Aflatoxin, the poison produced by certain moulds, and it was found on certain occasions. If it is present to the extent of more than 0.05 parts per million, the nut is condemned as being unfit for consumption; in that case the oil can be extracted for other uses, as the toxin is confined to the non-fatty portion. It was found to have developed in certain cases, not only on groundnuts, on which it was first discovered, but also on some brazil nuts. Samples of groundnuts examined numbered 65, and six were found to be contaminated with Aflatoxin, whilst of the other nuts, filberts, hazel nuts, walnuts and brazils tested, only the brazils (three out of four samples) were found to be affected.

The examination of samples of cargoes submitted by the Port Health Authority included a large and varied assortment of investigations. In addition to the nuts mentioned they included Fruit (apples, oranges, pears, melons, lemons, grapefruit, cherries); Dried fruit (apricots, prunes, raisins, currants); Fruit juices (grapefruit juice, lemon juice, orange juice); Vegetables (onions and onion powder, dried potato, tomato paste, beans); Condiments such as tumeric, curry powder, chilli

powder and miscellaneous items such as tea fluff, egg albumen, sauce mixture, salted duck eggs, milk substitute, pickles, various concentrated flavours and canned goods about which there had been enquiries (canned meat, fish, prawns).

FERTILISERS AND FEEDING STUFFS

The City Analyst is the Official Agricultural Analyst for Liverpool and Bootle and as such has the duty of examining the samples of Fertilisers and Feeding Stuffs on sale in the area. As some of the biggest manufacturers of feeding stuffs are in this vicinity, it is important to keep an independent check on their products. A condition of the sale of fertilisers and feeding stuffs is that a declaration ("Statutory Statement") is issued with each batch sold which gives the amount of essential ingredients present. It is the duty of the Agricultural Analyst to confirm that this Statement is correct within approved limits (the "Limits of Variation"). The samples examined in 1965 were as follows:

FEEDING STUFFS

Out of 26 examined one was deficient in albuminoids (protein) and one contained an excess of oil.

FERTILISERS

Out of ten examined one was deficient of nitrogen, one was deficient of potash but contained excess of phosphate, and one was deficient of potash but contained excess of nitrogen and phosphate.

The examination for residues of pesticides and insecticides of food on sale to the public will become increasingly important as the use of the newly developed formulations becomes more widespread in this country, so that this will have to be undertaken on locally produced foods as well as the imported foods.

WATER SUPPLY

We now have three main sources of supply, from Rivington in South East Lancashire, from Lake Vyrnwy in North Wales, and from the River Dee at Huntington, near Chester.

The two upland sources give very pure surface water, very soft, but which has to receive a minute dose of lime to raise the pH value so that it does not have any solvent action on lead pipes where these are used. For many years this has been checked regularly by retaining the water overnight in long lengths of lead pipe and examining it for any solvent action on the lead. In most modern houses lead pipes have been replaced by copper. This brings its own problems, as traces of copper in the water, although they have no appreciable physiological effect on humans may give trouble in aquaria, some fish being extra-

ordinarily sensitive to such traces. Particles of copper compounds which may form sometimes in house plumbing have occasionally caused serious pitting in aluminium kettles.

The Dee Water is treated to give a very high state of purity at Huntington before it is admitted to the aqueduct bringing water from Vyrnwy to Prescott, where all three supplies are mixed before being distributed.

During the year, the new reservoir at Tryweryn (now named Llyn Celyn) was officially put into use. The object of this reservoir is two-fold. It is used to regulate the flow of water in the River Dee, so that it supplements the river in dry periods and withholds its contribution in wet periods when the river is liable to cause flooding. It also supplies water to the river to allow for what is taken out of the lower reaches for the Liverpool supply.

In addition to using the river as a natural aqueduct, the new arrangement thus acts as a help towards regulating the flow in the Dee.

The two minor sources of supply, the deep wells at Green Lane and Dudlow Lane, have not been in such constant use this year (only seven or eight of the twelve months) and the slight increase in hardness due to the river supply has been somewhat compensated by this reduction.

A table gives the average analyses over the year of the water supplied to Liverpool (and Bootle) from our various sources of supply.

Many other samples of water are analysed for specific purposes such as concrete making, steam raising, etc. and very often analysis provides necessary clues to the source from which water (leaking mains, springs, underground wells) is derived—often important information for builders and property repairers.

Many authorities and individuals in South East Lancashire, and Cheshire send in water for examination, to determine its potability, source, or suitability for various purposes.

RADIOACTIVITY

Water is examined regularly for radioactive contamination, but during the year there has been no evidence of anything unusual in this respect. It is considered necessary to check the water supply at all times, and if there was any sign of an increase, immediate further enquiries would be necessary.

ATMOSPHERIC POLLUTION

Throughout the year the atmosphere was examined at four stations in the town and at different stations a check was kept of the solid matter carried down by the rain. In the former case, the amount

of suspended matter (smoke) and gaseous matter (sulphur dioxide) are measured daily and in the latter the deposited matter is measured in tons per square mile.

OTHER WORK

Work for other departments of the Corporation is increasing as these departments realise what help can be given in matters which involve chemistry. The City Engineer's Sewage Department is one of the biggest users, a constant record being kept of the trade effluents being discharged as these must conform to certain requirements before they can be accepted at the sewage disposal works.

Constructional work by the Engineer also calls for investigation of materials such as earth and water from sites for possible deleterious action on concrete, suitability of materials for various uses, etc. The Passenger Transport Department submits samples of fuels and oils for conformity with specification and other departments refer many questions involving matters of chemical composition and reaction. More could be done on questions of quality control if it were realised what facilities existed for examination.

STAFF

The City Analyst is at present Chairman of the North of England Section of the Society for Analytical Chemistry and is a member of the committee for the Liverpool and North Western Section of the Royal Institute of Chemistry. He is also a member of the Standing Advisory Committee of the Ministry of Agriculture on Fertilisers and Feeding Stuffs.

The work of the Department covers a very wide field, calling for very extensive knowledge and experience on the part of the staff. The City Analyst is most grateful for the conscientious work and loyal support of the Principal Assistant Analyst and the Chemical and Office staffs throughout the year.

DISINFECTION AND DISINFESTATION

The increase in public demand for advice or treatment of premises suspected of being verminous has followed the trend which originated in the previous year, whereas the demand for disinfection of premises where infectious disease had occurred remained static.

Members of the public have, during the past two years, become accustomed to calling on the services of the department when it is considered that expert opinion is necessary to determine the measures to be taken to reduce or eliminate infestation by insect vermin. This new outlook was engendered by the decision of the Health Committee to cease levying a charge for the service. The public, who previously tolerated vermin, well knowing that any action taken to eliminate this nuisance would have cost a fee for treatment, now make far more use of a free service.

INSPECTION OF PREMISES FOR VERMINOUS CONDITION

The intensive re-housing programme which is being carried out under the direction of the Housing Department led to a further increase in the number of inspections performed by this section during the year. The present system entails an inspection for verminous condition of the premises of every family for whom re-housing is intended. These inspections take place in every case irrespective of the ultimate destination of the family, whether it be within the boundaries of the City or to any other housing estate controlled by the Liverpool Authority. In this connection, 13,771 inspections were carried out, an increase of 6 per cent during the year. Dwellinghouses treated numbered 673, and 294 treatments for furniture and effects were carried out.

DISINFESTATION OF VERMINOUS PREMISES

The decision to allow all members of the public the free use of the disinfestation service has again led to a further increase in the calls made upon the section. During the year, 5,897 complaints were received, not all of which merited operational treatment, but large numbers of treatments were carried out as a consequence of these complaints. The majority of the other complaints were resolved by advice given by officers of the department.

Requests for disinfestation are frequently received for establishments under the control of other Corporation departments, commercial undertakings and Hospital Management Committees. The cost of any treatment in these categories is debited to the complainant.

As a consequence of complaints made by the general public, 2,225 dwellinghouses were treated and 562 requests for disinfestation treatment of business premises were received.

Included in the above categories are a number of cases referred by the Welfare Department in which, in addition to disinfestation, it has been the duty of this section to remove quantities of furniture and other articles which were no longer useful to the owners. Usually in these cases the occupants had been removed to hospital or were physically incapable of keeping their premises in a clean and vermin-free condition.

DISINFESTATION AND DISINFECTION STATIONS

At the commencement of the year, two disinfection stations were operational in Charters Street and Smithdown Road. The plant in each station, which had been in use for more than 60 years, was found to be neither safe nor effective for the purpose intended. In addition, Charters Street station was situated in an area affected by the plans for the new Mersey Tunnel, and for all these reasons it was decided to concentrate the steam treatment of bedding, etc., at the Smithdown Road disinfector and instal two new disinfection machines, and two oil-fired automatic steam generators.

The Smithdown Road station was closed down in May for alterations but the Charters Street station remained operational under reduced steam pressure, until the installation of the new plant and the necessary building adaptations were completed in November. As soon as the Smithdown Road station began to function following the installation of this modern equipment, the Charters Street station was closed down.

During the year, the two stations have coped, under some difficulty, with the steam disinfection and disinfestation of all infectious or verminous articles from the City and Port. In addition, precautionary disinfection of articles, intended for export, was carried out, the exporter bearing the expenses incurred.

The following items were dealt with:—

6,778 Verminous articles disinfested.

8,984 Infectious articles disinfected.

13 Infectious library books disinfected.

15,539 Articles for precautionary treatment.

1,119 Tons of miscellaneous goods for precautionary disinfection.

DISINFECTION OF INFECTIOUS PREMISES

It is a primary function of this section to arrange and operate terminal disinfection of premises and articles when infectious disease has occurred. The duties of the staff are to remove for steam disinfection articles which have been in contact with infectious persons and to carry

out the prescribed disinfection of premises. In the Port Health area, articles of bedding, etc., are removed from the ship concerned and the necessary disinfection process performed by the Port Health staff.

During the year, 1,323 infectious premises were dealt with in this manner.

INCONTINENT LAUNDRY SERVICE

This service is becoming more widely known, not only by the medical and nursing profession but by the general public, resulting in further demands being made. The increase in demand is such that further staff and vehicles have become necessary in order to ensure the smooth running of a service which is so essential to those in need of these facilities. The service is responsible for the collection and return of linen, suitable containers being used for the purpose, and the department is indebted to the Baths and Public Laundries Department for their active co-operation in arranging for the laundering of articles and, by this valuable assistance, undoubtedly adding to the efficiency of the service. During the year a total of 22,400 calls were made.

HOME NURSING EQUIPMENT

The need for equipment necessary for the efficient nursing of persons who are ill at home is constantly growing, and when allied with the demands previously mentioned for the incontinent laundry service, provides evidence of the great necessity for the provision of services vital to the elderly or chronically ill. The administration of this service is performed by the staff of this section, and all the practical work, storage, delivery, collection and maintenance of equipment is also the responsibility of this section. During the year, 13,500 visits were made in issuing or collecting items of equipment.

CITY MORTUARY

The control and staffing of the City Mortuary is the responsibility of this section. Two experienced full-time attendants are employed on a rota of early and late duties and are on call should an emergency arise outside their normal working hours. The mortuary is used for the reception from the City or Port area of bodies of persons who have died as a result of accident, violence, etc. During the year, 583 bodies were received and 555 post mortems held. Close liaison is maintained with the office of the City Coroner for the effective functioning of this service.

MISCELLANEOUS

Included in this section are:—

- (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, and repairs to furniture, etc., at the office building, Hatton Garden.
- (c) Transport of equipment on behalf of the Mental Health Service.
- (d) Various transport duties on behalf of the Children's Department.
- (e) The movable 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.
- (f) 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.
- (g) The transport of port health personnel continues in a satisfactory manner by means of a vehicle from this section.
- (h) A variety of other transport duties necessary for establishments under the control of the Health Department.
- (i) Maintenance of gardens at day nurseries and clinics.

STAFF

The staff employed both on the transport and ancillary services and the disinfection and disinfestation service are:—

Administrative	Operational
1 Chief Inspector.	2 Shift Leaders.
1 Senior Inspector.	16 Drivers.
4 Inspectors	18 Disinfestors etc.
1 Depot Assistant.	31 Driver/Attendants.
2 Foremen.	1 Mechanic.
1 Storekeeper.	1 Joiner.
	1 Boiler Attendant.
	2 Mortuary Attendants.

Forty-one motor vehicles, engaged in the work of this joint section, are maintained within the department. During the year these vehicles covered 373,432 miles and consumed 29,748 gallons of petrol.

TRANSPORT OF THE HANDICAPPED

This service was introduced in Liverpool during July, 1963 with the object of providing transport for physically and mentally handicapped persons who were in need of some form of rehabilitation at an occupational therapy or other centre, and in addition those persons who, because of their handicap, would otherwise have no opportunity for educational, recreational or social activities.

When the service was brought into being, the number of people who were able to benefit from these facilities was limited by the number of vehicles available, and it was very soon realised that considerable expansion was necessary in order to meet growing demands. Provision has since been made for the necessary expansion and the original fleet of fifteen vehicles has now grown to 24 with plans for a further increase to 38. The present fleet consists of eight vehicles designed for the conveying of wheelchair patients and fitted with a lift for this purpose, the remainder being specially designed for the ambulant handicapped. The number of persons who can now avail themselves of this service has grown to 230/250 per day.

In addition to the regular daily use of the service, other facilities, such as holiday and theatre outings, annual picnics, and a variety of other smaller but necessary services can now be provided. The latter, which can be considered only as infrequent social activities, are perhaps the only occasions on which these less fortunate members of the community can enjoy some of the pleasures which have been denied to them by their disability.

The service is functioning efficiently, despite the difficulties arising from lack of suitable garage space and headquarters.

CIVIL DEFENCE

AMBULANCE AND FIRST AID

Four first aid courses were arranged through the year covering all aspects of Civil Defence and two full first aid courses. The average monthly attendance throughout the year was 52. Ten volunteers passed the advanced training test.

The following combined exercises were held:—

Exercises	Place	Date			No. of Volunteers Attended
Arklight	Civil Defence Headquarters	26th January, 1965	...	...	8
Fall Stage III	Burtonwood	26th September, 1965	...	...	14
Fall Stage III	Burtonwood	10th October, 1965	...	...	17
Regional Tourney	Belle Vue	10th July, 1965	...	...	9
Mersey	Wallasey	21st November, 1965	...	...	...19

WELFARE SECTION

The anticipated increase in the number of new volunteers during 1965 was not forthcoming, it is believed that this was mainly due to the cancellation of the national recruiting campaign and also to the uncertainty of the future role of Civil Defence. Towards the end of the year, however, with the Government White Paper "Statement on Defence Estimates 1965" it became apparent that the Civil Defence Corps would play an important part in any future defence programme and that the Welfare Section might have to fulfil the prime task. This gave a new impetus to the enthusiasm of the volunteers and instructors, and it is now hoped that 1966 will see the increase in strength that 1965 lacked.

Standard and Advanced Training Classes continue to be held at Civil Defence Headquarters, and the Pitville Ladies' Social Club. A large basement room at Holt House, Ullet Road, was recently re-decorated and adapted for Welfare Section training, and it is planned to commence training classes there in early 1966.

During the year eighteen volunteers passed their Standard Training test, 24 completed a Full First Aid Course and successfully sat the St. John Ambulance examination, and eleven others completed advance training.

As in past years the organiser and instructors have continued to assist Regional Headquarters of Civil Defence by setting and conducting local instructor's examinations and Standard and Advanced Training tests throughout the region.

Apart from normal training the section participated in the North Western Civil Defence Regional Tourney and Rally at Manchester, in

July 1965, Liverpool Division gaining third place. It also paid informative visits to the G.P.O. Telephone Exchange, Lancaster House, the Mersey Tunnel Installation, and the Central Fire Station.

The year's activities were brought to a very successful close by the Section putting on a Grande Olde English Christmas Turkey Dinner for its members. The novelty about this occasion was that the entire meal for the eighty people who attended, of Soup, Roast Turkey, Roast Potatoes, Creamed Potatoes, Carrots, Peas, and Thyme stuffing—Christmas Pudding and White Sauce—Coffee, was produced by the members and cooked outside on Emergency Field Cooking equipment. A delightful practical demonstration of their emergency feeding training.

The strength of the section at the end of the year was:—

1	Organiser
4	Part-time Instructors
33	Volunteers in Class "A"
22	Volunteers in Reserve
77	Recruits

SHELTER WELFARE

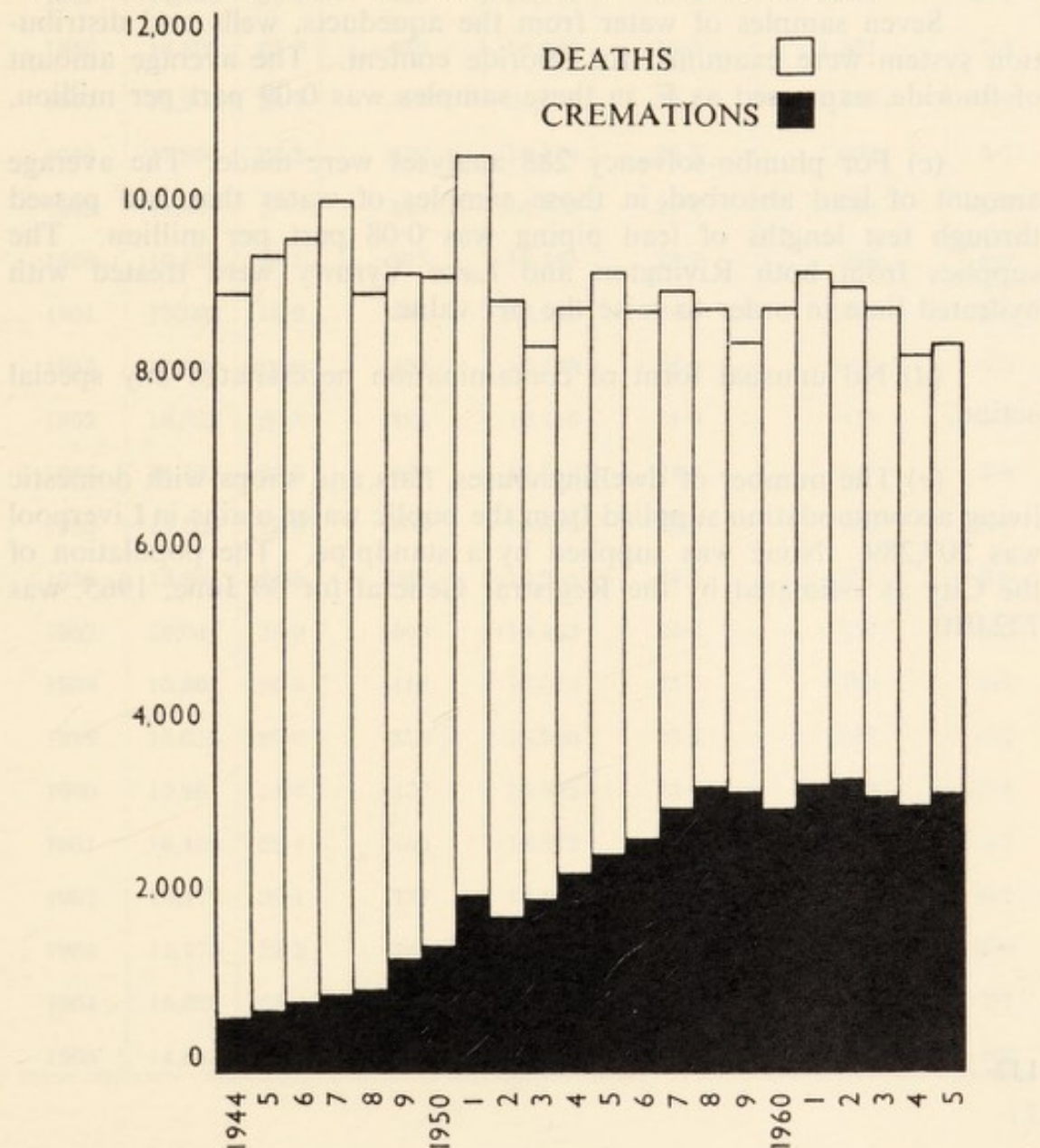
There has been no activity in this Section during the year as the numbers did not warrant it.

CREMATION

The Medical Officer of Health continued to act as medical referee to the Liverpool Crematorium. The Deputy Medical Officer of Health and the Principal Medical Officer (Mental Health) and Principal Medical Officer (Epidemiology) acted as deputy medical referees. The documents, which are statutory, are scrutinised at the central offices of the Liverpool Health Department before authority is given to cremate.

The number of cremations carried out during the year at the Liverpool Crematorium was 3,302, which is a slight increase over the number undertaken during 1964. It is our opinion that the increase would have been greater had it not been for the fact that the two new crematoria in adjacent areas have now been operating since 1962 and another in the Thornton area since 1963. This fact, of course, has led to a slight decline in the figures up to this year.

No undue difficulties arose during the year in respect of sudden deaths occurring abroad where cremation was later carried out. Written formal requests for cremation to take place on death were received, as in former years, from several members of the public and these are filed for future reference in order that their wishes may be met.



WATER SUPPLY

(a) The water supply in the area during 1965 was satisfactory both in quality and quantity.

(b) During the year bacteriological examinations were made on 3,597 samples of water from the aqueducts, wells, storage reservoirs, trunk mains and the distribution system. Of the 3,597 samples, 561 were taken within the City from the two wells and from sampling points on the mains other than the trunk mains. Of the 561, 96.4 per cent were free from B.Coli and 67.9 per cent were free from coliform organisms.

Also, of the 3,597 samples, 1,695 were taken from the trunk mains which serve the City and other parts of the area of supply. Of the 1,695, 93.9 per cent were free from B.Coli and 65.8 per cent were free from coliform organisms.

Also, 87 chemical analyses were made and the results were satisfactory.

Seven samples of water from the aqueducts, wells and distribution system were examined for fluoride content. The average amount of fluoride, expressed as F, in these samples was 0.09 part per million.

(c) For plumbo-solvency 288 analyses were made. The average amount of lead absorbed in those samples of water that had passed through test lengths of lead piping was 0.08 part per million. The supplies from both Rivington and Lake Vyrnwy were treated with hydrated lime in order to raise the pH value.

(d) No unusual form of contamination necessitated any special action.

(e) The number of dwellinghouses, flats and shops with domestic living accommodation supplied from the public water mains in Liverpool was 207,289. None was supplied by a standpipe. The population of the City as estimated by the Registrar General for 30 June, 1965, was 722,010.

STATISTICAL SECTION

VITAL STATISTICS

BIRTH STATISTICS—1942-1965

1965	LIVE BIRTHS			STILLBIRTHS		
	Males	Females	Total	Males	Females	Total
Legitimate ...	6,797	6,559	13,356	117	119	236
Illegitimate ...	624	573	1,197	14	19	33
	7,421	7,132	14,553	131	138	269

Year	Live Births	Birth Rate	Registered Stillbirths	Total Births	Stillbirths per 1,000 Live and Stillbirths	Illegitimate Live Births	% of Live Births
1942	13,729	20.5	552	14,281	38.6	871	6.3
1943	14,432	21.8	485	14,917	32.5	1,030	7.1
1944	15,412	23.1	492	15,904	30.9	1,274	8.3
1945	14,784	21.7	431	15,215	28.3	1,582	10.7
1946	18,528	25.2	539	19,067	28.3	1,351	7.3
1947	19,904	26.4	514	20,418	25.2	1,151	5.8
1948	17,695	22.3	479	18,174	26.3	1,009	5.7
1949	16,551	20.7	358	16,909	21.2	943	5.7
1950	16,110	20.1	375	16,485	22.7	968	6.0
1951	15,593	19.9	396	15,989	24.8	859	5.5
1952	15,839	20.0	400	16,239	24.6	876	5.5
1953	16,022	20.3	394	16,416	24.0	873	5.4
1954	15,742	20.5	400	16,142	24.8	847	5.4
1955	15,268	19.6	408	15,676	26.0	785	5.1
1956	15,944	20.6	394	16,338	24.1	801	5.0
1957	16,044	20.9	409	16,453	24.9	854	5.3
1958	15,662	20.5	413	16,075	25.7	799	5.1
1959	15,615	20.6	375	15,990	23.4	815	5.2
1960	15,961	21.1	377	16,338	23.1	868	5.4
1961	16,492	22.1	380	16,872	22.5	946	5.7
1962	16,479	22.1	333	16,812	19.8	1,020	6.2
1963	15,775	21.3	351	16,126	21.8	1,095	6.9
1964	15,625	21.4	283	15,908	17.8	1,199	7.7
1965	14,553	20.2	269	14,822	18.1	1,197	8.2

DEATHS FROM PRINCIPAL CAUSES—1965

Class	Cause Group No. (List A).	Cause	Male	Female	Total	Rate per 1,000 Population	Percentage of Total Deaths
II	44-48, 51-60	Cancer (except respiratory system) ...	571	663	1,234	1.7	14.9
II	49, 50	Cancer (respiratory system) ...	418	75	493	0.7	5.9
VI	70	Vascular lesions of central nervous system ...	406	580	986	1.4	11.9
VII	80-82	Heart Diseases ...	1,326	1,177	2,503	3.5	30.1
VII	79, 83-86	Other Circulatory Diseases ...	152	263	415	0.6	5.0
VIII	89-91	Acute and Broncho-Pneumonia ...	273	402	675	0.9	8.1
VIII	92, 93	Bronchitis ...	388	143	531	0.7	6.4
IX	98-107	Digestive Diseases ...	96	98	194	0.3	2.3
XIV & XV	127-135	Malformations and Diseases of Early Infancy ...	131	104	235	0.3	2.8
XVII	138-150	Violence ...	221	206	427	0.6	5.2
		All other causes ...	277	330	607	0.8	7.3
Totals		All causes ...	4,259	4,041	8,300	11.5	

DEATHS FROM CANCER 1965 (CLASS II)

Cause Group No. (List A).	Organs affected	Male	Female	Totals
44	Buccal cavity and pharynx ...	14	4	18
45-48	Oesophagus, stomach, intestines and rectum	247	242	489
49, 50	Larynx, trachea, bronchus and lungs ...	418	75	493
51	Breast ...	—	123	123
52, 53	Cervix and uterus ...	—	54	54
54-57	All other sites ...	248	195	443
58	Leukaemia and aleukaemia ...	26	15	41
59	Lymphosarcoma ...	27	23	50
60	Benign or unspecified neoplasms ...	9	7	16
Totals ...		989	738	1,727

TRENDS OF MORTALITY
1945-65

	<i>Deaths from Cancer of the Respiratory System</i>	<i>Deaths from Tuberculosis of the Respiratory System</i>
1945	160	605
1946	234	579
1947	235	599
1948	252	630
1949	320	532
1950	331	481
1951	334	406
1952	346	269
1953	432	258
1954	383	232
1955	408	185
1956	448	137
1957	448	123
1958	399	109
1959	444	102
1960	457	81
1961	525	80
1962	484	74
1963	483	54
1964	527	38
1965	493	42

MATERNAL MORTALITY—1930-1965

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
1957	16,044	409	16,453	7	0.42
1958	15,662	413	16,075	4	0.25
1959	15,615	375	15,990	5	0.31
1960	15,961	377	16,338	5	0.31
1961	16,492	380	16,872	2	0.12
1962	16,479	333	16,812	5	0.30
1963	15,775	351	16,126	4	0.25
1964	15,625	283	15,908	3	0.19
1965	14,553	269	14,822	1	0.067

Deaths from stated causes at various ages under one year.

Cause of Death	I.C.D. No.	Under 1 week	7-27 days	1-6 months	7-11 months	Total Deaths under 1 year
Meningococcal Infection ...	057	—	—	—	—	—
Measles ...	085	—	—	—	—	—
Pneumonia ...	490-493, 763	3	6	53	5	67
Bronchitis ...	500-502	—	1	13	1	15
Enteritis ...	571, 572	—	—	3	—	3
Malformation ...	750-759	27	6	8	4	45
Injury at Birth ...	760, 761	15	1	—	—	16
Infections of Newborn ...	764-768	—	3	—	—	3
Other Diseases of Early Infancy ...	762, 769-776	138	3	5	—	146
Other causes ...	—	8	4	15	5	32
Totals		191	24	97	15	327

Live Births in the year ... Legitimate 13,356
 ... Illegitimate 1,197

Deaths ... Legitimate Infants 295
 ... Illegitimate Infants 32

CAUSES OF DEATH—1965

Class	Male	Female	Total	Rate per 1,000 Population	Percentage of total deaths
I—Infectious and Parasitic Diseases ...	40	20	60	0.08	0.7
II—Neoplasms ...	989	738	1,727	2.39	20.8
III—Allergic, Metabolic Diseases etc. ...	23	63	86	0.12	1.0
IV—Diseases of the Blood ...	13	32	45	0.06	0.5
V—Mental and Psychoneurotic Diseases ...	29	4	33	0.05	0.4
VI—Diseases of the Nervous System ...	442	618	1,060	1.47	12.8
VII—Diseases of Circulatory System ...	1,478	1,440	2,918	4.04	35.2
VIII—Diseases of Respiratory System ...	711	577	1,288	1.78	15.5
IX—Diseases of Digestive System ...	96	98	194	0.25	2.3
X—Diseases of Genito-Urinary System ...	52	51	103	0.14	1.2
XI—Diseases of Pregnancy ...	—	1	1	0.001	0.01
XII—Diseases of Skin ...	2	12	14	0.02	0.2
XIII—Diseases of Bones ...	7	21	28	0.04	0.3
XIV—Congenital Malformations ...	27	34	61	0.08	0.7
XV—Diseases of Early Infancy ...	104	70	174	0.24	2.1
XVI—Senility and Ill-defined Diseases ...	25	56	81	0.11	1.0
XVII—Deaths from Violence ...	221	206	427	0.59	5.2
Totals ...	4,259	4,041	8,300	11.50	

ANALYSIS OF CAUSES OF INFANT MORTALITY IN SUCCESSIVE QUINQUENNIA 1896-1965

(A.)—Recorded Deaths

Years	1 Total Live Births	2 Total Deaths Under 1 Year of Age	3 Infectious Diseases (excluding Tubercu- losis)	4 Tubercular Diseases	5 Nervous Diseases	6 Respira- tory Diseases	7 Digestive Diseases (including Diarrhoea)	8 Malforma- tions Premature Birth, Maras- mus &c.	9 External Causes
1896/1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698	819
1901/1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732	565
1906/1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520	539
1911/1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953	426
1916/1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107	179
1921/1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764	120
1926/1930	95,701	9,002	978	109	401	2,553	1,670	2,981	81
1931/1935	88,644	7,904	902	82	368	2,050	1,184	3,125	67
1936/1940	80,936	6,226	573	74	519	1,457	698	2,691	84
1941/1945	71,648	5,512	341	71	403	1,704	548	2,193	131
1946/1950	88,788	5,034	311	47	213	1,109	963	2,226	111
1951/1955	78,464	2,626	83	10	28	480	132	1,792	63
1956/1960	79,226	2,149	31	—	24	384	82	1,576	30
1961/1965	78,924	2,006	19	2	20	409	83	1,406	52

(B)—Death Rates

Years	1 Birth Rate per 1,000 population	DEATH RATES PER 1,000 LIVE BIRTHS							
		2	3	4	5	6	7	8	9
		Deaths Under 1 Year of Age	Infectious Diseases (excluding Tubercu- losis)	Tubercular Diseases	Nervous Diseases	Respira- tory Diseases	Digestive Diseases (including Diarrhoea)	Malforma- tions Premature Birth, Maras- mus &c.	External Causes
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
1956/1960	20.7	27	0.4	—	0.3	4.9	1.1	19.9	0.4
1961/1965	21.4	25	0.2	0.03	0.3	5.2	1.1	17.8	0.7

POPULATION, BIRTH RATES, DEATH RATES, INFANT AND MATERNAL MORTALITY

Name of Authority	Birmingham	Bradford	Bristol	Cardiff
Registrar-General's estimated population for 1965	1,102,660	298,090	430,900	260,170
Comparability factor—				
(a) Births	0.99	1.04	1.03	0.99
(b) Deaths... ..	1.10	0.96	0.94	1.12
Crude birth rate per 1,000 population	19.53	19.08	17.6	18.74
Birth rate as adjusted by factor	19.33	19.84	18.2	18.55
Crude death rate per 1,000 population	11.07	13.70	12.3	10.80
Death rate as adjusted by factor	12.17	13.15	11.6	12.10
Infant mortality rate per 1,000 live births	22.04	25.32	21.7	22.77
Neonatal mortality rate per 1,000 live births	14.66	15.47	14.5	12.92
Stillbirth rate per 1,000 total births	17.23	15.75	15.5	15.55
Perinatal mortality rate per 1,000 total births	29.59	28.73	27.8	26.05
Maternal mortality rate per 1,000 total births	0.35	0.35	0.259	0.20
Tuberculosis rates per 1,000 population				
(a) Primary notifications—				
Respiratory	0.51	0.62	0.202	0.28
Non-respiratory	0.10	0.23	0.027	0.07
(b) Deaths—Respiratory	0.04	0.05	0.039	0.07
Non-respiratory	0.00	0.01	0.005	0.008
Death Rates per 1,000 population from—				
Cancer (all forms)	2.23	2.37	2.214	2.12
Cancer of Lungs and Bronchus	0.59	0.62	0.515	0.60
Meningococcal infections	0.00	0.007	0.002	—
Whooping Cough	0.00	0.007	—	—
Influenza	0.01	0.013	0.012	—
Measles	0.00	0.013	—	0.004
Acute Poliomyelitis and Encephalitis	0.00	0.000	—	—
Diarrhoea (under 2 years)	0.03	0.030	0.012	0.02
Diarrhoea (under 2 years) (per 1,000 live births)	1.72	1.58	0.66	0.8

RATES, ETC., OF A NUMBER OF THE LARGER AUTHORITIES FOR 1965

Kingston upon Hull	Leeds	Leicester	Liverpool	Manchester	Newcastle upon Tyne	Nottingham	Sheffield
299,570	509,290	267,030	722,010	638,360	257,460	310,990	488,950
0.97	1.00	1.07	0.94	1.00	1.00	0.99	1.01
1.20	1.12	0.92	1.19	1.14	1.08	1.05	1.01
19.16	18.14	18.79	20.16	19.61	17.31	19.52	17.39
18.58	18.14	20.11	18.95	19.61	17.31	19.32	17.56
11.10	12.13	12.56	11.50	12.32	13.17	11.76	12.13
13.32	13.58	11.56	13.68	14.04	14.22	12.35	12.25
20.04	22.3	21.52	22.47	26.92	25.13	27.18	18.57
12.89	15.7	13.95	14.85	17.02	17.95	17.96	13.63
13.24	19.1	13.37	18.15	20.20	14.81	18.75	14.94
23.90	32.4	25.36	31.10	35.07	29.41	33.79	26.75
0.34	0.32	0.00	0.067	0.47	0.44	—	—
0.34	0.39	0.476	0.345	0.48	0.55	0.402	0.36
0.01	0.05	0.105	0.047	0.08	0.12	0.064	0.06
0.03	0.03	0.049	0.058	0.07	0.074	0.039	0.05
0.003	0.002	0.0075	0.001	0.00	0.023	0.016	0.01
2.19	2.38	2.14	2.39	2.53	2.68	2.251	2.47
0.55	0.59	0.442	0.68	0.76	0.82	0.621	0.70
—	0.003	0.00	0.001	0.00	0.004	0.003	—
—	—	0.0037	—	—	—	—	—
0.02	0.01	0.0037	0.024	0.02	0.027	0.019	0.00
0.003	—	0.0037	0.003	—	0.004	0.006	—
—	—	0.00	—	—	—	—	0.00
0.007	0.01	0.011	0.004	0.02	0.023	0.026	0.01
0.35	0.65	0.598	0.206	0.88	1.35	1.318	0.71

ANALYSIS OF CAUSES OF MORTALITY

Deaths from certain Groups of Diseases in each decade from 1871 to 1960, and during the years 1961, 1962, 1963, 1964 and 1965

Years	(a) Infective diseases (less Diarrhoea, Influenza and Tuberculosis)	(b) Tubercular diseases	(c) Respiratory diseases (including Influenza)	(d) Digestive diseases (including Diarrhoea)	Total Deaths from (a), (b), (c) & (d)	(e) Cancer	Total Deaths from all causes
1871-1880	27,205 (19.2)	19,869 (13.5)	29,763 (20.2)	14,747 (10.0)	91,584 (62.9)	2,015 (1.4)	147,005
1881-1890	19,748 (14.1)	17,870 (12.7)	32,507 (23.2)	13,186 (9.4)	86,311 (59.4)	2,820 (2.0)	146,195
1891-1900	13,515 (9.3)	16,714 (10.8)	35,819 (24.6)	18,491 (12.7)	84,539 (57.4)	4,223 (2.9)	145,522
1901-1910	13,967 (8.6)	16,054 (10.6)	32,995 (21.8)	18,163 (12.0)	81,179 (53.0)	6,480 (4.3)	150,962
1911-1920	10,417 (7.9)	14,946 (10.9)	36,480 (27.3)	12,282 (8.9)	74,125 (55.0)	7,603 (5.5)	137,323
1921-1930	7,831 (6.6)	12,664 (10.7)	29,447 (25.0)	8,184 (6.9)	58,126 (49.4)	9,852 (8.4)	117,756
1931-1940	6,473 (5.6)	9,413 (8.1)	18,196 (15.7)	5,987 (5.2)	40,069 (34.7)	12,619 (10.9)	115,632
1941-1950	2,645 (2.6)	6,987 (7.1)	15,728 (15.9)	4,328 (4.4)	29,723 (30.1)	13,265 (13.7)	98,347
1951-1960	621 (0.7)	2,063 (2.2)	15,315 (16.8)	2,570 (2.8)	20,569 (22.5)	15,986 (17.7)	90,642
1961	25 (0.3)	86 (0.9)	1,888 (20.4)	229 (2.5)	2,228 (24.1)	1,708 (18.4)	9,262
1962	29 (0.3)	81 (0.9)	1,774 (19.4)	205 (2.2)	2,089 (22.8)	1,719 (18.8)	9,162
1963	31 (0.3)	58 (0.7)	1,641 (18.4)	224 (2.5)	1,954 (21.9)	1,573 (17.7)	8,908
1964	22 (0.3)	41 (0.5)	1,368 (16.7)	171 (2.1)	1,602 (19.6)	1,720 (20.9)	8,191
1965	17 (0.2)	43 (0.5)	1,288 (15.5)	194 (2.3)	1,542 (18.6)	1,727 (20.8)	8,300

Figures in parenthesis indicate the percentage of total deaths from all causes (Proportionate Mortality).

MATERNITY AND CHILD WELFARE

PUERPERAL PYREXIAS NOTIFIED IN 1965

Occurring in Hospital 258
Occurring at Home 7

265

Urinary infection	...	...	...	74
Uterine infection	...	...	...	65
Respiratory infection	...	...	...	60
Mastitis	...	...	...	12
Post operative Caesarean Section	...	...	...	11
Thrombosis	...	...	...	2
Abscess	...	...	...	1
Ear Infection	...	...	...	1
Virus	..	...	...	1
Septic Perinium...	...	...	...	1
Reaction from blood transfusion	...	...	...	1
Pyrexia of unknown origin	...	...	...	36

265

VISITS ON HOME CONDITIONS—1965

Hospital Requests	Booked for Home Confinement	No Contact	Returned to Hospital. Not suitable
329	136	9	184

Hospital Requests	Suitable for Early Discharge	No contact	Not suitable for Early Discharge
4,208	3,245	209	754

TOTAL REQUESTS 4,537

WEIGHTS OF PREMATURE BABIES

CARED FOR BY SPECIALLY TRAINED MIDWIVES—1965

	Babies born at home and cared for by the Premature Baby Team	Babies born at home and transferred to hospital	Babies born in hospital and discharged to the care of the Premature Baby Team
Less than 3 lb. 5 ozs.	—	—	—
3 lb. 5 ozs. to 4 lb. 6 ozs.	1	—	1
4 lb. 7 ozs. to 4 lb. 15 ozs.	10	—	54
5 lb. 0 oz. to 5 lb. 8 ozs.	18	3	363
5 lb. 9 ozs. and over	1	—	249
Totals	30	3	667
Sets of twins	3	—	19
Sets of triplets	—	—	—
One baby of twins	—	—	25

PATIENTS TRANSFERRED TO HOSPITAL—1965

Mothers

Malpresentations	...	...	111
Postmaturity	...	...	101
Ante partum haemorrhage	...	...	72
Pre-eclamptic toxæmia	...	...	66
Premature rupture of membranes	...	...	56
Prolonged labour	...	...	53
Anaemia	...	...	52
Domestic reasons	...	...	51
Multiple pregnancy	...	...	31
Rhesus incompatibility	...	...	31
Bad obstetric history	...	...	25
Disproportion	...	...	20
Retained placenta	...	...	20
Premature labour	...	...	19
Post partum haemorrhage	...	...	18
Multiparity	...	...	16
Foetal distress	...	...	13
Varicosity	...	...	12
Urinary infection	...	...	9
Hydramnios	...	...	8
Perineal repair	...	...	7
Intra-uterine death	...	...	5
Placenta praevia	...	...	5
Pseudo-cyesis	...	...	4
Glycosuria	...	...	4
Bicornuate uterus	...	...	2
Others	...	...	11

822

Babies

Premature infants	...	...	...	9
Cyanosis	...	...	...	8
Congenital abnormalities	...	...	...	7
Vomiting	...	...	...	5
Asphyxia pallida	...	...	...	2
Bronchitis	...	...	...	2
Melaena	...	...	...	2
Meningitis	...	...	...	2
Inhalation of vomit	...	...	...	1
Pyrexia	...	...	...	1
Convulsion	...	...	...	1
Atelectasis	...	...	...	1
Hypothermia	...	...	...	1
Grunting respirations	...	...	...	1
Collapse	...	...	...	1
Pyloric Stenosis	...	...	...	1

45

Total 867

REASONS FOR MIDWIVES
CALLING IN MEDICAL AID—1965

<i>Mothers</i>				<i>Babies</i>			
Ruptured perineum	...	...	116	Ophthalmia neonatorum	...	...	59
Prolonged labour	...	...	52	Asphyxia	...	...	27
Malpresentations	...	...	33	Skin infections	...	...	22
Ante partum haemorrhage	...	...	33	Monilia infections	...	...	10
Pyrexia	...	...	31	Cyanosis	...	...	10
Post partum haemorrhage	...	...	30	Snuffles	...	...	8
Foetal distress	...	...	28	Congenital abnormalities	...	...	8
Retained placenta	...	...	23	Relaxed stools	...	...	6
Premature rupture of membranes	...	...	21	Cough	...	...	6
Pre eclamptic toxæmia	...	...	19	Jaundice	...	...	5
Premature labour	...	...	17	Vomiting	...	...	5
Thrombosis and varicosity	...	...	11	Prematurity	...	...	4
Mastitis	...	...	10	Coryza	...	...	3
Abortions	...	...	9	Poor general condition	...	...	3
Anæmia	...	...	8	Blood stained faeces	...	...	2
Postmaturity	...	...	8	Various abnormal conditions	...	...	11
Uterine infection	...	...	7				
Born before arrival	...	...	7				
Abdominal pains	...	...	7				
Urinary infection	...	...	5				
Multiple pregnancy	...	...	5				
Septic spots and rashes	...	...	3				
Multiparity	...	...	3				
Collapse	...	...	2				
Chest complications	...	...	2				
Depression	...	...	2				
No ante-natal care	...	...	2				
Others	...	...	11				

HOSPITAL DISCHARGES—1965

Hospital	Days	2	3	4	5	6	7	8	9	10	Total	Premature Births	Total
Broadgreen Hospital ...	...	117	96	47	24	21	15	3	—	3	326	73	399
Sefton General Hospital ...	...	196	175	117	70	170	364	256	44	30	1,422	156	1,578
Mill Road Hospital ...	...	211	206	112	61	125	210	129	6	6	1,066	242	1,308
Walton Hospital ...	...	71	73	63	183	411	255	56	10	5	1,127	105	1,232
Liverpool Maternity Hospital ...	...	47	85	249	348	434	400	179	38	30	1,810	50	1,860
Others ...	...	1	1	1	4	5	15	10	6	—	43	6	49
Total ...	...	643	636	589	690	1,166	1,259	633	104	74	5,794	632	6,426

EPIDEMIOLOGY

FOOD POISONING FOR 1965

(Including all salmonella infections but excluding *Typhoid* and *Paratyphoid*)

General outbreak = two or more unrelated cases due to a common cause

Family outbreak = two or more cases related or in a household due to the same cause

Sporadic case = single cases not connected with any other cases.

TABLE I
Food Poisoning—Incidents and Cases

Causative agent	GENERAL OUTBREAKS		FAMILY OUTBREAKS		SPORADIC CASES	TOTAL	TOTAL
	No. of separate out-breaks	No. of cases notified or ascertained	No. of separate out-breaks	No. of cases notified or ascertained	Notified or ascertained	No. of outbreaks and sporadic cases columns (1 + 3 + 5)	No. of cases columns (2 + 4 + 5)
	1	2	3	4	5	6	7
<i>S. typhimurium</i>			9	23	10	19	33
Other <i>Salmonellae</i>			17	51	28	45	79
Cause unknown			5	14	2	7	16
TOTAL ...	—	—	31	88	40	71	128

DETAILS OF FOOD POISONING DUE TO SALMONELLAE OTHER THAN *S. TYPHIMURIUM*

(The totals of this table equal the total of line 2 in Table 1 above)

Type of <i>Salmonellae</i>							
Montevideo ...			1	3	—	1	3
Brandenburg ...					1	1	1
Dublin... ..					1	1	1
Chicago ...					1	1	1
Infantis ...			12	36	21	33	57
Anatum ...			3	9	2	5	11
Panama ...					1	1	1
Stanley ...			1	3	1	2	4

TABLE II

SALMONELLA INFECTIONS (NOT FOOD BORNE) INCIDENTS AND CASES

Causative agent	GENERAL OUTBREAKS		FAMILY OUTBREAKS		SPORADIC CASES	TOTAL	TOTAL
	No. of separate out-breaks	No. of cases notified or ascertained	No. of separate out-breaks	No. of cases notified or ascertained	Notified or ascertained	No. of outbreaks and sporadic cases columns (1+3+5)	No. of cases columns (2+4+5)
	1	2	3	4	5	6	7
S. typhimurium			1	2	1	2	3
Other Salmonellae					1	1	1
TOTAL ...	—	—	1	2	2	3	4

DETAILS OF SALMONELLA INFECTIONS DUE TO SALMONELLAE OTHER THAN S. TYPHIMURIUM (NOT FOOD BORNE)

(The totals of this table equal the totals in line 2 of table II above)

Type of Salmonellae							
Newport ...					1	1	1

Deaths associated with Food Poisoning—NIL

ENTEROVIRUS SURVEY 1965

						Male	Female	Total
Positive isolations								
Poliovirus	types 1, 2 and 3	...	...	...	...	1	—	1
	types 1 and 3	...	...	...	...	—	2	2
	types 2 and 3	...	...	...	...	—	1	1
	type 2	...	...	...	...	1	4	5
	type 3	...	...	...	...	2	3	5
Adenovirus type 2						—	1	1
Adenovirus type 2 and Coxsackie virus type A						—	1	1
Adenovirus type 5						1	—	1
Coxsackie virus type A						6	2	8
type B.1						—	2	2
type B.5						—	1	1
Echo virus type 6						1	—	1
type 11						—	1	1
type 12						—	1	1
Unidentified						—	1	1
						12	20	32

TUBERCULOSIS

NOTIFICATIONS—AGE GROUPS 1965

Age	Male	Female	Total
—1	—	—	—
1	3	—	3
2	3	2	5
3	1	1	2
4	2	—	2
5-9	4	5	9
10-14	3	6	9
15-19	11	8	19
20-24	3	14	17
25-29	7	12	19
30-34	8	8	16
35-39	15	12	27
40-44	18	12	30
45-49	18	5	23
50-54	12	6	18
55-59	20	8	28
60-64	16	2	18
65-69	11	1	12
70-74	8	1	9
75-79	5	3	8
80+	2	1	3
Age unknown	6	—	6
	176	107	283

NOTIFICATIONS OF TUBERCULOSIS—1928-1965

Year	Children (0-4 years)		Schoolchildren (5-14 years)		Adolescents & Adults (15+ years)	
	Pulmonary	Non-Pulmonary	Pulmonary	Non-Pulmonary	Pulmonary	Non-Pulmonary
1928	93	159	407	244	1968	242
1929	106	164	425	238	1975	269
1930	98	178	470	256	1890	263
1931	88	163	365	267	1805	289
1932	71	125	277	279	1757	268
1933	77	138	262	266	1941	250
1934	56	107	223	234	1624	244
1935	36	93	167	178	1494	231
1936	36	85	185	165	1424	197
1937	30	77	128	159	1397	172
1938	43	82	117	118	1281	186
1939	24	64	72	78	1117	175
1940	26	59	51	67	1234	148
1941	33	68	44	79	1225	158
1942	32	63	54	84	1284	201
1943	47	60	64	107	1368	168
1944	29	45	68	58	1344	147
1945	35	45	60	70	1360	133
1946	35	40	63	72	1380	125
1947	50	37	88	69	1341	128
1948	51	49	79	49	1490	130
1949	63	41	77	63	1479	107
1950	106	32	113	41	1353	91
1951	106	26	101	47	1328	87
1952	90	37	161	35	1318	67
1953	77	18	130	27	1175	78
1954	46	22	114	28	975	97
1955	46	24	82	23	951	71
1956	34	9	88	13	938	81
1957	46	9	79	12	892	80
1958	47	17	61	11	686	48
1959	29	12	54	6	1550	30
1960	17	3	24	5	398	36
1961	19	6	26	6	360	42
1962	24	3	23	2	391	45
1963	35	3	37	2	319	38
1964	16	3	17	2	240	23
1965	9	3	15	3	225	28

DEATHS FROM TUBERCULOSIS—1928-1965

Year	Pre-School Children (0-4 Years)			School Children (5-14 Years)			Adolescents & Adults (15+ Years)			Total for all Ages		
	Pulmonary	Non-Pulmonary	Total	Pulmonary	Non-Pulmonary	Total	Pulmonary	Non-Pulmonary	Total	Pulmonary	Non-Pulmonary	Total
1928	27	68	95	37	41	78	957	69	1,026	1,021	178	1,199
1929	27	84	111	40	57	97	991	75	1,066	1,058	216	1,274
1930	91	7	98	45	35	80	983	69	1,052	1,049	181	1,230
1931	12	73	85	21	30	51	956	61	1,017	989	164	1,153
1932	14	67	81	21	34	55	934	69	1,003	969	170	1,139
1933	6	50	56	31	33	64	972	65	1,037	1,009	148	1,157
1934	13	49	62	16	24	40	838	56	894	867	129	996
1935	5	43	48	17	20	37	790	60	850	812	123	935
1936	9	48	57	14	25	39	690	53	743	713	126	839
1937	9	43	52	11	20	31	664	49	713	684	112	796
1938	6	45	51	11	11	22	649	47	696	666	103	769
1939	5	29	34	11	22	33	631	48	679	647	99	746
1940	7	45	52	12	22	34	742	55	797	761	122	883
1941	20	63	83	8	29	37	671	55	726	699	147	846
1942	10	45	55	11	21	32	632	58	690	653	124	777
1943	14	33	47	9	17	26	647	53	700	670	103	773
1944	12	32	44	7	12	19	578	38	616	597	82	679
1945	9	32	41	9	21	30	587	43	630	605	96	701
1946	4	29	33	4	20	24	571	29	600	579	78	657
1947	15	27	42	5	18	23	579	40	619	599	85	684
1948	8	33	41	4	16	20	618	36	654	630	85	715
1949	3	22	25	4	13	17	535	33	568	542	68	610
1950	3	24	27	2	8	10	476	32	508	481	64	545
1951	5	19	24	2	5	7	399	19	418	406	43	449
1952	1	13	14	—	4	4	268	19	287	269	36	305
1953	1	17	18	1	2	3	256	17	273	258	26	284
1954	1	4	5	—	2	2	231	6	237	232	12	244
1955	—	5	5	2	2	4	183	12	195	185	19	204
1956	2	1	3	—	—	—	135	6	141	137	7	144
1957	—	1	1	—	1	1	123	3	126	123	5	128
1958	—	1	1	1	1	2	108	5	113	109	7	116
1959	—	2	2	—	—	—	102	1	103	102	3	105
1960	—	—	—	—	—	—	81	3	84	81	3	84
1961	—	1	1	—	—	—	80	5	85	80	6	86
1962	—	—	—	—	2	2	74	5	79	74	7	81
1963	—	1	1	—	1	1	54	2	56	54	4	58
1964	—	—	—	—	—	—	38	3	41	38	3	41
1965	—	—	—	—	—	—	42	1	43	42	1	43

TUBERCULOSIS CASES ON REGISTERS OF CHEST CLINICS—1965

Number of persons examined for the first time	5,161	Number found to be free of disease ...	4,560
Number found to be definitely tuberculous as detailed in 'A' below	327	Number found to be suffering from other conditions	277

DIAGNOSIS	RESPIRATORY			NON-RESPIRATORY			TOTAL			GRAND TOTAL
	Adults		Children	Adults		Children	Adults		Children	
	M.	F.		M.	F.		M.	F.		
A.—NEW CASES examined during the year*	180	88	24	13	19	3	193	107	27	327
B.—CONTACTS examined during the year:										
(a) Definitely tuberculous ...	4	4	3	—	—	—	4	4	3	11
(b) Diagnosis not completed ...	3	4	5	—	—	—	3	4	5	12
(c) Non-tuberculous ...	369	495	1,342	—	—	—	369	495	1,342	2,206
C.—CASES written off the Register as Recovered	274	265	32	8	13	5	282	278	37	597
D.—NUMBER OF CASES on Register on 31st December 1965:										
(a) Definitely tuberculous ...	2,014	1,470	199	101	147	31	2,115	1,617	230	3,963
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	—	—

Number of attendances of patients at the Chest Clinics	20,320	Number of patients under medical treatment at home on 31st December, 1965	560
Number of visits paid by the Tuberculosis Medical Officer to the homes of patients	87	Total number of visits paid to the homes of patients by Tuberculosis Visitors	23,660
Total number of cases vaccinated with B.C.G.:		†Includes newly born babies in Maternity Ward in Sefton General Hospital, Walton General, M. Road and Liverpool Maternity Hospitals.	
Children	1,198		
Others†	790		

*These include 44 Lancashire County Council cases, since the area covered by the chest clinics is not confined to Liverpool County Borough

B.C.G. VACCINATION SCHOOL CHILDREN—1965

Number of children offered B.C.G. vaccination	...	...	...	...	10,849
Number of acceptors	...	...	...	...	9,265
Number Heaf-tested	...	...	...	...	8,601
Number of positive Heaf tests	...	...	...	...	1,352
(Including 397 who had previously had B.C.G. at a clinic or who had a family history of Tuberculosis)					

Number of children vaccinated with B.C.G. ... 7,246

The undermentioned figures relate to students at Teacher Training Colleges:—

Number Heaf-tested	...	...	...	...	13
Number of positive Heaf tests	...	...	...	...	6
Number of students vaccinated with B.C.G.	...	...	...	...	7

B.C.G. VACCINATION OF SCHOOL CHILDREN, HEAF TESTS—1956-1965

Year	Number Tested	Number Positive	Percentage of Number Tested Found Positive
1956	8,921	2,494	28.0
1957	7,224	1,581	21.9
1958	8,587	1,717	20.0
1959	11,313	1,810	16.0
1960	10,569	1,480	14.0
1961	11,542	1,442	12.5
1962	9,777	1,305	13.3
1963	9,247	1,373	14.8
1964	8,456	1,309	15.5
1965	8,601	1,352	15.7

MENTAL HEALTH SERVICE

REFERRALS—1965

Sources of Reference	No. of Persons
General Practitioners	540
Hospitals—	
In-Patients on discharge	1,638
After Out-Patient or Day Treatment	47
Casualty and Reception Wards	360
Section 25 or 26 action after admission	137
Reports requested	103
Education Department (Mentally Subnormal Children or School Leavers)	215
Police and Courts	57
Relatives, Patients, Public Bodies, etc.	367
Patients already receiving Community Care, referred for hospital admission	121
Total	3,585

ACTION TAKEN IN ABOVE CASES

Action Taken	No. of Persons
Admitted to Hospital—	
Mental Health Act, Section 29 (Emergency)	777
Mental Health Act, Section 25 (Observation)	199
Mental Health Act, Section 26 (Treatment)	4
Mental Health Act, Section 60 (Court)	17
Informally*	299
Action taken after admission to hospital—	
Section 25 and 26 applications made	137
Reports made on home circumstances	103
Placed on Community Care list (including 1,583 Psychiatric Hospital discharges)	1,995
No further action necessary	54
Total	3,585

*This number represents only a proportion of total informal admissions; in many cases the Mental Health Service was not involved in admission

1. *Day centres for the Mentally Subnormal administered by Health Department:—*

FOR CHILDREN			FOR ADULTS		
	Places	No. at 31.12.65		Places	No. at 31.12.65
Training Centres—			Training Centre—		
Princes Road ...	80	73	New Hall (Hawthorn) ...	60	62
Dovecot	60	58			
Garston	60	51	Workshops—		
New Hall (Cherry Tree)	60	58	New Hall	180*	202
New Hall (Laburnum) ...	60	59			
	320	299		240	264

*Plus use of small temporary building

2. *Day Special Care Unit for Mentally Subnormal Children administered by Voluntary Society.*

Dorothy Keeling Unit (Mencap House) 30 places
(Grant of half daily *per capita* cost made by Corporation
and general transport provided by Corporation)

3. *Centre for the Mentally Ill (Occupational Therapy and Social) administered by Health Department.*

Johnson Street Centre 25 places

4. *Home Training by Health Department Occupational Therapists.*

Number under training at 31.12.65 16

AMBULANCE SERVICE

INFECTIOUS PATIENTS—1965

Month	Admissions	Hospital to Hospital Transfers	Total	TYPE	
				Sitting Cases	Ambulance Cases
January	138	16	154	124	30
February	149	18	167	123	44
March	149	15	164	117	47
April	124	14	138	105	33
May	142	12	154	124	30
June	201	34	235	178	57
July	157	16	173	143	30
August	146	11	157	109	48
September	162	23	185	143	42
October	185	22	207	159	48
November	192	17	209	182	27
December	144	15	159	131	28
Total ...	1,889	213	2,102	1,638	464

					1964	1965
Diesel Ambulances ...	...	...	...	...	25.0 m.p.g.	24.6 m.p.g.
Petrol Ambulances ...	...	...	...	...	15.8 m.p.g.	15.6 m.p.g.
Dual-Purpose Ambulances...	...	...	...	...	16.8 m.p.g.	16.0 m.p.g.
Sitting-case Ambulances ...	...	...	...	...	22.0 m.p.g.	20.7 m.p.g.
Vehicle Mileage ...	...	...	...	...	1,030,802	1,021,834
Fuel—Diesel ...	...	...	...	...	11,895 gallons	13,872 gallons
—Petrol ...	...	...	...	...	43,716 gallons	42,117 gallons
Oil ...	...	...	...	...	912 gallons	887 gallons

Average mileage for the fleet was as follows:—

Type of Vehicle	Average Annual Mileage		Percentage increase/ decrease on 1964
	1964	1965	
Ambulances Petrol ...	18,262	16,805	— 8.0%
Diesel... ..	13,525	15,545	+ 15.0%
Sitting-case Ambulances ...	16,581	13,772	— 17.0%
Sitting-case Cars ...	10,229	8,281	— 19.0%

Fuel Consumption

Stretcher case ambulances ...	Petrol	15.6 miles per gallon
	Diesel	24.6 " " "
Sitting-case ambulances ...	Petrol	16.0 " " "
Sitting-case cars ...	Petrol	20.7 " " "

The total petrol consumption during 1965 decreased by 1,599 gallons or 3.7 per cent to 42,117 gallons and the diesel fuel consumption increased by 1,977 gallons or 16.6 per cent to 13,872 gallons.

PATIENT REMOVALS—1965

NUMBER OF PERSONS CARRIED	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Non-infectious—													
Out-patients ...	16,300	15,908	18,311	15,382	16,437	16,400	16,245	16,180	17,168	17,341	17,550	16,272	199,494
Hospital Admissions/ Discharges ...	3,202	2,852	3,182	2,999	3,080	2,791	2,889	2,808	2,805	3,141	3,011	3,235	35,995
Inter-hospital transfers	663	586	667	688	704	736	656	660	754	679	689	561	8,043
Infectious—													
Out-patients ...	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital Admissions/ Discharges ...	138	149	149	124	142	201	157	146	162	185	192	144	1,889
Inter-hospital transfers	16	18	15	14	12	34	16	11	23	22	17	15	213
Accident/Emergency													
...	1,864	1,588	1,952	1,883	1,978	1,873	2,013	2,012	1,909	1,936	1,937	2,151	23,096
Other Persons													
...	14	13	3	5	278	352	279	267	330	350	357	342	2,590
	22,197	21,114	24,279	21,095	22,631	22,387	22,255	22,084	23,151	23,654	23,753	22,720	271,320

MEDICAL EXAMINATIONS—1965

Department	Admission to Super-annuation Scheme		Extension of Sick pay		Fitness of newly appointed officer		Suitability to continue employment		Total
	Fit	Unfit	Fit	Unfit	Fit	Unfit	Fit	Unfit	
Airport	9	—	—	—	7	—	1	—	17
Art Gallery	4	—	—	—	2	—	—	—	6
Baths	36	—	3	2	8	—	9	1	59
Building Surveyor's	—	—	—	—	9	—	—	—	9
Children's	2	—	—	—	98	2	1	3	106
City Analyst	—	—	—	—	3	—	1	—	4
City Architect's	—	—	—	—	17	—	—	—	17
City Engineer's	216	2	55	18	61	—	16	14	382
City Estates	18	2	2	2	21	—	3	5	53
City Lighting	18	—	—	—	9	—	4	3	34
City Planning	—	—	2	—	29	—	—	1	32
City Treasury	—	—	—	—	150	1	4	3	158
Education	108	3	4	2	350	1	19	71	558
Fire Service	5	—	2	—	35	—	3	—	45
Health... ..	65	3	21	3	232	—	20	18	362
Housing	1	—	—	1	52	—	6	3	63
Libraries	5	—	1	—	71	—	4	2	83
Magistrates	—	—	—	—	11	—	—	—	11
Markets	12	—	1	—	2	—	—	—	15
Mersey Tunnel	4	—	—	—	91	—	—	—	95
Museums	—	—	—	—	8	—	1	—	9
Parks & Recreation	86	1	—	—	22	1	10	4	124
Passenger Transport	340	3	2	—	59	—	6	34	444
Police	8	—	—	1	120	1	1	2	133
Probation	1	—	—	—	15	—	—	—	16
Town Clerk's	1	—	—	—	81	—	—	2	84
Water	56	2	26	8	12	—	5	4	113
Weights & Measures	—	—	—	—	6	—	—	—	6
Works	241	8	6	7	66	—	2	10	340
Welfare	24	1	30	—	9	—	10	5	79
TOTAL	1,260	25	155	44	1,656	6	126	185	3,457

Total Fit 3,197

Cancelled 334

Total Unfit 260

Other Authorities 78

HOUSING POINTS SCHEME—1965

Category	Number Allocated	Number Recommended	Number Rehoused
Special Priority Transfers	<i>General Medical Cases</i>		
	120	161	60
	125	225	74
Special Priority Transfers	<i>Tuberculosis</i>		
	80	179	89
	125	175	66
Totals	450	740	289

ENVIRONMENTAL HEALTH CONTROL

PARTICULARS OF SHOPS INSPECTIONS—1965

Total number of Shops—14,000 (approx.)

Retail Food Shops ...	...	...	...	...	...	2,988
Retail Non-Food Shops ...	...	...	...	...	...	656
Cafes, Restaurants, etc. ...	...	...	...	...	...	418
Fried Fish Shops ...	...	...	...	...	...	102
Clubs ...	...	...	...	...	...	453
Hairdressers ...	...	...	...	...	...	57
Pet Stores ...	...	...	...	...	...	59
Wholesale Shops ...	...	...	...	...	...	7,858
Wholesale Warehouses ...	...	...	...	...	...	474
Street Traders ...	...	...	...	...	...	112
Places of Entertainment ...	...	...	...	...	...	61
Merchandise Marks Act ...	...	...	...	...	...	1,618
Special Visits ...	...	...	...	...	...	299
Hotels... ...	...	...	...	...	...	47
Half-holiday Closing—						
Visits to shops after 1 p.m. ...	...	...	...	...	...	520
Evening closing—						
Visits to Shops ...	...	...	...	...	...	1,220
Sunday Closing—						
Visits to Shops on Sunday ...	...	...	...	...	...	1,476

SUMMARY OF PROSECUTIONS (CASES HEARD)—1965

Act	Section	No. of Informations or Complaints	Penalties	Costs
Liverpool Corporation Act, 1921	476	1	£ s. d. 3 18 0	£ s. d. —
Public Health Act, 1936	94	2	—	—
Public Health Act, 1936	75	1	1 0 0	—
Public Health Act, 1936	154	2	2 0 0	—
Public Health Act, 1936	290 (6)	1	5 0 0	—
SHOPS ACT AND FOOD AND DRUGS ACT, REGULATIONS AND BYELAWS				
Shops Act, 1950	Sunday	2	2 5 0	—
Shops Act, 1950	Evening Closing	3	3 0 0	—
Food and Drugs Act, 1955	Food not of quality demanded	6	25 0 0	12 0 0
Food Hygiene (General) Regulations, 1960		17	63 0 0	—
		35	£105 3 0	£12 0 0

FACTORIES ACT, 1961—PART I OF THE ACT

1. *INSPECTIONS for purposes of provisions as to Health (including inspection made by the Public Health Inspectors—1965)*

Premises (1)	Number on Register (2)	Number of		
		Inspection (3)	Written Notices (4)	Occupiers prosecuted (5)
(i) Factories in which Sections 1, 2, 3, 4, and 6 are to be enforced by local authorities ...	750	63	1	—
(ii) Factories not included in (i) in which Section 7 is enforced by local authority	2,157	577	31	—
(iii) Other premises in which Section 7 is enforced by the local authority (excluding outworkers premises)	73	21	1	—
TOTAL	2,980	661	33	—

2. *Cases in which DEFECTS were Found—1965*

Particulars (1)	Number of Cases in which Defects were found				Number of Cases in which Prosecu- tions were instituted (6)
	Found (2)	Remedied (3)	To H.M. Inspector (4)	By H.M. Inspector (5)	
Want of cleanliness (S.1) ...	5	5	1	1	—
Overcrowding (S.2)	2	2	1	—	—
Unreasonable temperature (S.3)	—	—	—	—	—
Inadequate ventilation (S.4) ...	—	—	—	—	—
Ineffective drainage of floors (S.6)	1	1	1	1	—
Sanitary Conveniences (S.7)—					
(a) Insufficient	3	3	3	3	—
(b) Unsuitable or defective ...	28	26	—	33	—
(c) Not separate for sexes ...	4	4	—	4	—
Other offences against the Act (not including offences re- lating to outwork)	14	14	—	3	—
TOTAL	57	55	6	45	—

Part VIII of the Act

OUTWORK — 1965

Sections 110 and 111

Nature of Work (1)	SECTION 110			SECTION 111		
	No. of out- workers in August list required by Section 110 (1) (c) (2)	No. of cases of default in sending lists to the Council (3)	No. of prosecu- tions for failure to supply lists (4)	No. of instances of work in unwhole- some premises (5)	Notices served (6)	Prosecu- tions (7)
Wearing apparel— making, etc.	87	—	—	—	—	—
Stuffed toys ...	8	—	—	—	—	—
Christmas stockings						
TOTAL ...	95	—	—	—	—	—

CLEARANCE AREAS NOT YET CONFIRMED BY THE MINISTER AT 31ST DECEMBER, 1965

Area	Houses	Population
Everton Road Clearance Area, 1963	5	29
Gleave Street Clearance Area, 1963	157	561
Margaret Street Clearance Area, 1963	7	36
Mill Road No. 4 Clearance Area, 1963	5	21
Falkner Street No. 2 Clearance Area, 1963	162	956
Falkner Street No. 3 Clearance Area, 1963	452	2,664
Falkner Street No. 4 Clearance Area, 1963	2	14
Falkner Street No. 5 Clearance Area, 1963	3	30
Falkner Street No. 6 Clearance Area, 1963	29	200
Bamber Street No. 2 Clearance Area, 1963	149	662
Bamber Street No. 4 Clearance Area, 1963	2	8
Taylor Street No. 1 Clearance Area, 1963... ..	181	762
Taylor Street No. 2 Clearance Area, 1963	3	7
Taylor Street No. 3 Clearance Area, 1963... ..	21	77
Chatsworth Street No. 2 Clearance Area, 1964	285	1,025
Chatsworth Street No. 3 Clearance Area, 1964	425	1,618
Chatsworth Street No. 4 Clearance Area, 1964	17	46
Overbury Street Clearance Area, 1964	206	809
Queens Road (Everton) Clearance Area, 1964	783	3,174
Caird Street (Everton) Clearance Area, 1964	299	1,062
Margaret Street (Everton) No. 2 Clearance Area, 1964	5	25
Margaret Street (Everton) No. 3 Clearance Area, 1964	3	7
Margaret Street (Everton) No. 4 Clearance Area, 1964	5	28
Aubrey Street (Everton) No. 1 Clearance Area, 1964	330	963
Aubrey Street (Everton) No. 2 Clearance Area, 1964	166	658
Phythian Street No. 1 Clearance Area, 1964	527	1,963
Phythian Street No. 2 Clearance Area, 1964	9	26
Phythian Street No. 3 Clearance Area, 1964	16	44
Phythian Street No. 4 Clearance Area, 1964	12	43
Phythian Street No. 5 Clearance Area, 1964	58	189
Phythian Street No. 6 Clearance Area, 1964	48	159
Phythian Street No. 7 Clearance Area, 1964	3	13
Phythian Street No. 8 Clearance Area, 1964	5	26
Village Street No. 1 Clearance Area 1965	160	813
Village Street No. 2 Clearance Area 1965... ..	118	476
Leigh Street Clearance Area, 1965	61	206
Percival Street Clearance Area, 1965	34	127
Pinnington's Cottages Clearance Area, 1965	27	82
Greig Street Clearance Area, 1965	225	721
Abyssinia Street Clearance Area, 1965	175	616
South Street Clearance Area, 1965... ..	830	2,850
Carlton Hill Clearance Area, 1965	133	552
Threlfall Street Clearance Area, 1965	128	395
Admiral Street Clearance Area, 1965	12	43
Letitia Street No. 1 Clearance Area, 1965	8	24
Letitia Street No. 2 Clearance Area, 1965	8	19
Byles Street No. 2 Clearance Area, 1965	6	27
Wellington Grove No. 2 Clearance Area, 1965	48	149
Thames Street No. 1 Clearance Area, 1965	292	1,095
Thames Street No. 2 Clearance Area, 1965	4	16
Berwick Street Clearance Area, 1965	187	688
Minto Street Clearance Area, 1965... ..	303	908
Pluto Street Clearance Area, 1965	314	1,163
Sefton Park Road Clearance Area, 1965	3	33
Tennyson Street Clearance Area, 1965	440	2,464
Carter Street Clearance Area, 1965	3	20
Horsley Street Clearance Area, 1965	377	1,342
Mount Vernon Street No. 3 Clearance Area, 1965	5	19
Oak Vale (Broadgreen) Clearance Area, 1965	17	63

CLEARANCE AREAS NOT YET CONFIRMED—*continued*

Area				Houses	Population
Copeland Street Clearance Area 1965	...	...	...	92	342
Havelock Street Clearance Area 1965	...	...	...	446	1,515
Norwood Grove No. 1 Clearance Area, 1965	...	...	...	362	1,413
Norwood Grove No. 2 Clearance Area, 1965	...	...	...	8	36
Norwood Grove No. 3 Clearance Area, 1965	...	...	...	17	149
Norwood Grove No. 4 Clearance Area, 1965	...	...	...	7	26
Norwood Grove No. 5 Clearance Area, 1965	...	...	...	223	756
Norwood Grove No. 6 Clearance Area, 1965	...	...	...	19	80
Totals				9,472	37,133

COMPULSORY PURCHASE ORDERS CONFIRMED—1965

Date Confirmed	Order				Houses	Population
12.1.65	Aigburth Vale	...	...	...	144	418
14.4.65	Woodruff Street No. 2	...	...	...	100	388
9.6.65	Bedford Street South No. 2	...	...	...	9	41
14.7.65	Portwood Street	...	...	...	91	331
9.9.65	York Terrace Area	...	...	...	75	336
24.9.65	Chatsworth Street Area	...	...	...	456	1,522
8.10.65	Cochrane Street Area	...	...	...	232	766
11.11.65	Milford Street Area	...	...	...	83	421
15.12.65	Sackville Street Area	...	...	...	76	367
Totals				...	1,266	4,590

CLEARANCE ORDERS CONFIRMED, 1965

Date Confirmed	Order				Houses	Population
1.1.65	Crown Street No. 2	...	...	...	4	44
6.1.65	Grove Street No. 1	...	...	...	19	78
7.1.65	Grove Street No. 2	...	...	...	3	16
14.1.65	Florist Street	...	...	...	3	13
23.3.65	Crown Street No. 1	...	...	...	66	284
3.6.65	York Terrace No. 1	...	...	...	2	21
3.5.65	York Terrace No. 2	...	...	...	7	35
19.7.65	Boaler Street	...	...	...	3	14
Totals				...	107	505

CLEAN AIR ACT, 1956

INSPECTIONS, OBSERVATIONS, ETC.

Particulars of Inspections—1965

Total Number of Inspections to Secure Smoke Control	...	...	...	...	...	...	...	...	24,539
Incidental Visits	...	...	...	...	...	...	...	...	6,560
Special Visits	...	...	...	...	...	...	...	...	4,621
Re-Visits	...	...	...	...	...	...	...	...	6,977
Advisory Visits	...	...	...	...	...	...	...	...	5,499
Total Number of Appliances Examined	...	...	...	...	...	...	...	...	10,905
Domestic Smoke Emission Visits	...	...	...	...	...	...	...	...	61

Observations—Industrial Chimneys

Routine Observations	...	...	...	...	...	...	...	...	132
Special Observations	...	...	...	...	...	...	...	...	48
Total Minutes of Excess Smoke Recorded	...	...	...	...	...	...	...	...	122

Shipping

Routine Observations	...	...	...	...	...	...	...	...	119
Total Minutes of Excess Smoke Recorded	...	...	...	...	...	...	...	...	90

CLEAN AIR ACT, 1956 SECTION 3

Approval of New Furnaces, 1965

Notices of intentions to install received	...	...	...	...	...	...	...	...	184
Application for approval received	...	...	...	...	...	...	...	...	51
Installations approved	...	...	...	...	...	...	...	...	51

CLEAN AIR ACT, 1956 SECTION 10

Heights of New Chimneys, 1965

Plans examined to check chimney height	...	...	...	...	...	...	...	...	95
Plans approved	...	...	...	...	...	...	...	...	89
Plans approved after chimney height increased	...	...	...	...	...	...	...	...	4
Plans withdrawn	...	...	...	...	...	...	...	...	2

ATMOSPHERIC POLLUTION MEASUREMENT—1965

Standard Deposit Gauge

The results are quoted in tons per square mile per month and the averages are as follows :—

Location of Instrument										Tons per Square Mile
Aigburth Vale	...	...	...	...	...	...	...	...	...	11·86
Clarence Dock	...	...	...	...	...	...	...	...	...	23·37
Dunbabin Road...	...	...	...	...	...	...	...	...	...	13·34
Fairclough Lane	...	...	...	...	...	...	...	...	...	16·91
Hatton Garden	...	...	...	...	...	...	...	...	...	27·18
Love Lane	...	...	...	...	...	...	...	...	...	23·67
Mill Lane (West Derby)	...	...	...	...	...	...	...	...	...	15·84
Rocky Lane (Childwall)	...	...	...	...	...	...	...	...	...	14·78

ESTIMATION OF SULPHUR TRIOXIDE POLLUTION—1965

Lead Peroxide Method

The daily average for the year is quoted in milligrams per 100 square centimetres.

Clarence Dock	...	...	...	...	...	...	...	...	3·29
Dunbabin Road...	...	...	...	...	...	...	...	...	2·98
Fairclough Lane	...	...	...	...	...	...	...	...	2·57
Mill Lane (West Derby)	...	...	...	...	...	...	...	...	2·56

ATMOSPHERIC POLLUTION MEASUREMENT—1965

Smoke and Sulphur Dioxide Volumetric Filter
Measurements are in micrograms per cubic metre

	SMOKE												SULPHUR											
	J.	F.	M.	A.	My.	Jn.	Jy.	A.	S.	O.	N.	D.	J.	F.	M.	A.	My.	Jn.	Jy.	A.	S.	O.	N.	D.
Average Value	98	144	71	73	31	39	30	24	58	86	158	47	183	266	243	219	173	179	151	201	217	273	331	220
Highest Value	322	395	182	171	134	127	66	78	102	182	522	182	426	571	519	404	299	404	283	690	431	583	646	464
Lowest Value	4	9	13	16	9	3	5	1	6	1	4	1	70	113	133	98	98	43	40	94	110	43	43	103
Average Value	—	—	104	90	58	40	39	34	72	116	174	146	—	—	202	164	116	141	143	160	178	202	205	202
Highest Value	—	—	154	264	130	106	58	83	208	232	553	904	—	—	277	413	209	297	239	326	283	390	487	473
Lowest Value	—	—	67	33	32	17	17	8	10	1	7	10	—	—	155	64	40	40	75	73	74	108	122	85
Average Value	—	—	—	103	71	34	25	26	65	162	207	157	—	—	—	128	147	117	134	156	183	307	333	297
Highest Value	—	—	—	228	244	76	62	66	470	296	928	1,031	—	—	—	217	256	182	395	294	354	578	572	891
Lowest Value	—	—	—	40	—	—	—	10	3	18	3	19	—	—	—	74	70	38	57	80	103	175	188	25
Average Value	167	184	153	123	81	65	56	37	80	135	147	80	572	487	477	385	295	229	234	231	313	398	443	380
Highest Value	430	461	334	243	147	138	120	88	357	218	251	339	1,272	1,064	765	735	502	433	463	366	569	729	678	859
Lowest Value	53	55	86	52	49	35	17	13	22	27	7	15	158	233	313	163	162	117	110	110	164	173	173	184
Average Value	124	149	117	100	68	54	47	38	64	117	165	108	243	285	290	274	200	173	156	138	193	263	271	214
Highest Value	402	358	299	170	159	126	96	73	247	202	441	550	678	611	536	409	379	307	264	267	316	408	496	570
Lowest Value	39	57	58	47	41	27	15	6	31	26	16	24	103	116	122	141	81	76	66	66	108	153	150	126

RAT DESTRUCTION IN SEWERS

ANNUAL TEST BAITING

Test Baiting Divisions	Year 1953	Year 1964	Year 1965
Total number of manholes	6,337	12,033	12,033
Number of manholes tested	797	1,355	1,394
Number of manholes showing takes	68	65	40

RAT DESTRUCTION IN SEWERS

Maintenance Treatments

Sewer Manholes treated	Initial Treatment 1953	MAINTENANCE TREATMENTS		
		1965 (1)	1965 (2)	1965 (3)
Pre-baited... ..	16,378	12,524	12,414	10,020
Pre-bait taken	9,329	1,883	1,726	1,615
Poison baited	11,141	3,979	3,800	3,494

SUMMARY OF RODENT INFESTATIONS AND DISINFESTATIONS OF BUILDINGS AND LANDS DURING THE YEAR 1965

Description of Premises	Infestations				Reinfestations during the Year				Category		Total infestations and reinfestations	Total infestations and remedied
	Premises	Rats	Rats and Mice	Mice	Premises	Rats	Rats and Mice	Mice	Major	Minor		
Shops	620	262	7	351	35	15	1	20	—	656	656	547
Factories	298	178	16	104	29	20	—	10	—	328	328	265
Warehouses	211	131	5	75	16	13	—	4	—	228	228	199
Dwelling-houses	2,807	1,725	4	1,078	62	36	—	29	—	2,872	2,872	2,822
Other buildings and lands	1,309	737	20	552	77	29	4	44	—	1,386	1,386	1,153
Food premises (included in above)...	(815)	(362)	(11)	(442)	(8)	(5)	(1)	(2)	(—)	(823)	(823)	(589)
TOTAL	5,245	3,033	52	2,160	219	113	5	107	—	5,470	5,470	4,986

QUANTITY OF FOOD CONDEMNED FOR DISEASE
OR FOUND UNFIT FOR HUMAN CONSUMPTION—1965

	Tons	Cwts.	Qrs.	Lbs.
Beef, Mutton, Veal and Pork	121	19	3	23
Offal	250	3	—	26
Fish (Wet)	21	—	—	16
Fish (Dry)	—	5	—	—
Poultry	—	13	3	1
Game	—	—	1	12
Rabbits and Hares	—	—	2	10
Fruit	76	4	—	4
Vegetables	200	3	1	4
Nuts	26	18	1	26
Canned Goods	39	13	2	10
Sundries	21	2	—	3
	758	4	1	23

CARCASES AND OFFAL INSPECTED AND
CONDEMNED IN WHOLE OR IN PART—1965

	Cattle Excluding Cows	Cows	Calves	Sheep and Lambs	Pigs
Number killed 454,484	35,681	13,770	1,865	271,005	132,163
Number inspected 454,484	35,681	13,770	1,865	271,005	132,163
<i>All diseases except tuberculosis and cystericerci</i>					
Whole carcasses condemned	3	48	225	1,413	321
Carcasses of which some part or organ was condemned	2,782	6,038	147	76,583	8,613
Percentage of the number inspected affected with other than tuberculosis and cystericerci	7.8%	44.2%	19.9%	28.8%	6.8%
<i>Tuberculosis only</i>					
Whole carcasses	—	—	—	—	2
Carcasses of which some part or organ was condemned	20	17	—	—	1,808
Percentage of the number inspected affected with tuberculosis	0.06%	0.1%	—	—	1.37%
<i>Cystericercosis</i>					
Carcasses of which some part or organ was condemned	1	12	—	4	—
Carcasses submitted to re- frigeration	1	12	—	4	—
Generalised and wholly con- demned	—	—	—	1	—

CITY ANALYST

ANALYSIS OF MILK SAMPLES—1965

					Percentage average fat content	Percentage average content of total solid matter
January	...	...	...	...	3.69	12.28
February	...	...	...	...	3.61	12.27
March	...	...	...	...	3.70	12.30
April	...	...	...	...	3.68	12.43
May	...	...	...	...	3.54	12.46
June	...	...	...	...	3.55	12.34
July	...	...	...	...	3.74	12.46
August	...	...	...	...	3.70	12.52
September	...	...	...	...	3.92	12.79
October	...	...	...	...	4.00	12.88
November	...	...	...	...	4.02	12.94
December	...	...	...	...	3.83	12.50

LIVERPOOL WATER SUPPLY

Average Analyses 1965

Source of the Sample	Huntington Supply (Treated Water)	Vyrnwy Supply	Rivington Supply	Green Lane Well	Dudlow Lane Well	Tap Supply
Total solid matter in solution	189.2	41.7	95.5	413.3	232.4	111.0
Oxygen required to oxidise in 15 minutes—parts per million ...	0.31	0.78	0.17	none	none	0.54
Oxygen required to oxidise in 4 hours—parts per million... ..	0.65	1.35	0.44	none	none	0.97
Ammonia expressed as N	0.16	0.01	0.01	none	none	0.02
Ammonia from Organic matter as N by distillation with alkaline permanganate	0.02	0.01	0.02	none	none	0.02
Nitrogen as Nitrates	0.8	none	none	6.7	7.0	0.5
Combined Chlorine	26.0	9.9	16.0	43.0	34.4	18.5
pH Value	6.6	6.6	7.3	6.7	5.7	6.7
Carbonate hardness	42½	9½	11½	160	26	27
Total hardness	99	19	49½	280	115	59½

