

**[Report 1951] / Medical Officer of Health, Birmingham.**

**Contributors**

Birmingham (England). Council.

**Publication/Creation**

1951

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CITY OF BIRMINGHAM

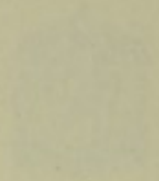
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REPORT OF THE  
MEDICAL OFFICER  
OF HEALTH

FOR THE YEAR

1951





CITY OF BIRMINGHAM

REPORT OF THE  
MEDICAL OFFICER  
OF HEALTH

FOR THE YEAR

1921

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# MEMBERS OF THE HEALTH COMMITTEE

Municipal Year, 1951-52

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*Chairman* : COUNCILLOR W. F. SMITH.

(Chairman of Health Education Sub-Committee, Staff Sub-Committee and Staff Discipline Sub-Committee).

THE LORD MAYOR. (ALDERMAN R. C. YATES, J.P.)

ALDERMAN W. T. BOWEN.

ALDERMAN E. J. DENTON, J.P.

ALDERMAN MRS. A. M. HOWES, M.B.E., J.P.

ALDERMAN MRS. N. HYDE, O.B.E., J.P.

ALDERMAN MRS. A. LONGDEN, J.P.

COUNCILLOR G. P. ACHURCH, M.B.E.

(Chairman of Tuberculosis (Domiciliary and After-Care) Sub-Committee).

COUNCILLOR G. C. BARROW.

COUNCILLOR L. CHAFFEY.

COUNCILLOR MRS. M. A. M. COOKE.

COUNCILLOR F. F. GRIFFIN.

(Chairman of Finance and General Purposes Sub-Committee).

COUNCILLOR D. H. HOWELL.

COUNCILLOR W. A. N. JONES.

COUNCILLOR J. M. MORRIN.

COUNCILLOR MISS E. M. PITT, O.B.E.

(Chairman of Maternity and Child Welfare Sub-Committee).

COUNCILLOR MRS. H. L. RADFORD.

COUNCILLOR A. SHANKS, M.C.

COUNCILLOR MRS. J. M. SHAW.

COUNCILLOR F. B. WILLMOTT.

COUNCILLOR H. V. WOLLASTON.

COUNCILLOR MRS. A. F. WOOD, J.P.

(Chairman of Mental Health Sub-Committee).

COUNCILLOR S. A. WYNN.

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# STAFF OF THE PUBLIC HEALTH DEPARTMENT AS AT 31st DECEMBER, 1951

## *Medical Officer of Health :*

MATTHEW BURN, M.C., M.M., F.R.C.P. (Edin.), D.P.H., D.T.M. & H.

## *Deputy Medical Officer of Health :*

E. L. M. MILLAR, M.Sc., M.D., Ch.B., D.P.H.

## *Secretary-Accountant :*

C. C. BATEMAN, A.C.A., F.C.C.S.

## *Administrative Medical Officer of Health for Maternity and Child Welfare :*

J. M. MACKINTOSH, M.D., Ch.B., D.P.H., D.P.A.

## *Administrative Medical Officer of Health for General Purposes :*

W. R. MARTINE, O.B.E., T.D., M.D., Ch.B., D.P.H.

## *Assistant Administrative Medical Officer of Health for General Purposes :*

W. NICOL, M.B., Ch.B., D.P.H.

## *Assistant Administrative Medical Officer of Health for Diphtheria Immunisation :*

VERA FELLOWES, M.B., Ch.B.

## *Administrative Medical Officer of Health for Mental Health :*

Post Vacant.

## *Chief Sanitary Inspector :*

E. N. WAKELIN, M.R.San.I., M.S.I.A.

## *Chief Housing Inspector :*

D. J. E. LAMB, M.C., T.D., Cert. R.S.I.

## *City Analyst :*

H. H. BAGNALL, B.Sc., F.R.I.C.

## *Manager of Works :*

C. K. SMITH.

## SECRETARIAL AND ACCOUNTANCY

### *Secretary-Accountant :*

C. C. BATEMAN, A.C.A., F.C.C.S.

### *Assistant-Secretary :*

E. S. EYRE.

### *Secretary to the Medical Officer of Health :*

W. G. DEELEY.

### *Deputy Accountant :*

J. F. THOMPSON.

*Assistant Accountant :*

L. H. FERRER.

*Statistics Clerk :*

L. RAWLINGS, F.C.I.S.

*Steward :*

L. H. LEA.

*Steward for Home Nursing :*

S. L. GILLMAN.

*Assessment Officer :*

H. B. COLEMAN.

*General :*

Clerical Staff ..... 100

*Miscellaneous Staff :*

Architectural Staff ..... 2

Bacchus Road Garage—

Chauffeurs, Drivers, and Mechanics ..... 12

Bacchus Road Laundry—

Laundry Assistants ..... 32

Engineering Staff ..... 2

Central Stores—

Storekeeper ..... 1

Stores Assistants ..... 5

Caretakers ..... 5

Cleaners (Full and Part-time) ..... 11

Porters ..... 2

Night Watchmen ..... 2

#### MATERNITY AND CHILD WELFARE

*Administrative Medical Officer of Health for Maternity and Child Welfare :*

J. M. MACKINTOSH, M.D., Ch.B., D.P.H., D.P.A.

*Deputy to Administrative Medical Officer of Health for Maternity and Child Welfare :*

B. HATHERLEY, M.B., Ch.B., M.M.S.A.

*Medical Superintendent for Nurseries and Deprived Children :*

M. C. O'BRIEN, M.B., Ch.B., D.P.H., M.M.S.A.

*Assistant Administrative Medical Officers for Maternity and Child Welfare :*

E. M. ALEXANDER, M.R.C.S., L.R.C.P., D.C.H., D.P.H.

F. M. EARLE, M.B., Ch.B., D.C.H., D.P.H.

V. J. M. STARK, M.D., Ch.B., D.P.H.

*Assistant Medical Officers for Maternity and Child Welfare:*

E. BADENOCH, M.D., Ch.B.  
 B. G. BAILEY, M.B., Ch.B.  
 J. BENNETT, M.B., Ch.B., L.R.C.P., M.R.C.S.  
 U. COX, M.R.C.S., L.R.C.P., D.P.H.  
 M. C. MACKIE, M.B.E., M.B., Ch.B.  
 M. McINTOSH, M.B., B.Ch., B.A.O.  
 M. McKINLAY, M.B., Ch.B., D.P.H.  
 J. E. PRESTON, M.B., Ch.B.  
 M. E. RICHARDS, B.Sc., M.B., B.Ch., D.Obst.R.C.O.G., and M.R.C.O.G.  
 M. F. THORNTON, M.B., B.Ch., B.A.O.  
 B. HUMPHRIES, M.B., Ch.B., D.Obst. R.C.O.G.  
 E. F. P. DENNETT, M.R.C.S., L.R.C.P., M.B., B.S.  
 M. D. E. QUINET, M.B., Ch.B., M.R.C.S., L.R.C.P., D.Obst. R.C.O.G.

Part-time Assistant Medical Officers : ..... 27

*Health Visitors :*

*Superintendent of Health Visitors :*

MISS I. H. SINNETT, S.R.N., S.C.M., H.V.Cert., Diploma in Nursing.

*Deputy Superintendent of Health Visitors :*

MISS M. G. MILNER, S.R.N., S.C.M., H.V.Cert.

*Assistant Superintendent of Health Visitors and Home Help Organiser :*

MISS J. M. PEARSON, S.R.N., S.C.M., H.V.Cert.

*Health Visitor Tutor :*

MISS L. M. WOOD, S.R.N., S.C.M., H.V.Cert., H.V.Tutor's Cert.

Assistant Health Visitor Tutor .....	1
Superintendents of Infant Welfare Centres .....	32
Senior Health Visitors .....	4
Health Visitors .....	61
Health Visitors (Part-time) .....	10
Pupil Health Visitors .....	12
Psychiatric Social Worker .....	1
Clinic Nurse .....	1
Clinic Nurses (Part-time) .....	5
Dental Nurse .....	1
Physiotherapists (Part-time) .....	5
Chiropodist (Part-time) .....	1
Nurse—Care of the Aged (part-time) .....	1

*Human Milk Bureau :*

Nurses ..... 2

*Midwives :*

*Supervisors of Midwives :*

MISS B. A. LAWSON, S.R.N., S.C.M., H.V.Cert.

MISS B. COOPER, S.R.N., S.C.M., H.V.Cert..

MISS E. E. JONES, S.R.N., S.C.M., H.V.Cert., M.T.D., Queen's Nurse.

Municipal Midwives .....	124
Maternity Nurses .....	18

*Dentists :*

MR. F. J. HASTILOW, L.D.S. (Part-time).

MR. J. C. CROSSLEY, L.D.S. (Part-time).

MR. S. E. WIGLEY, L.D.S. (Part-time).

*Health Education :*

*Organiser and Lecturer for Male Health Education :*

G. G. TAYLOR.

*Organiser and Lecturer for Female Health Education :*

MRS. POTTER, S.R.N., S.C.M., H.V.Cert

Assistant Lecturers for Health Education ..... 3

*Day Nurseries :*

*Supervisor of Day Nurseries :*

MISS D. E. MALLEY, S.R.N., S.C.M., H.V.Cert.

Assistant Supervisors of Day Nurseries ..... 3

*Day and 24-hour Nurseries' Staff :*

Matrons ..... 40

Deputy Matrons ..... 35

Superintendents of Wards ..... 2

Wardens ..... 41

Staff Nursery Nurses ..... 96

State Enrolled Assistant Nurses ..... 3

Nursery Assistants ..... 194

Student Nurses ..... 157

*Home Nursing Service :*

*Chief Nursing Superintendent :*

MISS E. G. GOUDGE, S.R.N., S.C.M., H.V.Cert., Queen's Nurse

Superintendents of District Nurses Homes ..... 10

Nursing Staff ..... 71

Nursing Staff, part-time ..... 41

Student District Nurses ..... 10

*John Foster Vince Memorial Home (Mother and Baby Home) :*

*Matron :*

MISS F. SMITH, S.R.N., S.C.M.

Other Nursing Staff ..... 1

Clerical Staff ..... 27

*Miscellaneous Staff :*

Clinic Assistants ..... 44

Domestic Helps ..... 99

Domestic Helps (Part-time) ..... 304

Care of the Aged—Night Watchers ..... 21

Home Nursing Domestic Staff (Full and Part-time) ..... 18

Home Nursing Attendants ..... 5

Caretakers ..... 35

Curator ..... 1

Cleaners (Full and Part-time) ..... 181

Cooks, Cook-housekeepers and Assistants ..... 46

Gardeners (Full and Part-time)	8
Handyman	1
Day Nursery kitchen staff helps	5
Porters	3
Seamstresses	3
Storekeepers	2
Van drivers	3

*Harborough Hall Convalescent Home for Mothers and Babies :*

*Matron :*

MISS C. M. HEGGS, S.R.N., S.C.M.

Other Nursing Staff	4
Domestic Staff (Full and Part-time)	10
Curator	1
Gardener	1

DIPHTHERIA IMMUNISATION DEPARTMENT

*Assistant Administrative Medical Officer of Health for Diphtheria Immunisation :*

VERA FELLOWES, M.B., Ch.B.

Nursing Staff	2
Nursing Staff (Part-time)	6
Clerical Staff	8

MENTAL HEALTH DEPARTMENT

*Administrative Medical Officer of Health for Mental Health :*

Post vacant.

*Chief Inspector :*

T. H. MIDDLETON.

*Senior Inspector and Petitioning Officer:*

F. R. C. BATEMAN.

Inspector (Male)	1
Inspectors (Female)	2
Clerical Staff	5

*Senior Psychiatric Social Worker :*

T. G. RANKIN, B.A. Hons. (Oxon.), B.A. Hons. (Lond), (Psychology)  
Mental Health Cert.

Psychiatric Social Workers	3
Clerical Staff	1

*Chief Authorised Officer :*

E. J. DICKINSON.

*Deputy Chief Authorised Officer :*

J. W. GREEN.

Duly Authorised Officers	3
Clerical Staff	1

## CHEST CLINIC.

### *After-Care Department.*

*Senior Tuberculosis Officer (Part-time) :*

J. E. GEDDES, M.D., Ch.B.

*Medical Officers (Part-time) :*

H. J. T. ROSS, M.R.C.P. (Edin.).

J. MORRISON-SMITH, M.D., M.R.C.P. (Edin.), D.P.H., D.T.M. & H.

J. SUMNER, M.C., M.D. (Durham).

J. M. TAYLOR, M.D.

H. E. THOMAS, M.D., M.R.C.P.

G. R. W. N. LUNTZ, M.R.C.P. (Lond.)

Tuberculosis Visitors .....	13
Domiciliary Diversional Therapists .....	2
Clerical Staff .....	8

### STAFF WELFARE SURGERIES.

Staff .....	3
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### SANITARY INSPECTORS' DEPARTMENT.

*Chief Sanitary Inspector :*

E. N. WAKELIN, M.R.San.I., M.S.I.A.

*Deputy Chief Sanitary Inspector :*

F. C. SCHONBECK, M.R.San.I., M.S.I.A.

Divisional Sanitary Inspectors .....	2
Enforcement Officer .....	1
Assistant Enforcement Officer .....	1
District Sanitary Inspectors .....	10
Sanitary Inspectors .....	38
Pupil Sanitary Inspectors .....	10
Smoke and Factories Inspectors .....	5
Milk and Dairies Inspectors .....	5
Milk Samplers .....	2
Rodent Officers .....	2
Water and Canal Boats Inspector .....	1
Shops Act Inspectors .....	4
 Clerical Staff .....	 28

*Miscellaneous Staff :*

Disinfecting Staff .....	11
Court Cleansing Staff .....	3
Rodent Control Staff .....	26
Bath Attendants (Part-time) .....	2
Summer Lane Mortuary—Caretakers .....	2

Inspection of Cow Sheds and Dairies and of Meat and other Foods is carried out by the Veterinary Department on behalf of the Health Committee.

*Chief Veterinary Officer :*

C. G. ALLEN, M.R.C.V.S., D.V.S.M., F.R.S.I.

## HOUSING INSPECTORS' DEPARTMENT.

*Chief Housing Inspector :*

D. J. E. LAMB, M.C., T.D., Cert. R.S.I.

*Deputy Chief Housing Inspector :*

W. G. BARLOW.

Divisional Housing Inspectors .....	2
District Housing Inspectors .....	5
Housing Inspectors .....	7
Housing Assistants .....	5
Clerical Staff .....	18

## ANALYTICAL LABORATORY.

*City Analyst :*

H. H. BAGNALL, B.Sc., F.R.I.C.

*Deputy City Analyst :*

A. H. COOMBES, B.Sc., F.R.I.C.

Assistant Analysts .....	5
Laboratory Assistants .....	3
Food and Drugs Sampling Officers .....	4
Clerical Staff .....	3

## WORKS DEPARTMENT.

*Manager :*

C. K. SMITH.

Administrative Assistant .....	1
Clerks of Works .....	2
General Foreman .....	1
Clerical Staff .....	6
Tradesmen .....	54

PUBLIC HEALTH DEPARTMENT,  
THE COUNCIL HOUSE,  
BIRMINGHAM

May, 1952.

To the Chairman and Members,  
Health Committee.

It is with pleasure that I submit a statement on the work of the Public Health Department for the year 1951. As in the report for 1950, my colleagues have been given the opportunity to freely express their views and with these I concur while retaining responsibility for the whole of the Report.

It is customary to show variation in such a report as this but I find this difficult to accomplish and must again stress the importance of *Housing* in relation to physical and mental health. To achieve this combination of physical and mental health we must build upon the foundation of good housing in order that the advantages of the social services will prove beneficial to our citizens as in fact they are intended to do. Whatever section of this report is perused, whether it be *Sanitary, Maternity and Child Welfare, Epidemiology*, or any other, the foundation stands out clear and well-defined—Good Housing. And therefore, while it gives satisfaction to note that there has been an overall increase in house building of 50 per cent. as compared with 1950, yet it can give rise to no complacency as will be seen from the excellent detailed report of Mr. Lamb. Many of our citizens are forced to live in either unfit houses or under seriously overcrowded conditions, both of which are inimical to Health. It has always been difficult to appreciate that "Prevention is better than Cure" but in realizing the vast expenditure of money now taking place in *trying* to remedy the ills, mental and physical, which beset the individual and due to bad housing conditions it should be the common purpose of all citizens, if not on altruistic then on financial grounds, to unite in a common purpose to clear away this evil of 20th century life.

Admirable work continues to be done by the *Maternity and Child Welfare* section of the Department, whether it be in relation to the newborn child, the pregnant woman or the chronic sick, etc., and the detailed report of the year's work by Dr. Mackintosh makes valuable reading.

The possible integration of our services with those of the general practitioner had for some years given me thought, for Sections 24 and 28 of the National Health Service Act 1946 call for the employment of health visitors to give medico-social advice to the *family unit* in the care, after-care and prevention of illness. This is clearly an extension of her

duties and new and important work now falls upon the health visitor under these two sections. Similarly with the passing of this Act the practitioner became the doctor to this unit—the family—and if full achievement is to be obtained the medico-social worker, the health visitor, must act in unison with, and as an active partner to, the general practitioner. This clearly is an extension of the principle already in effect in relation to the local authority's midwives and home nurses. Such a scheme, it appeared to me, would bring up to date our present system, avoid duplication of medical service and create greater efficiency which would be reflected in an improved service to the family unit. Such a scheme would also create a greater unity between the general practitioner service and our own and establish a foundation upon which the Health Service, with its necessary health centres, could eventually be built.

It gave me great satisfaction therefore when your Committee accepted proposals towards this end and which I placed before you during the year under review. It gave me equal delight in knowing that the Local Medical Committee were in full agreement with these proposals and the ideal of practitioner and local authority services being united and working as a team will soon be, I believe, a reality with obvious benefits through this happy relationship to patients and partners alike.

Outbreaks of *Food Poisoning*, *Dysentery* and *Para-typhoid* continue to give the departmental staff much detailed work of investigation and I am pleased to record the most active co-operation which exists between the Department and the various firms in the City producing and/or selling food commodities. In unison, most valuable preventative work is being done. I should like to stress that, if workers preparing food would carefully wash their hands after the common calls of nature, 90 per cent. of these infections would not arise.

Details of these outbreaks are set out by Dr. Millar, from which it will be recognised how extremely difficult is the task to "track down" a possible carrier, having previously traced the firm involved, and delay in isolating the "carrier" means additional persons becoming infected.

I have no hesitation in paying the highest tribute to my colleagues working as a team under the direction of Dr. Millar in carrying out these most difficult investigations. These difficulties will be fully appreciated on reading Dr. Millar's report on para-typhoid fever. Little can be known of their excellent work in quickly stopping an outbreak comprising a few cases—their failure if hundreds arose would quickly be "news". This work on Preventive Medicine is of vital importance to the community and occupies a position in this Department's activities of the highest order.

#### *Vital Statistics.*

There were 18,355 live births, being 478 less than the number born in 1950, while the illegitimate birth rate continues to fall though not yet

reaching the pre-war level. The infantile mortality rate remains at the low rate of 30 for the City as a whole. The central wards continue to shew a higher rate of 40.

There were 14 deaths of women due to pregnancy and child-bearing, as compared with 16 for 1950.

12,699 deaths occurred in the City, as compared with 12,149 for 1950.

The five principal killing diseases continue to be diseases of the circulatory system 33.1 per cent., cancer 15.9 per cent., respiratory system 13.5 per cent., nervous system 13.1 per cent., and tuberculosis 3.3 per cent.

*Tuberculosis* is admirably dealt with in Dr. Geddes' report, and it is gratifying again to see a decrease in the number of deaths from this disease. The alterations in prevalence and death rate are significant enough to suggest that radical changes are taking place and the hope, as expressed in the report for 1950, that the disease may soon be brought to the level of relative unimportance, is further strengthened.

Every advantage is being taken of the facilities to combat the disease such as vaccination of contacts, domiciliary treatment with new drugs, the tracing and examination of contacts to detect the early case, and improved housing for the affected. By all these means further reductions will, I am sure, continue to take place and we can with confidence look to the future.

I must again pay tribute to the happy relationship and liaison which exists between the Regional Hospital Board, Hospital Management Committees and our own Service, and thank the officers who make this possible. Equally am I indebted to the members of the Housing Management Committee and its officers for their very kind co-operation in our frequent requests for the provision of better living conditions for tubercular cases.

#### *Poliomyelitis.*

The decrease in the number of cases of Poliomyelitis from those experienced in 1950, while being anticipated, was nevertheless welcome. There occurred only 52 cases (442 in 1950) while the mortality dropped from 13.1 per cent. to 3.85 per cent. and there were fewer paralysed cases per hundred.

On the whole there was a lower incidence in Europe in 1951 than in 1950 and in Canada it was higher than in 1948 and 1950 but lower than in other post-war years. Australia has suffered severely from Poliomyelitis in recent years and in 1951 notifications exceeded those of 1938 and 1950.

ANNUAL REPORT 1951.

ERRATUM

Page 17, paragraph 4, second  
line, 11,000 cases should be  
1,100 cases.

ANNUAL REPORT 1951

REPORT

Page 17, paragraph 4, second  
line, 11,000 cases should be  
1,100 cases.

The viruses of the disease are now recognised to exist in every country and its epidemicity and type of attack being probably influenced by season, latitude and the immunological state of the population at risk.

#### *Diphtheria.*

The struggle against Diphtheria continues to show the most satisfactory results and only 27 cases of this disease occurred in 1951 as compared with 105 cases in 1950—a most gratifying decrease.

In the child age group 0—15 years, 15 cases occurred as compared with 75 for the previous year.

To ponder and recollect that 20 years ago it was common to have <sup>1,100</sup> ~~11,000~~ cases per annum brings into perspective the extreme value of the Department's preventative work of immunisation carried out over the years—a shining example of Preventive Medicine.

I should therefore like to draw attention to the importance of having children immunised against Diphtheria before they reach the age of 1 year and would appeal to parents to take advantage of the facilities to have this done, either by their own Doctor or through this department.

#### *Influenza.*

In common with the country as a whole the City experienced this infection and deaths totalled some 285, the vast majority occurring in aged people.

While most epidemics are caused by either Virus A or Virus B those due to "B" Virus usually show no clear periodicity and are milder than "A" infections. It is therefore of paramount importance that early information be obtained of the type of virus involved, not only from the point of treatment but to allow one to appreciate its possible epidemicity. Through the kind co-operation of a selected number of practitioners in the City a scheme is in effect whereby the Department receives early notification of suspected cases of Influenza after which my medical colleagues collect appropriate samples from the patient with a view to isolation of the virus and its typing. I am very grateful to the medical profession for this active co-operation and help which was so readily forthcoming on my request.

*Whooping Cough* was prevalent during the year and accounted for 5,120 cases with 8 deaths.

While the mortality rate is low it is the predisposition to contract other respiratory diseases which gives the serious nature to Whooping Cough, and I hope that soon we shall have a reliable immunising agent by which means we shall be able to protect the child population as is done against Diphtheria.

### *Sanitary Inspectors' Work.*

The comprehensive and detailed report of the Chief Sanitary Inspector, Mr. Wakelin, shews the activities of this section of the Department and emphasizes the importance of this work as a most valuable contribution to the health and well-being of the citizen.

While it is necessary to institute legal proceedings in certain cases, this is only done after all other means have failed, for it is our desire, our wish and our policy to accomplish more by co-operation, personal discussion and mutual trust. Such a policy is giving most satisfactory results and I am grateful for the most active co-operation I have had from the officers concerned in the implementation of a policy which allows an amicable relationship to exist between ourselves and "offenders".

The work done by the Department on behalf of the *Children's Committee* is fully set out in the Report, and I am pleased to record that a most effective liaison and active co-operation exists between the staffs concerned. This unison of purpose is also shewn to advantage in our complementary work done in relation to the Water Committee and to the Baths Committee. To the officers in charge of these three departments I am indebted.

### *Visitors*

It has been a pleasure to welcome visitors from all parts of the world who have expressed a desire to meet members of the Department and to be given facilities for seeing the administration and organisation in operation day by day. These visitors have included representatives from India, Egypt, Japan, New Zealand, Ceylon, France, Russia, United States of America, Australia, Holland, Persia, South Africa, Denmark, Germany, Indonesia, Cyrenaica and the Gold Coast.

I should like to express my thanks to Dr. Millar, my Deputy, not only for his kindness in acting as Editor but also for the quiet though enthusiastic co-operation he has again given to me in so readily accepting the many and varied tasks which I have asked him to perform. To Mr. Bateman, Secretary-Accountant, I am indeed most grateful. His help is invaluable to me and he typifies that spirit of friendship which is shewn by *all* members of the staff whom I thank but who necessarily cannot be mentioned individually in this report. My very warm thanks are also tendered to those, who, while not members of the staff, again most readily agreed to contribute to this Report.

As in my report for 1950, I would like to say "Thank you" to all the members of the Health Committee for the kindly and understanding manner shewn to me.

MATTHEW BURN.

## BIRMINGHAM

### General

The City of Birmingham, with a population recorded as 1,112,340 by the census of 1951 and an area of 51,147 acres, is a modern city and enjoys world-wide reputation as a centre of industry and of progressive local government, regarded as the capital of the Midlands and the second city of Britain. Situated as it is in the heart of the Midlands, it is served by the main services of the road, rail and canal systems, and is 108 miles from London. The continuous succession of towns on the north and west comprise the "Black Country" of Staffordshire with its coal-mining, iron-mining and metal-working industries. Rural stretches of Worcestershire and Warwickshire lie to the south and east.

The city is renowned for its diversity of trades, which number some 1,500, and in consequence derives its title "Workshop of the World".

### Climatology.

Mr. A. L. Kelley, the Observer of the Meteorological Observatory at Edgbaston, has very kindly supplied the following information for the year under review. Reference has been made in the previous Report to the fact that six observations are carried out per day, at 6 a.m., 9 a.m., 12 noon, 3 p.m., 6 p.m. and 9 p.m.

#### REVIEW OF THE WEATHER OF 1951

##### RECORD HIGH RAINFALL TOTAL

The year will be chiefly remembered in Birmingham for the frequent rainy periods which occurred in the early and latter parts.

Precipitation in the early months was often in the form of snow or sleet (mainly in small amounts which melted quickly), and this, following on the wet and cold of the previous November and December, gave the impression of a long, drawn-out winter, with a very late spring.

Actually the winter could not be classed as an unduly cold one, as the comparison tables will show.

There was a welcome flash of early summer but conditions soon reverted to the earlier pattern in the latter part.

A genial but foggy autumn was swamped by the deluge of November, although the weather remained very mild and comparatively sunny to the end of the year.

The record rainfall total of 35.98-in. set up in the year 1912, was exceeded by the end of November.

*Temperature.* The mean temperature for the year was 48.5 deg. F., which is a little below average. The months of July, September, November and December had means in excess of normal, the greatest excess

being in November. All other months had means below average, although those of January, June and October were only slightly below. March had the greatest deficiency.

There were no outstanding extremes of temperature. The highest shade maximum was 79 deg. F., on 21st July and the lowest minimum was 25 deg. F., on 13th December.

*Rainfall.* This item overshadowed any other item of weather data. January, February, March, April and May rainfalls were all well above average and the combined total for the five months was the highest on record for the same period of any previous year. The greatest excess during this period was shown in March (+3.204-in.). June and July were dry months, the total for July being the lowest for this month since 1935. August and September followed with falls well above average but, for the second year running, October total was much below normal; indeed, but for the rainfall on the last two days, it would have been the driest October on record here. November, which had twice recorded totals exceeding 7-in. (with 7.12-in. in 1929 as the record total for any month), set up an even higher record with 7.81-in. and at the same time brought the total for the year, so far, up to 36.15-in., which broke the record for a wet year also. December's total, 2.77-in., brought the amount for the year to 38.9-in., ten inches above the average annual rainfall.

*Sunshine.* Of the first five months only April gave an excess over normal. March and May had deficiencies amounting to about one third of the usual totals. Of the remaining seven months, August and September totals were below average. In spite of the phenomenal rainfall November had an excess of 11 hours and December's excess was 19.3 hours. The year's total was 1,282.3 hours which is 20.3 hours below average, a remarkably small deficiency considering the year as a whole.

*Winds.* Except for the months of March and May and the early parts of June and October when east to north-east winds were predominant, south-west to west or north-west air currents have been very much in evidence throughout the year. The mean hourly speed was a little above average. There were nine days on which gusts of 50 m.p.h. or more, were recorded. The maximum gust was 57 m.p.h. on the 4th February on which day also the barometer at Edgbaston fell to the record low level of 27.567-in. at station level.

*Miscellaneous Data.* There were 43 days on which snow or sleet were recorded and 6 days on which snow covered the ground at 9 a.m. (maximum depth 11-in. at 3 p.m. on 3rd of January). Ground frosts were noted on 69 days, thunder on 13 days, and fogs (visibility 1,000 yards or less) on 41 days, a third of which occurred in October. Measurable rainfall was registered on 200 days.

COMPARISON OF MEANS, AND TOTAL OF TEMPERATURE, RAINFALL AND  
SUNSHINE, FOR 1951 WITH THE AVERAGES OF THE PAST 64 YEARS.

<i>MONTH</i>	<i>TEMPERATURE</i>		<i>RAINFALL</i>		<i>SUNSHINE</i>	
	1951	<i>Average</i>	1951	<i>Average</i>	1951	<i>Average</i>
January .....	38.5	38.8	3.01	2.565	31.7	42.3
February .....	38.3	39.2	3.125	2.02	47.4	59.2
March .....	38.9	42.0	5.135	1.931	72.1	94.7
April .....	44.4	46.3	2.96	2.03	165.8	132.6
May .....	49.5	52.2	3.635	2.313	126.3	173.0
June .....	57.2	57.5	1.095	2.03	211.5	178.8
July .....	61.6	60.8	1.06	2.54	187.0	170.4
August .....	58.6	60.2	4.255	2.70	142.7	160.0
September	57.2	56.2	3.34	2.09	86.6	120.9
October .....	49.6	49.7	0.715	2.746	97.2	86.3
November	46.6	43.1	7.81	2.732	60.1	49.1
December	42.1	39.8	2.77	2.804	53.9	35.3
<b>YEAR</b> .....	<b>48.5</b>	<b>48.8</b>	<b>38.91</b>	<b>28.501</b>	<b>1282.3</b>	<b>1302.6</b>

## LIFE ON A CANAL BOAT

There are many hundreds of miles of canal in this country connecting the great rivers and ports with the inland industrial towns which were constructed many years ago. Because of the dimensions of the locks, bridges and tunnels through which these boats have to pass, the measurements of the boats themselves are limited, and thus only narrow boats, i.e., normally about 7-ft. 1-in. wide, are seen in the Midlands.

Many of the canal boats used today have cabins aboard, and these form the homes for the families of the men and women who work them. The cabins may be fore, middle or aft. By far the most common practice is to have the cabin aft. Those boats which had the cabin in the middle have almost all disappeared. The small fore cabin still commonly found, which is not much larger than a wardrobe in the average house, is not generally used for sleeping purposes today, but more often is used for the storage of domestic articles, the children's toys and perhaps a bicycle.

There has been little change in the design of the aft cabins of narrow boats, and in principle they are the same as in boats constructed 75 years ago. There can be few modes of living which have changed less than that of the canal boat dweller. The inventions of this century have brought little change into their homes, for television, running hot and cold water, to say nothing of wash-hand basins or water closets aboard, are unheard of luxuries.

Perhaps the greatest revolution in the life of the boatman has been the gradual change over from the horse drawn barge to the diesel engined propellor driven boat. Petrol engines are not advisable owing to the inflammable nature of the fuel in tunnels and congested places. There are still some horse drawn barges but these are generally to be found on the short runs, for today the great network of canals, with its many lock houses, has few stables. The modern motor vessel has replaced both the horse drawn and the steam driven boat and now tows behind it, by means of a heavy hauser, another motorless vessel called a "butty boat". The motor boat carries about 25 tons and the "butty" another 30 tons of merchandise, and they can travel from Birmingham to London Docks in about 50 working hours.

The speed of the boats is controlled by the byelaws of the respective Navigations so as to protect the canal banks from damage caused by the wash of the boats, and for the safety of other boats moored along the canal.

The little cabin which forms the home for the family aboard is unbelievably small, being 8-ft. 8-in. long and 6-ft. 6-in. wide and only 5-ft. 6-in. high. The arrangement of cupboards, tables, beds, etc., is so compact that all the family's clothing, their food and worldly possessions may be contained in this one cabin. In these days of boats travelling in pairs it is usual for each boat to have the aft cabin fitted out as living quarters. On the right or starboard side of the cabin there is a side bed which extends from the door at the rear to the bulk head. It is 18—20-in. wide, with lockers beneath for the storage of ropes and hauling tackle. On the left or port side near to the bulk head there is a form of cupboard by day, in which the bedding is stored, and this is let down at night across the cabin at its widest part to make a double bed. Another cupboard in which crockery and other kitchenware is stored lets down to make a table and the family can sit round on the beds to take their meals.

On the left near the door is a little iron range which burns coal, and this is always shining bright with black lead and metal polish. All the food is cooked on this range and there is usually a kettle singing away merrily. The remaining space on the left side and in any convenient corner is utilised to form cupboards for wearing apparel and other personal chattels. There is a ventilated food store outside the cabin usually over the rudder.

The boatman's wife is very proud of her small home, and decorates it with horse brasses, china plates and figures, each a souvenir of some day's outing. Lace curtains often drape the walls and screen the cross bed from view.

Clean water is carried on top of the cabin in gaily painted cans, each holding four gallons. The water is readily available en route at the houses of lock keepers, the toll houses or the wharves, where there is a well, or more recently, a piped supply from the mains. There is no sink aboard and so washing of clothes is carried out at the wharves where facilities are usually available, whilst the boats are being loaded or unloaded. If a casual washday is needed between calls then a fire is made on the bank of the canal and the clothes are boiled in a pail.

There is no sanitary accommodation aboard, but conveniences for men and women are generally available at wharves and toll houses. There are emergency utensils available on board. Experiments have been carried out by providing chemical closets in the fore cabin or in the engine room, but did not prove particularly popular.

The aft cabin is entered through a narrow doorway from the deck from which the boat is steered. The doors can be shut and a hatch drawn over so that the cabin is totally enclosed and only a little light enters through a small fixed porthole and possibly a little skylight in the roof.

Natural permanent ventilation is provided, but this is frequently found to have been stuffed up with rag to prevent draught.

Natural lighting of the cabin could be improved in new boats by the provision of portholes or windows, which could be made to open. Artificial lighting in the horse drawn and butty boats is by means of oil lamps; in the motor boats electricity is commonly used.

The engine room is approached either through the door in the partition at the end of the aft cabin or through doors which open out at the side. The boatman has to be something of a mechanic these days, for he must know how to run, adjust and maintain his motor. If a breakdown occurs en route he loses financially, for he is paid on commission on loads carried and he has to make a hasty and urgent appeal for help to the nearest wharf. Between the cargo and the engine room, and in the case of the butty boat between the cargo and the cabin, there is a bulk head, and in those boats where offensive cargoes such as tar oil are carried, there is a double bulk head with a space between. Any leakage or spillage of the cargo can then be pumped out. A vast assortment of cargoes are carried varying from coal, iron ore and other minerals to heavy machinery, raw materials, metals and chocolate beans, and to the less valuable waste materials such as household refuse and ashes.

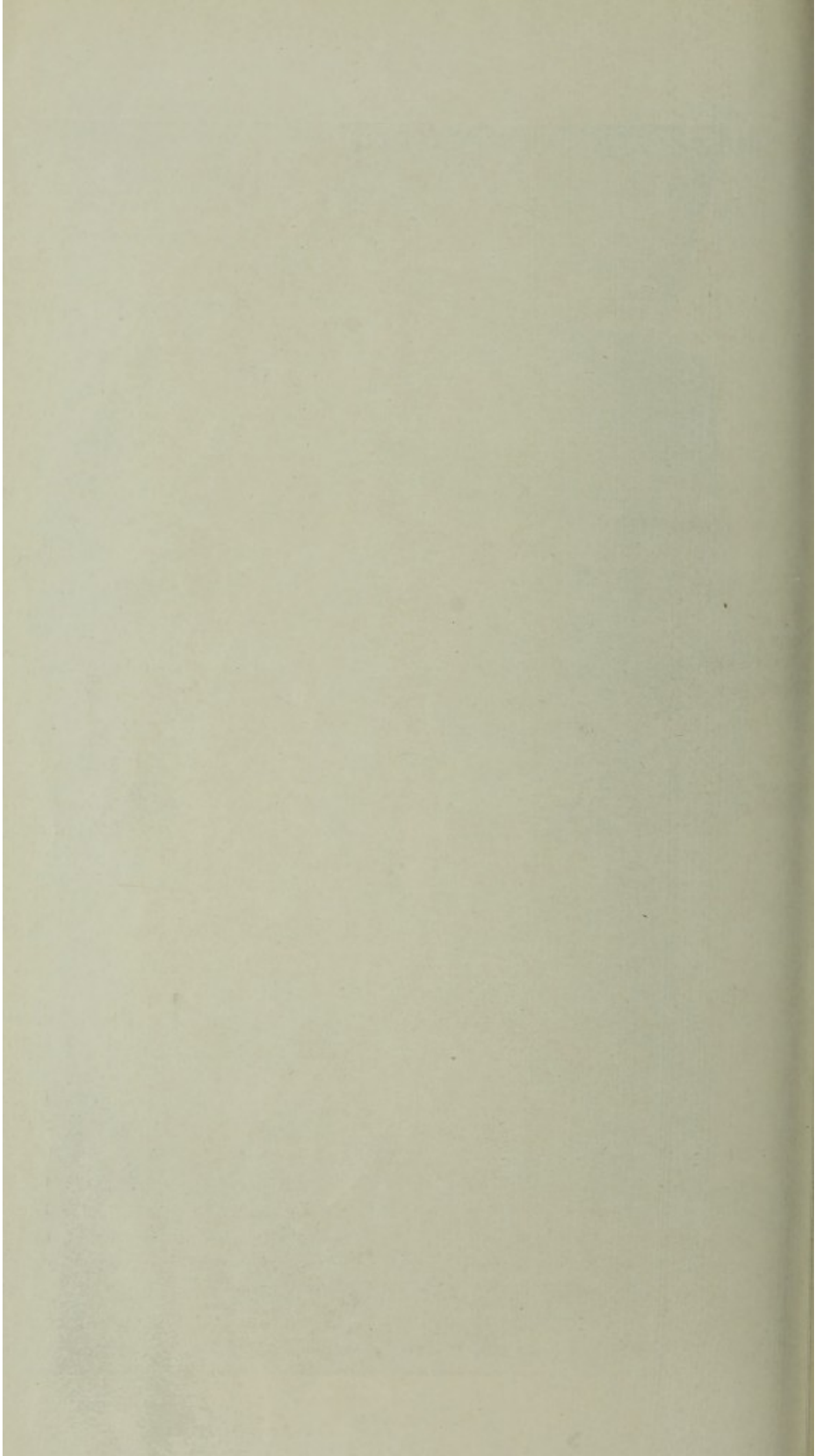
Except in the rare case of the "fly boat", which is an ordinary boat doing a voyage without breaks for rest and is manned by four men (two at work and two at rest in shifts), the majority of canal boats are manned by families.

The typical boatee is a hard-working and conscientious man, with a love of the country through which he passes and a natural dislike of the rush and noise of the town with its fast moving traffic. The family enjoy the simple pleasures of life and devote much time to the cleaning and care of their craft. They are fond of their familiar haunts and have stopping places for their favourite inn, usually not far from the tow path. The children are well behaved and obedient to the wishes of their parents and surprisingly, like them, they can rarely swim.

The weather is very important to the family for it means that in wet weather the family is confined to the cabin, whereas in dry weather all are out on the boat or on the roof of the cabin.

Few can read or write but they manage to go through life happily and usefully without finding this a serious handicap. Some local authorities arrange for school facilities at the wharves so that all children can be taught whilst the vessels are being loaded, unloaded or repaired. A system whereby books are carried on board so that each successive teacher can ascertain the standard of education reached by the individual





child is only successful if the parents' co-operation can be assured. Birmingham Education Committee has recently opened a hostel where children from the barges can be accommodated for the whole school term whilst the parents continue their voyages.

For those who can read and write there is no daily postal delivery. Arrangements have to be made for parcels and letters to be addressed "care of" wharves or docks which are to be visited in the near future, and the mail is collected when next in that district. Newspapers have to be purchased at the newsagents and cannot be delivered daily to the door. To them these inconveniences are trivial compared with the joy and pleasure they derive from a journey through beautiful country, particularly when the weather is kind.

The captain is proud of his boat and his family. Many families have inter-married and frequently they meet and stop for an exchange of news and a gossip. The captain is honest and trusted. He carries some valuable cargoes, and although miles away from the eyes of his employers he is always trying to break his own records for journeys, and often starts work at 3 a.m. A journey from London to Birmingham involves a trip through 150 locks, each of which is approximately 72 feet long, 8 feet wide, and with a fall to the water of about 8 feet. Each time a lock is filled or emptied some 28,800 gallons of water, representing about 128½ tons in weight, is moved.

The work is hard and there is little luxury in the life of the true boatee. They come from hardy stock and are usually physically and mentally fit. They are clean, well nourished and, in spite of their lack of school education, they conduct their business and manage their lives efficiently and happily.

It is rare for them to marry "off the land" for they have a clannish pride and there can be few girls who would be prepared to put up with hard conditions in all weathers and to make their homes permanently in such cramped surroundings as the small cabin provides.

The traditional dress of the boatee is rarely seen today, probably due to the difficulty in obtaining the unusual outfit during the war and times of clothes rationing. The men used to wear plain golden wire earrings with a coat of dark green corduroy cut like a seaman's with reefer collar. The trousers were of white corduroy, narrow at the knees and bell bottomed with a small slit at the sides fastened with two or three pearl buttons. The waistcoat, also of white corduroy, was double breasted with sleeves. There was a coloured neckerchief and the hat was a trilby in "pork pie" style. The women wore a wide striped skirt and gaily coloured bodice with a pleated bonnet and a large fancy brooch.

Like their shore-based counterparts the boatee and his family have their lives governed by laws and regulations. There are special provisions in the Public Health Act 1936 which affect canal boats and the Regulations made in 1879 lay down standards to which all have to conform.

Canal boats, the cabins of which are used as dwellings, must be registered with a local authority, that is a registration authority. The appropriate registration authority is the one through whose area the canal passes and on which the boat is normally accustomed or intended to ply. At the end of 1951 there were 586 boats registered with this city.

The canal boat inspector is usually a sanitary inspector who has been specially authorised to do this work, and he is responsible for inspection of the boats to ensure that the Regulations are being observed, both in the case of new boats and those already in commission. On receipt of 5/- and an application for registration, which should be made in the case of all new boats and in those cases where structural alterations have been effected or there has been a change of ownership, the boat is inspected to ascertain that the Regulations have been complied with, including lettering, numbering and the name of the place where the boat is registered. The Regulations deem that the registration shall be void if a material mistake is made in this respect, and stipulate that the lettering, mark and number shall be on both sides of the boat, painted white on a black background in Roman capital letters and figures 2-in. in height.

The cabin or cabins are measured for cubic capacity and the permitted number of occupants is computed. If all is satisfactory a report is made to the local authority who instructs the Town Clerk to sign, seal and issue the Certificate of Registration in duplicate. One certificate is retained by the owner, who today is frequently the Docks and Inland Waterways Executive, and the other certificate is kept by the master of the boat for safe custody during the time that he remains master. The master shall give access to the inspector of the local authority where it is suspected there is a contravention of the Regulations or that a case of infectious disease is on board.

The Regulations provide amongst other things, that the cabin shall not be overcrowded, i.e. the permitted number shall not be exceeded or persons of opposite sex, being over the age of twelve and not husband and wife, shall not occupy the same cabin. The normal narrow boat of today has a cabin for three persons. The air space per person legally required is only 60 cu. feet per person over the age of twelve years or 40 cu. feet per person under the age of twelve years.

This Regulation is at present being reviewed, and it is hoped that a greater cubic capacity will be required per person should new Regulations be made.

The Regulations also require that sufficient means of ventilation be provided for the removal of foul air and the admission of fresh air, exclusive of the door or any opening in the door. .

It is hoped that any revision of the Regulations will require the provision of a window or porthole which can be made to open.

Relations between inspector and the master are usually cordial.

If any repairs are necessary or the boat requires docking, then a notice to that effect is sent to the owners by the Chief Sanitary Inspector and these usually receive prompt attention.

During the year 1951, 814 boats were inspected and these were registered for the accommodation of 2,358 persons. They were actually found to be carrying 543 men, 513 women and 482 children, representing in terms of adults a total of 1,297 people.

92.26 per cent. of the boats inspected were found to be in good condition and appropriate action was taken in the case of the remainder.

## THE TREND OF LEGISLATION AS IT HAS AFFECTED THE CITY ANALYST

It would have been difficult for the casual visitor to the modest room in the Council House, in which the Analyst's work was performed in 1901, to envisage either the proportions or the equipment of the laboratories on the second floor of the Public Health Building in which the City Analyst of 1951 and his staff have the privilege of carrying out their duties. The increase in the size of the staff from 4 to 17, the ten-fold increase in floor space and the replacement of the alchemical looking apparatus (some of which is still extant, but unused) by modern glassware and physical instruments unknown at the earlier date, all reflect the vast increase in the importance and usefulness of the work. At the beginning of the century the Food and Drugs Acts, 1875—1899, were the foundation for the whole of the Department's activities, whereas at the present day, the volume of miscellaneous work performed shows a tendency to surpass that carried out under the Food and Drugs Act, 1938, the statute which consolidates the whole of food and drug legislation to that date. The total number of samples analysed in 1901 was 1,267 and, in 1951, 9,071, an increase of over seven-fold, while the work required to be done per sample has increased vastly both in amount and complexity. To quote merely one fact as a criterion, the number of different kinds of samples submitted by the inspector in the first year of the century was 28; last year nearly 250 varieties were purchased by the Sampling Officers.

In those early days food chemistry was still in its teething stage and, on occasion, because there was no known method of analysis, adulteration with certain substances had to go unpunished. A retailer, for instance, was personally cautioned in 1897 by the Public Health Committee for preserving milk with formaldehyde, a most objectionable substance for the purpose, and he informed them that he proposed to continue this practice and that they could not stop him! This was unfortunately correct, as there was at the time no available method of determining the amount present, and the analyst was obliged to include a definite figure on his certificate. Five years later the Birmingham Analyst devised a means of estimation, and successful prosecutions followed, which were among the first in the country. The assessment of the percentage of boric acid used as a preservative was another stumbling block, leading to sharp differences of opinion between, among others, the Birmingham Analyst and the official referee, the Somerset House Analyst. At the time of the arsenical poisoning scare of 1900, when many people died or were made ill by drinking beer contaminated with arsenic, food analysts, although they could *detect* arsenic easily, were by no means so

skilful in determining its amount, and a number of prosecutions were ineffective because vague phrases like "contains a considerable amount of arsenic" were used on certificates instead of the legally required quantitative statement. By the concerted efforts of two generations of food analysts, working independently and collectively through their professional organisation, the Society of Public Analysts, and as a result of the increasing flood of original papers published in their technical journal, the "Analyst", a corpus of knowledge has been built up over the last 50 years which enables the modern public analyst to defy the arts of the sophisticator and has in fact been the means of reducing deliberate adulteration to very small proportions. This is not to say that the quantitative determination of the constituent parts of a food or a mixture of foods has become a simple routine matter: on the contrary, the host of new techniques and new weapons has rendered analytical chemistry, as applied to foodstuffs and drugs, a more and more specialised subject requiring a lengthy and intensive training. The old fashioned technique of the addition of sand to sugar and turnips to jam has in these more sophisticated days been abandoned, and the analyst has now to contend with problems such as, for instance, the determination of fractions of one part in a million of a vitamin, or minute proportions of an injurious mineral substance.

The original Food and Drugs Act, passed in 1875, and re-enacted in 1899 with some modifications shown by practical experience of its working to be necessary, provided for the compulsory appointment of inspectors and official analysts and laid down the first minimum standards. One of these concerned brandy, whisky and rum, which were not to be sold at a strength lower than 25° under proof, and the other gin, the minimum for which was 35° under proof. At the beginning of the century these two standards, together with 16 per cent. limits for water in margarine and butter, a limit of 10 per cent. butter in margarine and the compositional requirements for milk of 8.5 per cent. non-fatty acids and 3 per cent. fat, below which samples were presumed in the absence of other evidence to be adulterated, were the only food standards which were in force, and for over 20 years the unfortunate analyst had the unenviable task of setting up his own standards for all other foods from the evidence at his disposal. These standards had to be compared on his certificate with his analytical figures, in order to provide evidence of additions or abstractions. The third portion of the inspector's sample, left with the retailer, provided the latter with the opportunity of having an analysis made on his own behalf, and the analyst who was employed naturally made his own deductions, which often did not coincide with those of the public analyst. The subsequent dispute in court between the two experts might, on occasion, be unedifying. Should glucose be allowed in marmalade? What is lemon cheese? How much butter fat

should be contained in cream? How much flour may legitimately appear in shredded suet? Should salicylic acid be used as a preservative and, if so, in what amounts? Such questions and many other similar ones were continually cropping up and often the Public Analyst was taken to task for presuming to set up a standard in opposition to commercial interests, with which for years a running fight was kept up. It was probably inevitable at the time that official standards could not be set; too little was known about the composition of foods and the gradual increase in knowledge and the process of trial and error were the factors which many years later enabled agreement to be reached about the limiting compositions of foods and drugs. The history of the subsequent legislation reflects the gradual acceleration in the pace of the acquisition of the necessary techniques and the invention of apparatus for the more accurate and quicker determination of the amounts of particular constituents contained in articles of food. Each step forward has involved chemists in a mass of detailed work, and Royal Commissions and Departmental Committees have sifted the evidence put forward by them and by other interests before legislation has finally emerged. First of all the Local Government Board, then after the First World War the Ministry of Health, and finally after 1939 the Ministry of Food have made investigations through their specialised officers of particular aspects of Public Health as applied to food and nutrition.

A beginning was made in the setting up of standards for articles of food in 1923, when the Condensed and Dried Milk Regulations were published, prescribing the fat, non-fatty solids, and sugar contents of these important foodstuffs, and requiring skimmed milk of either type to be labelled as "unfit for babies".

This welcome beginning was followed in 1925 by the Preservatives Regulations issued as a result of the 1924 report of a Departmental Committee on the use of preservatives and colouring matters in food. This ended a dispute of long standing in which the Birmingham Public Analyst of 1900 had been a notable protagonist in favour of the prohibition of the use of preservatives. In his day boric acid, salicylic acid and formalin were universally used in a great variety of foodstuffs, including the important dairy products. In 1900, for example, 11.4 per cent. of the milk samples contained a preservative, sometimes in reckless quantities. The percentage of Birmingham milks containing preservatives fell to 0.01 per cent. after 1925 and is today nil. The same phenomenal reduction applied also to cream, sausage, butter and other commonly used foods. The only substances allowed as preservatives by the Regulations are sulphur dioxide and benzoic acid in limited quantities and in specified foods.

In 1928 a Food and Drug (Adulteration) Act consolidated the provisions contained in previous legislation, including the Food and Drugs

Act of 1875, the amending Act of 1879, the Margarine Act of 1887, the Food and Drugs Act of 1899, the Butter and Margarine Act of 1907 and other smaller acts. Very few innovations were made, but it is interesting to note that the analyst is for the first time referred to as the "Public Analyst", and the now familiar title of "Sampling Officer" was first applied to the inspector.

It was not until 1934 that the question of formulating standards or adopting definitions for foods was seriously taken in hand. In that year another Departmental Committee reported that, in their opinion, the time had arrived for the institution of a number of changes in the law relating to the composition and description of articles of food. The point of chief importance was that purchasers should be aware of what they were getting, although it was agreed that any power of fixing standards should be used only when it was shown to be necessary for the protection of public health or the pocket of the consumer. The recommendations of this report were implemented in the Food and Drugs Act, 1938, which became law on October 1st, 1939, and which is still in force, although likely to be superseded shortly by a new enactment. The Act is of very wide scope and deals with many matters relating to public health, quite apart from the sampling and analysis of foods and drugs. The most far-reaching of the many new provisions appeared in Section 8, which extended the previously held power of the Minister of Health to regulate the manner in which receptacles or wrappers are to be labelled or marked. Hitherto this provision had applied only to milk products, but the wider powers gave authority to "prescribe the manner in which wrappers or packets containing food of various kinds are to be labelled or marked, to prohibit or restrict the addition of any substances to, and regulate generally, the composition of food". The powers of the Sampling Officer were at the same time widened so as to enable him to take samples of any food found on premises on which he has entered in the execution of his duties.

Owing to the outbreak of war in 1939, no immediate use was made of these important new provisions, but in that year the newly constituted Ministry of Food took over responsibility for their implementation, a step which had become more necessary than ever before owing to the stringencies imposed on the population in the matter of food supplies. A first expedient was the issue of the Food Substitutes Order, 1941, which prohibited the manufacture of such substitutes except under licence. This put a stop to the unscrupulous operations of certain dealers who were determined to enrich themselves at the expense of the country in general by charging exorbitant prices and making fantastic claims for "substitutes", the basis of most of which was ordinary wheat flour, in place of scarce foods such as milk, eggs and onions. In 1943 the Defence (Sale of Food) Regulations were made which gave to the Minister of Food

all the powers of the Minister of Health for the determination of standards for foods and for their proper labelling. Section 6 of the Food and Drugs Act, relating to false claims and labels, was repealed in-so-far as it related to foods and was re-enacted with additions, so that it became an offence either to display or sell food with a label falsely describing it or which was calculated to mislead a purchaser as to its nature, substance or quality, or as to its nutritional or dietary value; the same provisions applied to advertisements. An additional power was given to the Minister to enable him to restrict the making of claims or suggestions of the presence of vitamins or important mineral substances, and to insist on the declaration of the amounts present.

By virtue of the authority so given, some 16 Food Standards Orders have been issued since 1944 which lay down limits for constituents of many of the important single and compound foods and so end the long continued controversies of the past 50 years. It was impossible, for instance, in 1927 to obtain a conviction in Birmingham for the sale of an egg substitute powder (the modern golden raising powder) containing about one-third of the normal raising power, even though the City Analyst went to the trouble of having cakes made with the sample in question and with one of good quality, and exhibited them in court. The present Food Standards Order relating to this article has abolished the need for any test other than the determination of the available carbon dioxide in a sample. These standards have been fixed in consultation with all the interests concerned. The Labelling of Food Order of 1950, the last of a sequence of Orders with the same name, is perhaps the most important of the Orders yet made under the Defence Regulations. It requires that on the label of a prepacked food shall appear the name and address of the packer, the common or usual name of the food and the common names of the ingredients of the food in descending order of the amounts present. It is compulsory to label alcoholic drinks with the name of the fruit used in preparation, and with the amount of alcohol present. No tonic properties may be claimed for a food merely by virtue of its content of alcohol, sugars or proteins, and no liquid may be advertised as a tonic unless it contains a sufficient amount of some substance other than alcohol, which has such properties. No claims regarding the presence of vitamins or minerals are allowed unless quantitative statements of the amounts present are included in the label.

It will be noticed that hitherto there has been no mention of standards for drugs and, in fact, none has ever been prescribed by the Acts. The British Pharmacopoeia is essentially a publication establishing uniform standards of strength and composition for the use of the medical profession in prescribing for their patients, but the monographs therein contained, describing drugs and medicines, can be and are used as descriptions of the qualities of the articles which a purchaser is entitled

to get, particularly if the drug is asked for by the official Pharmacopoeial name or synonym. On the other hand, it may happen that more than one kind or quality of a drug are known in commerce, under the description given, and in this case such facts have to be taken into consideration as well as the actual title of the substance in question. Other semi-official books of formulae, generally recognised by doctors and pharmacists, are also occasionally used for the purpose of setting up analytical standards for medicines. Such are the British Pharmaceutical Codex and the National Formulary.

The Pharmacy and Medicines Act, 1941, provided public analysts with the means of checking the composition of "any article consisting of or comprising a substance recommended as a medicine" sold by retail, for it required that a label must be attached to such an article on which the active constituents or the ingredients are legibly printed. Although there can be no guarantee that worthless articles are not still sold and consumed, this provision has extinguished some of the more blatant of the "cure-alls", and to that extent has benefited the large public which still persists in self-medication despite the ease with which expert advice may in these days be secured.

It is true to say that, largely as a result of the gradual increase over the last fifty years in the powers of local authorities to deal both with fraudulent adulteration and with false labelling and advertisement, it is uncommon nowadays to meet with some of the more impudent examples of misrepresentation which enliven the records of the Department.

## VITAL STATISTICS

### Summary of statistics for the year 1951

Area—51.147 acres, i.e.—80 square miles.

Population (Provisional)—Census, 1951 ..... 1,112,340

Home Population, estimated by Registrar General (Civilians plus H.M. Forces stationed in the area) as at 30th June, 1951 ..... Total 1,110,900

*The Registrar General's estimated mid-year civilian population has been used for all relevant purposes throughout this report and, in addition, where rates are based on less than 20 instances, these rates are printed in italics.*

### Births

Live Births (a)	Born in the City	.....	17,790
	(b) Born outside the City		565
	Total		18,355

Legitimate—17,486    Illegitimate—869    (4.73 per cent. of total births)

Live birth rate 16.5 per 1,000 population.

### Stillbirths

Total 416. 51.0 per cent. were premature.

Stillbirth rate per 1,000 total live and stillbirths 22.2.

### Maternal Mortality

Rate per 1,000 live and still births :

excluding 2 maternal deaths after abortion 0.64 (Total deaths 12)

including 2 maternal deaths after abortion 0.75 (Total deaths 14)

### Infant Mortality Rate

	<i>Total deaths under 1 year</i>	<i>Deaths under 1 yr. per 1,000 live births</i>
Legitimate ..... ..	508	29
Illegitimate ..... ..	37	43
Legitimate and Illegitimate ..... ..	545	30

Neonatal death rate 19.2 per 1,000 live births (18.6 legitimate, 31.1 illegitimate).

## Population

On 8th April, 1951 the first census for 20 years was taken. 1,112,340 persons were enumerated in Birmingham—534,107 males and 578,233 females. Statistics are, however, based upon the estimated mid year population which is 1,110,900. Comparison of the census figures for 1931 and 1951 shows an increase of 10.9 per cent. in the Birmingham population, but an increase of 59 per cent. at Sutton Coldfield, 167.9 per cent. at Solihull and 54 per cent. at Meriden. No doubt these latter increases are largely due to overspill from Birmingham. Chiefly on account of this the population of the administrative county of Warwickshire has risen by 39.1 per cent. to its present figure of 490,323. The 1951 population of England and Wales showed an increase of 9.5 per cent. on the 1931 figure.

The age structure of the Birmingham population should be considered to understand the scarcity of young workers, particularly those of an age to be recruited into industry, the professions and the forces. The diagram illustrates by the length of the horizontal lines the number of civilians in the various age groups in Birmingham in 1947, the last year for which such figures are available. The very low birth rates experienced in the 1930s are now showing in the diminished number of young persons which form the "waist" of the diagram. The Registrar General states that in 1938 the number of girls of 18 years of age in England and Wales was 400,000, but in 1948 it was only 297,500, a reduction of over 25 per cent. It is for a share of this suddenly diminished number of persons that industry, nursing and the professions are competing one against the other, success by one automatically meaning failure by others.

## Deaths

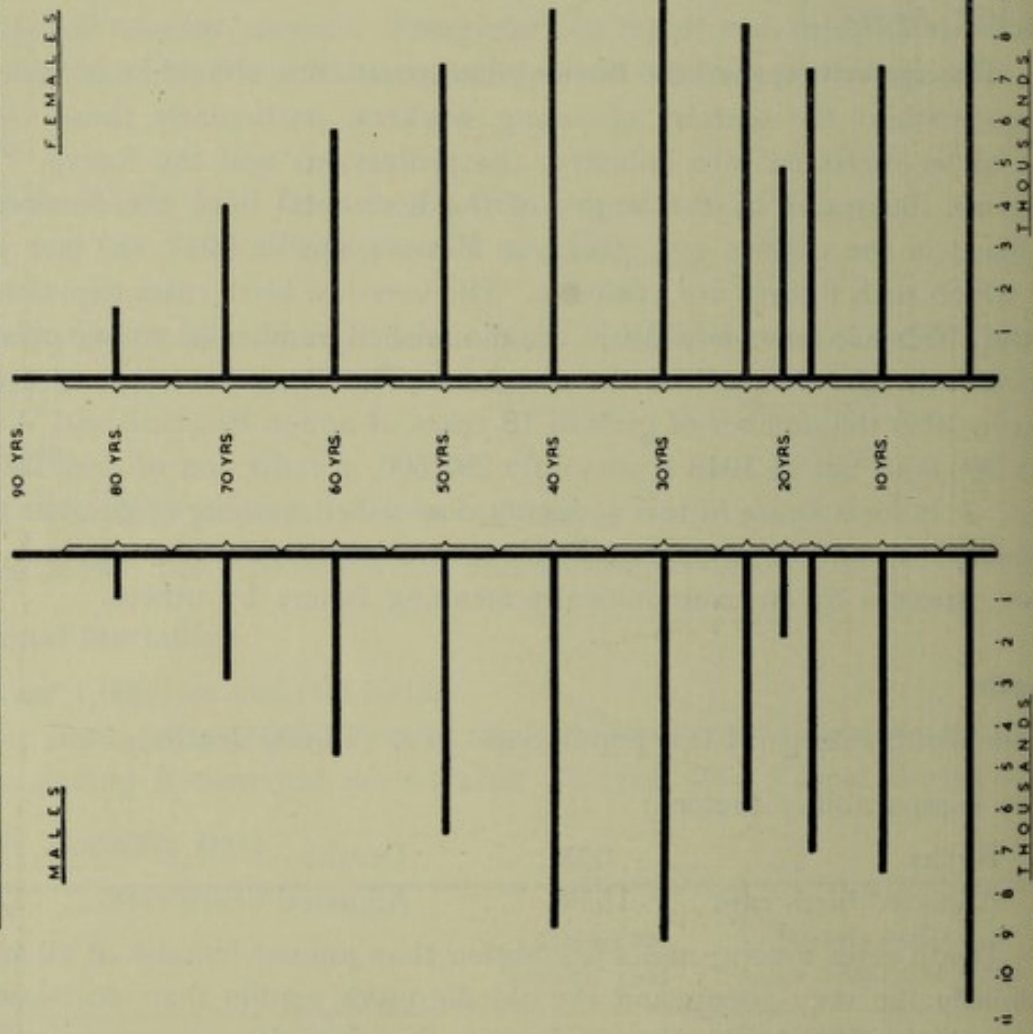
Crude death rate per 1,000 population—11.4 (12,699 deaths).

Area comparability factors:

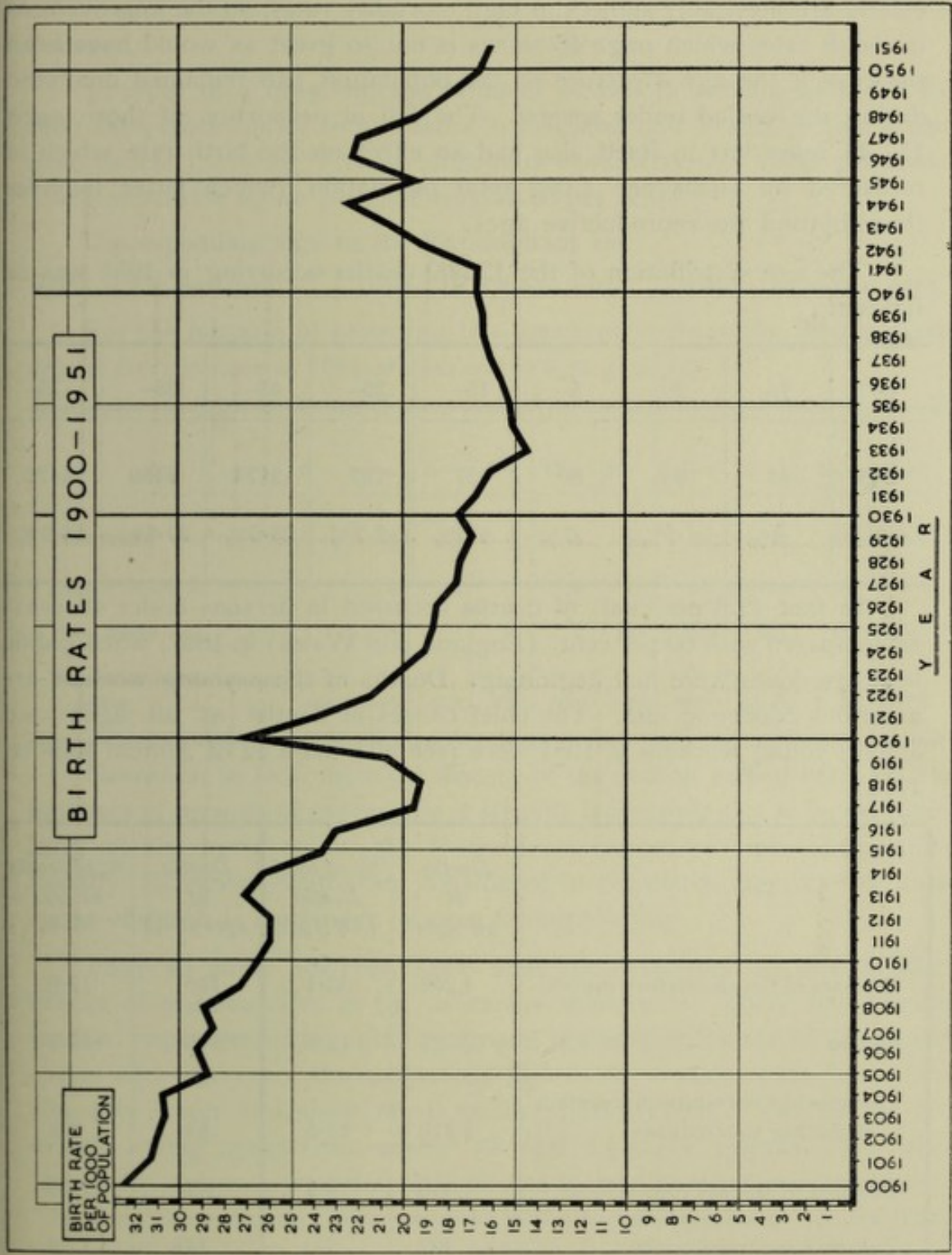
Births	.....	.....	0.96	Deaths	.....	.....	1.12
Adjusted birth rate	.....	15.86		Adjusted death rate	.....	12.77	

Death rates among males are higher than among females at all ages. Similarly the very young and the old die more readily than do those in their prime. The death rate of a locality therefore depends not only upon the healthiness of its environment but also upon the age and sex composition of its population. The age and sex element can be eliminated by multiplying the crude death rate by a "comparability factor" and the rate so obtained is a measure of the healthiness of the environment and the success of the preventive and curative facilities available. A death rate "comparability factor" of over 1 indicates that the sex and age composition of the local population in itself tends to produce a low crude death rate.

**AGE STRUCTURE OF BIRMINGHAM POPULATION 1947**



EACH HORIZONTAL LINE REPRESENTS THE AVERAGE BIRMINGHAM CIVILIAN POPULATION IN EACH YEAR OF AGE OVER THE PERIOD SPANNED BY THE BRACKET.



The influence of the increasing proportion of old people in the population of the City should be remembered when comparing crude death rates over a period (Table on page 46). On page 39 of the Annual Report for 1950, attention was drawn to the three fold increase over the past 50 years in the proportion of old people in the population. The elderly are inevitably subject to high mortality rates, so the improvement in death rates which page 46 shows is not so great as would have been the case if the age structure of the population had remained unaltered during the period under review. The fall in proportion of those aged 15—44 years has in itself also had an effect on the birth rate which is measured as births per 1,000 total population (which latter includes those beyond the reproductive age).

The age distribution of the 12,699 deaths occurring in 1951 was as follows.

0-	1-	2-	5-	15-	25-	45-	65-	75-
545	45	66	89	127	727	3174	3450	4476
4.3%	.4%	.5%	.7%	1.0%	5.7%	25.0%	27.2%	35.2%

In fact 12.6 per cent. of deaths occurred in persons under 45 years as compared with 60 per cent. (England and Wales) in 1867, when public health services were just beginning. Deaths of these young workers are a serious economic loss. The chief causes of deaths at all ages and among young workers in 1951 were (see also page 42 of Annual Report, 1950).

	<i>Deaths at all ages</i>	<i>% of total Deaths (All Ages)</i>	<i>Deaths at ages 15-45</i>	<i>% of deaths at ages 15-45</i>
Diseases of the circulatory system	4,206	33.1	145	17.0
Cancer .....	2,021	15.9	168	19.7
Diseases of the respiratory system excluding tuberculosis .....	1,710	13.5	54	6.3
Diseases of the nervous system	1,658	13.1	41	4.8
Tuberculosis (respiratory) .....	382	3.0	148	17.3
Violence (excluding suicide) .....	370	2.9	85	10.0
Suicide .....	129	1.0	30	3.5

In Birmingham in 1951 cancer was the chief cause of loss of young workers, with tuberculosis and circulatory disease each nearly as important. Violence also caused a serious loss. As a cause of death at all ages, however, respiratory tuberculosis and violence account only for 3.0 per cent. and 2.9 per cent respectively.

### Cancer

In reply to a question, the Minister of Health announced that "In 1950 the proportion of total deaths in England and Wales, which arose from cancer including various analogous conditions was 16.71 per cent. The comparable figure for 1931 was 11.96 per cent.

Corresponding figures for Birmingham are :

1931—12.5 per cent.      1950—17.3 per cent.      1951—15.9 per cent.

For the purpose of assessing this apparent increase the Birmingham deaths from cancer in 1951 are set out in age groups.

<i>Age</i>	0—	1—	2—	5—	15—	25—	45—	65—	75—	<i>All Ages</i>
Male deaths ... ..	—	2	5	8	2	89	435	351	209	1,101
Female deaths ... ..	1	1	2	2	3	74	327	284	226	920
Total deaths ... ..	1	3	7	10	5	163	762	635	435	2,021
Percentage of all cancer deaths ... ..	.05%	.15%	.35%	.50%	.25%	8.1%	37.7%	31.4%	21.5%	100%

Cancer is, in fact, mainly a disease of the second half of life. As the numbers of persons of cancer age is steadily increasing it is to be expected that, all else being equal, the deaths from cancer will increase proportionally. If cancer deaths are considered in relation to age, cancer as a cause of death is stationary or even falling slightly.

Page 40 does, however, show that the proportion of deaths from cancer of various sites is by no means stationary. There has been a marked improvement in mortality among males from cancer of the buccal cavity and pharynx. Corresponding figures for females have been considerably lower and show much smaller improvement. The figures for deaths among males from cancer of the digestive organs have also improved. Improvement may well be due to greater success in treatment. The sinister conclusion from page 40 is the rapid increase in deaths from cancer of the respiratory organs in men and a much smaller increase among women. Except in epidemics no disease has ever increased in incidence so rapidly. It now accounts for a third of all cancer deaths in men. It cannot be said that the increased incidence is largely due to improved diagnosis.

Percentage deaths from Cancer, by sex and site of disease, to total Cancer Deaths—Birmingham.

Year	% Buccal Cavity and Pharynx	% Diges- tive Organs and Peri- toneum	% Respira- tory Organs	% Genital Organs	% Breast	% Urinary Organs	% Skin	% Other Organs	Total deaths from All Forms of Cancer
MALES									
1937	9.7	54.8	16.6	8.0	0.3	3.4	0.6	6.7	880
1938	8.9	58.0	17.0	6.9	—	4.6	0.5	4.1	845
1939	7.6	56.9	18.6	5.4	0.2	5.9	1.4	3.9	812
1940	9.2	52.7	20.0	7.0	—	5.2	0.8	5.0	839
1941	6.3	56.2	20.0	6.5	0.1	5.7	0.8	4.5	893
1942	6.7	50.1	22.9	8.4	0.2	5.0	0.9	5.8	898
1943	6.7	51.6	21.2	5.2	0.1	8.1	0.4	6.7	916
1944	5.2	51.8	23.5	5.8	0.5	6.4	1.0	5.8	880
1945	6.1	54.0	23.5	7.3	0.1	3.4	0.7	4.9	914
1946	3.9	48.5	28.3	8.4	—	5.0	0.8	5.1	960
1947	5.1	51.5	24.8	9.1	0.2	4.0	0.9	4.4	1,027
1948	4.8	47.9	28.0	8.6	0.1	5.6	0.1	4.8	1,020
1949	3.5	49.4	30.1	7.8	—	4.3	0.6	4.3	999
*1950	2.8	43.5	33.6	7.2	0.3	4.8	0.6	7.2	1,104
1951	2.7	42.6	33.7	6.7	0.4	5.2	0.4	8.2	1,101
FEMALES									
1937	1.7	46.1	5.9	17.4	22.0	1.7	0.9	4.3	812
1938	1.7	47.4	5.0	17.0	21.6	2.2	0.5	4.5	822
1939	2.0	43.9	5.5	16.8	25.4	1.9	1.1	3.4	823
1940	1.8	48.2	4.4	16.3	22.5	2.6	1.0	3.1	799
1941	1.5	48.8	4.1	19.5	20.1	1.8	0.4	3.7	725
1942	1.5	46.7	5.2	17.9	19.6	2.1	0.9	6.0	811
1943	1.1	45.3	5.2	19.0	21.3	3.1	0.6	4.5	849
1944	1.9	48.2	4.7	15.9	19.6	2.9	0.9	5.9	854
1945	1.3	49.3	4.7	16.8	20.2	2.0	0.2	5.5	905
1946	1.8	49.0	4.7	15.5	21.1	3.4	0.5	4.0	977
1947	1.2	46.8	6.9	17.5	20.2	2.0	0.7	4.7	938
1948	0.7	47.8	7.5	16.4	20.3	2.8	0.7	3.8	979
1949	1.2	44.7	6.4	15.2	23.0	3.4	1.0	5.1	940
*1950	1.5	47.5	7.9	12.5	21.3	2.1	0.9	6.4	1,002
1951	1.7	48.1	5.1	13.2	20.4	3.2	0.1	8.3	920

\* Hodgkins disease and leukaemia became classified as cancer.

In 1951 respiratory tuberculosis caused 265 male deaths and 117 female deaths, and cancer of the respiratory organs caused 371 male deaths and 47 female deaths.

The cause of this phenomenal increase is being actively investigated. The ages at death from cancer of the lung are shown below.

Age Group		0—	1—	2—	5—	15—	25—	45—	65—	75—	All Ages
Deaths from Cancer of the Respiratory Organs, 1951	Males	—	—	—	—	—	37	195	110	29	371
	Females	—	—	—	—	—	6	21	12	8	47

### Accidents

The only complete record relating to accidents is that of deaths of Birmingham residents. In 1951 alone accidents caused 218 deaths of males and 145 of females, a total of 363 deaths which was 2.9 per cent. of all the deaths assigned to the City.

Although persons aged 65 years and over form only about 9.2 per cent. of the population, 46.5 per cent. of all fatal accidents occurred in this age group.

Analysing the 169 fatal accidents among people aged 65 and over :  
71 (42.0 per cent.) were due to "falls on the same level"

32 (18.9 per cent.) were through being knocked down by motor vehicles

22 (13.0 per cent.) died as a result of falling down stairs

14 ( 8.3 per cent.) were accidentally poisoned by coal gas

Total 82.2 per cent.

The following points have a bearing upon the care of old people and the facilities which should be provided for them.

Of 70 pedestrians killed by motor vehicles 32 (45.7 per cent.) were 65 or over.

Of 18 persons accidentally killed by gas poisoning 14 (77.8 per cent.) were 65 or over.

Of 28 deaths from falling down stairs 22 (78.6 per cent.) were 65 or over.

Of 78 deaths from falling on the same level 71 (91.0 per cent.) were 65 or over.

Sex had apparently no particular effect below the age of 5 years, but between 5 and 45 years there were  $3\frac{1}{2}$  times more fatalities among males than among females. There were more fatal accidents among elderly

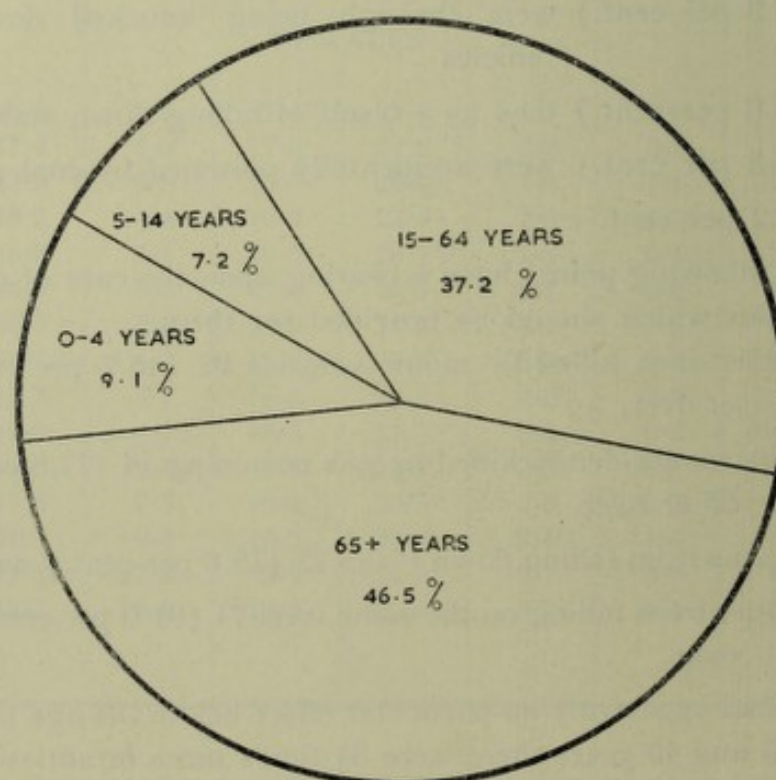
women (75+) than among elderly men, but in any case there are 66 per cent. more old women than old men in the population to have fatal accidents.

The Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death, which is used for coding of information relating to deaths, caters for the separation of fatal accidents occurring in the home or elsewhere, but the Birmingham Records were not coded in this way. It is, however, stated that 46 per cent. of all fatal accidents occur in the home and 4/5ths of these are in children under five and persons 65 years and over.

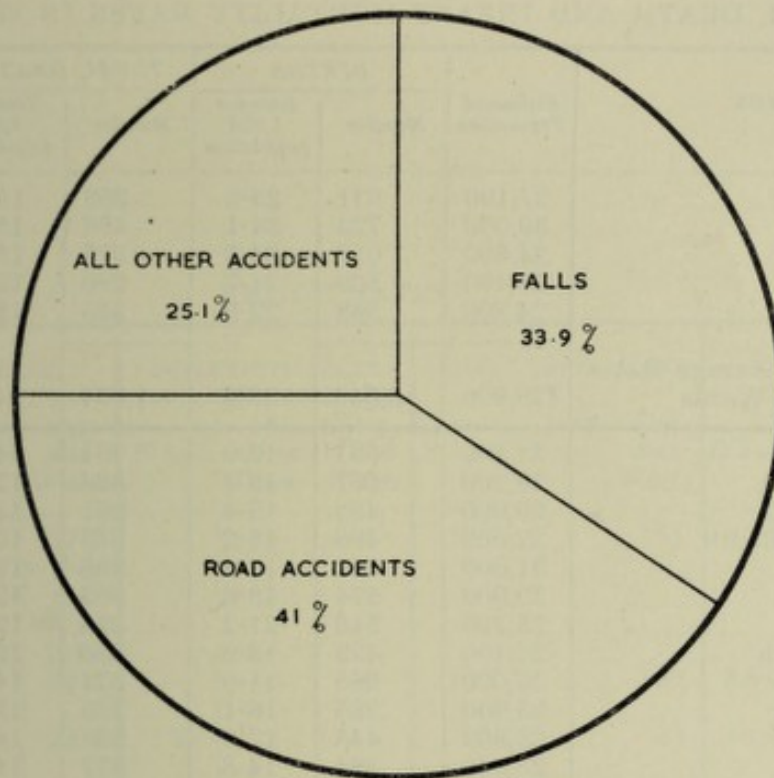
Far more children under 15 years die from accidents than from any single infectious disease, the 1951 figures for Birmingham being: Accidents 62, measles 10, whooping cough 8, Tuberculosis all forms 30, diarrhoea 32.

In children between 1 and 5 years a fatal accident is the largest cause of death and in Birmingham accounted for 14.4 per cent. of all deaths in this age group.

#### AGE DISTRIBUTION OF ALL FATAL ACCIDENTS



## TYPES OF ACCIDENT CAUSING FATALITY



Road traffic accidents accounted for 41.0 per cent. of all the deaths at all ages from accidents.

### AGE GROUPING OF FATAL ROAD ACCIDENTS

0—	1—	2—	5—	15—	25—	45—	65—	75—	
—	—	9	13	21	36	28	19	23	Total 149

### Suicide

There were 73 deaths of males and 56 of females from suicide. Half of these occurred in the age group 45—65 years. 62 per cent. used coal gas and 10 per cent. used analgesic drugs.

BIRTH, DEATH AND INFANT MORTALITY RATES IN WARDS, 1951

	WARDS	Estimated Population	BIRTHS		TOTAL DEATHS		INFANT DEATHS	
			Number	Rate per 1,000 population	Number	Rate per 1,000 population	Number	Rate per 1,000 births
CENTRAL	St. Paul's .....	27,100	631	23.3	368	13.6	26	41
	Duddeston .....	30,000	723	24.1	476	15.9	35	48
	Deritend .....	24,600	612	24.9	375	15.2	26	42
	Market Hall .....	23,400	508	21.7	290	12.4	21	41
	Ladywood .....	24,800	568	22.9	325	13.1	15	26
	Totals and Average Rates of Central Wards .....	129,900	3,042	23.4	1,834	14.1	123	40
MIDDLE RING	Lozells .....	32,500	581	17.9	461	14.2	22	38
	Aston .....	29,200	567	19.4	366	12.5	16	28
	Gravelly Hill .....	29,900	489	16.4	361	12.1	15	31
	Washwood Heath .....	32,600	496	15.2	346	10.6	7	14
	Saltley .....	31,600	563	17.8	405	12.8	10	18
	Small Heath .....	30,900	574	18.6	395	12.8	21	37
	Sparkbrook .....	25,700	546	21.2	325	12.6	16	29
	Balsall Heath .....	26,100	493	18.9	336	12.9	19	39
	Edgbaston .....	26,000	285	11.0	371	14.3	13	46
	Rotton Park .....	23,900	385	16.1	320	13.4	11	29
	All Saints .....	25,800	445	17.2	360	14.0	12	27
	Soho .....	26,000	384	14.8	377	14.5	9	23
	Totals and Average Rates of Middle Ring Wards .....	340,200	5,808	17.1	4,423	13.0	171	29
OUTER RING	Stechford .....	43,500	738	17.0	344	7.9	19	26
	Sheldon .....	38,100	738	19.4	203	5.3	22	30
	Yardley .....	25,500	338	13.2	269	10.5	10	30
	Acocks Green .....	22,600	330	14.6	281	12.4	4	12
	Fox Hollies .....	23,800	389	16.3	243	10.2	15	39
	Sparkhill .....	26,700	416	15.6	328	12.3	9	22
	Hall Green .....	26,500	292	11.0	272	10.3	3	10
	Springfield .....	26,900	345	12.8	272	10.1	13	38
	Brandwood .....	35,700	534	15.0	328	9.2	22	41
	Moseley and King's Heath .....	29,700	454	15.3	373	12.6	13	29
	Selly Oak .....	32,400	440	13.6	414	12.8	7	16
	King's Norton .....	25,900	347	13.4	301	11.6	6	17
	Northfield .....	31,900	482	15.1	249	7.8	15	31
	Weoley .....	26,600	432	16.2	194	7.3	10	23
	Harborne .....	33,000	439	13.3	355	10.8	9	20
	Sandwell .....	24,900	306	12.3	286	11.5	8	26
	Handsworth .....	27,200	407	15.0	376	13.8	10	25
	Perry Barr .....	38,500	514	13.3	234	6.1	12	23
	Kingstanding .....	37,000	613	16.6	275	7.4	17	28
Stockland Green .....	32,200	500	15.5	335	10.4	18	36	
Erdington .....	32,200	450	14.0	351	10.9	7	16	
Totals and Average Rates of Outer Ring Wards .....	640,800	9,504	14.8	6,283	9.8	249	26	
Ward of Domicile not known .....		1		159		2		
Totals and Average Rates for Whole City .....	1,110,900	18,355	16.5	12,699	11.4	545	30	

CRUDE RATES

Year	BIRTH RATE			STILLBIRTH RATE per 1,000 total births			INFANT MORT. RATE			DEATH RATE		
	B'ham	Great Towns	Eng. and Wales	B'ham	Great Towns	Eng. and Wales	B'ham	Great Towns	Eng. and Wales	B'ham	Great Towns	Eng. and Wales
1901	31.4		27.2 <i>is mean for 1901— 1910</i>	—	—	—	176		151	17.5		16.9
1911	26.1		24.4	—	—	—	150		130	15.0		14.6
1921	24.1		22.4	35			83		83	11.3		12.1
1931	16.9		15.8	39		41	71		66	11.7		12.3
1936	15.8		14.8	35		40	62		59	11.3		12.1
1941	16.8	14.7	13.9	29		35	69	71	60	13.2	14.9	13.5
1942	19.3	17.3	15.6	28		33	56	59	51	11.8	13.3	12.3
1943	20.9	18.6	16.2	27		30	55	58	49	12.1	14.2	13.0
1944	22.8	20.3	17.7	25		28	42	52	45	11.3	13.7	12.7
1945	20.2	19.1	15.9	25		28	49	54	46	11.2	13.5	12.6
1946	22.5	22.2	19.2	25		27	40	46	43	11.3	12.7	12.0
1947	22.2	23.3	20.5	24		24	41	47	41	11.1	13.0	12.3
1948	19.5	20.0	17.9	22		23	32	39	34	9.8	11.6	11.0
1949	18.1	18.7	16.9	22		23	31	37	32	10.7	12.5	11.8
1950	16.8	17.6	15.8	23		23	30	34	30	10.9	12.3	11.6
1951	16.5	17.3	15.5	22		23	30	34	30	11.4	13.4	12.5

\* 126 County Boroughs and Great Towns, including London.

VITAL STATISTICS DURING 1951 AND PREVIOUS YEARS

YEAR	Population Estimated to middle of each year	Birth-rate	Death-rate	Infant Mortality rate per 1,000 Births	DEATH-RATES PER 1,000 OF POPULATION FROM															DEATH-RATES PER 1,000 LIVE BIRTHS				
					Enteric Fever	Smallpox	Measles	Scarlet Fever	Whooping Cough	Dysphtheria	Influenza	Tuberculosis		Cancer	Diseases of Nervous System	Diseases of Circulatory System	Diseases of Respiratory System	Diseases of Digestive System	Diseases of Genito-Urinary System	Suicides	Other Violence	Congenital Debility, Premature Birth, Malformations, etc. (under 1)	Diphtheria and Enteritis (under 2)	Puerperal Fever
1913	859,644	27.3	14.9	129	.02	.46	.20	.19	.19	.13	.34	1.02	1.57	1.53	2.48	1.68	.56	.11	.45	48.2	35.5	1.85	2.01	
1914	882,534	26.4	14.8	122	.02	.35	.17	.35	.30	.16	.27	.88	1.35	1.74	2.69	1.49	.51	.09	.43	47.2	27.6	1.42	1.77	
1915	891,234	23.8	14.4	118	.01	.47	.07	.14	.15	.16	.27	1.00	1.96	1.82	2.82	1.31	.48	.05	.45	42.8	27.3	1.65	1.79	
1916	895,678	23.1	13.5	104	.03	.48	.14	.25	.18	.13	.29	.94	1.36	1.60	2.64	1.36	.51	.09	.44	46.6	25.3	1.56	1.96	
1917	900,000	19.7	12.6	101	.01	.37	.01	.42	.13	.16	.24	1.00	1.29	1.88	2.60	1.07	.45	.05	.40	39.5	18.4	1.50	1.94	
1918	870,000	19.4	15.2	99	.01	.08	.01	.32	.18	.50	.26	1.02	1.23	1.87	2.10	.88	.44	.06	.38	43.8	15.0	1.47	1.13	
1919	910,000	20.9	13.0	84	.01	.20	.05	.06	.14	1.15	1.10	1.01	1.07	1.73	2.67	.66	.35	.11	.34	40.0	9.9	1.19	1.45	
1920	910,000	27.6	12.6	83	.01	.16	.12	.20	.22	.46	.93	1.12	1.05	1.72	2.46	.82	.32	.11	.34	35.2	9.5	2.03	1.56	
1921	919,683	24.1	11.3	83	.01	.17	.04	.14	.13	.15	.97	1.12	0.98	1.64	2.02	.83	.39	.08	.36	39.4	14.3	1.58	1.48	
1922	927,844	21.5	12.1	86	.00	.09	.04	.38	.10	.48	.97	1.16	1.04	1.85	2.08	.66	.37	.12	.26	36.6	16.6	1.17	1.67	
1923	936,079	20.4	11.0	72	.00	.20	.04	.05	.15	.28	.92	1.17	1.00	1.71	1.98	.70	.39	.14	.35	31.3	10.9	1.26	1.76	
1924	944,386	19.2	11.6	83	.01	.08	.02	.19	.10	.39	.97	1.30	1.00	1.91	2.15	.70	.37	.10	.31	37.2	9.2	2.01	1.90	
1925	952,766	18.8	11.7	78	.00	.11	.02	.23	.10	.39	.98	1.27	0.98	2.12	1.97	.73	.37	.11	.33	34.0	11.3	1.96	2.19	
1926	961,222	18.7	11.3	73	.00	.08	.01	.13	.12	.27	.94	1.21	1.00	1.85	2.10	.82	.40	.12	.32	32.2	11.2	2.29	1.84	
1927	969,752	17.8	11.8	75	.00	.13	.01	.07	.08	.41	.89	1.36	0.95	2.28	1.89	.70	.41	.15	.36	35.1	11.5	1.45	2.14	
1928	976,500	17.6	10.9	65	.00	.04	.01	.17	.07	.13	.86	1.35	0.94	2.41	1.56	.67	.48	.16	.40	31.6	13.9	1.86	1.97	
1929	981,000	17.1	13.5	79	.00	.20	.01	.13	.09	1.09	.94	1.51	0.98	2.76	2.26	.76	.53	.16	.42	35.4	13.9	1.55	2.44	
1930	982,000	17.7	10.8	60	.01	.06	.02	.11	.09	.13	.90	1.43	0.88	2.57	1.32	.60	.44	.15	.40	30.6	7.6	1.55	1.84	
1931	1,011,300	16.9	11.7	71	.00	.18	.01	.09	.06	.27	.92	1.46	0.77	2.90	1.61	.62	.45	.15	.38	33.0	10.7	1.74	2.05	
1932	1,017,500	16.3	11.3	67	.00	.05	.01	.13	.03	.36	.83	1.45	0.87	2.73	1.47	.59	.45	.19	.35	33.6	7.7	1.68	2.05	
1933	1,023,500	14.7	11.0	66	.00	.08	.02	.03	.03	.44	.85	1.43	0.70	2.94	1.32	.61	.40	.17	.39	33.7	7.8	1.66	2.06	
1934	1,028,000	15.3	11.0	68	.01	.02	.01	.11	.08	.18	.71	1.08	0.72	3.14	1.26	.67	.44	.16	.38	35.0	8.7	1.85	1.98	
1935	1,033,000	15.4	10.9	64	.00	.05	.01	.06	.08	.15	.71	1.52	0.72	3.04	1.09	.62	.46	.13	.40	36.3	7.7	1.45	2.07	
1936	1,038,000	15.8	11.3	62	.00	.07	.01	.10	.06	.28	.80	1.46	0.76	2.95	1.35	.62	.44	.16	.38	34.6	8.1	1.66	2.07	
1937	1,043,000	16.3	11.7	60	.00	.04	.01	.03	.08	.40	.72	1.62	0.73	3.43	1.22	.62	.45	.12	.38	32.8	5.4	1.53	2.14	
1938	1,048,000	16.6	10.9	61	.00	.07	.01	.07	.07	.15	.70	1.89	0.81	3.45	1.18	.61	.43	.16	.34	28.5	12.5	0.63	2.17	
1939	1,055,000	16.6	11.4	60	.00	.02	.00	.05	.05	.16	.77	1.55	0.67	3.65	1.16	.45	.39	.15	.36	29.1	13.7	0.86	1.72	
1940	1,020,000	16.9	14.3	70	.00	.01	.01	.07	.05	.22	.77	1.61	1.31	3.31	2.21	.55	.46	.14	.42	28.2	12.1	0.58	1.63	
Average	1,020,000	16.4	11.9	63	.00	.03	.01	.06	.04	.15	.73	1.59	0.80	3.45	1.43	.56	.44	.14	.38	30.3	9.8	0.87	1.99	
1941	950,000	16.8	13.2	69	.01	.00	.00	.12	.09	.15	.81	1.09	1.30	3.10	1.94	.72	.45	.12	.44	26.4	11.3	0.82	1.75	
1942	965,000	19.3	11.8	56	.00	.02	.00	.05	.05	.10	.77	1.77	1.28	2.87	1.51	.64	.43	.11	.37	29.4	9.8	1.13	1.29	
1943	965,000	20.9	12.1	55	.00	.01	.00	.06	.04	.34	.71	1.07	1.34	3.02	1.73	.46	.45	.11	.31	25.4	9.1	0.79	0.94	
1944	990,000	22.8	11.3	42	.00	.03	.00	.03	.02	.11	.70	1.75	1.29	3.15	1.40	.42	.42	.08	.32	21.7	6.0	0.62	0.75	
1945	990,000	19.9	11.2	50	.00	.03	.00	.03	.02	.06	.68	1.84	1.33	3.14	1.44	.44	.41	.10	.27	22.3	7.8	0.51	0.96	
Average	1,019,000	19.9	11.9	54	.00	.02	.00	.06	.04	.15	.73	1.78	1.31	3.10	1.60	.54	.43	.10	.34	25.0	8.8	0.77	1.14	
1946	1,017,100	22.5	11.3	40	.00	.01	.00	.03	.01	.11	.61	1.90	1.32	3.36	1.37	.44	.36	.12	.30	20.9	6.1	0.13	0.74	
1947	1,076,304	22.2	11.1	41	.00	.02	.00	.03	.00	.08	.64	1.83	1.34	3.34	1.48	.36	.34	.11	.27	20.6	7.1	0.29	0.71	
1948	1,086,104	19.5	9.8	32	.00	.01	.00	.03	.00	.03	.59	1.82	1.10	3.00	1.10	.32	.33	.13	.27	17.8	3.2	0.09	0.42	
1949	1,106,804	18.1	10.7	31	.00	.01	.00	.02	.00	.19	.54	1.75	1.25	3.67	1.34	.35	.29	.12	.27	18.3	3.2	0.05	0.45	
Average	1,110,000	18.5	11.4	30	.00	.01	.00	.01	.00	.26	.35	1.82	1.49	3.78	1.38	.34	.28	.12	.30	18.9	2.2	0.37	0.48	



## GENERAL EPIDEMIOLOGY

### Diphtheria

There were 211 original notifications of diphtheria but, after investigation, no more than 27 could be confirmed and many of these were so mild that they could easily have passed undetected. This represents a marked fall from the 105 confirmed cases of 1950, a fall which appears to be continuing in 1952. During 1951, for the country as a whole, there were 699 confirmed cases.

There was one death from diphtheria, a boy of 13 years, infected during a hospital outbreak with the gravis strain. He had had two doses of A.P.T. at the age of 18 months, but no supplementary dose.

This was one of 7 cases which occurred in a hospital, 6 being of the gravis type; 2 of these 6 were nurses. The 7th, a boy from whose sore throat a non-virulent mitis strain was isolated, might perhaps more properly have been regarded as a case of tonsillitis.

There were in addition 2 single cases infected with the gravis strain during the year, all other organisms isolated being "mitis". Hence the very mild nature of the illnesses.

Five mitis cases arose within 8 days at another hospital. 3 of these patients were nurses.

Two cases arose within 3 days at a residential school.

Thirteen cases occurring in 1951 arose singly and were completely unassociated with any known source of infection.

**AGE DISTRIBUTION AND IMMUNISATION HISTORY OF THE DIPHTHERIA CASES DURING 1951**

<i>Age at time of illness</i>	0—1 year	1—2	3—4	5—9	10—14	15—19	20—24	25—34	35—44	45—54	55—64	65 up	Total
Non-Immunised Cases		1		2		1	1	3	1		2		11
Primary Immunisation only		2	2	*3	4 (1 died)	**3	1						15
Primary and Supplementary					1								1
<b>TOTALS</b>		3	2	5	5	4	2	3	1		2		27

\* Immunised outside the City and the actual record was not checked.

For 3 of the older adults immunisation was not available to them in their childhood. The 3 adults aged 26, 28 and 28 years could have been immunised in childhood, but had already passed the age at which immunisation was, at that time, being pressed. 3 children were not immunised through apathy on the part of their parents, another one because "father did not hold with it", and one whose parents were in favour of vaccination but not immunisation.

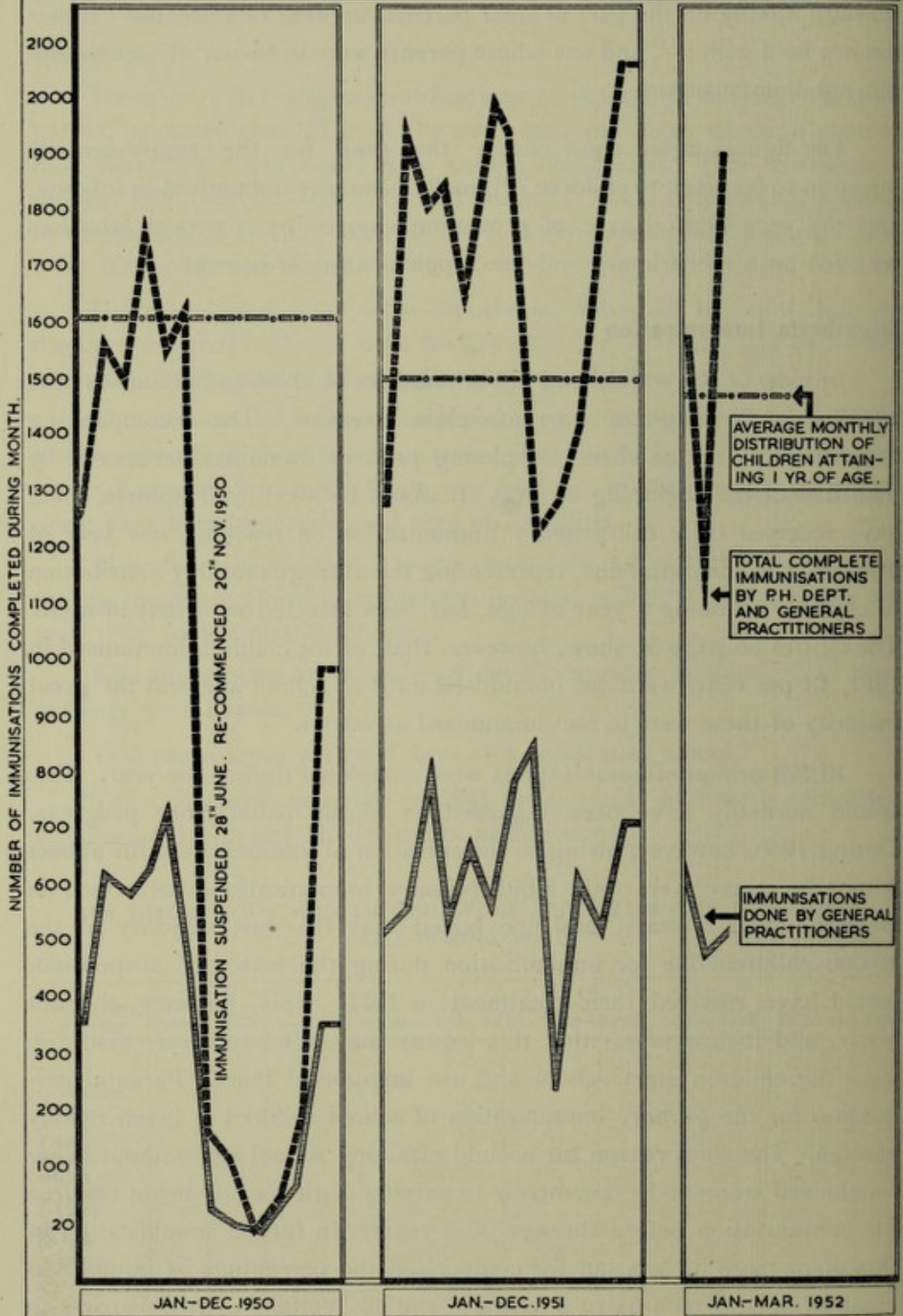
The figures again show clearly the need for the supplementary injection to be given to children originally primarily immunised in infancy, and the very high degree of protection enjoyed by a person who has received both the primary and the supplementary treatment.

### **Diphtheria Immunisation**

In view of the widespread fall in numbers of children immunised, the position in Birmingham warrants close attention. The accompanying graph depicts the numbers completing primary immunisation month by month since the beginning of 1950. It would be ideal if all children could have received their full primary immunisation on reaching one year of age, and the horizontal line, representing the average monthly distribution of children attaining 1 year of age, has been inserted with that in mind. The figures on page 51 show, however, that, of the children immunised in 1951, 13 per cent. were not immunised until of school age and the great majority of these were in fact immunised at school.

19,573 primary immunisations were completed during the year. This would normally have been regarded as highly satisfactory progress. During 1950, however, owing to the cessation of immunisation for almost 6 months, there were only 8,391 primary immunisations performed in children under 5 years, and one hoped that the vast majority of the 10,000 children due for immunisation during the period of suspension, would have received their treatment in 1951. This, however, did not occur, and it now seems that this leeway may not be entirely made up until the children start school and are immunised there. Parental permission for the primary immunisation of school children is given readily enough. The chief reason for a child attaining school age without being immunised seems to be due merely to parents neglecting to bring children for immunisation before the age of 5 years. In further amplification of this point page 53 sets out for comparison the percentage of immunised children aged 8 months to 5 years in the 32 Welfare Centre districts in 1949 and in 1951.

# DIPHTHERIA IMMUNISATION 1950-1952



NOTE: NOT ALL CHILDREN RECEIVE PRIMARY IMMUNISATION AT 1 YR. OF AGE.

	Year of Birth	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	Total	Adults
Infant Welfare Clinics .....	567	6,118	1,830	191	129	117	68	34	21	6	3	1	3	2	—	—	9,090	3
Day Nurseries	10	225	157	53	31	11	1	—	—	—	—	—	—	—	—	—	488	1
Institutions	3	45	45	20	10	7	9	10	7	7	6	10	10	11	10	9	209	9
Schools	—	—	1	23	42	689	743	429	128	13	11	13	13	5	9	3	2,109	8
Council House Clinic	30	276	87	14	7	3	4	1	1	—	—	—	—	1	—	—	424	2
General Practitioners A.P.T.	536	4,239	1,434	104	84	76	35	13	6	2	3	3	2	2	1	—	6,540	40
General Practitioners Pertussis & Diphtheria Immunisation	41	471	174	8	5	10	3	—	1	—	—	—	—	—	—	—	713	—
	1,187	11,374	3,728	413	308	913	863	487	164	28	23	27	22	23	13	—	19,573	63
Cumulative Total of immunised children at 31st Dec., 1951	1,192	11,448	13,025	15,677	17,731	17,422	18,479	23,529	17,797	15,519	14,833	16,355	15,785	15,492	14,323	—	228,607	

The table is compiled entirely from records made by the Health Visitors. There has been a fall in percentage immunised in nearly every district of the City and a summary of the position in the City as a whole is as follows :

#### CHILDREN AGED 8 MONTHS TO 5 YEARS

Percentage immunised in 1949—74.7 per cent., and in 1951—67.9 per cent. (6.8 per cent drop).

#### CHILDREN AGED 0—5 YEARS

Percentage immunised in 1949—64.3 per cent., and in 1951—59.6 per cent. (4.7 per cent. drop).

The areas with the most unsatisfactory percentages of immunised children are nearest the City Centre.

The Registrar General gives the estimated mid-year child population as 100,460 children under 5 years and 163,127 aged 5—15 years. Based on these figures and making allowance for deaths and movement of children into and out of the City, the percentages of children immunised in the age groups are shown below.

	1950	1951
0—5 years of age .....	58%	59%
5—15 years of age .....	98%	100% approx.
0—15 years of age .....	83%	85%

#### Supplementary ("Boosting") Injection.

The value and adequacy of a single supplementary injection at about 5 years of age is again shown by only one of the 27 diphtheria cases having had this complete treatment. 19,194 supplementary injections were given during 1951 of which 71 per cent. were given in schools, 16 per cent. at clinics and 10 per cent. by general practitioners.

#### Publicity

A publicity campaign for immunisation was carried out in the last 3 months of the year, using newspaper advertisements, cinema slides, posters, vehicle bills and book marks. The co-operation and assistance from cinema managers, public and private libraries and the Transport Department were invaluable and much appreciated.

DIPHThERIA IMMUNISATION

PERCENTAGES, 1951 AND 1949

IN WELFARE CENTRE DISTRICTS

<i>Centre</i>	<i>Percentage of immunised children 8 months to 5 years of age</i>		<i>Percentage increase or decrease</i>
	1951	1949 <i>Last complete year</i>	
Acocks Green .....	74.1	76.2	— 2.1
Bromford .....	75.5	81.5	— 6.0
Carnegie .....	64.4	78.1	—13.7
Erdington .....	70.1	74.2	— 4.1
Greet .....	63.5	79.0	—15.5
Handsworth .....	84.0	81.4	+ 2.6
Hay Mills .....	66.9	74.7	— 7.8
Heath Mill Lane .....	59.2	61.0	— 1.8
Hope Street .....	52.0	59.0	— 7.0
Horrell Road .....	71.7	75.5	— 3.8
Irving Street .....	63.4	66.9	— 3.5
Kettlehouse .....	72.6	74.9	— 2.3
Kings Heath .....	74.6	73.7	+ 0.9
Kingstanding .....	67.1	75.1	— 8.0
Lancaster Street .....	55.1	61.7	— 6.6
Lansdowne Street .....	76.1	73.8	+ 2.3
Lea Hall .....	66.6	71.3	— 4.7
Maypole .....	80.2	84.6	— 4.4
Monument Road .....	58.8	69.6	—10.8
Northfield .....	67.1	83.7	—16.6
Selly Oak .....	69.2	79.6	—10.4
Small Heath .....	75.7	78.0	— 2.3
Stirchley .....	70.2	74.0	— 3.8
Stratford Road .....	64.6	70.7	— 6.1
Sutton Street .....	57.2	67.2	—10.0
Tennal Lane and Harborne .....	76.4	83.2	— 6.8
Tower Hill .....	87.7	91.6	— 3.9
Treaford Lane .....	70.0	83.2	—13.2
Trinity Road .....	67.6	77.0	— 9.4
Washwood Heath .....	60.3	70.1	— 9.8
Weoley Castle .....	72.9	76.6	— 3.7
Yardley Wood .....	75.3	82.1	— 6.8
Total percentage .....	67.9	74.7	— 6.8

## Dysentery

It is interesting to compare local experience with the experience of the country as a whole. The confirmed cases in Birmingham during each of the 10 years prior to 1951 were 98, 76, 109, 120, 332, 263, 68, 44, 64, 216. In 1951 however there were 562 cases. The experience of the whole country was similar to that of Birmingham, most cases occurring in the first half of the year with a peak incidence in March. The diagnosis was often reasonably certain without bacteriological examination. *Shigella Sonnei* was isolated from all but one of 213 bacteriologically positive stools. The disease was usually mild, symptoms rarely extending more than a few days. There were, however, two deaths at ages 78 and 82 years. Incidence was uniform throughout the City. Of the 562 cases 298 were under 5 years old. Some nurseries had dysentery cases but very active measures of general hygiene prevented spread. The organism was found on a swab from a water closet seat. *B. Coli* type I was also found on recently cleaned floors. We seemed to have greater success against nursery outbreaks by a high standard of general hygiene than by elaborate precautions in excluding all children who may be infected.

More than 95 per cent. of dysentery infection in this country is due to *Shigella Sonnei*, and phage typing, so valuable in food poisoning and staphylococcal outbreaks, is not in general use for shigella (dysentery) infections. We are therefore restricted to using biochemical and serological methods for differentiating the 95 per cent. from the group of unusual strains of dysentery infection which together make up the remaining 5 per cent.

On 8th February, 1951, a specimen of faeces from a 2½ years old girl, said to have dysentery, was found to be infected with one of these uncommon strains known as *Shigella Flexneri* 103Z. Only once before had this strain been isolated from a human in this country, but it is recognised as a frequent cause of dysentery in imported monkeys.

With this in mind, further enquiries were made into the history of the case and it transpired that on 1st February the child was in fact taken to see some caged monkeys. While watching them the child was eating an ice cream cornet and a monkey, in trying to grab the cornet, touched it with his paw. The child then licked the cornet before the mother could throw it away. Two days later the child became off colour and developed diarrhoea and by the 5th February the faeces contained blood and mucus.

Faeces from the monkeys were repeatedly examined and after daily examination for 3½ weeks the *Shigella Flexneri* 103Z was found. It so happened that while this last specimen was being investigated, the 5 monkeys in the incriminated cage had been sent to different parts of the country and it was too late to trace the actual monkey concerned. It is interesting to note that, although from another monkey *Salmonella*

Typhimurium (a food poisoning organism) was also isolated, the colony of monkeys had remained healthy for two years.

Dr. Sandiford, Director of the Public Health Laboratory, Birmingham, in reporting this case, draws attention to the possibility of infection passing from monkeys to children and from children to monkeys if the animals are not adequately caged.

### Encephalitis

During 1951 13 notifications were received of this condition, but the confirmed cases numbered 8 as detailed below.

	<i>Sex</i>	<i>Age</i>	<i>Outcome</i>	
2 infective	Male	7 months	Died	
	Female	1 year	Died	
	<i>Sex</i>	<i>Age</i>	<i>Initial Infection</i>	<i>Outcome</i>
6 post infectious	Female	8 years	Chickenpox	Recovered
	Female	3 years	Measles	Recovered
	Female	5 years	Mumps	Died
	Male	14 years	Chickenpox	Recovered
	Male	11 years	Mumps	Recovered
	Male	6 years	Chickenpox	Recovered

There is a possibility that some of these cases were suffering from benign lymphocytic meningitis and that the occurrence of another virus disease just previously was a mere coincidence.

### Food Poisoning

The City's experience during 1951 is summarised:—  
Corrected Notifications 116. Deaths Nil.

<i>1st quarter</i>	<i>2nd quarter</i>	<i>3rd quarter</i>	<i>4th quarter</i>
11	11	83	11

Outbreaks due to Identified Agents—2. Total cases 69.

Both outbreaks were of staphylococcal origin.

Outbreaks of Undiscovered Cause—1. Total cases 7.

Single cases—Total 40.

Due to salmonella organisms 4 cases.

Due to staphylococci 2 cases.

Due to unknown cause 34.

Nineteen doctors notified 74 cases of which 25 were in 9 small groups. Only 3 groups were, however, confirmed as suffering from food poisoning, the others were usually dysentery, distinguishable by the longer intervals between the onsets of individual cases and proved bacteriologically.

A man and wife originally thought to have food poisoning, became ill with vomiting and diarrhoea at almost the same moment one Sunday evening. Careful enquiry revealed that, on account of the man's work and recreation, there had been absolutely no common food factor for at least 48 hours. They came to be regarded as cases of "epidemic vomiting", an infectious disease probably due to a virus.

There were 49 original notifications of single cases, 12, 7 and 6 of these being made by individual doctors.

Notifications of single cases in particular were frequently received days after the onset of illness and often after the cases had quite recovered. At that late stage it was not possible to investigate the cause with much chance of success. The delay was usually due to patients first visiting their doctors late in the illness.

One of the three outbreaks followed a wedding breakfast on the 15th September when all those who had eaten home boiled tongue developed abdominal pain, vomiting and diarrhoea between 1½ and 4 hours afterwards. The symptoms passed off in 6—7 hours. The two tongues had been boiled in a saucepan, skinned and pressed without further boiling. They were then left in a warm domestic kitchen for 24 hours, jellied and left for a further 24 hours. After overnight refrigeration they were sliced by machine on the morning of the wedding.

*Staphylococcus aureus* was found in the remains of the tongue (7,000 viable staphylococci per gram), in the tin in which they were pressed, on the blade and spindle of the slicing machine, on the hands both of the person who cooked the tongue and the person who sliced it, and in samples of vomit. It seems likely that contamination occurred during skinning and pressing and that bacterial multiplication occurred during the period of very unsatisfactory storage.

A mild but explosive outbreak of diarrhoea and vomiting affected 24 of the 26 children and 12 of the 17 members of the day staff at a residential nursery. Meat prepared the previous evening was the only food common to all those affected. After being cooked some was sliced, some chopped and some minced and then (it is said) kept in a refrigerator until required for the mid-day meal. No one but the cook had handled the meat. She was found to have a chronic but very mild infection of the finger from which *staphylococcus pyogenes aureus* was grown. It was quickly cured by penicillin injections.

### **Influenza**

1951 will be regarded as an "influenza year". The Ministry of National Insurance had the greatest load of sickness benefit claims in its short history and at one time one in 15 of the insured population were claiming sickness benefit. Influenza was not notifiable during the year, but a limited voluntary scheme has since been introduced in Birmingham

for research purposes. The information as to claims for sickness benefit made at the local offices of the Ministry of National Insurance were, however, helpful in gauging the extent and progress of the outbreak. Details of registration of death were obtained twice weekly to allow of a more up to date appraisal of the situation.

In England and Wales as a whole the number of deaths from influenza in the first quarter of 1951 was the largest since the epidemic of 1937. It must be remembered, in comparing the figures, that since 1940 a different system of tabulation of causes of death has been in operation, the figures given before 1940 being about 10 per cent. too high in comparison with the figures for subsequent years.

The Birmingham deaths year by year from influenza since 1930 have been as follows :

1930							1937			1940
123	272	370	446	188	156	136	421	162	169	232
1941									1950	
139	92	325	107	62	108	89	33	209	80	285

The age tabulation of those dying of influenza in 1951 shows that the deaths in this epidemic occurred amongst the older people.

Age	0—	1—	2—	5—	15—	25—	45—	65—	75—
Number of deaths	1	—	—	1	4	8	75	84	112

### Measles

More notifications of measles were made in 1951 (16,149) than during any year since it became notifiable in 1940. The yearly figures for Birmingham since that date show the comparative severity of the outbreak.

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
Notifications	2,792	10,124	7,282	7,022	3,949	12,085	4,407	11,785	11,797	11,842	10,575	16,149
Deaths	10	48	17	10	5	25	9	24	6	10	10	11

The Birmingham figures reflected the position over the country as a whole. In each of two weeks during the first quarter over 30,000 cases of measles were notified.

It is worthy of note that 96 of the Birmingham cases were under 6 months of age, measles being less common in such young children owing to there still being present some immunity derived from the mother.

There were 11 deaths from measles in Birmingham in 1951 as compared with an average of 16 over the previous 10 years and the circumstances surrounding 10 were investigated.

In each of the 10 pneumonia was given as the immediate cause of death. The ages at death were 2 months (1 case), 7 months (2 cases), 8 months (2 cases), 10 months (1 case), 11 months (1 case), 2 years (3 cases), 15 years (1 case).

3 of the children had no brothers or sisters.

2	„	„	2	„	„
1	„	„	4	„	„
4	„	„	6	„	„

3 of the children who died came from overcrowded homes and 2 others had unsatisfactory homes through poor home and child management. The child of 15 who died was a congenital idiot.

Gamma globulin was used for controlling a measles outbreak among 8 children in a residential nursery who were first exposed to infection on 12th March. They were immunised on 20th March and none developed measles in the ensuing 21 days although the injection took place on the 8th day of the incubation period. This result was in accord with the unexpected finding of a large scale investigation in which the gamma globulin appeared to be just as effective whether given early or late in the incubation period. Fresh sources of infection were however introduced, and on 29th April two of the children developed very mild measles. Another 7 measles contacts were given 5 c.c. of adult immune irradiated serum. All developed attenuated attacks, 4 within the usual incubation period, and 3 much later, as secondary cases from the 4.

### **Meningococcal Infection**

There were 193 notifications but, on revision, only 92 cases were confirmed. Seven of these died. 25 per cent. of the patients whose diagnosis was changed from meningitis, were finally diagnosed as neurotropic virus infections. A further 17 per cent. were found to have pneumonia. 13 of the cases confirmed as poliomyelitis were originally diagnosed as suffering from meningitis. For age and sex of the cases see page 76, and for deaths see page 47.

### **Paratyphoid**

Detective stories are always popular. This story is not only true, but the witnesses, even those suspected of causing the outbreaks, are believed to be honest though frequently unreliable. Fortunately all the 73 victims who resided in Birmingham recovered and those who were old

enough gave us useful information. In investigating outbreaks of paratyphoid, the food which caused the infection has been disposed of weeks before, but the detection of the organisms involved has reached a high state of efficiency in the Public Health Laboratory Service. In the end the evidence is often circumstantial though convincing.

It is usually the case that, whereas typhoid is spread by infected water, paratyphoid is spread by infected food. While one or two typhoid bacilli will set up disease, a much greater dose of paratyphoid bacilli is required to cause paratyphoid fever. Such a dosage is not infrequently attained by a nutritious food initially becoming minutely contaminated, followed by multiplication of the organisms which produces a sufficient dosage to set up paratyphoid fever.

A food now frequently associated with paratyphoid is confectionery containing synthetic cream. The manufacture of synthetic cream is a relatively new industry and the product is despatched (often by rail) in sealed tins to confectioners. Although initially many samples of synthetic cream gave bad bacteriological results, reports upon samples from newly opened tins are nowadays almost invariably good.

From the moment that the tin of synthetic cream is opened until the time that the cream cakes are consumed, the product encounters a continuous series of hazards of contamination. The mixing of the cream with sugar, the filling of the cakes, the transference of cakes to trays, and from one tray to another and then to the shelves in the shop, the transference to paper bags or boxes and the setting out on the table by the housewife, at all these stages contamination may occur. Any one of these people handling the cakes and any one of the flies settling upon them might be a carrier of paratyphoid. In paratyphoid it is said that the carrier state is usually much more transient than it is in typhoid fever. It is stated, however, that Widal tests show that about 2 per cent. of the population have experienced natural infection. It is also known how easy it is to isolate the organism from town's sewage.

Illness of all grades of severity occurred in those infected. In some there was a mere rise in temperature and in two others, one of whom was a baby, the organisms were recovered from the stools but there were no symptoms and the Widal reaction remained negative.

The great importance of meticulous care in the washing of hands after using the toilet and before handling food is therefore obvious since a food handler can easily be infectious without himself being affected in the least.

Fig. 1, (page 68) depicting the age incidence among the 75\* Birmingham cases, shows the high incidence of paratyphoid among children and may reflect the liking which children have for cream cakes or it may be due to children more often contracting the disease than adults when the organisms are ingested.

\*Includes the two cases in December, 1950.

It is at least ten years since Birmingham had as many cases of paratyphoid as arose during 1951. During the previous 5 years there was an average of only 4 cases per year. The figures so far available show that there were 2 or 3 times the number of cases in England and Wales in 1951 than there were in each of the years immediately preceding.

Fig. 2 shows the weekly distribution of Birmingham cases, the upper half of the diagram representing weekly notifications and the lower half the weeks of onset of the cases. The date of onset is significantly earlier than the date of notification. The following information appertaining to cases taken at random shows how the delay in notification arises. Some cases were insidious in onset, hence the delay in calling in the doctor. Some patients presented rather atypical clinical pictures which led to a delay in diagnosis.

Intervals (in days) between	$\left\{ \begin{array}{l} \text{Onset and calling} \\ \text{in Doctor} \end{array} \right.$	5, 5, 2, 1, 1, 4, 8, 4, 8, 2, 9, 2, 0.
		$\left\{ \begin{array}{l} \text{Calling Doctor} \\ \text{and Notification} \end{array} \right.$

It will be noticed that for the 6 months June to November, there was an almost unbroken succession of notifications but these were proved to be derived from various origins largely through Phage Typing. Cases derived from the same source were usually clinically similar. One such group was characterised by unusually severe headache at the beginning of the illness and early in the investigation it was strongly suspected from this observation alone that we were dealing with an outbreak from a new source. That new sources of infection had arisen was also appreciated when it became impossible to obtain a history linking new cases with the already discovered cause of previous cases.

Our first experience of paratyphoid in 1951 was during May and June when there were 9 Birmingham cases, one in Solihull and one in Smethwick. Most of these patients complained initially of headache and abdominal symptoms. Most effective liaison took place with Dr. Hugh Paul, Medical Officer of Health of Smethwick, who quickly discovered a carrier in a large Smethwick bakery and almost immediately this man joined the Army. Two of the eleven cases definitely had consumed cream cakes from this bakery. Later in the year we discovered that some of this firm's products are sold under a trade name which at this time we did not realise was associated with the Smethwick firm. It is therefore likely that the connection of some of the cases with the bakery was not appreciated. A well known make of sausage was common to several patients, but in any case a high proportion of Birmingham people no doubt consume that product. This type of difficulty was frequently met in all the investigations.

It was not until about 10 days after the last cases were notified that all the phage types of the isolated organisms became known. Ten of these are set out below under week of onset.

MAY			JUNE			
W.E. 19th	W.E. 26th	W.E. 2nd	W.E. 9th	W.E. 16th	W.E. 23rd	W.E. 30th
1 Type I	1 Type I	1 Type II	1 Type I	1 Type I		1 Type I
1 Type I			1 Type I	1 Type I		
				1 Type II		

It was then apparent that 2 outbreaks had occurred simultaneously, one being of Phage Type I, the same type as that isolated from the carrier in the Smethwick Bakery. There were 2 cases of Phage Type II infected from an unknown source.

Throughout the investigations the lapse of time between diagnosis and the phage type becoming known has been a disadvantage and has detracted from the value of phage typing when dealing with two concurrent outbreaks. Fig. 3 shows the location of the cases.

The first case of this series to be notified was in a boy of 4 years old. Until further notifications were received he was thought to be an isolated case and blood, faeces and urine were taken from his parents and two brothers. No paratyphoid organisms were found. The father's Widal was Para B. "H" 1/250, "O" Neg., being consistent with previous inoculation. The mother's Widal was para B. "H" Neg., "O" 1/50. The Central Enteric Reference Laboratory reported that her serum gave positive agglutination with para. B. Vi and A "H" group at 1/25. It seemed likely that the mother had been infectious recently but she persistently gave negative faeces and urine.

A baby aged 2½ at Aston was originally diagnosed as having dysentery. Both Sonne Dysentery and Paratyphoid B. were recovered from her stools. The child's family were bakers and confectioners, but fortunately none of them was infected. The baby's Widal rose to Para B. "H" 1/250., "O" 1/50 and on discharge from hospital in September was "H" 1/250., "O" Neg.

The first intimation of the beginning of our largest outbreak of paratyphoid was a notification from the General Hospital on the 4th August of a case from Northfield. On 11th August a child was admitted to Little Bromwich Isolation Hospital from Rubery. This was also a case of paratyphoid. On 12th August a further notification of paratyphoid was received from Erdington. 3 cases suddenly arising in 4 days pointed strongly to a common source of infection. All 3 had eaten cream cakes, but apparently from different sources. Nor did the synthetic cream come from a common source. Many articles of food were considered, especially butter. The trade practice of blending and wrapping butter, combined with the method of allocation by the Ministry of Food, make the distribution so complicated that it seemed unlikely that we should be able to

investigate butter in detail. This difficulty has also arisen elsewhere some time ago.

The more cases there are, the easier it is to find a common food factor. On 15th August, 3 more cases were notified from Selly Oak, Weoley Castle and West Heath. It was discovered that all three had eaten cream cakes from a shop in Selly Oak, but it was argued that in any case people living and working in the area would be likely to patronise that shop. The association between infection and the shop could therefore have arisen by chance and might be of no significance. If further cases could be shown to be associated with the shop, the significance would be markedly increased and would eventually amount almost to a certainty that the shop was the cause of the outbreak.

On the 16th August, 6 more cases were notified, again from the Northfield, Selly Oak and Weoley Castle area. By Saturday morning, 18th August, we had found that 5 of the 12 cases had eaten cream cakes from the suspected shop. The shop has a small bakery attached and the premises were visited and our suspicions explained. Cakes made on the premises were sold at a shop in Rubery and at one or two eating houses and canteens in the district. This new information explained the source of infection of other cases already notified.

Later that Saturday morning, 2 more cases came to light, one at Wychbold near Droitwich and one in the Lifford District of Birmingham. The Wychbold case was a friend of the Rubery case and, on a visit to Rubery, both ate cream cakes from the Rubery shop in question. The Lifford District case was apparently unassociated with the shop until it transpired that the family visited friends in Selly Oak. The friends, we found, had provided cream cakes from the shop for tea.

The following Friday, the Medical Officer of Health of Ilfracombe wrote to say that a holiday maker from Bournville had developed paratyphoid and that a friend with her had not been well, but proceeded to the Weymouth area to continue her holiday in a caravan. It was discovered that both these girls had attended a 21st birthday party on the 4th August and after much enquiry it was recollected that the cream for the trifle came from the shop in question.

There were 7 persons at the shop and bakery in Selly Oak. Blood, faeces and urine were obtained from each. Four of them gave completely negative results. Two men had been inoculated during the war and their Widals were:

<i>Typhoid</i>	<i>Para. A.</i>	<i>Para. B.</i>
H. 1/25	H. 1/250	H. 1/250
O. 1/25	O. 1/25	O. 1/250
H. 1/125		
O. 1/50	Neg.	Neg.

Although a significant "H" titre persists for some years after inoculation, the "O" agglutinins disappear much more quickly. The high "O" titre for paratyphoid B in the case of the first man was therefore of considerable significance. Two days later the organisms were detected in his stools and these proved to be of Phage Type I, the same Type as the organisms isolated from the cases. This man had been employed at this bakery for 17 months. He stated that when employees wished to use soap and a towel, special application had to be made to the management on each occasion for these. Consequently, effective hand washing after using the toilet was, to say the least, hardly encouraged. As will be seen from Fig. 2 the dates of onset of cases in this outbreak covered a period of 4 weeks, nearly all the cases occurring within a period of 3 weeks. Assuming that all the cream cakes were eaten within a few days of manufacture (and contamination) one may conclude that the carrier had been infectious for a period of 3—4 weeks. There was, however, no clinical evidence from the carrier to support this. His carrier state ceased after 7 days' treatment with Chloramphenicol and did not recur. So alarmed was he by the serious effects of his negligence that he took up employment in the engineering industry. The round dots in Fig. 4 represent the damage he did.

The seventh bakery employee, a woman, gave a great surprise. Although she remained well and her Widal was consistently negative, Salm. Para B. was isolated from her stool on one occasion.

It was to be expected that cases of paratyphoid would continue to arise for a fortnight or so after eliminating the carriers and cleaning up the bakery. New cases, however, continued to arise even though this period had expired. The south west side of the City was still implicated, with a small concentration of cases in the Ladywood area. It was just possible that these children had eaten cream cakes from the Selly Oak shop and the question arose as to whether another unknown carrier was associated with the business or whether some infected utensil had escaped sterilisation.

As further cases were notified and investigated it became apparent that an entirely new source of infection must be operating. Careful records and enquiries were made relating again particularly to cream cakes, but no common source seemed to be implicated. A child at Kings Norton must have been infected very soon after his return home from holiday. His mother had a particularly clear memory and her evidence led to the discovery that a Smethwick confectionery firm uses a trade name for some of its products. With this explanation it was possible to link the new group of cases with the Smethwick confectioners—the same firm that was associated with the May—June outbreak. The culprit in the May—June outbreak had joined the Army. Had he caused one of his workmates to become a carrier? The answer was given when the results

of phage typing became available, the new group of cases being of the rare Kent Strain. This was therefore a completely different infection arising in the same bakery within a few months.

One patient, a 'bus conductress, was the wife of a healthy roundsman of the firm. Owing to the operation of a strict rule, the roundsman never took cakes home but the family obtained cakes from elsewhere. The wife did, however, wash her husband's aprons which were invariably stiff with the cream derived from it coming into contact with the cakes. This might well have been the source of her infection.

One patient was removed to hospital after an illness of 19 days at home. Thirteen days later her daughter developed paratyphoid evidently as an isolated secondary case.

One further child became ill on the 30th September, the onset of the latest primary case so far having been the 11th September. Its illness brought it among another group of cases characterised clinically by violent headache. The phage typing of the organisms showed this infection also to be of Kent Strain and a history of having eaten cream cakes from Smethwick was already known. Fig. 5 shows the extent of the outbreak. Evidently although the carrier at the factory was doing most damage during the 3rd week of August, infected food was still being eaten on the 15th September. The second carrier hunt in this factory then took place and eventually a male carrier of the Kent strain was found and eliminated on the 19th October. His blood agglutinated:

Para B. "H" 1 in 125 and

Para B. "O" 1 in 50

He did odd jobs in the bakehouse and, although not ill, did have a little stomach upset about the end of August. This however, was after he had done most of the damage.

Before the Smethwick outbreak had been properly investigated there arose 5 cases between 27th and 30th September characterised by severe headache. The first of these was readily understandable because he had been severely kicked on the head whilst footballing. The initial headache subsided and then returned more intensely than ever, no doubt setting a severe problem for his doctor who solved it magnificently.

The present series of cases could not be connected with the Smethwick firm but all had frequently eaten ice cream of a make very popular indeed in this district. In fact, it seemed unfair to approach the manufacturers on this evidence as it is very likely that a random sample of 5 Birmingham people would all be in the habit of eating this product. We visited the factory and were very impressed with their manufacturing methods. It looked as if contamination of the product would be utterly impossible. Where ice cream was handled, rubber gloves were usually worn.

Observance revealed that the remarkable packing machines were not entirely infallible and in any case required feeding with cartons, lids,

wrappers, etc., by hand. These articles, if infected, would carry infection to the ice cream and organisms would remain viable in the cold stores until consumed. Admittedly the original infection would not multiply but it might have been sufficient to infect some of the consumers.

These organisms were of Phage Type I and it was assumed that 2 cases arising on the 12th and 22nd October were from the same source. They were both the type of person who might have eaten anything anywhere and then forgotten about it.

Freezing to temperatures experienced by ice cream does not, of course, kill organisms. After 3 years' storage the bacterial flora is much the same as in freshly frozen ice cream.

The ice cream firm in question supplies a very large area of the British Isles. The incidence of Phage Type I paratyphoid was studied in relation to their area of supply, but as Phage Type I is a very common type, it was not possible to establish a particular incidence in the area of supply.

On the evidence available it did not seem appropriate to investigate the work-people fully and especially as, the season being over, most had dispersed to many parts of the British Isles.

A week passed without any notifications and then further cases were notified. Our first surmise was that these were also from ice cream, but it was soon apparent that they were arising from a separate source and they were different clinically. One or two had definitely eaten the suspected ice cream but others were just as definite that they had not. However, although the witnesses try to be honest, human memory is not infallible, and an open mind was kept upon the question of ice cream until there arose 2 cases in the same house at Erdington. This was a boarding house for working men, run by a woman with a small child.

The child became ill and was diagnosed as Para B. The mother, being a very busy woman, had little time to spend on shopping and bought her supplies very consistently from a very limited number of shops. She always bought a large round cream sandwich which the family and the lodgers had for tea on a Sunday, and what remained was always put in a trifle. During the investigations it was brought to light that one of the lodgers also was ill and he too was found to be a case of Para B. This man helped us a lot by being absolutely certain he had had no ice cream for weeks, but the child did from time to time have it. The child and the man consumed nothing in common except at home. Could the cream sandwich be implicated? Records of the other cases were scrutinised and all but one had definitely consumed cream cakes from the same source, and in regard to this one the evidence was poor but the possibility extremely likely. At the time there were no cases in surrounding areas except one just over the border in Aldridge. In fact the cases were confined to the northern two thirds of the City as Fig. 6 shows.

Although the confectioners were known to be in a big way of business, the evidence justified an approach being made. Whilst discussions were taking place with the manager a map of Birmingham on the wall was noticed. There were many coloured pins in it and we were intrigued to find that the pins covered just the same area of the City as the pins representing cases on our map shown in Fig. 6. The map, in fact, represented the shops supplied by the firm in question.

The firm scrutinised its staff records about the period of 2 weeks before the dates of onset of the illness. At that period 130 employees were handling cream and cream cakes in some way. A few had since left and one of these could not be traced. Another one was working elsewhere and was so hostile that no co-operation could be obtained. 128 persons had their blood, faeces and urine examined. All but 11 of the Widal's were completely negative for Para B. "H" and "O" agglutination. Of the 11 positives 6 agglutinated with "H" antigen only and to the following titres 1/125, 1/125, 1/50, 1/50, 1/125, 1/500, 2 agglutinated with "O" antigen only and to a titre of only 1/25, 3 agglutinated with both "H" and "O" to the following titres respectively—1/50, 1/50; 1/125, 1/50; 1/250, 1/25. The last two had been inoculated in the recent war but, remembering the carrier earlier in the year who had a similar Widal, the tests were repeated and a series of blood and urine examinations were made. On this occasion the results of full Widal's were:

	<i>Employee 1</i>		<i>Employee 2</i>		<i>Employee 3</i>	
	<i>H.</i>	<i>O.</i>	<i>H.</i>	<i>O.</i>	<i>H.</i>	<i>O.</i>
Salm. typhi	1/125	1/25	Neg.	Neg.	1/50	Neg.
Salm. paratyphi A.	1/150	Neg.	Neg.	Neg.	1/50	Neg.
Salm. paratyphi B.	1/150	1/25	1/50	1/50	1/125	1/50

This was the only incriminating evidence obtained and was not supported by findings in faeces or urine, repeated examinations of which were persistently negative.

In the November outbreak just described, the cases began between the 4th and the 10th of the month. A small child was taken ill on the 19th but her disease was clinically gastro enteritis and not paratyphoid. Para B. was, however, found in her stools and urine, but when she became infected was not known. The family never have cakes from the source in question and the Widal remained negative.

A child living at Acocks Green developed Para B. on the 16th November and frequently consumed cakes from the suspected source. When, however, the report of the Phage Typing became available, to our surprise it was Type IIIA., the same type as a case at Minworth (onset 16th November) and one in Smethwick (onset 16th November). This then was a separate outbreak caused by an organism of rarer type. Twelve days before being taken ill, the little girl from Acocks Green went to look at an empty house in the Ward End district and, feeling hungry, the family called at a little shop where they had tea and cakes. The shop

was identified and the source of their cakes found. The large confectionery manufacturers concerned supply cakes in both the Minworth and Smethwick areas, but unfortunately, we were completely unable to trace the common source of the three Type IIIA cases.

The final case of the year was an immunised nurse infected in the course of her work. The illness began on the 13th December, but the patient did not take to her bed until 22nd December and the illness was diagnosed on the 24th. She resided at the hospital but did visit her home on the 18th December. Her father and brother are in the dairy trade but it seemed most unlikely she could have infected them. Specimens were, however, taken on the very unlikely chance. They were negative.

### **Conclusions :**

The information given covers only the main points of the outbreaks. There were dozens of false trails investigated and hundreds of enquiries by a large number of investigators. Medical Officers of Health of surrounding areas, their sanitary inspectors, hospitals, general practitioners, our own staff and the general public co-operated 100 per cent. On that account alone has it been possible to elucidate the causes and prevent further trouble.

There are those who argue that a register of enteric carriers should be compiled for use in these circumstances. In not one of the outbreaks described would such a register have been of value as, until discovered by the investigators, the carriers causing the trouble were quite unaware of their being infectious. In paratyphoid the carrier state is said to be quite short. This seemed also to coincide with our own experience.

Some argue that all food handlers should be examined for the presence of the carrier state. Our experience has shown that some of the findings are in any case difficult to interpret and would, no doubt, result in penalising many people who were no longer infectious and possibly never had been. Even if the technical difficulties could be overcome, a person negative today might be positive tomorrow. The answer lies in scrupulous cleanliness of persons and premises and in employees being trained in matters of hygiene, which knowledge they should then apply with the strictest honesty.

The very popular cream cakes are becoming recognised as the principal vehicle of spread of paratyphoid. Considering the vast number eaten, the chances of becoming infected are minute. The bulk supplies of the synthetic cream are now found to be on the whole satisfactory. Infection no doubt arises during manufacture of the cakes and here the highest practicable degree of cleanliness should be insisted upon and, wherever possible, mechanisation of the filling process would be an additional safeguard, supplemented by wrapping of the individual cakes immediately after manufacture, though the many difficulties associated with the latter are fully appreciated.

FIG. 1

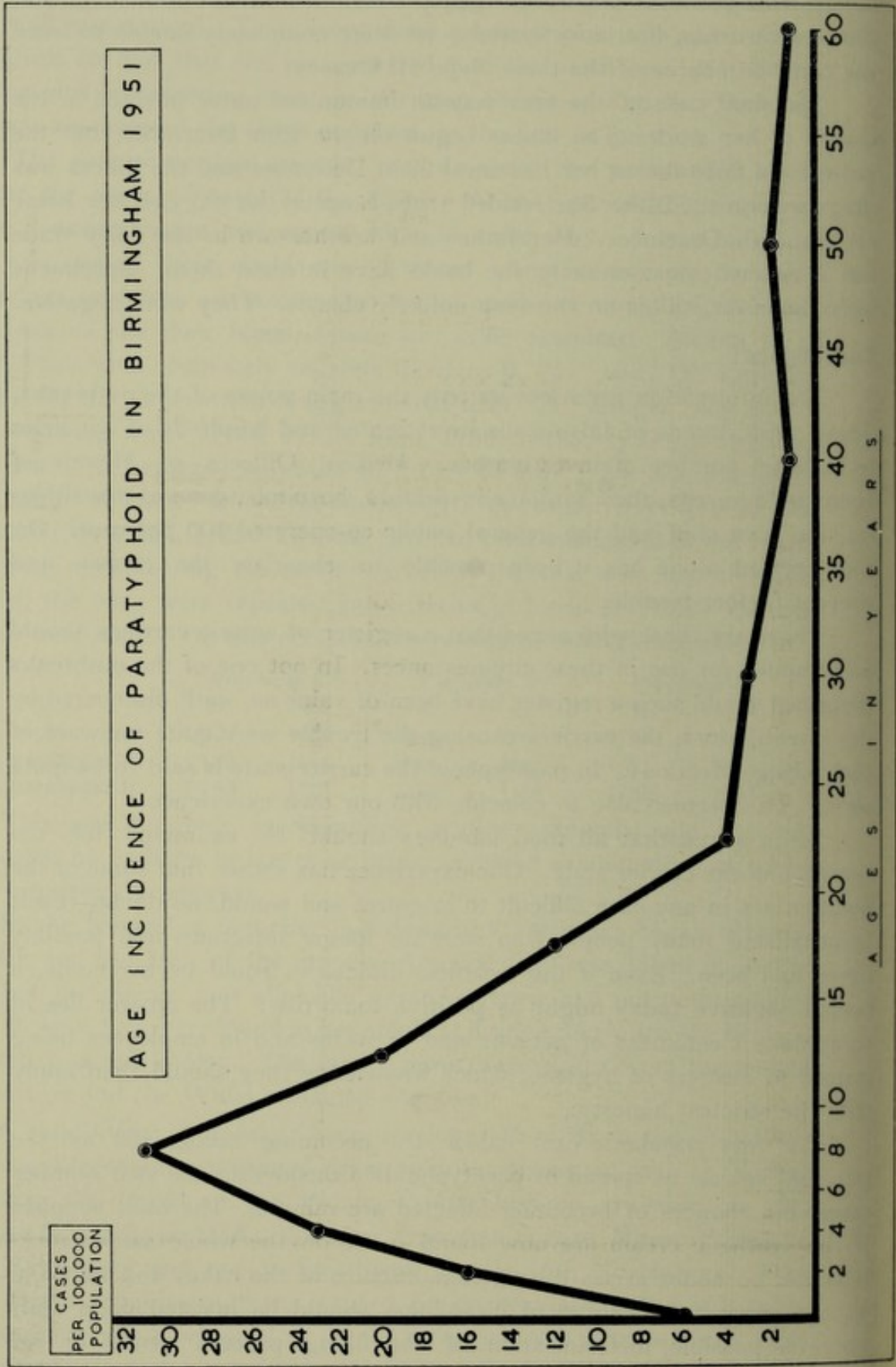
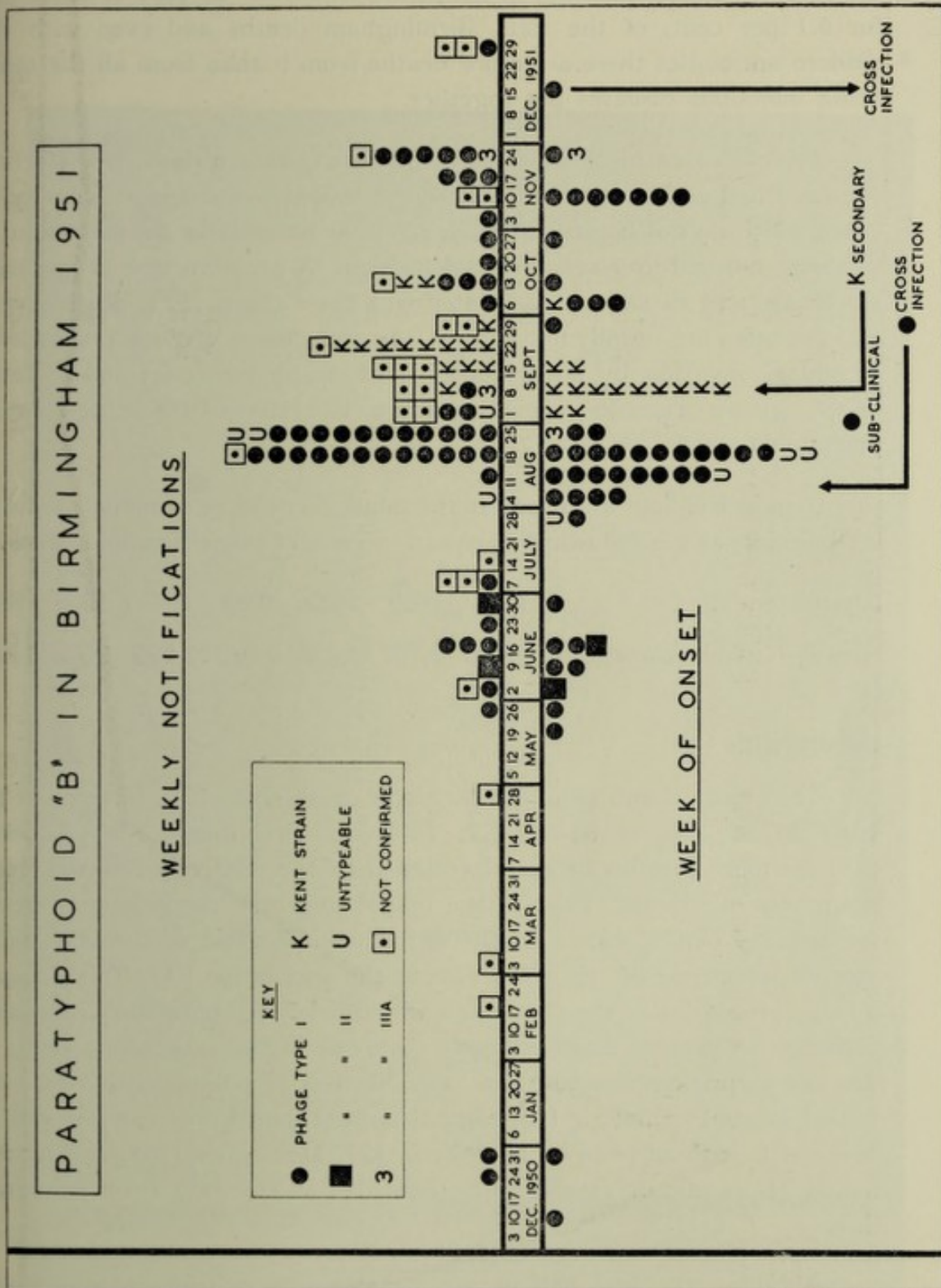


FIG. 2



## **Pneumonia**

There were 1,495 notified cases of this disease during the year.

There were also 643 deaths recorded. In fact pneumonia is one of the chief killers of mankind in temperate climates. In 1951 it accounted for 5.1 per cent. of the total Birmingham deaths and even with the modern antibiotics there are more deaths from it than from all the other acute infectious diseases put together.

Typical cases of lobar pneumonia are characterised by starting suddenly and ending by sudden crisis. Nowadays there is a majority of cases which do not begin suddenly, never show massive consolidation of the lung and end in a very gradual fashion. A great variety of bacteria, rickettsiae and viruses are associated with these cases. Few deaths occur and the cases are usually not notified. In some cases of virus pneumonia, secondary invasion by pneumococci and staphylococcus aureus may occur, giving rise to a picture more like that of the acute form of pneumonia.

It is interesting to note that the acute form of pneumonia seems to be declining as the following five-yearly averages of notifications show.

5 years ending	.....	1925	1930	1935	1940	1945	1950	1951
Average notifications	.....	2,000	2,737	2,498	2,042	1,725	1,309	1,495

## **Poliomyelitis**

The yearly numbers of Birmingham cases since 1942 have been 12, 10, 4, 23, 25, 166, 42, 68 and 442. In several virus diseases it is believed that far more persons become infected than the relatively few who have symptoms of illness. This is true of poliomyelitis, the relatively heavy incidence of clinical cases in 1950 being an indication of the very widespread prevalence of the virus among the population. On this account a large proportion of the population would develop a temporary immunity sufficient to prevent another heavy outbreak in the succeeding year. It was not surprising therefore that only 52 cases of poliomyelitis were confirmed in 1951 although 119 original notifications were received and 16 cases at first thought to be Diphtheria (2), Meningitis (13), and Encephalitis (1), came eventually to be regarded as suffering from poliomyelitis.

Although the first half of the summer was much more sunny and warm than the second half, the seasonal rise in incidence of cases began late. Experience rather suggests that an early rise in incidence can be taken as warning of a heavy attack.

FIG. 3

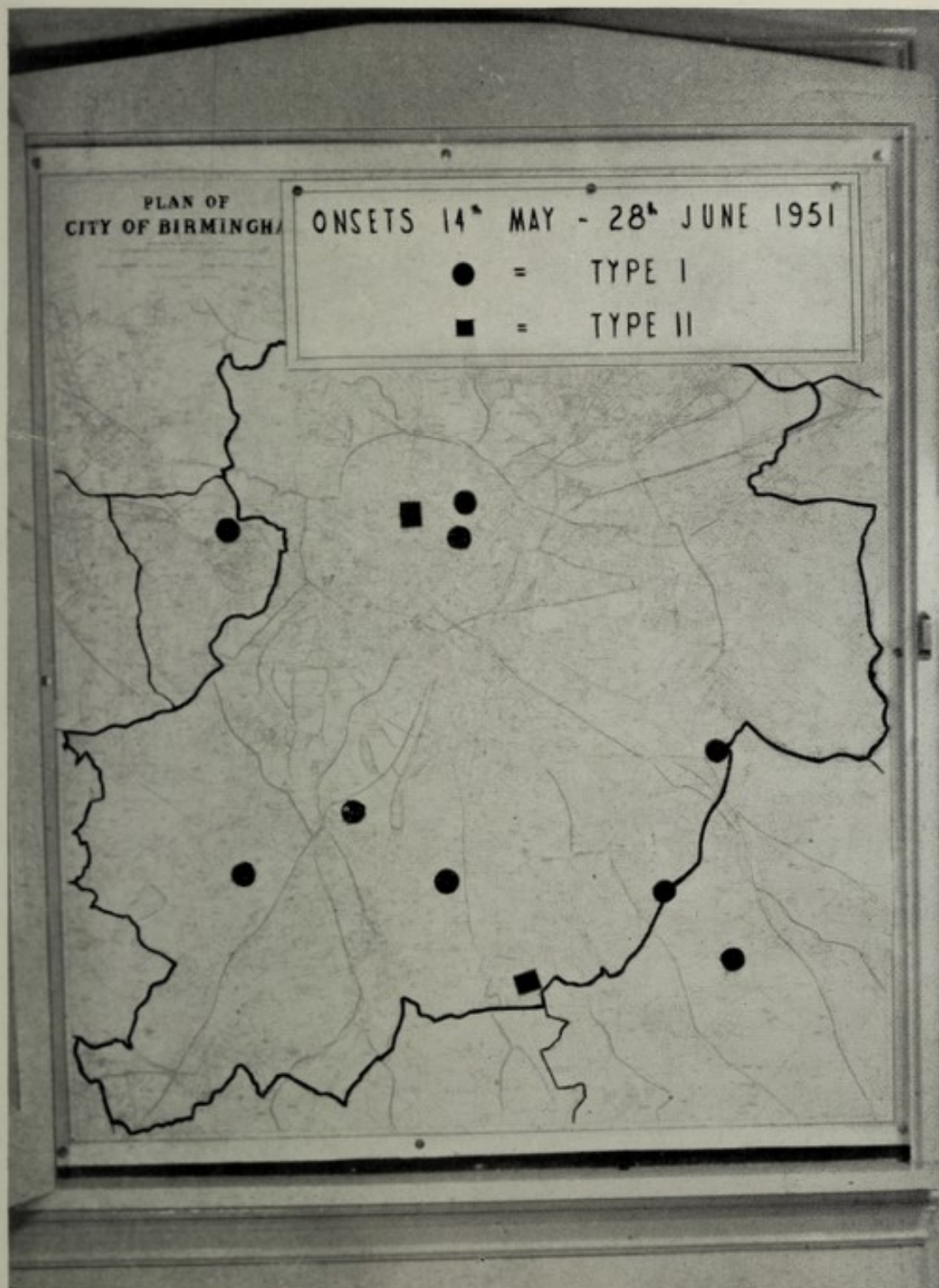


FIG. 4

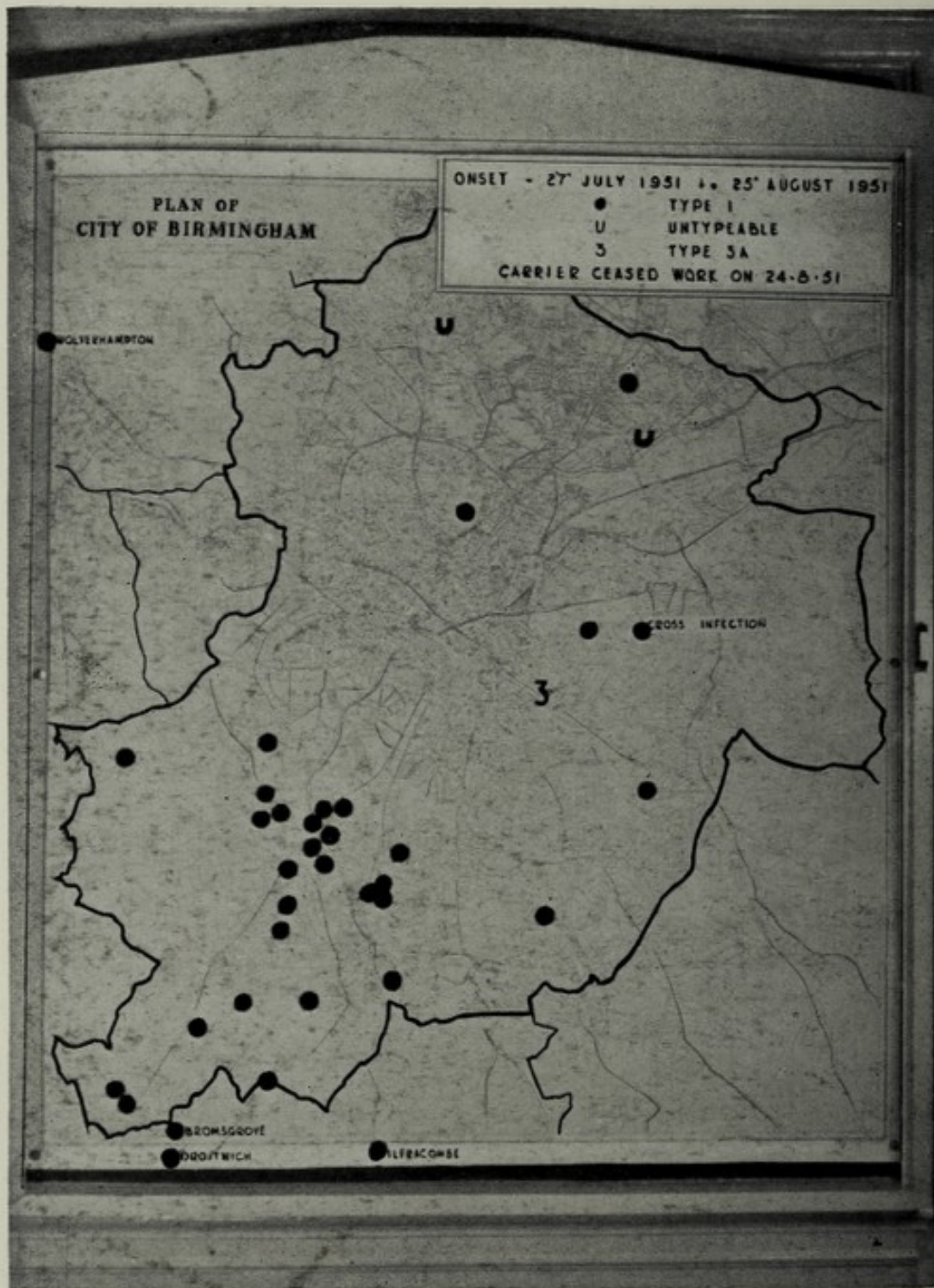


FIG. 5



FIG. 6



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The following is a summary of the age incidence.

<i>Age</i>	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35+
Male paralytic cases	7	3	1	2	2	Nil	3 (1 died)	1
Male non-paralytic cases	5	2	Nil	Nil	Nil	Nil	Nil	Nil
Female paralytic cases	5	6	1	2	Nil	Nil	3 (1 died)	Nil
Female non-paralytic cases	3	4	Nil	Nil	Nil	Nil	2	Nil

Included among the paralytic cases are 5 who suffered from poliio-encephalitis. Their ages were 7, 30, 4, 1 and 4. None died.

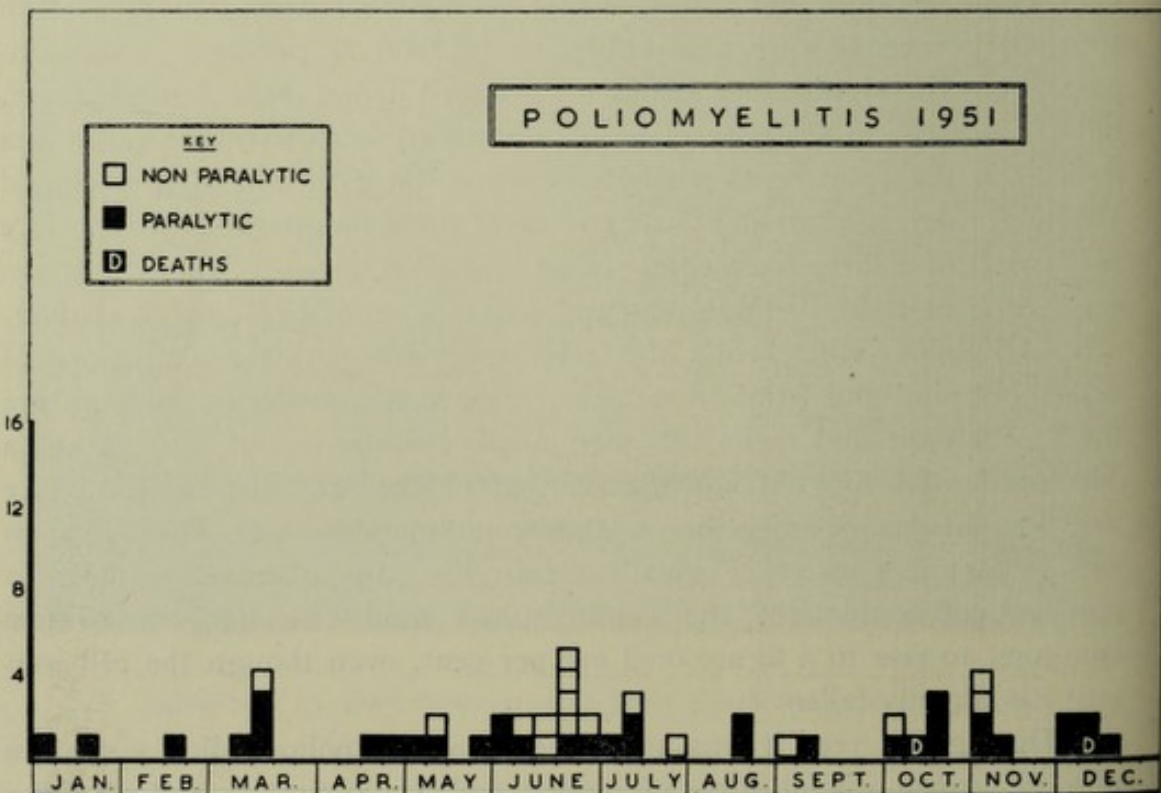
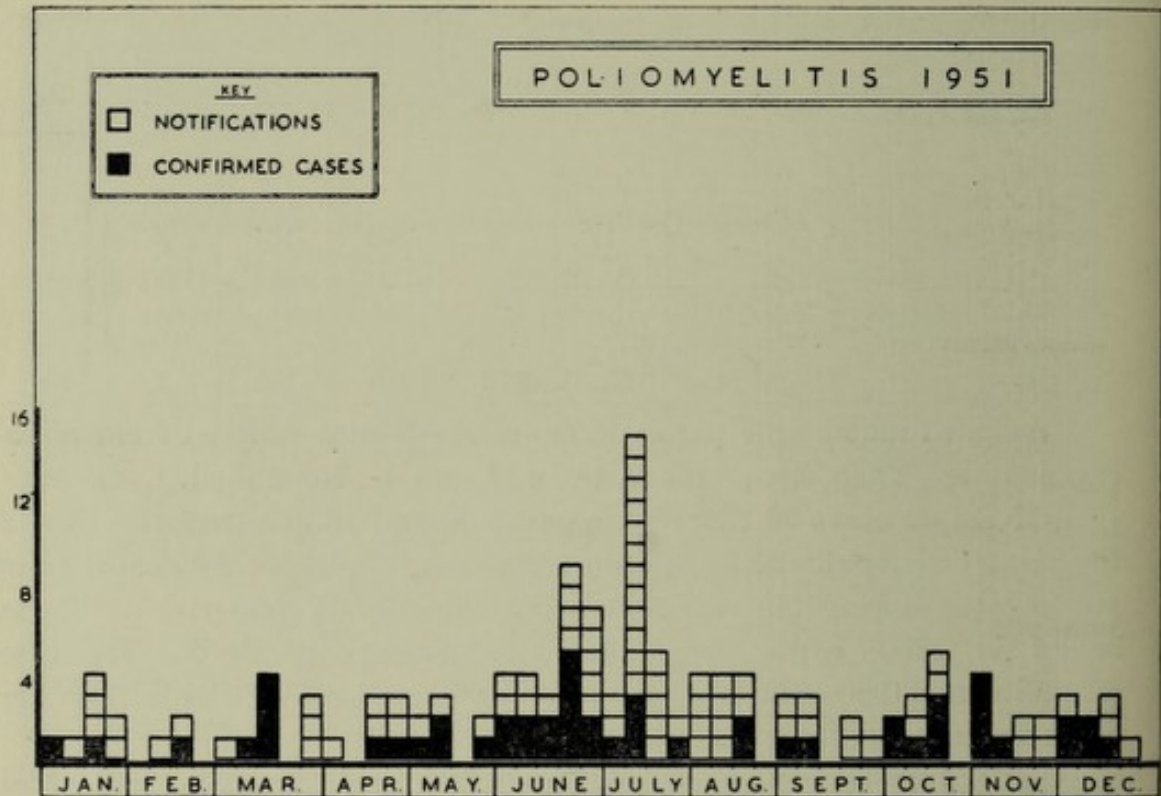
Of the 52 cases 36 cases were paralytic and 16 non-paralytic. 21 of the paralytic cases had only one site paralysed. There were 3 deaths from poliomyelitis during the year, one being a girl of 17 years whose illness began in 1950 when she suffered widespread paralysis. The case mortality for 1950 was 13.1 per cent. as compared with only 3.85 per cent. for 1951—both deaths being in adults.

In 1951 there was no occasion on which more than one case arose in the same household.

It will be noted that among the 52 cases confirmed as poliomyelitis in 1951, 31 per cent. were non-paralytic. In 1950 25 per cent. were non-paralytic. No significance could be deduced from these figures alone, but an increase in the proportion of non-paralytic to paralytic cases was noticed in the country as a whole between the 24th and 37th weeks of 1951 and there is a possibility that some of these non-paralytic cases were really part of a distinct epidemic of an unknown disease. The distinction was recognised in Birmingham and led to a number of original diagnoses of poliomyelitis being not confirmed. The patients complained of severe occipital and frontal headache, there was a moderate temperature for 3 or 4 days and signs of meningeal irritation, but no paralysis developed. The protein and cell content of the cerebrospinal fluid rose slightly and declined together as the symptoms subsided. The condition was in fact like an acute aseptic meningitis. In poliomyelitis the protein and cell content of the cerebrospinal fluid rise but the protein continues to rise to a figure of 2 mg per cent. even though the cell content has already fallen.

During the year it was announced that the poliomyelitis virus can now be grown on all sorts of human embryonic tissues and on some

cultures of adult human tissues. This discovery is important, not only because the virus can now be grown more easily, but because it proves that the virus does not need nervous tissue for its growth. If the virus can grow and multiply in any part of the human body it explains how many people become infected and so immunised, but relatively few become affected as the virus may only rather rarely attack nervous tissue.



## Scarlet Fever

There were 558 confirmed notifications of scarlet fever among males and 598 among females—total 1,156. A boy of 4 years and a girl of 11 months died, pneumonia being the complication causing both deaths.

The following figures show the enormous reduction in the number of deaths and the much smaller reduction in the number of cases of scarlet fever during the present century in the area now within the City boundary.

Five year period ending	1905	1910	1915	1920	1925	1930	1935	1940	1945	1950	1951 only
Average notifications	4,038	3,956	5,456	2,472	2,652	1,910	2,966	2,350	1,903	1,654	1,156
Average deaths	172	116	125	41	32	9	14	7	1	1	2

Although there was a heavy incidence of measles and whooping cough in the first half of the year, the scarlet fever notifications were fairly evenly spread throughout the year.

## Smallpox

Although there were no smallpox cases in Birmingham during 1951, much time was spent upon surveillance of persons who were remote contacts of smallpox elsewhere. These individuals have been seen daily, usually by a medical officer, for 21 days after their last possible contact with smallpox.

In November, 1950, a recently vaccinated R.A.F. Officer arrived in Scotland by air whilst incubating smallpox which he later developed in a mild and highly modified form whilst staying with friends at Brighton. An outbreak of smallpox developed there involving hospital nurses and a laundry staff. Surveillance was required for 5 R.A.F. personnel on leave in Birmingham from the R.A.F. station where the officer had landed, and for seven civilians in Birmingham who had been in Brighton during the outbreak. Meanwhile a contact of a Brighton case had become a recruit at an R.A.F. station in Lancashire. Two of his contacts came to Birmingham. After the quarantine on the Brighton Hospital had been lifted, a nurse from there returned to Birmingham and was kept under surveillance.

A ship from Australia and India arrived at London on the 12th February. A 12 year old girl who embarked at Bombay on the 26th January developed smallpox on the voyage. 16 passengers from the ship came to this district and were kept under surveillance.

On 22nd March a man arrived by air at an R.A.F. Station. He came from a smallpox infected area and was found to be inadequately vaccinated. He was vaccinated on arrival and proceeded to Birmingham where he was kept under surveillance.

Surveillance was also necessary for two persons who came to Birmingham from smallpox infected areas during April.

In May a ship arrived at Tilbury from India. On the voyage a passenger developed smallpox and was landed at Marseilles. 4 families, 2 single persons and 2 members of the crew came to Birmingham. During their surveillance the children of one family developed measles. One of the difficulties of surveillance is caused by the desire which those coming from abroad have to visit relatives and friends in various parts of the country and, in the summertime, to take sightseeing tours. This involves communicating with the Medical Officers of Health of other areas in order that the daily surveillance may be continued wherever the smallpox contact goes.

### Vaccination

The press publicity given to smallpox no doubt increased the demand for vaccination. Following the Brighton outbreak the staffs of Birmingham Hospitals were also vaccinated, as were ambulance drivers and attendants, staff of the disinfecting station and others whose work would be likely to bring them into contact with smallpox, should that disease occur in Birmingham. Those travelling abroad also accounted for a significant number of vaccinations and revaccinations during 1951.

The numbers vaccinated were as follows :

<i>Primary Vaccinations</i>		<i>1950</i>	<i>1951</i>
Under 1 year	.....	6,797	7,241
1 year and over	.....	1,143	1,667
<i>Re-vaccinations</i>	.....	1,725	3,268

Vaccinations under 1 year expressed as a percentage of live births occurring during the year :

1950	.....	36.1%	1951	.....	39.4%
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### Venereal Disease

Although treatment is now within the purview of the Regional Hospital Board, many enquiries are received and dealt with by the Health Department which is concerned with the preventive aspect. The number of new cases of syphilis continues to fall rapidly but the fall in numbers of new cases of gonorrhoea since the war has been much less. (For actual figures see the report for 1950).

NEW V.D. CASES TREATED IN BIRMINGHAM IN 1951.

	<i>Syphilis</i>	<i>Soft Chancre</i>	<i>Gonorrhoea</i>	<i>Other Conditions</i>
General Hospital .....	230	—	610	2,056
Children's Hospital .....	—	—	—	—
Lancaster St. Clinic .....	30	—	7	731
Birmingham Infirmary .....	13	—	7	50
<b>TOTAL</b> .....	<b>273</b>	<b>—</b>	<b>624</b>	<b>2,837</b>

NUMBER OF CASES UNDER TREATMENT ON 1ST JANUARY, 1951

	<i>Syphilis</i>	<i>Soft Chancre</i>	<i>Gonorrhoea</i>	<i>Other Conditions</i>
General Hospital .....	1,217	—	273	523
Children's Hospital .....	6	—	—	—
Lancaster St. Clinic .....	91	—	—	94
Birmingham Infirmary .....	34	—	1	5
<b>TOTAL</b> .....	<b>1,348</b>	<b>—</b>	<b>274</b>	<b>622</b>

**Whooping Cough**

There were 5,120 confirmed notifications of whooping cough during the year. The yearly average for the previous 10 years was 4,500 with maxima and minima in individual years of 6,172 in 1950 and 2,928 in 1944. There were only 8 deaths in Birmingham as compared with an average of 42 over the previous 10 years with maxima and minima of 116 (1941) and 17 (1950). The age distribution of the cases and deaths occurring in 1951 is shown below.

	<i>Un- der 6mths</i>	<i>6 mths — 1 yr</i>	<i>1-2</i>	<i>3-4</i>	<i>5-9</i>	<i>10-14</i>	<i>15-19</i>	<i>20-24</i>	<i>25-34</i>	<i>35+</i>	<i>Total.</i>
Notifications	200	285	1,502	1,652	1,400	38	6	5	9	23	5,120
Deaths	1	3	2	1	1	—	—	—	—	—	8

Broncho pneumonia was the complication causing 7 of the 8 deaths. The 5 year old child had a congenital abnormality of the heart which led to haemorrhage from the lungs. All the 8 children who died had satisfactory homes and received prompt and adequate attention from their parents. The 2 largest families had 3 other children. Home conditions where the deaths from whooping cough occurred had therefore been superior to those associated with the deaths from measles.

Some general practitioners are giving a course of 3 combined whooping cough and diphtheria immunising injections. 713 children received such treatment in 1951.

The Medical Research Council reports the very high attack rate of 87 per cent. among susceptible children exposed to infection within the family. This fact may be made use of in assessing the potency of vaccines; a matter which is being closely followed in Birmingham.

CASES OF INFECTIOUS DISEASE NOTIFIED AND VERIFIED DURING 1951  
CLASSIFIED ACCORDING TO SEX AND AGE

DISEASE	Sex	AGE GROUPS													Totals
		0-	1-2	3-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75 up	
Typhoid Fever	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Para-Typhoid Fever	M.	1	3	5	11	5	—	2	1	—	1	—	—	—	29
	F.	—	4	4	12	10	6	1	4	1	1	1	—	—	44
Scarlet Fever	M.	2	39	135	286	67	15	5	3	4	2	—	—	—	558
	F.	—	30	116	323	83	18	7	8	9	3	—	1	—	598
Diphtheria	M.	—	2	1	5	3	—	—	—	—	—	1	—	—	12
	F.	—	1	1	—	2	4	2	3	1	—	1	—	—	15
Erysipelas	M.	1	1	2	2	1	3	2	9	19	22	20	14	2	98
	F.	—	2	2	1	3	2	5	7	13	33	21	18	4	111
Poliomyelitis Paralytic	M.	1	4	2	3	1	2	2	3	1	—	—	—	—	19
	F.	—	4	1	6	1	2	—	3	—	—	—	—	—	17
Poliomyelitis Non-Para	M.	—	5	—	2	—	—	—	—	—	—	—	—	—	7
	F.	1	—	2	4	—	—	—	1	1	—	—	—	—	9
Encephalitis Infective	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1
	F.	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Encephalitis Post-Infectious	M.	—	—	—	1	2	—	—	—	—	—	—	—	—	3
	F.	—	—	1	2	—	—	—	—	—	—	—	—	—	3
Meningococcal Infection	M.	7	11	3	11	3	2	5	—	3	2	—	—	—	47
	F.	5	5	8	12	2	1	3	4	4	—	—	1	—	45
Malaria	M.	—	—	—	—	—	—	—	—	1	—	—	—	—	1
	F.	—	—	—	—	—	—	—	—	—induced—	—	—	—	—	—
Dysentery	M.	13	86	59	57	10	4	7	10	10	9	4	4	2	275
	F.	19	69	52	48	10	21	10	22	16	5	7	6	2	287
Smallpox	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia	M.	35	68	59	52	10	15	35	48	88	121	128	109	50	818
	F.	29	50	47	40	13	8	17	53	51	80	103	116	70	677
Ophthalmia Neonatorum	M.	373	—	—	—	—	—	—	—	—	—	—	—	—	373
	F.	231	—	—	—	—	—	—	—	—	—	—	—	—	231
Puerperal Pyrexia	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	—	—	—	—	—	13	58	68	17	—	—	—	—	156
Measles	M.	279	2150	2744	2795	116	34	24	23	10	4	1	—	—	8180
	F.	338	2102	2505	2722	147	50	31	46	16	9	2	—	1	7969
Whooping Cough	M.	259	711	805	674	15	2	—	—	2	—	—	—	1	2469
	F.	226	791	847	726	23	4	5	9	11	3	4	2	—	2651
Undulant Fever	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## **Elmdon Airport**

### **PUBLIC HEALTH (AIRCRAFT) REGULATIONS, 1950**

To prevent, as far as possible, the importation of infectious disease, health control is required when aircraft arrive in this country from places outside the "excepted area". The "excepted area" includes the territories in Europe of the Brussels Treaty Powers (Western Union).

The normal services to Elmdon do not therefore require health control, but during 1951 thirteen 'planes from outside the excepted area arrived at Elmdon airport. They carried a total of 63 passengers and 28 crew. No sanitary measures were required.

### **PUBLIC HEALTH (IMPORTED FOOD) REGULATIONS, 1937 AND 1948**

Imported food arriving at Elmdon airport is inspected under these Regulations by the Meriden Health Department in whose area nearly the whole of the airport lies.

## LABORATORY SERVICES

### (a) Analytical Laboratory

The demands on the services of the Analytical Laboratory increased considerably during 1951 and whereas in the previous year 8,240 analyses, a figure in itself constituting a record, were carried out, last year's total was 9,071, an increase of over 10 per cent. This work was done by an analytical staff of 10 members, 7 of whom have professional qualifications ranging from University graduateship to Fellowship of the Royal Institute of Chemistry.

During the year a Deputy Chief Sampling Officer was appointed.

Samples taken under the provisions of the Food and Drugs Act, 1938, are still responsible for two-thirds of the work, although a rapidly increasing number is submitted to the City Analyst in his capacity as Corporation Chemist. In the latter category last year there were 3,652 specimens; a large majority of these were received from the Public Health Department and the Water Department, but the Central Purchasing, Public Works, Veterinary, Agricultural and Small Holdings, Parks and Fire Brigade Departments all contributed to the total. Hospitals and a trade union organisation also availed themselves on several occasions of the facilities provided, and a number of private complaints made by members of the public were investigated.

Milk taken at the premises of dairy companies on delivery of consignments from farmers, at milk shops and from vans or carts in the streets, accounted for 52 per cent. of the total food and drug samples, and, incidentally, accounted for by far the highest total of sub-standard and adulterated samples of any one article. No fewer than 317 out of 2,812, or 11.3 per cent. did not comply with the minimum limits of composition officially required of this foodstuff, but it is noteworthy that, with few exceptions, the abnormally low figures obtained for non-fatty solids were due, not to adulteration with water, but to physiological causes, the most prominent of which is probably a function of the increasing tendency of producers to breed cows giving large quantities of milk of poor quality rather than somewhat smaller quantities of average or good quality. It is a fact that whereas 20 years ago it was unusual for a milk sample to contain less than say 8.3 per cent. solids-not-fat unless it was actually adulterated, it is today a common occurrence for the quarterly list of samples containing that percentage or less to consist almost entirely of genuine, but sub-standard samples. Fortunately for the peace of mind of the parties concerned, modern methods of analysis enable a distinction to be made between a rich milk diluted with water and a naturally poor milk containing the same amount of solids-not-fat.

The Minister of Agriculture has recently appointed a Working Party to examine the problem of the decrease in the quality of milk in recent years and to report on any modifications in the method of payment which the Party considers, in the light of their investigation, to be necessary.

Two farmers were prosecuted for the sale of adulterated milk during the year. In one case 3 gallons out of a total of 25 represented by the official samples taken consisted of added water and, quite apart from this, enough fat had been abstracted from the 22 gallons to make  $3\frac{3}{4}$  lbs. of butter. In the second case three churns were received daily at the premises of a dairy company, of which two contained added water in quantities insufficient to reduce the quality of the milk below the statutory minimum, while the third was heavily watered. As soon as the farmer became aware, by the receipt of the third portions of the official samples, that he was under suspicion, the quality of his milk immediately rose. The fines imposed in these two cases amounted to £24.

Official cautions in several cases proved efficacious in improving the quality of milk supplied by farmers. One producer, for example; who claimed that his cows were well and expensively fed and that our complaint was the first in his 52 years' experience of farming, sent two churns of milk into Birmingham containing respectively only 2.3 per cent. and 2.5 per cent. fat. After advice and renewed sampling, the average fat content increased from the original 2.4 per cent. to 3.6 per cent.

The presence of 10 per cent. water in pasteurised milk processed by a local man was discovered when a sample was taken in the street from a van owned by the same person. The milk was bought from a neighbouring farm and was perfectly genuine when purchased; the adulteration was found to be due to an accidental cause operating in the pasteurising plant and this was rectified without the necessity of instituting legal proceedings.

Apart from milk, samples taken under the Food and Drugs Act amounted to 2,607, of which 2,099 were foods and the remainder drugs. Fifty-four foods were in one way or another sold "to the prejudice of the purchaser", as the Act describes such offences. The articles so reported upon were of thirty different kinds and included, among others, cereal products, chocolate, coffee and chicory, dripping, jelly, ketchup, meats, mincemeat, pudding, sausage, sauce, vinegar and whisky. It may be of interest to refer to one or two of the preparations dealt with as illustrations of the way in which the sale of sub-standard or adulterated articles is prevented, and misleading descriptive labels are corrected.

A microbiological analysis was carried out on a sample of a proprietary brand of prepared wheat germ; this resulted in the discovery that instead of the 0.3 milligram per ounce of vitamin B2 declared on the label, only 0.2 milligram per ounce was present, a deficiency of one-third. When this was pointed out to the makers, they replied that the whole

question of the content of this vitamin had recently been under discussion and that for several reasons, among them the fact that modern methods of analysis tend to give lower values than those obtained by earlier methods, and the substantial variations in vitamin content of different wheats, it had been suggested to them that a more suitable figure would be 0.23 milligram per ounce. The firm was advised that this figure represented a maximum for this type of preparation and that a reasonable average figure would be 0.20, particularly as other firms marketing the same type of product, who had originally claimed 0.3 milligram per ounce, had agreed as the result of our representations to reduce the figure to 0.20. At an interview with one of the directors, this was agreed to and he undertook to have errata slips pasted on the two sizes of carton used, calling attention to the revised analysis. He also agreed that a statement of the vitamin B2 content appearing on an advertising leaflet, which had a very large circulation, should be blocked out by hand.

Table jelly containing only 49 per cent. sugars instead of the minimum statutory amount of 65 per cent. had been made with a mixture of cane sugar and glucose, and the manufacturers were counting the dextrin content of the latter as sugar. This is inadmissible, since dextrin is not a sugar and has no sweetening power. As a result of our representations, and after a lengthy correspondence with the Ministry of Food, the firm agreed to use cane sugar only.

A carton containing coffee and chicory mixture was labelled in a somewhat ambiguous manner, for at the top of the front panels the words ". . . coffee" appeared, the second word being printed very conspicuously in large white letters on a black ground. The significant phrase "a mixture of coffee and chicory" appeared about two-thirds of the distance down the panel in small black characters on a red ground. The whole appearance of the label was designed to emphasise the word "coffee", despite the fact that the sample contained 40 per cent. chicory. Although the manager of the appropriate department of the wholesale firm concerned would not agree that anyone would be misled by the label, an amended version was put in hand and proved to be perfectly satisfactory, the words "coffee" and "chicory" being made equally prominent.

Drugs found to be of poor quality or incorrectly labelled numbered 21 and included 14 different articles, among them being almond oil, calcium lactate tablets, cod liver oil and malt, eye lotion, glucose preparation, nerve tonic, Parrish's Food, sanitary fluids and Seidlitz Powder. A typical complaint was that made against a sample of malt extract and cod liver oil. Part of the label printed on the bottle read: "Employed to improve nutrition in all wasting diseases such as tuberculosis, scrofula and rickets", a statement in direct contravention of the Pharmacy and Medicines Act, 1941, which prohibits the publication of

any advertisement referring to an article in terms calculated to lead to its use in the treatment of certain specified diseases, including tuberculosis. The offence in this case was made worse by the fact that similarly labelled bottles were used as part of a window display at the retailer's premises. The firm when challenged alleged that the labels had been printed before 1941 and that an attempt had subsequently been made to black out the offending words, but that evidently the bottles in question had been overlooked. Even on the labels which had been blacked out the original printing could still be seen through the overprinting, and this fact of course merely served to draw particular attention to the statement. The firm agreed to withdraw the labels and to black out the sentence with Indian ink. Furthermore, a promise was given to issue new labels as soon as possible with the objectionable statement deleted. A few months later, however, several of the bottles were again used in a window display. The matter was immediately reported to the Pharmaceutical Society, who issued a severe warning to the firm.

Two samples of proprietary mixtures of glucose with calcium glycerophosphate and vitamin D, made by different firms, contained less calcium and phosphorus than was indicated on the label. In one case, the firm having established by making analyses of a number of different batches of the material that the process by which the mineral salts were blended with the glucose was considerably less efficient than had been thought, certain changes in the manufacturing instructions were introduced, which reduced the likelihood of error or bad mixing to a minimum. In the second case the deficiency in minerals was found to be due to an error in formulation and was corrected by adding an extra 20 per cent. of the mineral salt.

A nerve tonic labelled as containing, among other things, 88 parts per million of strychnine glycerophosphate and 10 per cent. sucrose, actually included only 18 parts per million of the former and 25 per cent. sugar. Investigation of their records by the firm revealed that no issue of the active ingredient had been made against the batch of tonic from which the sample was taken and the fact that any at all was present was due to the admixture of a quantity of the preparation left over from the previous mixing. The incorrect sugar content was due to a labelling error; the original 10 per cent had been increased during the previous year to 25 per cent. and a quantity of the old labels had inadvertently been attached to new stock, from which the retailer's order was assembled.

The most spectacular work carried out during the year, however, was the examination by spectrophotometric methods of a total of 127 samples of halibut liver oils, vitaminised oils and capsules made from each of these. Twenty-eight different products were analysed and this number included all the popular ones, together with a smaller collection of so-called "ethical" preparations probably reaching the public on prescription only. Of the total number of samples, 74 or 58 per cent., and of

the total number of products, 16 or 57 per cent., were found to be deficient in vitamin A content. Seventeen samples had deficiencies up to 10 per cent., 31 between 10 per cent. and 20 per cent., 15 between 20 per cent. and 50 per cent. and 11 over 50 per cent. Five of the last group contained no vitamin A at all! These surprising and disturbing results were found to be due in every case to oxidation of the vitamin, and it was almost certain that at the time of manufacture the potencies of the preparations were in accordance with the declaration made or implied on the labels. The makers were as shocked and surprised as we were at this evidence of an instability of which the extent had not previously been realised, although it should be said that the responsibility for the deterioration was not entirely that of the makers, for some pharmacists, to say the least, took considerable risks by reason of their careless methods of storing and displaying these products. In one instance stocks of vitaminised oil were still on sale 17 years after they had been purchased from the wholesale dealer, and 6—7 years' storage was relatively frequent.

Manufacturers were in most cases prepared to co-operate with the Department by replacing old stock and by revising descriptive labels and declarations of potency. It is probable that the various measures taken, including considerable publicity both in the pharmaceutical and lay press, will have resulted by now in a very great improvement in the position.

In order to discover whether this surmise is correct, it is proposed to repeat the sampling in 1952 of the unsatisfactory oils and capsules.

Of the 3,652 miscellaneous samples submitted during 1951, 1,828 consisted of pasteurised milk. Of these, 1,608 came from the Birmingham Public Health Department, while 109, 104 and 7 came from the Smethwick, Sutton Coldfield and West Bromwich Public Health Departments respectively. All these were examined by the phosphatase test to determine the efficiency of treatment; 39 of the Birmingham samples showed evidence of some slight irregularity, and 2 of gross mistakes or the admission of raw milk. Two hundred and sixty-two samples of sterilised milk subjected to the official turbidity test had all been efficiently treated and the same applied to 44 similar samples submitted by the three above mentioned neighbouring Public Health Departments.

The number of samples of heat treated milk taken in Birmingham was 23 per cent. greater than in the previous year, and outside authorities submitted 50 per cent. more samples than in 1950. The analysis of ice cream became a much more formidable and complex undertaking than ever before, the total number of samples examined being 411, an increase of roughly 140 per cent. over the previous year.

Since September, 1950, the Human Milk Bureau has submitted samples to the laboratory to be tested for the possible addition of cow's milk or water, and in 1951 three hundred and forty were received.

The analysis of water was responsible, as always, for the expenditure of considerable time, 266 samples being submitted by the Public

Health Department and 211 by the Water Department. A large proportion of these originated from the Corporation Water undertakings. Others were from private wells and from the supplies of Corporation institutions. Flooded basements allowed of the exercise of some ingenuity in determining the source of the water.

The Central Purchasing Department sent for examination, among other things, 69 samples of various kinds of soap, submitted by manufacturers with their tenders for the supply of these articles to the Corporation.

Twenty-one samples of feeding stuffs and fertilisers bought from shops within the City were analysed for the Agricultural and Small Holdings Department.

Quite apart from these more or less routine samples, a large variety of articles was analysed both for private persons and for the Public Health and other Corporation Departments. These included such things as tinned ham, which changed colour from pink to grey under the eye of the observer, ammoniated tincture of quinine, which proved to consist of 40 per cent. formalin solution, tinned cherries with an odour of bad eggs, tea infusion of a most unusual purple colour, peppermint water advertised as a "cure-all", and phenobarbitone as a sediment in a teacup.

A number of Orders affecting the work of the Department came into force during the year. The most important of these were five Food Standards Orders, prescribing the composition of ice-cream, cream, edible gelatine and fish and meat pastes. An amendment to the Meat Products Order, 1948, authorised the partial substitution of meat in sausage and sausage meat by skimmed milk powder, in the proportion of three parts of the latter to five parts of meat, provided that the actual meat content of pork sausage does not fall below 55 per cent., or that of beef sausage below 40 per cent. From May 9th to July 2nd the Cream (Revocation) Order, 1951, once more allowed the unrestricted sale of cream and, at the same time, a Food Standards (Cream) Order laid down a minimum standard of 18 per cent fat for "single" cream and of 48 per cent. for "double" cream.

The Food Standards Committee of the Ministry of Food has made several recommendations with reference to the formulation of standards for a number of foods in addition to those already in force. These concern coffee mixtures, fish cakes, reconstituted cream and imitation cream. A Metallic Contamination Sub-Committee originally set up in July, 1948, to consider the available evidence about the effects of the ingestion of food containing traces of metals or other injurious elements, issued reports during 1951 recommending limits for arsenic and copper in foods and beverages, and another Sub-Committee is now engaged in reviewing the Preservatives Regulations, and discussing the use of anti-oxidants, stabilisers, anti-staling and foaming agents, presumably with a view to

the subsequent control of the kinds and amounts of these substances allowed to be introduced into foods.

The above new Orders obviously increase the time necessarily spent on the analysis of the foods concerned, and the recommendations when implemented in new legislation will inevitably result in still greater demands on the resources of the laboratory.

**(b) Public Health Laboratory Service**

On December 31st, 1951, the former City Bacteriological Laboratory completed its first calendar year's working as a constituent laboratory of the Public Health Laboratory Service.

Although the laboratory is now under the control of the Medical Research Council instead of the Health Committee, a close liaison has been maintained with the Public Health Department of the City. The same type of work has been undertaken for the Department as formerly, with some additions, amongst which is the control of samples of milk from the Human Milk Bank.

During the year under review, the work of the laboratory has increased, partly owing to the return of some of the work which had been transferred elsewhere since the inception of the National Health Service.

The extensions to the laboratory which were commenced before the changeover have been completed during 1951. The extra accommodation has provided a more commodious store room, a stock animal room and a staff mess-room. These have facilitated the proper working of the laboratory and they provide a tribute to the wise foresight of the Health Committee in agreeing to their construction.

**VENEREAL DISEASES EXAMINATIONS  
FOR YEAR ENDING DECEMBER 31ST, 1951**

<i>Specimens</i>			<i>Examinations</i>		
Blood	.....	26,710	For Wassermann test	.....	26,710
			„ Kahn test	.....	13,361
			„ Gono. fixation test	.....	3,829
			„ Laughlen test	.....	13,442
Cerebrospinal Fluid		1,111	For Wassermann test	.....	1,111
			„ Cell count	.....	441
Film	.....	8,162	For Gonorrhoea	.....	8,162
Urine	.....	58	For microscopical test	.....	6
			„ chemical test	.....	13
			„ penicillin content	.....	39
Cultures	.....	6,829	For Gonorrhoea	.....	6,829
TOTAL	.....	42,870			73,943

Corresponding totals for 1950 were :

49,022	84,776
--------	--------

Work done for the City of Birmingham, 1951 :

<i>Type of Specimen</i>	<i>Numbers Examined</i>				<i>Total for year</i>
	(1)	(2)	(3)	(4)	
Swabs, for Diphtheria bacilli	239	301	251	258	1,049
Swabs, various	28	24	59	153	264
Sputum for tubercle bacilli	250	209	134	189	782
Faeces for pathogenic organisms	379	211	299	437	1,326
Faeces for tubercle bacilli	2	—	—	—	2
Blood for agglutinins	4	10	19	184	217
Blood for culture	2	—	1	—	3
Urine for pathogenic organisms	11	35	127	254	427
Milk for hygienic assay	419	262	235	498	1,414
Milk for tubercle bacilli	522	600	604	595	2,321
Ice cream for hygienic assay	1	265	301	51	618
Synthetic cream for hygienic assay	68	38	44	95	245
Creams for hygienic assay	—	19	—	44	63
Water for hygienic assay	291	295	335	288	1,209
Food for pathogenic organisms	6	5	31	3	45
Shell fish for pathogenic organisms	20	2	7	25	54
Human milks for bacterio- logical examination	120	208	213	120	661
Miscellaneous specimens	268	13	28	11	320
Blood for leptospirosis	—	—	—	9	9
Blood for malaria	—	—	—	2	2
	2,630	2,497	2,688	3,216	
		GRAND TOTAL			11,031

## TUBERCULOSIS

The present position with regard to Tuberculosis is shown in the following statement :

### Notifications, 1951

#### ALL FORMS OF TUBERCULOSIS

Rate : 1.19 per 1,000 of the population.

(an increase in comparison with 1950 of 73 cases or 0.07 per 1,000 of the population).

#### PULMONARY TUBERCULOSIS

Rate : 1.07 per 1,000 of the population.

(an increase in comparison with 1950 of 51 cases or 0.05 per 1,000 of the population).

#### NON-PULMONARY TUBERCULOSIS

Rate : 0.13 per 1,000 of the population.

(an increase in comparison with 1950 of 22 cases or 0.02 per 1,000 of the population).

### Deaths, 1951

#### ALL FORMS OF TUBERCULOSIS

Rate : 0.38 per 1,000 of the population.

(a decrease in comparison with 1950 of 100 deaths or 0.09 per 1,000 of the population).

#### PULMONARY TUBERCULOSIS

Rate : 0.34 per 1,000 of the population.

(a decrease in comparison with 1950 of 104 deaths or 0.09 per 1,000 of the population).

#### NON-PULMONARY TUBERCULOSIS

Rate : 0.03 per 1,000 of the population.

(no change in comparison with 1950 although the number of deaths has increased by 4).

The number of cases and deaths occurring in past years are shown in the following tables :

#### TUBERCULOSIS (ALL FORMS)

<i>Year</i>	<i>New cases</i>	<i>Rate per 1,000 population</i>	<i>Deaths</i>	<i>Rate per 1,000 population</i>
1901—1910 (Average)	—	—	1,309	1.65
1911—1920 ( " )	—	—	1,284	1.46
1921—1930 ( " )	1,824	1.91	1,031	1.08
1931—1935 ( " )	1,459	1.43	928	0.91
1936	1,136	1.10	805	0.78
1937	1,119	1.07	836	0.80
1938	1,209	1.15	813	0.78
1939	1,036	0.98	885	0.84
1940	1,049	1.03	855	0.84
1941	1,073	1.13	850	0.90
1942	1,257	1.30	833	0.86
1943	1,239	1.28	750	0.78
1944	1,371	1.38	782	0.79
1945	1,348	1.36	749	0.76
1946	1,300	1.28	689	0.68
1947	1,407	1.31	748	0.70
1948	1,294	1.18	696	0.63
1949	1,285	1.16	647	0.58
1950	1,253	1.12	518	0.46
1951	1,326	1.19	418	0.38

The relative prevalence and mortality from pulmonary and non-pulmonary tuberculosis are shown in the two subsequent tables.

#### PULMONARY TUBERCULOSIS

<i>Year</i>	<i>New cases</i>	<i>Rate per 1,000 population</i>	<i>Deaths</i>	<i>Rate per 1,000 population</i>
1901—1910 (Average)	—	—	993	1.25
1911—1920 ( " )	—	—	1,059	1.20
1921—1930 ( " )	1,533	1.61	892	0.94
1931—1935 ( " )	1,225	1.20	824	0.80
1936	962	0.93	734	0.71
1937	965	0.93	756	0.72
1938	1,011	0.96	732	0.70
1939	863	0.82	808	0.77
1940	899	0.88	786	0.77
1941	922	0.97	768	0.81
1942	1,069	1.11	745	0.77
1943	1,106	1.14	681	0.71
1944	1,190	1.20	696	0.70
1945	1,193	1.21	671	0.68
1946	1,135	1.12	616	0.61
1947	1,223	1.14	691	0.64
1948	1,132	1.03	650	0.59
1949	1,133	1.02	595	0.54
1950	1,133	1.02	486	0.43
1951	1,184	1.07	382	0.34

NON-PULMONARY TUBERCULOSIS

<i>Year</i>	<i>New cases</i>	<i>Rate per 1,000 population</i>	<i>Deaths</i>	<i>Rate per 1,000 population</i>
1901—1910 (Average)	—	—	317	0·40
1911—1920 ( " )	—	—	224	0·26
1921—1930 ( " )	290	0·31	139	0·14
1931—1935 ( " )	234	0·23	104	0·10
1936	174	0·17	71	0·07
1937	154	0·15	80	0·08
1938	198	0·19	81	0·08
1939	173	0·16	77	0·07
1940	150	0·15	69	0·07
1941	151	0·16	82	0·09
1942	188	0·19	88	0·09
1943	133	0·14	69	0·07
1944	181	0·18	86	0·09
1945	155	0·16	78	0·08
1946	165	0·16	73	0·07
1947	184	0·17	57	0·05
1948	162	0·15	46	0·04
1949	152	0·14	52	0·05
1950	120	0·11	32	0·03
1951	142	0·13	36	0·03

The localisation of the disease in the case of the 36 deaths from non-pulmonary tuberculosis is shown in statement (a) below, and an analysis according to sex and age of all notifications and deaths is given in statement (b).

(a)	Tuberculous meningitis	.....	.....	.....	.....	28
	Abdominal tuberculosis	.....	.....	.....	.....	1
	Tuberculosis of the spine	.....	.....	.....	.....	2
	Tuberculosis of joints	.....	.....	.....	.....	1
	Tuberculosis of other organs	.....	.....	.....	.....	4

(b) PULMONARY TUBERCULOSIS

<i>Age</i>	<i>Male</i>		<i>Female</i>	
	<i>Cases</i>	<i>Deaths</i>	<i>Cases</i>	<i>Deaths</i>
0—	4	3	3	1
1—2	14	1	18	2
3—4	23	1	6	2
5—14	50	1	45	1
15—24	119	11	184	15
25—44	251	75	174	47
45—64	204	136	50	38
65—74	23	29	12	10
75 and over	4	8	—	1
	692	265	492	117

TOTAL CASES, 1,184; TOTAL DEATHS, 382.

## NON-PULMONARY TUBERCULOSIS

<i>Age</i>	<i>Male</i>		<i>Female</i>	
	<i>Cases</i>	<i>Deaths</i>	<i>Cases</i>	<i>Deaths</i>
0—	—	1	1	—
1—2	7	5	6	2
3—4	8	2	6	2
5—14	12	2	16	4
15—24	11	2	28	5
25—44	15	5	20	2
45—64	1	1	6	2
65—74	1	—	1	1
75 and over	3	—	—	—
	58	18	84	18

Total cases, 142. Total deaths, 36.

GRAND TOTAL: Cases, 1,326. Deaths, 418.

### Mortality

The high mortality from pulmonary tuberculosis in the prime of adult life is an important consideration which justifies particular comment. It is clearly demonstrated in these figures which show that in males 86 or 32.5 per cent. of the deaths during 1951 occurred in the age period 15—44, whilst in females, the corresponding figure was 62 or 53.0 per cent.

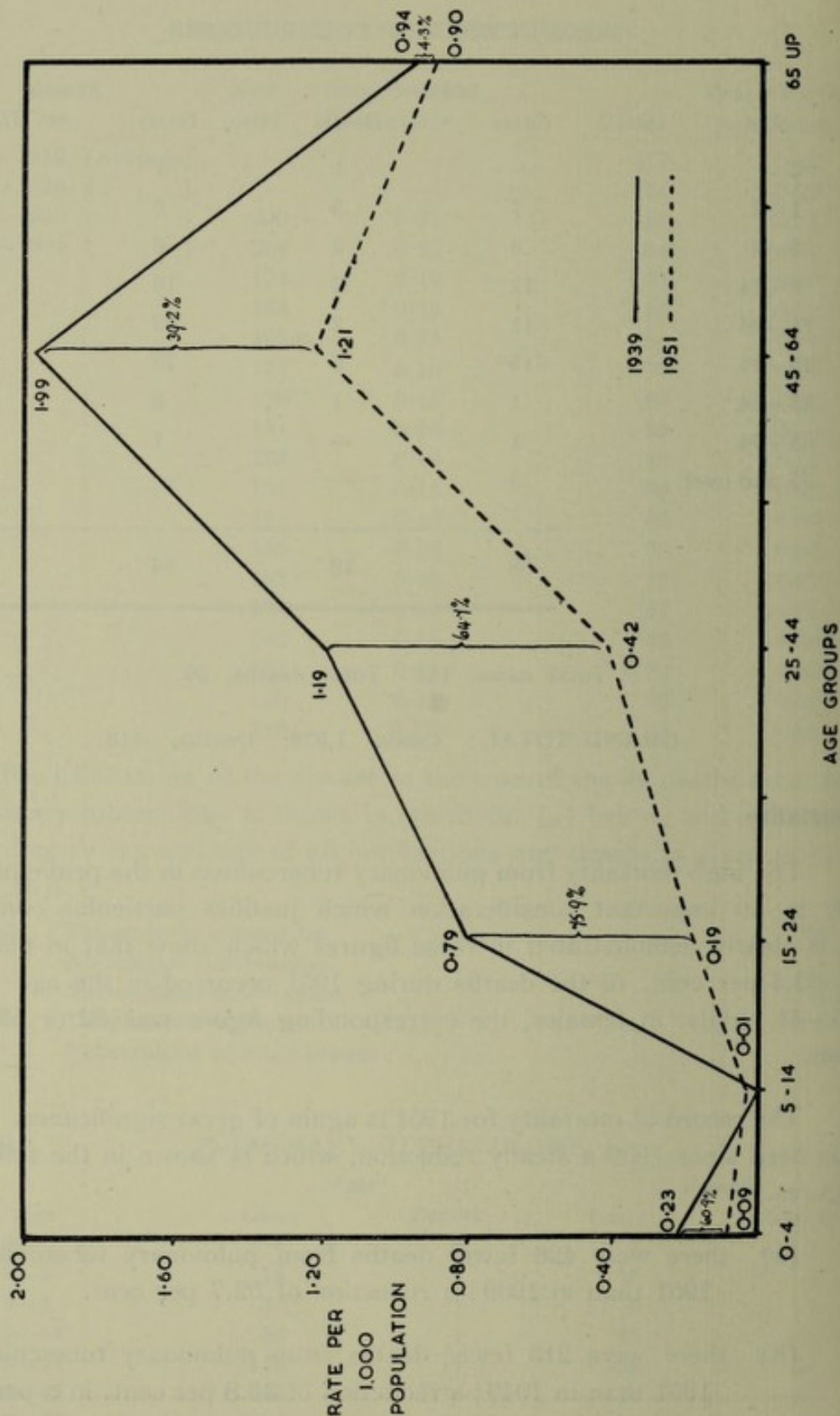
The record of mortality for 1951 is again of great significance. There has been since 1939 a steady reduction, which is shown in the following figures.

- (a) there were 426 fewer deaths from pulmonary tuberculosis in 1951 than in 1939; a reduction of 52.7 per cent.
- (b) there were 213 fewer deaths from pulmonary tuberculosis in 1951 than in 1949; a reduction of 35.8 per cent. in a period of two years.
- (c) there were 104 fewer deaths from pulmonary tuberculosis in 1951 than in 1950; a reduction of 21.4 per cent.

It is of interest to relate this reduction in mortality to sex and age groups. These rates are shown in the following graphs.

GRAPH 'A'. MALES.

RESPIRATORY TUBERCULOSIS  
MORTALITY RATES, IN AGE GROUPS, 1939 AND 1951, SHOWING PERCENTAGE DECREASE.



NOTE: AGE GROUP RATES FOR 1951 ARE BASED ON REGISTRAR GENERAL'S ESTIMATED POPULATION 31.12.47.

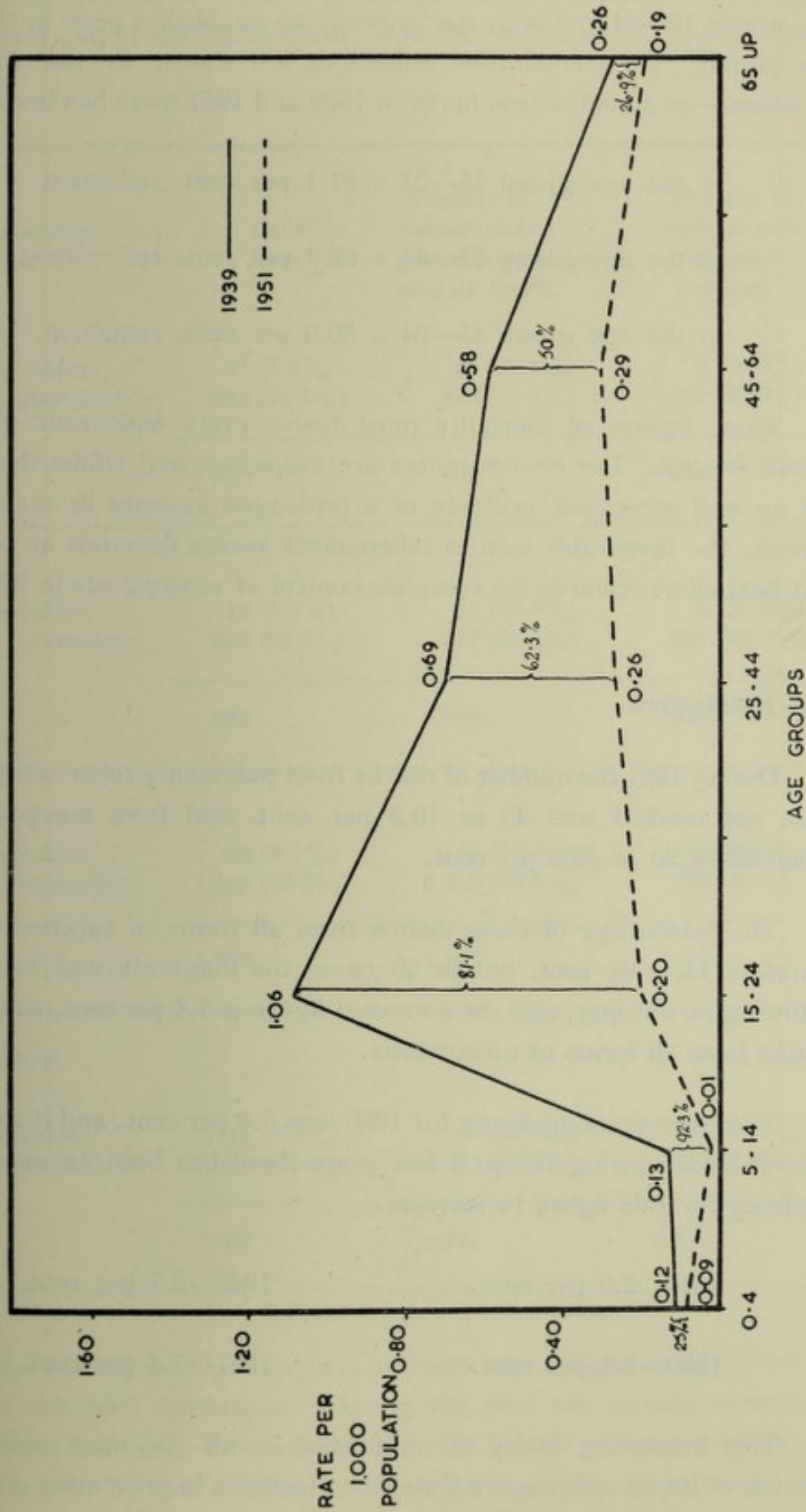
There is no material alteration in the general trend of the graph. The comparative reductions are shown in the following statement—as a comparison between 1939 and 1951 there has been

- in the age group 15—24 a 75.9 per cent. reduction
- in the age group 25—44 a 64.7 per cent. reduction
- in the age group 45—64 a 39.2 per cent. reduction

GRAPH 'B'. FEMALES.

RESPIRATORY TUBERCULOSIS

MORTALITY RATES, IN AGE GROUPS, 1939 AND 1951, SHOWING PERCENTAGE DECREASES.



NOTE: AGE GROUP RATES FOR 1951 ARE BASED ON REGISTRAR GENERAL'S ESTIMATED POPULATION 31.12.47.

There has been a conspicuous and intriguing alteration in the general trend of the graph with the elimination of the peak of mortality in the age period 15—24 and with the tendency to establish a peak in the older age period. The comparative reductions are shown in the following statement—as a comparison between 1939 and 1951 there has been

in the age group 15—24 a 81.1 per cent. reduction

in the age group 25—44 a 62.3 per cent. reduction

in the age group 45—64 a 50.0 per cent. reduction.

These figures of mortality must foster every endeavour in tuberculosis control. The circumstances are auspicious and whilst there is as yet no well accredited evidence of a prolonged increase in the survival periods, the favourable turn in tuberculosis events demands an intensive and final effort towards the complete control of tuberculosis in the City.

### **Non-Notification**

During 1951 the number of deaths from pulmonary tuberculosis which were not notified was 40 or 10.5 per cent. and from non-pulmonary tuberculosis 20 or 55.6 per cent.

The percentage of these deaths from all forms of tuberculosis was therefore 14.4 per cent. but in 29 cases the diagnosis was established following an autopsy, and the corrected figure is 7.4 per cent. of the total deaths from all forms of tuberculosis.

The corresponding figure for 1950 was 5.4 per cent. and it should be recorded that during the past few years there has been an unfortunate tendency for this figure to increase.

1944—2.9 per cent.

1949—5.7 per cent.

1950—5.4 per cent.

1951—7.4 per cent.

This increasing laxity in notification is all the more unfortunate because of its occurrence at a time when facilities in prevention and treatment are so much more efficient.

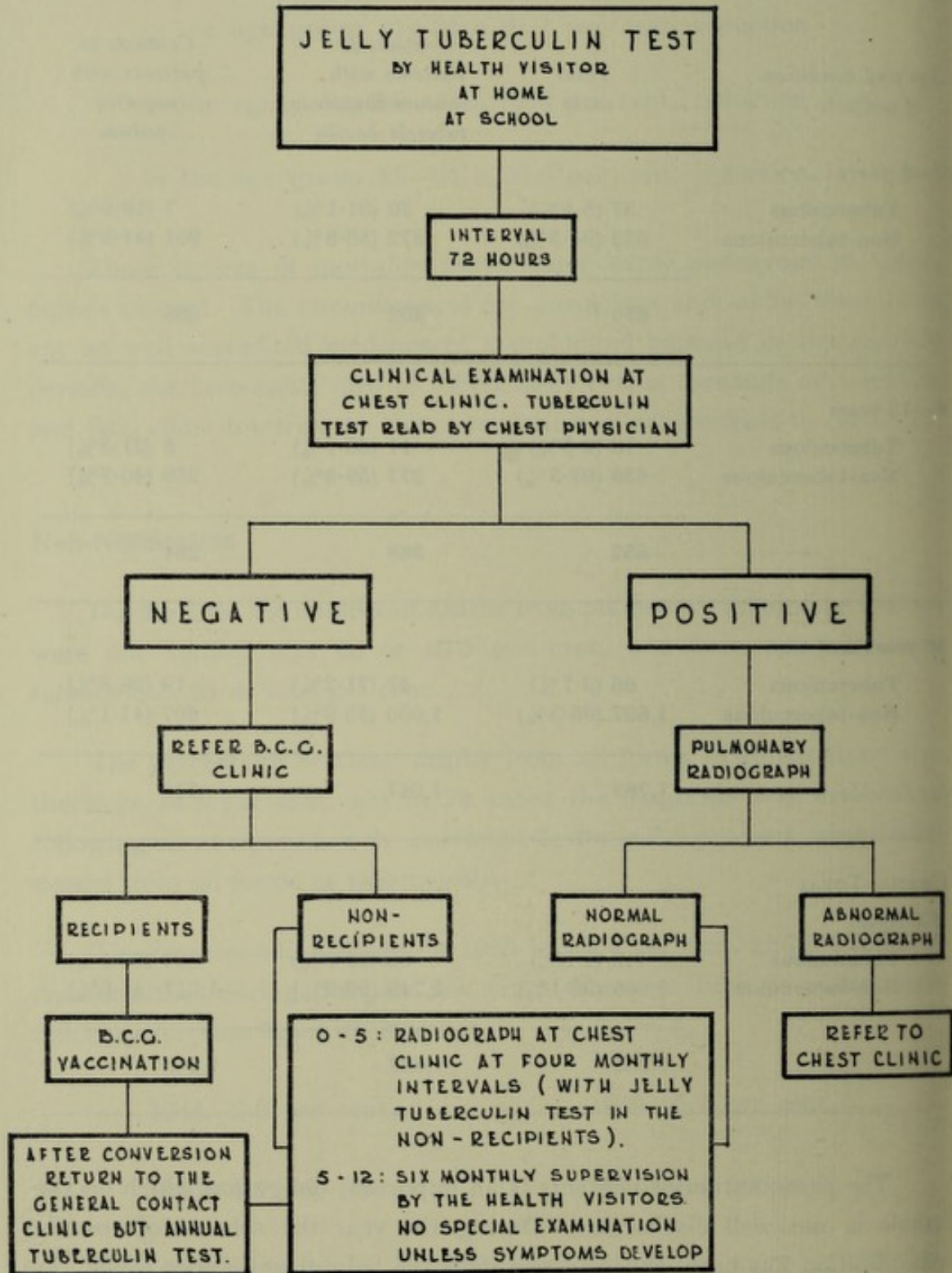
## Contacts

The supervision of contacts is undertaken at the Mass Radiography Department and at the Chest Clinic, with the results shown in the following table:

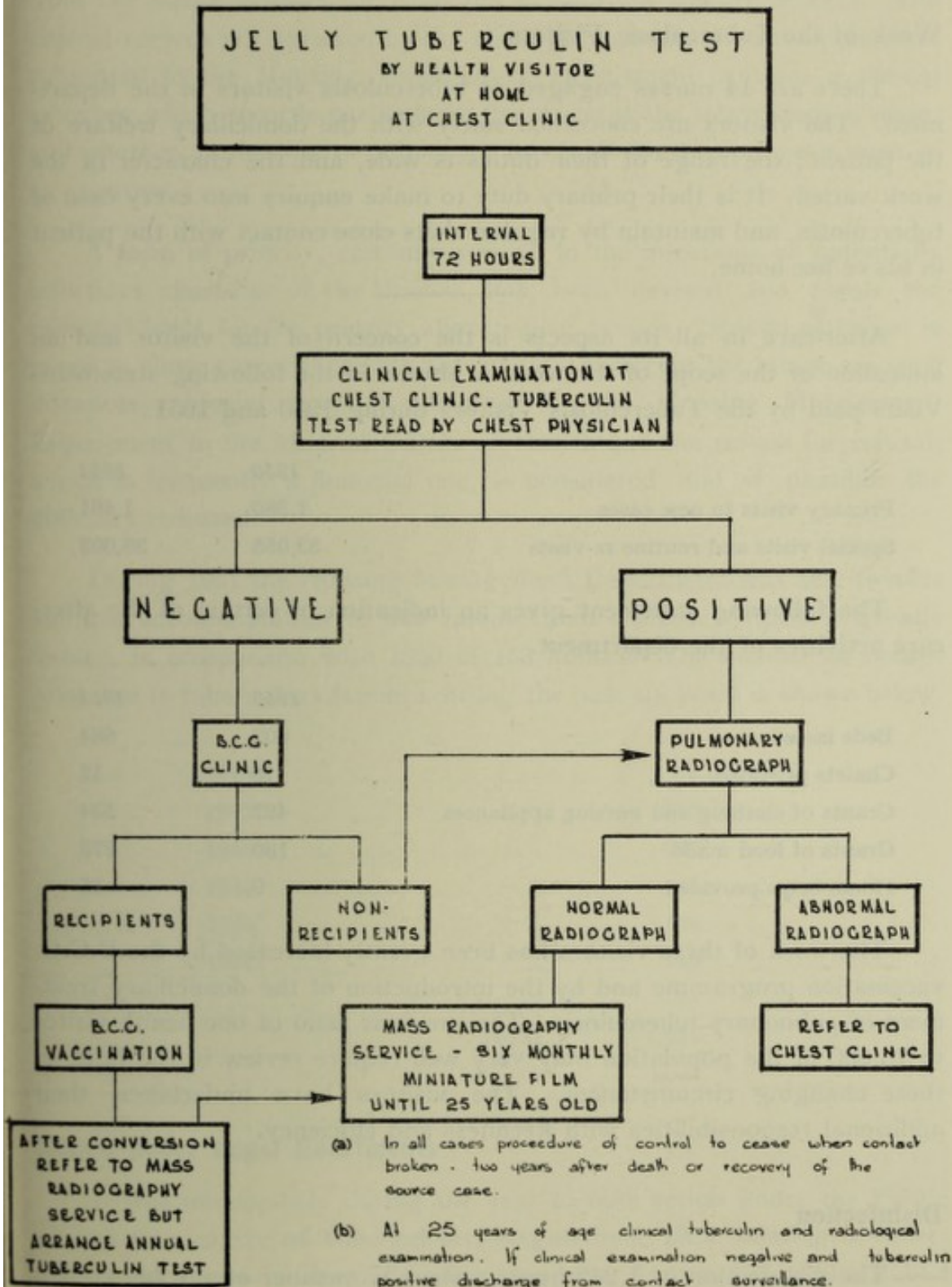
<i>Age and condition of contacts</i>	<i>Total cases</i>	<i>Contacts to patients with sputum containing tubercle bacilli</i>	<i>Contacts to patients with negative sputum</i>
<i>0—5 years</i>			
Tuberculous	37 (5.5%)	30 (81.1%)	7 (18.9%)
Non-tuberculous	633 (94.5%)	372 (58.8%)	261 (41.2%)
	670	402	268
<i>6—15 years</i>			
Tuberculous	16 (2.5%)	11 (68.7%)	5 (31.3%)
Non-tuberculous	636 (97.5%)	377 (59.3%)	259 (40.7%)
	652	388	264
<i>16 years and over</i>			
Tuberculous	66 (3.7%)	47 (71.2%)	19 (28.8%)
Non-tuberculous	1,697 (96.3%)	1,000 (58.9%)	697 (41.1%)
	1,763	1,047	716
<b>GRAND TOTAL</b>			
<i>All Ages</i>			
Tuberculous	119 (3.9%)	88 (73.9%)	31 (26.1%)
Non-tuberculous	2,966 (96.1%)	1,749 (59.0%)	1,217 (41.0%)
	3,085	1,837	1,248

The examination of contacts is an important obligation which on the whole is not well discharged. During the year the scheme of contact examination has been reviewed and with the helpful assistance of Dr. L. A. McDowell, Medical Director, Mass Radiography Department, the following plan has been evolved and applied.

EXAMINATION OF CONTACTS  
GROUP 'A' 0-12 YEARS



## EXAMINATION OF CONTACTS GROUP 'B' OVER 12 YEARS



## Skilts Residential Nursery

This nursery which will provide accommodation for 36 "contact" children should be available during 1952. It will add much to the general effectiveness of the measures available in the control and prevention of tuberculosis.

## Work of the Tuberculosis Visitors

There are 14 nurses engaged as tuberculosis visitors in the department. The visitors are concerned solely with the domiciliary welfare of the patient; the range of their duties is wide, and the character of the work varied. It is their primary duty to make enquiry into every case of tuberculosis, and maintain by regular visits close contact with the patient in his or her home.

After-care in all its aspects is the concern of the visitor and an indication of the scope of the work is shown in the following statement. Visits paid by the Tuberculosis Visitors during 1950 and 1951:

	1950	1951
Primary visits to new cases.....	1,380	1,461
Special visits and routine re-visits	33,055	36,003

The following statement gives an indication of certain of the after-care activities of the department.

	1950	1951
Beds issued	602	664
Chalets provided	18	12
Grants of clothing and nursing appliances	492	534
Grants of food made	180	878
Home helps provided	9	45

The work of these visitors has been greatly increased by the B.C.G. vaccination programme and by the introduction of the domiciliary treatment of pulmonary tuberculosis. The previous ratio of one health visitor to 70,000 of the population may very well require review in the light of these changing circumstances. The visitors have undertaken their additional responsibilities with keenness and efficiency.

## Disinfection

The disinfection of 1,247 houses where a member of the family had suffered or died from tuberculosis or changed his or her address, was undertaken during the year.

## Housing

Closest attention is given to this most important of problems and a special section of the department gives it particular attention.

Appropriate information is obtained from the patient or his relatives, from the health visitors, or from the sanatorium welfare officers. The clinical records are assessed by the chest physicians and each application submitted to the Housing Management Department contains a clinical category which records particularly the stage of the tuberculous disease, and whether, in the case of pulmonary tuberculosis, the sputum is positive or negative.

A form of priority, carefully graded to the infectious or potentially infectious character of the disease, has been devised and forms the essential basis for the priority allocation of houses. Special attention is given to those cases where the patient fails to accept the house—in such instances a special report is submitted by the Housing Management Department to the Medical Officer of Health and the reason for refusal, which is frequently a financial one, is considered and if possible the difficulty removed.

During 1951 the Housing Management Department was able to offer suitable accommodation to 349 families; an increase, which is greatly valued, in comparison with 1950 of 153 houses. The number of houses allocated to tuberculous families during the past six years is shown below.

1946	.....	.....	.....	.....	.....	69 houses
1947	.....	.....	.....	.....	.....	215 „
1948	.....	.....	.....	.....	.....	234 „
1949	.....	.....	.....	.....	.....	148 „
1950	.....	.....	.....	.....	.....	196 „
1951	.....	.....	.....	.....	.....	349 „
						—
				TOTAL	.....	1,211 „
						—

## Action under Legal Enactments

It was unnecessary during the year to take action under the Public Health (Prevention of Tuberculosis) Regulations, 1925, relating to tuberculous employees in the milk trade; nor was Section 172 of the Public Health Act, 1936, employed to remove any patient compulsorily to a sanatorium.

## Rehabilitation

Continued progress has been made during the year with the scheme for rehabilitation and the following work was undertaken.

Number of patients interviewed by the Medical Interviewing Committee during 1951 was 346.

The following statement indicates the several recommendations made by the Medical Interviewing Committee :

Sheltered Factory (Remploy) .....	82
Awaiting admission to sheltered factory (Remploy) .....	34
Admitted to vocational training course .....	51
Awaiting admission to vocational training course .....	2
Placed in open industry following training course .....	1
Placed as trainee with private employer .....	1
Placed in open industry .....	107
Self employed .....	4
Placed in sanatorium employment .....	2
Unplaced .....	11
Failures (patient did not report to Ministry of Labour)	8
Unfit for work .....	23
Re-interviews .....	20
	—————
	346
	—————

Those prospective patient-employees who are selected for work in the Sheltered Factory by the Medical Interviewing Committee, attend a special "Panel" where the recommendations are considered by the manager of the factory: 107 patients have attended that "Panel" and 95 have been accepted.

The work undertaken is light engineering in character and the period of employment is related to the physical condition of the patient-employee. The equipment is excellent and the canteen facilities most favourable. At the end of the year 107 patient-employees were at work and good progress was continuing to be made with a project that should develop to the great advantage of the tuberculosis service.

## **Vaccination. School Leavers. B.C.G. and Vole Vaccine**

The voluntary vaccination scheme which is now being undertaken by the Medical Research Council (Dr. John Hughes) in conjunction with the Education Committee (Dr. H. M. Cohen) develops well and by the end of the year 8,052 children had attended the several sessions. The assistance made available by the Health Committee and the Medical Officer of Health, is greatly appreciated.

### **B.C.G. Contact Clinic**

Staff—4; One sister, two clerks and one part-time radiographer.

This clinic, which was established during 1950, continues to develop satisfactorily.

During 1952, 462 children who were vaccinated during 1951 will be re-examined and that should offer an opportunity to analyse immediate results and the general character of the routine procedure of the clinic.

Since the clinic was opened 1,724 children have attended; 3,201 tuberculin tests have been undertaken and 635 children vaccinated.

### **The Problem of Domiciliary treatment of Pulmonary Tuberculosis**

During the past few years with the introduction of the antibiotics and because of the shortage of sanatorium beds, the active domiciliary treatment of pulmonary tuberculosis has been introduced. The place of the sanatorium in the regime of control has altered. The prolonged hospital residence of other days has gone and the home has assumed a greater importance in the treatment of the patient. Is this no more than a practice in expediency or does it conform logically and purposefully with the changing circumstances in the control of and treatment of tuberculosis?

During December, 1951, 77 patients (in whose family no known case of clinical tuberculosis had occurred previously) had been under domiciliary treatment for a period of two years. Several had been admitted for a short period (two weeks to eight weeks) to a sanatorium for the induction of a pneumothorax or the division of adhesions, but that was only a hospital incident in the main regime of domiciliary treatment. The clinical results are shown in the following table.

CONDITION	SEX	SPUTUM						Totals
		Tb negative persisting	Tb positive to Tb negative	Tb negative to Tb positive	Tb positive persisting	Dead	Totals	
IMPROVED	MALE	5	10	0	4	0	19 (24.7%)	
	FEMALE	9	31	0	3	0	43 (55.8%)	
WORSE OR STATIONARY	MALE	0	0	0	8	0	8 (10.4%)	
	FEMALE	0	0	1	3	0	4 (5.2%)	
DEAD	MALE	0	0	0	0	2	2 (2.6%)	
	FEMALE	0	0	0	0	1	1 (1.3%)	
TOTALS		14 (18.2%)	41 (53.2%)	1 (1.3%)	18 (23.4%)	3 (3.9%)	77	

TOTAL CONTACTS :

10

30

34

58

SEX	AGE GROUPS																															
	0-4								5-12								13-25								26 and above							
	(a) Jelly Tuberculin Test		(b) Mantoux Test 1 mg.		(c) Total tuberculin reaction		(d) Radio- logical examination		(a) Jelly Tuberculin Test		(b) Mantoux Test 1 mg.		(c) Total tuberculin reaction		(d) Radio- logical examination		(a) Jelly Tuberculin Test		(b) Mantoux Test 1 mg.		(c) Total tuberculin reaction		(d) Radio- logical examination		(a) Jelly Tuberculin Test		(b) Mantoux Test 1 mg.		(c) Total tuberculin reaction		(d) Radio- logical examination	
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Normal	Abnor- mal	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Normal	Abnor- mal	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Normal	Abnor- mal	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Normal	Abnor- mal
	6	0	0	0	6	0	4	2	13	2	2	0	15	0	14	1	13	1	1	0	14	0	14	0	26	2	1	1	27	1	28	0
Number of papules in jelly reaction	13	—	—	—	—	—	—	19	—	—	—	—	—	—	—	11	—	—	—	—	—	—	—	16	—	—	—	—	—	—	—	
B.C.G.	1	—	—	—	—	—	—	3	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	4	0	0	0	4	0	2	2	14	1	1	0	15	0	13	2	17	3	2	1	19	1	19	1	27	3	3	0	30	0	28	2
Number of papules in jelly reaction	9	—	—	—	—	—	—	13	—	—	—	—	—	—	—	12	—	—	—	—	—	—	—	14	—	—	—	—	—	—	—	
B.C.G.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	10	0	0	0	10	0	6	4	27	3	3	0	30	0	27	3	30	4	3	1	33	1	33	1	53	5	4	1	57	1	56	2
Number of papules in jelly reaction	11	—	—	—	—	—	—	16	—	—	—	—	—	—	—	12	—	—	—	—	—	—	—	15	—	—	—	—	—	—	—	
B.C.G.	2	—	—	—	—	—	—	3	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	100% Tuberculin positive								100% Tuberculin positive								97% Tuberculin positive								98% Tuberculin positive							
	ABNORMAL RADIOGRAPHS = 7.5% 99% TUBERCULIN POSITIVE																															

NOTES.—The Mantoux Test (Col. b) is applied only to those who give no reaction to the Jelly Tuberculin Test. (Col. a). Those shown in (Col. c) as Neg. " have not reacted to either test."  
 Figures shown against " Totals. Number of papules in jelly reaction," use the average of those shown against " Males " and " Females."

No.	Name		Address		City		State		Remarks
	First	Last	Street	Box	City	State	Zip	Phone	
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2									
3									
4									
5									
6									
7									
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These are satisfactory records which compare not unfavourably with the results of treatment undertaken under the full auspices of the sanatorium. It would be unrealistic not to accept that estimate of these clinical circumstances.

The "Family" as the unit of treatment and control has been in the past the slogan of the tuberculosis service. What then of the household contacts of these patients? There were 190, and 132 were examined during November, 1951.

The character and results of the examinations are shown in the folded table (the work was undertaken with the kind assistance of Dr. John Hughes, of the Medical Research Council).

These are not satisfactory results. They suggest that what has been gained by clinical endeavours in the home, has been sadly dissipated by a failure in prevention (63 or 81.8 per cent. of these patients were sputum positive when admitted to the scheme of domiciliary treatment and 58 or 75.3 per cent. were in category R.B. 2 or R.B. 3, that is, their pulmonary disease was either "moderately advanced" or "advanced").

The information is incomplete but it does suggest the need when all is so fair in prospect, to examine if not the principle, at least the circumstances and time table of domiciliary treatment.

Domiciliary treatment should be adopted when the domestic environment of the patient has been suitably adjusted; when the family have been vaccinated; when any defects in the housing circumstances have been corrected and when treatment has proceeded to sputum conversion. That would mean in most cases the immediate admission of the patient to the sanatorium or hospital, but it would also mean, with the great change in the therapeutics of tuberculosis, a comparatively short period of hospital care: the prolonged period of "sanatorium" rehabilitation of other days is now a preventive and clinical anachronism.

At this favourable stage in the tuberculosis incidence in Birmingham, every endeavour should be made to apply this practice, which depends almost entirely on the immediate admission—the immediate access of the patient to treatment facilities, so that both prevention and treatment can proceed apace.

Treatment beds must not be blocked when the need for treatment or the prospect of clinical advantage has gone.

During 1951 a survey was undertaken in Birmingham (The Use of the Sanatorium Bed, Geddes and Lowe), with the following results.

REASON FOR THE RETENTION IN SANATORIUM OF 160 PATIENTS  
CONSIDERED NOT TO NEED HOSPITAL CARE

<i>Reason for retention</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>
No home .....	23	11	34 (21%)
Inadequate accommodation at home .....	52	31	83 (52%)
Inadequate domestic help .....	13	13	26 (16%)
Discharge pending .....	7	6	13 (8%)
No apparent reason .....	2	2	4 (3%)
<b>TOTALS</b> .....	<b>97</b>	<b>63</b>	<b>160</b>

By their prolonged and unnecessary occupation of treatment beds the 117 patients (16 per cent. of the resident patients) with no home or inadequate accommodation at home destroy the chance of orderly development and seriously interfere with progress.

Hostels should be provided for patients who are homeless, and for those whose retention in the sanatorium is determined by unsatisfactory home conditions, alternative accommodation should be quickly provided.

All of the sanatorium beds would consequently be made available for treatment and greater order and impetus given to the control of tuberculosis in the City.

It means some contradiction in the main theme in that a certain number of cases of pulmonary tuberculosis who had not responded to treatment would be "at home", but it would be a reducing number and that sacrifice in principle would in the end subserve efficiently the main objective.

### **Domiciliary Ancillaries**

The adoption of domiciliary treatment has increased the work and responsibilities of the health authority.

During the year 600 patients received Streptomycin and P.A.S. treatment at home. The injections are given by district nurses under the direction of the medical practitioners. During the year numerous visits were made by these nurses and their work and happy co-operation with the health visitors are greatly appreciated.

The introduction of treatment at home has required the development of a scheme of domiciliary diversional and occupational therapy. An occupational centre has been established in Whittall Street, from which all of these activities will be directed and developed. Already 230 patients are engaged in a variety of hobby pursuits at home, and the domiciliary library service under the direction of the St. John and Red Cross Libraries Service has already made an encouraging start.

This centre will develop under the direction of Mrs. A. Hogg, the chief therapist, to serve the recreational and educative needs of all of the patients under treatment at home.

# MATERNITY AND CHILD WELFARE

## GENERAL COMMENTS

The year 1951 has shown some reversal of the unsatisfactory trend of mortality rates which was experienced in 1950.

The unfavourable trend in the neonatal death rate and stillbirth rate in 1950 appears to have been checked, the stillbirth rate falling one point and the neonatal death rate remaining stationary. Equally, following last year's rise, the maternal mortality rate shows some improvement although it has not yet returned to the low rate of 1949.

In spite of the housing efforts made, babies are still being born into overcrowded conditions, which have such an important bearing on the death rate between 4 weeks and 12 months.

Although the infant death rate in the age period 4 weeks to 12 months has fallen by 0.4 per 1,000 and this constitutes a new low record for this age period, yet the death rate from infection has increased. The total infant death rate under the age of 12 months from respiratory disease has increased by 30 per cent.

The total incidence of prematurity has fallen but the proportion of births under 4 lbs. in weight has increased compared with 1950. This is reflected in the premature infant mortality rate which has risen sharply in 1951. The institution of a corps of midwives specially trained in premature baby care has more than justified itself. The death rate among premature babies nursed by them was much lower than among other premature babies nursed at home.

A detailed study has been made of the maternity services since the commencement of the National Health Service scheme, from which it is concluded that the arrangements for admission of patients for social reasons are working quite well. The proportion of emergency admissions in relation to the total hospital confinements, however, has risen, which is unsatisfactory. The rise is confined to certain groups of diseases and complications which are at the same time associated with an increased neonatal death rate compared with 1950. It would appear that a greater concentration of effort is required to ensure that patients in these groups are booked for hospital admission and so given a better opportunity of bearing a live infant who will survive.

The attendance of mothers at antenatal and postnatal clinics continued to fall but the attendance of children at child welfare clinics was well maintained.

The opening of Harborough Hall Convalescent Home for mothers and babies fulfils a long felt need as the City has been without accommodation of this kind since the beginning of the last war.

During the year further progress has been made in establishing fuller co-operation with other branches of the National Health Service which it is hoped in the course of time will yield valuable results.

We are indebted to the Central Statistical Office for the interest and assistance we have received in analysing our records.

### Total Births

For the purpose of this Report the population given by the Registrar General is used for the birth rate but the figures used for the live births, stillbirths, infant and maternal deaths are local figures.

There were 18,355 live births and 416 stillbirths among Birmingham residents, making a total of 18,771 births during the year. These figures compare with 18,833 live births and 444 stillbirths in 1950.

One quarter of the Birmingham women who were confined in 1951 came from households where there were two or more persons living per room and 47 per cent. from households where there were 1.5 or more persons per room. These proportions are practically the same as for 1950. For the purpose of this calculation, the standard of the Housing Act, 1936 was not taken, but every individual, irrespective of age, occupying accommodation, was counted as a unit. The adverse effect of overcrowding on the chances of an infant's survival until the end of his first year is referred to later in this report.

The proportion of pregnant women gainfully employed outside their own home shows a slight fall compared with 1950.

#### EMPLOYMENT OF PREGNANT WOMEN

	<i>Percentage of Total Births</i>		
	<i>1949</i>	<i>1950</i>	<i>1951</i>
Primigravidae .....	61.3	63.7	66.7
2nd—4th .....	16.3	18.1	16.7
5th and over .....	14.2	14.3	13.7
All parities .....	33.6	34.4	33.6

The fall in the total number of births has been accompanied by a fall in the proportion of primigravidae and a slight rise in the proportion of those women having their fifth or more pregnancy.

## CONFINEMENTS BY PARITY

	<i>Percentage of Confinements</i>	
	<i>1950</i>	<i>1951</i>
Primigravidae .....	37.1	35.0
2nd—4th .....	52.7	54.6
5th and over .....	10.2	10.4
	———	———
	100.0	100.0
	———	———

Of the 18,493 confinements of Birmingham residents which took place in the City, in Marston Green Hospital, or elsewhere, there were 18,218 single births, of whom 381 were stillborn, 272 pairs of twins, of whom 33 infants were stillborn, and 3 sets of triplets, of whom 2 infants were stillborn. The number of single births in 1950 was 18,728, of pairs of twins 270, and of triplets 3 sets. Of the total of 18,771 births in 1951, 1,531, i.e., 8.2 per cent. were prematurely born.

### Live Births

The number of live births was 18,355 giving a live birth rate of 16.5 per 1,000 of the population. Of these, 1,319 (7.2 per cent.) were premature. This shows a slight fall compared with 1950. The trend of the birth rate over the past years is shown in the following table:—

1938 .....	16.6	1945 .....	20.2
1939 .....	16.6	1946 .....	22.5
1940 .....	16.9	1947 .....	22.2
1941 .....	16.8	1948 .....	19.5
1942 .....	19.3	1949 .....	18.1
1943 .....	20.9	1950 .....	16.8
1944 .....	22.8	1951 .....	16.5

The illegitimate birth rate per 1,000 live births was 47.3. Although the illegitimate birth rate continues to fall, it has not yet reached the pre-war level of 37.0 per 1,000 live births.

		<i>Illegitimate births per 1,000 live births</i>			<i>Illegitimate births per 1,000 live births</i>
1944 .....	64.1	1948 .....	54.1		
1945 .....	92.0	1949 .....	50.1		
1946 .....	67.6	1950 .....	51.5		
1947 .....	54.7	1951 .....	47.3		

## MORTALITY AMONG INFANTS

Considered as a whole the mortality rate among infants in 1951 shows some improvement compared with 1950. For many years the death rate among live born infants has been analysed in relation to the Ward in the City in which they lived. This revealed a substantial difference in the infant mortality rates between the Central and Outer Rings of the City. In the last five years a more detailed analysis has been possible which includes the stillbirths and which shows the mortality rates in each welfare centre area. This more detailed analysis was undertaken in an endeavour to ascertain more clearly the trends in mortality rates in each centre area. It is hoped in this way to obtain information which will be of value in planning the work. In particular, it is desired to study separately the working of the maternity services on the one hand and the influence of the environment on the other. From the point of view of the maternity services, the stillbirths and the neonatal deaths are considered together as the "perinatal mortality". On the other hand, the environment has a great influence on the death rate between one and twelve months. The detailed analyses are given in the tables which follow. The infant mortality rates over a period of years for the Outer, Middle and Central Wards of the City are also shown graphically.

The analysis by welfare centre area of the perinatal death rate shows that in three of the five years under review the following areas showed higher death rates than the City as a whole: Bromford, Erdington, Handsworth, Hope Street, Kettlehouse, Lancaster Street, Maypole, Northfield and Washwood Heath. Although in some of these areas there may be a higher proportion of first births and in others a higher proportion of women who have borne at least four children, in both of which cases a higher perinatal death rate is usual, yet it would appear that the working of the maternity services in these areas should also be reviewed. On the other hand, when the death rate from 1—12 months is considered, the areas showing a higher death rate than the City as a whole for at least three of the five years are as follows: Carnegie, Heath Mill Lane, Hope Street, Irving Street, Lancaster Street, Lea Hall, Monument Road, Stratford Road, Sutton Street and Washwood Heath. While in most of these areas housing conditions are bad, yet Lea Hall, a new housing estate, is also included. These are the areas which require a concentration of effort by the health visiting staff.

### **Mortality among Infants according to Welfare Centre districts.**

Those areas which show a higher rate than the City as a whole for at least three of the five years are as follows:

Perinatal Death Rate:

Bromford, Erdington, Handsworth, Hope Street, Kettlehouse, Lancaster Street, Maypole, Northfield and Washwood Heath.

Death Rate 1—12 months :

Carnegie, Heath Mill Lane, Hope Street, Irving Street, Lancaster Street, Lea Hall, Monument Road, Stratford Road, Sutton Street and Washwood Heath.

	<i>Perinatal mortality</i>					<i>Death rate 1—12 months</i>				
	1947	1948	1949	1950	1951	1947	1948	1949	1950	1951
Whole City	43.9	39.4	39.0	41.8	40.9	19.5	13.6	13.1	10.9	10.2
Acocks Green	39.7	35.6	33.1	45.7	53.6	12.1	13.4	8.5	9.1	8.9
Bromford	53.1	33.0	37.9	43.8	49.2	12.9	5.6	18.5	4.3	4.4
Carnegie	38.2	44.3	37.3	42.1	31.2	22.1	12.3	14.5	13.8	11.9
Erdington	36.9	43.8	35.2	42.8	52.5	17.8	10.9	9.1	3.2	8.7
Greet	36.9	31.3	31.6	40.2	35.7	17.5	9.5	9.0	7.7	12.2
Handsworth	38.9	45.5	28.3	52.9	44.3	17.5	14.3	10.2	14.6	6.8
Harborne	56.4	19.0	32.1	29.3	15.1	2.9	12.8	7.2	—	3.8
Hay Mills	42.7	30.8	18.9	27.8	32.7	15.3	15.7	11.1	1.6	5.3
Heath Mill										
Lane	31.1	38.8	81.7	28.6	43.3	28.8	16.5	17.4	11.6	27.1
Hope Street	48.0	39.2	42.2	45.0	43.1	29.0	19.0	20.5	12.7	13.4
Horrell Road	39.8	28.2	37.9	27.4	35.3	6.2	14.4	5.3	4.7	4.5
Irving Street	45.1	38.4	36.3	34.9	46.2	32.5	18.5	6.1	14.2	19.0
Kettlehouse	66.2	57.5	61.1	40.6	47.8	11.5	7.7	15.0	24.5	9.9
King's Heath	28.4	37.8	50.8	34.2	45.1	16.3	4.1	12.3	—	6.0
Kingstanding	43.5	36.4	35.4	40.4	39.9	17.1	10.2	3.6	—	10.2
Lancaster St.	38.1	62.9	39.4	39.7	42.1	29.4	21.3	22.0	27.1	24.5
Lansdowne St.	46.3	35.2	38.8	49.6	38.7	17.5	10.9	5.4	9.1	9.0
Lea Hall	35.8	35.1	41.1	33.6	24.6	19.7	15.4	14.1	9.5	17.2
Maypole	—	—	42.6	52.2	43.3	—	—	7.2	—	11.0
Monument Rd.	47.4	34.9	36.3	40.8	41.9	29.8	14.2	13.6	17.9	17.0
Northfield	49.1	33.7	44.0	40.4	46.2	15.1	8.3	4.8	12.1	4.4
Selly Oak	47.0	32.0	32.7	40.0	32.1	4.2	9.3	15.3	5.4	5.9
Small Heath	43.7	40.7	32.7	34.9	33.9	16.9	18.2	10.3	8.0	7.0
Stirchley	50.2	38.2	32.1	31.8	30.1	18.2	8.5	15.7	4.4	4.2
Stratford Rd.	40.5	39.1	35.0	29.6	41.4	23.4	15.1	14.5	12.3	19.0
Sutton Street	53.7	38.8	34.0	43.5	39.5	36.4	19.7	24.4	15.8	10.8
Tennal Road	32.6	46.2	38.5	20.5	40.5	21.9	4.3	7.9	4.2	4.1
Tower Hill	24.0	41.9	26.7	35.6	43.0	5.4	11.6	15.4	4.3	—
Treaford Lane	34.0	45.0	27.5	40.4	34.6	8.0	9.5	5.9	8.3	5.6
Trinity Road	30.2	40.8	38.7	54.7	35.5	14.2	23.4	10.6	12.1	7.9
Washwood										
Heath	40.3	39.8	39.8	49.7	36.9	24.1	15.5	9.9	16.2	8.1
Weoley Castle	34.2	32.1	32.8	30.7	20.3	17.4	14.8	9.2	3.5	3.4
Yardley Wood	32.8	27.2	41.9	32.7	23.6	9.9	4.6	14.9	7.7	5.3

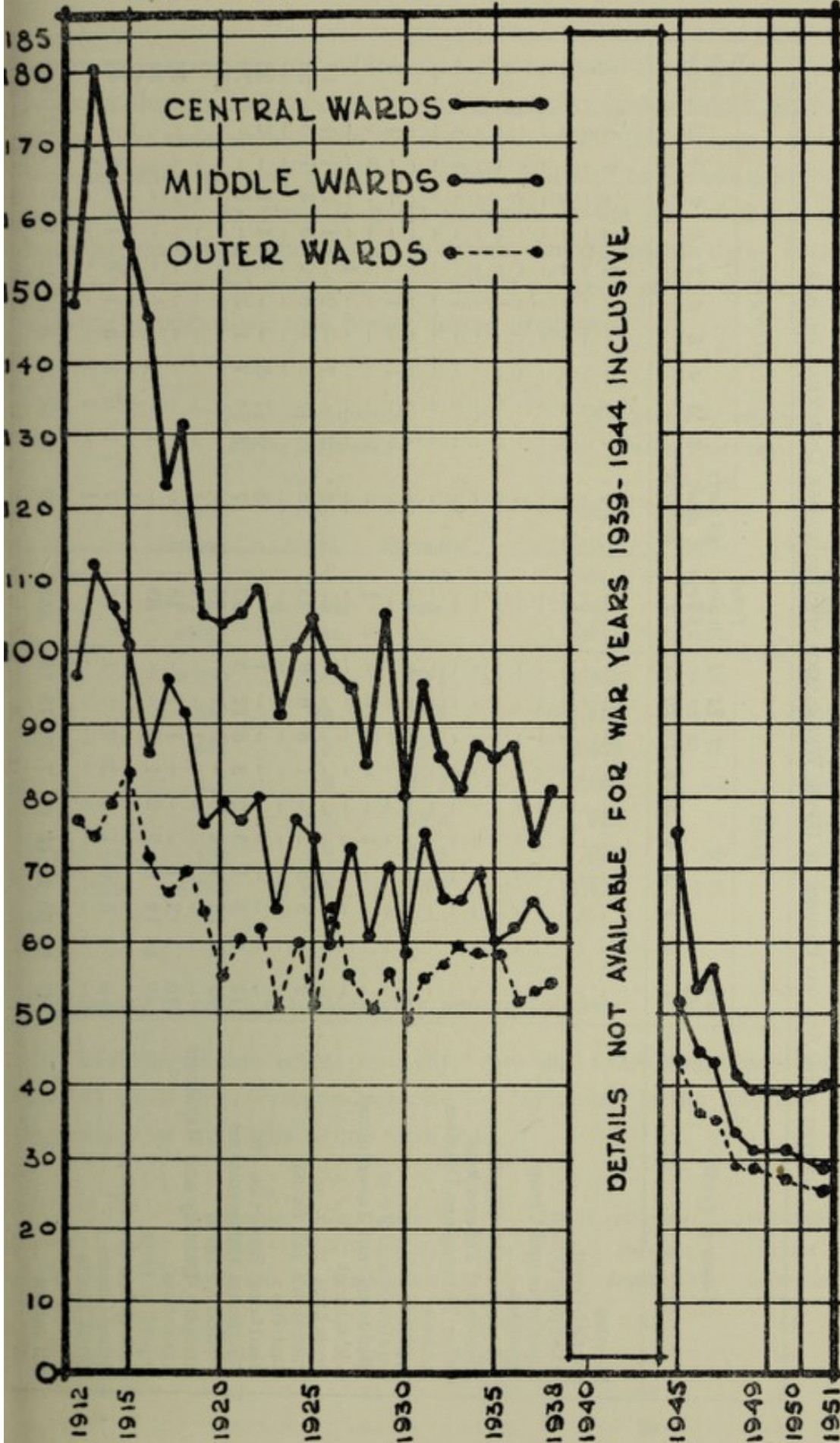
## Infant Mortality in Wards of the City—1951

<i>Central Wards</i>		<i>Middle Wards</i>		<i>Outer Wards</i>	
St. Paul's .....	41	Lozells .....	38	Stechford .....	26
Duddeston .....	48	Aston .....	28	Sheldon .....	30
Deritend .....	42	Gravelly Hill .....	31	Yardley .....	30
Market Hall .....	41	Washwood Heath .....	14	Acocks Green .....	12
Ladywood .....	26	Saltley .....	18	Fox Hollies .....	39
		Small Heath .....	37	Sparkhill .....	22
		Sparkbrook .....	29	Hall Green .....	10
		Balsall Heath .....	39	Springfield .....	38
		Edgbaston .....	46	Brandwood .....	41
		Rotton Park .....	29	Moseley and King's	
		All Saints .....	27	Heath .....	29
		Soho .....	23	Selly Oak .....	16
				King's Norton .....	17
				Northfield .....	31
				Weoley .....	23
				Harborne .....	20
				Sandwell .....	26
				Handsworth .....	25
				Perry Barr .....	23
				Kingstanding .....	28
				Stockland Green .....	36
				Erdington .....	16
Average in 1951 .....	40	Average in 1951 .....	29	Average in 1951 .....	26
Average in 1950 .....	39	Average in 1950 .....	31	Average in 1950 .....	27
Average in 1949 .....	39	Average in 1949 .....	31	Average in 1949 .....	28

The diagram opposite shows the fall in infant mortality in each of the three groups of wards during the past 39 years. The rates for the war years are not shown, as during that time, for various reasons, the information at our disposal was not such as to enable us to arrive at accurate figures.

The illegitimate infant death rate has risen, due mainly to an increase in the death rate from respiratory disease. A higher proportion of deaths among illegitimate babies occurred under the age of 4 weeks (70.3 per cent. of illegitimate deaths, 64.0 per cent. of legitimate deaths). The incidence of prematurity was no higher among illegitimate babies who died than among the legitimate babies although the death rate attributed to prematurity was higher among illegitimate babies. The illegitimate death rate from congenital malformations was also higher. These figures underline the fact that adequate care during pregnancy and for the first few weeks of life is of even greater importance for the survival of the illegitimate infant than it is for the legitimate infant.

# INFANT MORTALITY RATES IN GROUPS OF WARDS





## Employment of Expectant Mothers

Employment of the mother outside her own home during pregnancy seems to have a varying influence on the perinatal death rate. Women working during their first or second pregnancy had a better record in this respect than women who did not work outside their homes. Women working while carrying their third, fourth and fifth babies did not appear to do so well. As there is great variation in the size of the groups, however, no firm conclusion can be drawn. Among infants dying between the ages of one and twelve months, only 4 per cent. of the mothers were working outside their own homes during pregnancy.

Parity	<i>Gainfully employed during pregnancy</i>			<i>Not gainfully employed during pregnancy</i>		
	<i>Total births (live and still)</i>	<i>No. of still-births and neonatal deaths</i>	<i>Perinatal death rate</i>	<i>Total births (live and still)</i>	<i>No. of still-births and neonatal deaths</i>	<i>Perinatal death rate</i>
0	3,950	116	29.4	1,967	104	52.9
1	937	23	24.5	4,114	114	27.7
2	448	15	33.5	2,438	78	32.0
3	211	8	37.9	1,360	42	30.9
4	117	7	59.8	658	32	48.6
5 and over	130	6	46.2	939	55	58.6
All parities	5,793	175	30.2	11,476	425	37.0

## Legitimacy in relation to Mortality among Infants

The illegitimate infant mortality rate per 1,000 illegitimate births was 43 while the corresponding rate for legitimate births was 29. The legitimacy of stillbirths is not recorded.

	<i>Legitimate infant death rate</i>	<i>Illegitimate infant death rate</i>		<i>Legitimate infant death rate</i>	<i>Illegitimate infant death rate</i>
1944	41	62	1948	31	44
1945	49	56	1949	30	40
1946	39	54	1950	30	37
1947	39	64	1951	29	43

The main causes of death in illegitimate infants compared with legitimate infants is shown in the following table :

	Rate per 1,000							
	Legitimate live births				Illegitimate live births			
	1948	1949	1950	1951	1948	1949	1950	1951
Infectious disease .....	1.0	0.8	0.8	0.6	1.7	2.0	—	1.1
Tuberculosis .....	0.6	0.2	0.2	0.3	0.9	—	—	—
Respiratory disease .....	5.8	4.8	4.8	6.0	7.8	4.0	6.2	11.6
Diarrhoea and enteritis .....	3.0	2.9	2.0	1.4	4.3	3.0	3.1	1.1
Congenital malformations .....	4.8	5.1	5.1	4.1	4.3	7.0	5.2	6.9
Premature birth .....	5.3	7.5	7.5	7.0	4.3	6.0	9.3	9.2
Atrophy, debility, marasmus and atelectasis .....	1.4	1.7	0.9	1.1	3.5	1.0	—	—
Injury at birth .....	4.9	2.6	4.1	4.5	4.3	5.0	6.2	5.8
Other causes .....	4.1	4.7	4.4	4.1	13.0	12.0	7.2	6.9

### Perinatal Death Rate

In previous reports stillbirths and infant deaths have been considered separately, the infant deaths being divided into the two age periods, deaths under 4 weeks (neonatal deaths) and deaths between 4 weeks and one year. As the main factors which influence stillbirths and neonatal deaths are similar these have been studied together under the heading of the perinatal death rate. For the purpose of continuity, however, they are also considered separately.

The perinatal death rate is the number of stillbirths and infant deaths under 4 weeks (i.e., neonatal deaths) per 1,000 live and stillbirths. The incidence of stillbirth and neonatal death is influenced largely by the health of the mother during pregnancy and her experiences during labour. In that sense it can be taken as a measure of the effectiveness of the maternity services in the area although it may also be influenced on the one hand by the relative number of women who are having their first confinement and on the other hand by women confined who have already had at least four children. In both these groups the perinatal death rate would tend to be higher. As has been shown in a previous paragraph, the proportion of primigravidæ fell slightly in 1951 and the proportion of women having their 5th or more pregnancy rose. The perinatal death rate for the City over the past seven years has been as follows :

1945 .....	46.7	1949 .....	39.0
1946 .....	47.0	1950 .....	41.8
1947 .....	43.9	1951 .....	40.9
1948 .....	39.4		

The perinatal death rate reached the lowest point on record in 1949. In 1950 it rose by 2.8 per 1,000 total births. In 1951 there was a fall of

0.9 per 1,000 to 40.9. The deaths have been analysed in order to discover the primary factor which led to the fatal result. The death rate associated with antenatal causes has risen during the past two years. The death rate associated with intranatal causes shows some tendency to improve. The death rate from the other main causes with the exception of infection only, which has increased, has remained comparatively stationary. These points are brought out in the table below :

	<i>Perinatal death rate by Primary Factor</i>		
	<i>1949</i>	<i>1950</i>	<i>1951</i>
Total .....	39.0	41.8	40.9
Toxaemia .....	4.3	5.3	4.9
Syphilis .....	0.4	—	0.1
Rhesus incompatibility .....	1.2	1.1	1.1
Other antenatal causes.....	6.5	6.9	7.5
Breech .....	2.2	2.4	1.9
Other intranatal causes .....	8.4	7.8	7.6
Infection only .....	1.2	1.2	2.0
Other postnatal causes .....	0.9	1.1	0.9
Foetal deformity .....	6.9	7.1	6.4
Prematurity only .....	3.1	3.5	3.1
Unknown .....	3.9	5.4	5.4

PARTITION OF PERINATAL DEATH RATE BY RESPONSIBILITY FOR ANTENATAL CARE

	<i>1949</i>	<i>1950</i>	<i>1951</i>
Midwife and Centre .....	7.0	5.6	5.1
General Practitioner .....	11.5	13.4	13.2
Hospital .....	18.2	20.6	19.8
None or Unknown .....	2.3	2.2	2.8
	<hr/>	<hr/>	<hr/>
	39.0	41.8	40.9

The relationship between the amount of antenatal care and the perinatal death rate is shown in the following table. It may well be true however that the better type of woman may take more full advantage of the services provided.

INFLUENCE OF ANTENATAL CARE

<i>No. of antenatal visits</i>	<i>No. of cases</i>	<i>Perinatal Mortality Rate</i>
1 or 2 visits .....	541	98.0
3—5 visits .....	2,209	56.6
6—8 visits .....	4,645	31.9
9 or more visits .....	7,964	28.4
None .....	73	315.5
Unknown .....	2,758	60.9

The standard of antenatal care as measured by the number of visits does not appear to have fallen off during the years 1949—51.

<i>No. of visits</i>	<i>Percentage</i>		
	<i>1949</i>	<i>1950</i>	<i>1951</i>
1—2 visits	3.9	3.3	3.5
3—5 visits	15.0	14.3	14.2
6—8 visits	32.1	30.3	30.1
9 and over	48.5	51.9	51.7
Unknown	0.4	0.5	0.5

### Stillbirths

There were 416 stillbirths giving a stillbirth rate of 22.2 per 1,000 live and stillbirths. This figure is slightly lower than that for 1950.

	<i>Rate per 1,000 total births</i>		<i>Rate per 1,000 total births</i>
1944	25	1948	22
1945	25	1949	22
1946	25	1950	23
1947	24	1951	22

Of the 416 stillbirths, 212 (51.0 per cent.) were premature. The legitimacy of stillbirths is not recorded. The stillbirths have been analysed to discover the primary factor which caused the death.

The stillbirth rates associated with toxæmia and separation of placenta showed a rise. The rates for the other main causes showed a fall.

#### STILLBIRTH RATE BY PRIMARY FACTOR

	<i>1945</i>	<i>1946</i>	<i>1947</i>	<i>1948</i>	<i>1949</i>	<i>1950</i>	<i>1951</i>
Toxæmia	3.8	2.6	3.7	3.9	2.8	3.5	3.9
Syphilis	0.4	0.2	0.2	0.2	0.2	0.1	0.1
Rhesus incompatibility	0.3	0.4	0.5	0.7	0.5	0.7	0.7
Other antenatal conditions	1.9	1.9	1.7	1.1	2.0	2.4	1.8
Unknown antenatal causes	3.6	4.3	4.0	3.3	3.1	4.2	3.6
Separation of placenta	1.5	1.2	0.9	1.2	1.3	1.2	1.9
Breech	1.9	3.3	3.0	2.1	2.0	1.9	1.4
Other known intranatal conditions	6.2	6.3	5.2	4.6	5.1	4.6	4.5
Unknown intranatal causes	1.8	1.6	1.3	2.2	1.5	1.2	0.7
Other unknown causes	—	—	—	—	0.1	0.2	0.6
Foetal deformity	3.3	3.9	3.3	2.5	3.1	3.0	3.0

#### PARTITION OF STILLBIRTH RATE BY RESPONSIBILITY FOR ANTE-NATAL CARE

	<i>1949</i>	<i>1950</i>	<i>1951</i>
Midwife and Centre	4.2	2.7	2.7
General Practitioner	5.9	7.1	6.8
Hospital	10.7	12.1	10.8
No antenatal care or unknown	0.9	1.1	1.9
	<u>21.7</u>	<u>23.0</u>	<u>22.2</u>

## Neonatal Deaths

The number of neonatal deaths was 352, of whom 326 were legitimate and 26 illegitimate. The neonatal death rate was 19.2 per 1,000 live births, which was the same as in 1950. The legitimate neonatal death rate was 18.6 and the illegitimate 31.1. Of the 352 deaths, 217 (61.6 per cent.) were premature, of whom 204 were legitimate and 13 illegitimate.

The neonatal deaths have been analysed to discover the primary factor which caused the death. There is a rise in the death rate associated with infection of 0.8 per 1,000, and a fall in the death rate associated with toxæmia of 0.7 per 1,000.

### NEONATAL DEATH RATE BY PRIMARY FACTOR

	1945	1946	1947	1948	1949	1950	1951
Toxaemia .....	1.5	1.3	1.1	1.4	1.4	1.9	1.2
Syphilis .....	—	—	0.1	0.1	0.1	—	0.1
Rhesus incompatibility	0.5	0.9	0.6	1.0	0.6	0.3	0.5
Other antenatal causes.....						1.1	1.8
Separation of placenta )	1.5	1.8	1.9	2.5	3.1	1.9	2.1
Breech .....	0.5	0.8	0.7	0.3	0.3	0.5	0.5
Other intranatal causes	3.5	4.9	4.3	3.7	2.2	3.4	3.3
Infection only .....	2.4	3.1	3.1	2.0	1.2	1.3	2.1
Other postnatal causes	2.0	1.4	1.6	0.9	1.0	1.1	0.9
Foetal abnormality .....	3.8	3.3	3.1	3.2	3.6	4.0	3.5
Prematurity only .....	5.9	4.7	4.0	2.7	3.2	3.6	3.2

The fact that the death rate from "infection only" has risen is not necessarily an indication that the total incidence of infection has increased. This is only a measure of the number of cases in which no other cause was found.

The neonatal deaths have also been analysed by final cause. This analysis shows a slightly higher death rate from infection because infection may have been superimposed on another primary factor and thus be the final cause of death.

### NEONATAL DEATH RATE BY FINAL CAUSE

Prematurity .....	6.6
Birth Injury .....	4.9
Foetal Abnormality .....	3.4
Respiratory Infection .....	1.9
Digestive Infection .....	0.1
Other Infection .....	0.5
Rhesus Factor .....	0.4
Other conditions .....	0.9
Unknown .....	0.5
	<hr/>
	19.2
	<hr/>

PARTITION OF NEONATAL DEATH RATE

	1949	1950	1951
<i>(a) Associated with :</i>			
Antenatal conditions .....	5.2	5.1	5.7
Intranatal conditions .....	2.9	3.9	3.8
Postnatal conditions in child .....	2.2	2.3	3.0
Foetal abnormalities .....	3.6	3.9	3.5
Prematurity only .....	3.2	3.5	3.2
Unknown .....	0.6	0.5	0.0
	<hr/>	<hr/>	<hr/>
	17.7	19.2	19.2
<i>(b) By responsibility for antenatal care :</i>			
Midwife and Centre .....	2.8	2.9	2.4
General Practitioner .....	5.7	6.4	6.6
Hospital .....	7.6	8.7	9.3
No antenatal care or unknown .....	1.6	1.2	0.9
	<hr/>	<hr/>	<hr/>
	17.7	19.2	19.2

**Infant Mortality**

There were 545 infant deaths under 1 year of age, of whom 508 were legitimate and 37 illegitimate. The infant death rate was 29.7 per 1,000 live births. This is 0.4 per 1,000 lower than in 1950. The legitimate infant death rate was 29 and the illegitimate 43.

Of the total of 545 infant deaths, 254 (46.6 per cent.) were premature. Of these, 240 were legitimate and 14 illegitimate.

	Birmingham	England and Wales		Birmingham	England and Wales
1944 .....	42	46	1948 .....	42	34
1945 .....	49	46	1949 .....	31	32
1946 .....	40	43	1950 .....	30	30
1947 .....	41	41	1951 .....	30	30

The following comparative table shows the infant death rate from various causes :

	1946	1947	1948	1949	1950	1951
Total infant death rate .....	40	41	32	31	30	30
Respiratory disease .....	8.1	8.6	6.0	4.7	4.9	6.3
Diarrhoea and enteritis .....	6.4	7.0	3.1	2.9	2.0	1.4
Congenital malformations .....	4.8	5.1	4.7	5.2	5.1	4.2
Prematurity .....	7.8	5.9	5.3	7.4	7.6	7.1
Atrophy, debility, marasmus and atelectasis .....	2.4	2.6	1.5	1.6	0.8	1.1
Injury at birth .....	4.6	4.8	4.9	2.7	4.2	4.6
Other causes .....	5.9	6.6	6.5	6.1	5.3	5.0

An analysis of that portion of the infant death rate under four weeks of age, i.e., the neonatal death rate, has already been given. The death rate between four weeks and one year remains to be considered.

### Death Rate 4 weeks—1 year

The death rate in this period was 10.5 per 1,000 live births (193 deaths) which is 0.4 less than in 1950. This is a new low record.

		<i>Death rate per 1,000 live births</i>			<i>Death rate per 1,000 live births</i>
1944	.....	19.8	1948	.....	13.6
1945	.....	26.5	1949	.....	13.1
1946	.....	17.9	1950	.....	10.9
1947	.....	19.5	1951	.....	10.5

The following is an analysis of the causes of death during the past three years :

#### DEATH RATE 4 WEEKS—1 YEAR PER 1,000 LIVE BIRTHS

	<i>1949</i>	<i>1950</i>	<i>1951</i>
Respiratory infection .....	4.1	3.9	4.8
Digestive infection .....	2.9	1.8	1.5
Other infection .....	1.5	1.3	1.6
Tuberculosis .....	0.2	0.2	0.3
Foetal abnormality .....	1.9	1.6	1.1
Other .....	2.5	2.1	1.2

The breast fed baby, particularly if living in crowded housing conditions, has a better chance of survival than an artificially fed baby living in similar conditions.

Of the 193 deaths in this age group the breast feeding record was known in 181 cases. Of these, 57 (31.5 per cent.) were breast fed at least until the month preceeding the month of death, in 101 (55.8 per cent.) cases breast feeding ceased at an earlier date and in 23 (12.7 per cent.) breast feeding was not started. The reasons why breast feeding was not started or was discontinued were as follows :

Insufficient milk .....	62.9%
Condition of mother .....	8.8%
Condition of baby .....	18.6%
Other reasons .....	5.7%
Unknown .....	4.0%

This is the age period when environmental causes—mainly infection—have a substantial influence on the death rate. Only 32 of the 193 deaths were not associated with infection. Of the other 161 cases, there were 9 cases where infection, although not the underlying cause of death, was considered to be a direct or contributory cause. In only 14 of these 161 cases was the source of infection considered to lie in the hospital.

In the 147 other cases the infection was acquired in the home. The housing conditions in which many of these babies lived facilitated the spread of infection. At the time of death, 183 babies in this group were living in their own homes. Of these, 66.1 per cent. came from families where there were 1.5 or more persons per room and 33.9 per cent. where there were 2 or more persons per room.

In only 8 cases out of the total of 193 was the mother working outside her own home. In 7 of these 8 cases the baby's age at death was under 3 months yet only 1 of these 8 children was illegitimate. Of the babies who died, 46.1 per cent. had attended the welfare centre.

### MATERNAL MORTALITY

In 1951 there were 14 deaths of women due to pregnancy and child-bearing, which gave a maternal mortality rate, excluding 2 deaths following abortion, of 0.64 per 1,000 live and stillbirths, or 0.65 per 1,000 live births. There were 2 deaths due to associated conditions.

The responsibility for antenatal care in relation to these deaths was as follows:

A. Deaths due to pregnancy and childbirth .....	1
(1) Hospital—5 cases:	
Obstetric shock .....	
Shock with haemorrhage and ruptured uterus .....	1
Eclampsia .....	1
Pulmonary embolism, thrombo-phlebitis and hypo-chromic anaemia .....	1
(2) General Practitioner—3 cases:	
Asthma and haemorrhage .....	1
Obstetric shock .....	1
Pulmonary embolism and megaloblastic anaemia .....	1

One of the private practitioner's cases died at home (asthma) after delivery. This patient had persistently refused hospital treatment during the antenatal period. Another patient was admitted to hospital as an emergency because of her anaemia. After blood transfusion and recovery, she eventually died in hospital, undelivered, seven weeks later from an embolism, thought to be of the contents of the amniotic sac. The third patient was referred to hospital about the 38th week; it was thought that there might be some disproportion. An x-ray examination did not, however, confirm this suspicion. At 40 weeks the patient was referred to another hospital for opinion because the doctor still thought there was some disproportion and it was agreed to accept her for confinement. The following day she went into labour, was admitted to hospital and subsequently died of obstetric shock following instrumental delivery.

(3) <i>Midwife and Centre—2 cases :</i>			
Sepsis and haemorrhage	.....	.....	1
Sepsis and ruptured uterus	.....	.....	1*
			} Both were hospital emergencies

\* Refused hospital during early part of confinement.

(4) *No antenatal care—4 cases :*

Of these, 3 were hospital emergencies comprising 2 septic abortions and one ante partum haemorrhage. The remaining case, a toxæmia of pregnancy, was found dead in bed.

B. *Deaths due to associated conditions* ..... 2

Both received antenatal care from general practitioners. Both were hospital emergencies, one died of rheumatic carditis and the other of ulcerative colitis.

MATERNAL MORTALITY RATE

	<i>Rate per 1,000 live and stillbirths (excluding abortions)</i>			<i>Rate per 1,000 live and stillbirths (excluding abortions)</i>	
	<i>Birmingham</i>	<i>England and Wales</i>		<i>Birmingham</i>	<i>England and Wales</i>
1944	0.95	1.53	1948	0.50	0.86
1945	1.21	1.46	1949	0.39	0.82
1946	0.64	1.24	1950	0.73	0.72
1947	0.73	1.01	1951	0.64	0.65

A. *Deaths due to pregnancy and childbirth (14).*

1. Not associated with a notifiable birth (6)			
Septic abortion	.....	.....	2
Haemorrhage	.....	.....	1
Toxaemia	.....	.....	1
Eclampsia	.....	.....	1
Pulmonary embolism and megaloblastic anaemia of pregnancy	.....	.....	1
2. Associated with a notifiable birth (8)			
Obstetric shock	.....	.....	3
Sepsis (ruptured uterus)	.....	.....	1
Haemorrhage (asthma)	.....	.....	1
Haemorrhage and sepsis	.....	.....	1
Shock, haemorrhage and ruptured uterus	.....	.....	1
Pulmonary embolism and thrombo-phlebitis of leg and hypochromic anaemia	.....	.....	1

B *Deaths due to associated conditions (2)*

Not associated with a notifiable birth	.....	.....	1	rheumatic carditis
Associated with a notifiable birth	.....	.....	1	ulcerative colitis

A review of the circumstances of every case of maternal death makes it possible to estimate whether or not there was any avoidable factor, and in this respect the cases have been classified according to the table below :

	<i>Sepsis and Ruptured Uterus</i>	<i>Sepsis and Haemorrhage</i>	<i>Haemorrhage and Ruptured Uterus</i>	<i>Obstetric Shock</i>	<i>Pulmonary Embolism and Anaemia</i>	<i>Toxaemia</i>	<i>Associated condition</i>	<i>Total</i>	
Lack of co-operation of patient and friends	2	1	—	2	—	—	1	1	7
Safety only by avoidance or termination of pregnancy	—	—	—	—	—	—	—	—	—
No avoidable factor	—	—	—	—	3	2	1	1	7
No. of cases where assessment not possible	—	—	1	—	1	—	—	—	2

A comparison of the maternal death rate figures in the principal groups with those of previous years is shown hereunder :

MATERNAL DEATH RATE PER 1,000 LIVE AND STILLBIRTHS :

<i>Year</i>	<i>Abortion</i>	<i>Sepsis</i>	<i>Toxaemia</i>	<i>Haemorrhage</i>	<i>Other puerperal causes</i>	<i>Total due to puerperal causes</i>	<i>Maternal deaths due to "associated conditions"</i>
1938	0.55	0.67	0.72	0.67	0.28	2.88	1.16
1939	0.66	0.33	0.55	0.50	0.44	2.48	0.44
1940	0.56	0.39	0.62	0.23	0.34	2.14	0.45
1941	0.67	0.24	0.49	0.24	0.79	2.43	0.73
1942	0.57	0.47	0.57	0.26	0.57	2.45	0.78
1943	0.43	0.43	0.48	0.29	0.05	1.69	0.53
1944	0.39	0.30	0.26	0.13	0.26	1.34	0.69
1945	0.29	0.29	0.49	0.05	0.29	1.41	0.44
1946	0.17	0.04	0.30	0.13	0.21	0.85	0.47
1947	0.20	0.12	0.25	0.04	0.37	0.98	0.57
1948	—	0.09	0.18	—	0.33	0.50	0.50
1949	0.05	—	0.39	—	0.05	0.49	0.68
1950	0.10	0.26	0.16	0.05	0.26	0.83	0.10
1951	0.11	0.05	0.11	0.21	0.27	0.75	0.11

Rates in italics indicate here, as elsewhere, that they are calculated on less than 20 instances

The following table gives the age grouping of maternal deaths since 1941 :

Year	MATERNAL DEATHS					
	<i>Under</i> 20 years	20-25 yrs.	25-30 yrs.	30-35 yrs.	35-40 yrs.	<i>40 years</i> <i>and over</i>
1941	0	7	12	8	20	5
1942	3	13	15	17	12	2
1943	2	9	8	13	7	7
1944	1	10	9	15	8	4
1945	0	6	9	10	11	2
1946	2	4	4	6	12	3
1947	1	6	7	7	12	5
1948	0	4	6	4	6	2
1949	0	3	6	8	5	2
1950	0	2	2	6	6	2
1951	0	2	3	2	5	2
	9	66	81	96	104	36

### Puerperal Pyrexia and Puerperal Sepsis

The new Puerperal Pyrexia Regulations which came into operation on 1st August, 1951, making notifiable a single rise of temperature to 100.4°F. or more, have caused a very considerable increase in the number of notifications :

Out-of-City Cases	.....	.....	.....	.....	.....	.....	.....	18
Cancellation of notification	.....	.....	.....	.....	.....	.....	.....	14
Birmingham City cases	.....	.....	.....	.....	.....	.....	.....	138
(1) Due to infection of the genital tract	.....	.....	.....	.....	.....	.....	.....	35
Uterine infection	.....	.....	.....	.....	.....	.....	.....	25
Subinvolution	.....	.....	.....	.....	.....	.....	.....	2
Septic abortion	.....	.....	.....	.....	.....	.....	.....	2
Retained products	.....	.....	.....	.....	.....	.....	.....	—
Perineal infection	.....	.....	.....	.....	.....	.....	.....	3
Puerperal sepsis	.....	.....	.....	.....	.....	.....	.....	2
Septicaemia	.....	.....	.....	.....	.....	.....	.....	1
								—
								35
								—
(2) Due to extra-genital infection	.....	.....	.....	.....	.....	.....	.....	69
Urinary infection	.....	.....	.....	.....	.....	.....	.....	18
Mastitis	.....	.....	.....	.....	.....	.....	.....	21
Influenza	.....	.....	.....	.....	.....	.....	.....	10
Upper respiratory infection	.....	.....	.....	.....	.....	.....	.....	2
Throat infection	.....	.....	.....	.....	.....	.....	.....	4
Chest infection	.....	.....	.....	.....	.....	.....	.....	7
Thrombo-phlebitis	.....	.....	.....	.....	.....	.....	.....	5
Skin sepsis	.....	.....	.....	.....	.....	.....	.....	2
								—
								69
								—
(3) Other causes	.....	.....	.....	.....	.....	.....	.....	34

## Ophthalmia Neonatorum

During 1951, there were 619 cases of ophthalmia neonatorum (so called) notified, two of which were admitted to hospital.

No impairment of vision occurred in any case reported to the department.

## Pemphigus Neonatorum

No. of pemphigus cases which occurred on district during 1951	.....	8
Admitted to hospital	.....	—
Nursed at home :		
(a) by district nurse	.....	2
(b) by relative	.....	6
No. of cases of pemphigus which occurred in institutions during 1951	.....	—
All cases of pemphigus which occurred during 1951 recovered.		

## PREMATURITY

We are indebted to Dr. V. M. Crosse, Paediatrician, Birmingham Regional Hospital Board, for her co-operation in preparing this section of the report.

During the year, 1,531 premature births, i.e. babies with a birth weight of  $5\frac{1}{2}$  lbs. or less, occurred in Birmingham to Birmingham residents (including births to Birmingham residents in Marston Green). Of these, 212 were stillborn and 1,319 were live born. Premature births formed 8.2 per cent. of the total births and 7.2 per cent. of the live births. These are lower percentages than in 1950.

The stillbirth rate has risen very slightly and was 136.7 in 1951 compared with 135.4 in 1950.

There was, however, a higher proportion of live births below 4 lbs. than there was in 1950 (22.9 per cent. in 1951 and 19.4 per cent. in 1950). This is reflected in the premature infant mortality rate which has risen from 174 per 1,000 premature births in 1950 to 195 per 1,000 in 1951. The whole of this rise is accounted for by the neonatal death rate which has risen from 145.8 in 1950 to 163.9 in 1951. The neonatal death rate per cent. is higher than in 1950 in each weight group under 4 lbs. 91.6 per cent. of the premature neonatal deaths occurred during the first week of life and 43.7 per cent within 24 hours of birth. In 1950 the figures were 92.0 per cent. and 46.7 per cent. respectively.

The perinatal mortality rate has also been calculated and is shown on page 130. This gives a picture of the relative importance of hazards

surrounding a premature infant before, during and after birth, compared with an infant over  $5\frac{1}{2}$  lbs. at birth.

The premature death rate between 4 weeks and 12 months has fallen slightly from 28.6 in 1950 to 28.1 in 1951. Here also there has been a slight rise in the death rate from infection in both premature and mature groups.

On the other hand, the death rate associated with foetal deformity is halved in the premature group. None of the mothers of the 37 premature babies who died between 4 weeks and 1 year were at work outside their own home. At the time of death 33 of the babies were being cared for by both parents, one was looked after by a grandmother and 3 had been in hospital since birth. Fifty per cent. of the premature infants who died were living in very overcrowded conditions with two or more persons per room. Only 27.6 per cent. of the mature babies who died during the same age period lived in such overcrowded conditions. The death rate from infection among this group of premature babies was 22.0, whereas among mature babies it was 6.9. This shows the greater risk run by premature babies.

In the tables which are given later to illustrate these points, comparison is made with the equivalent death rates for babies weighing over  $5\frac{1}{2}$  lbs. to show the true hazard of premature birth. At the same time it should be pointed out that although an infant death, whether stillborn or following a live birth, may be classed as premature because of the weight of the infant, yet that is not a true picture of the primary factor which causes the infant death. Many other factors operate to cause death and only in approximately one third of the cases is prematurity the primary factor in the death. In two thirds of the cases the primary factor is some other disease or complication, which resulted in premature birth.

The proportion of live-born premature infants who were born in hospital has risen from 60.9 per cent. in 1950 to 67.1 per cent. in 1951 whereas the proportion born in nursing homes has fallen from 2.2 per cent. in 1950 to 0.9 per cent. in 1951. The proportion of premature babies born at home who were transferred to hospital after domiciliary delivery was practically the same as in 1950, i.e., 11.2 per cent in 1951 compared with 11.1 per cent in 1950.

Premature babies born at home have a lower neonatal mortality wherever treated because hospitals are dealing with a higher proportion of abnormal cases which have a higher risk. This is demonstrated very clearly in the babies under 3 lbs. 5 ozs. Over 5 lbs. the mortality of home born cases is much higher than hospital born cases whereas in the intermediate group the results are much the same.

The following table shows the history of 1,468 premature babies born alive in Birmingham during 1950.

FOLLOW-UP TO 1 YEAR. 1,468 PREMATURE BABIES BORN IN 1950

	<i>Up to 2 lbs.</i>	<i>2—3 lbs.</i>	<i>3—4 lbs.</i>	<i>4—5 lbs.</i>	<i>5—5½ lbs.</i>	<i>Total</i>
(1) Live births .....	37	91	157	550	633	1,468
(2) Neonatal deaths .....	37	59	38	59	21	214
(3) Alive at 4 weeks .....	0	32	119	491	612	1,254
(4) Left city .....	—	—	8	25	31	64
(5) Untraced .....	—	2	5	4	10	21
(6) Traced to 1 year or death .....	—	30	106	462	571	1,169
(7) Died between 4 weeks and 1 year	—	4	9	11	10	34
Per cent. of (6)	—	13.3	8.5	2.4	1.8	2.9
(8) Alive at 1 year .....	—	26	97	451	561	1,135

(9) Abnormalities found in children alive at 1 year :

Up to 3 pounds	Hernia 3 Blind 2 (retro lental fibroplasia) Short leg 1	} 6
3—4 pounds	Hernia 2 Cardiac 1 Blind 1 (retro lental fibroplasia) Squint 1 Microcephalic 1	} 6
4—5 pounds	Hernia 5 Cardiac 2 Squint 4 Cleft palate 2 Short leg 1 Mongol 1 Spastic defective 1 Multiple abnormalities 1	} 17
5—5½ pounds	Hernia 2 Talipes 1 Cardiac 2 Cleft palate 3 Squint 1 Microcephalic 1 Achondroplasia 1	} 11

## Domiciliary Care of the Premature Infant

Midwives who have received a course of training at the Carnegie Premature Baby Unit look after premature infants born at home and those discharged from hospital who are in need of special care.

When a woman goes into labour prematurely, the midwife who has been booked for the confinement remains with the patient until the completion of labour. The midwife who has been specially trained in the care of the premature baby then takes charge of both mother and baby. Special cots, hot water bottles, scales, baby clothing, and other items are available. Vitamin preparations may be obtained as required.

There are six of these specially trained midwives working in the City. Owing to extra time which has to be devoted to individual cases the number looked after at any one time is much smaller than would obtain in normal midwifery practice. Each midwife has, moreover, to cover a wide area of the City.

During 1951, the specially trained midwives looked after a total of 274 infants as follows:

Home confinement and baby after-care at home .....	154
Home confinement and baby admitted to hospital later .....	23
Hospital confinement, baby later nursed at home .....	97
	(86—5½ lbs. or under on discharge
	11 over 5½ lbs. on discharge)

Among the 177 babies born at home, there were 15 sets of twins.

The following is the weight distribution of the 177 premature babies cared for by premature baby midwives:

<i>Birth Weight</i>	<i>Number</i>
3½—4 lbs. ....	4
4 —4½ lbs. ....	20
4½—5 lbs. ....	61
5 —5½ lbs. ....	92
	—
	177
	—

Of the 268 premature babies who were born and nursed at home, 154 were nursed by the premature baby midwives. There were no neonatal deaths among these 154 babies. Of the 144 premature babies removed to hospital, 23 were nursed by the premature baby midwives. Of these,

7 died. These 23 babies were admitted to hospital for the following reasons:

<i>Birth Weight</i>	<i>Age on admission to hospital</i>	<i>Cause</i>	<i>Result</i>
3 lbs. 14 ozs.	2 days	Cerebral haemorrhage	Recovered
4 lbs.	1 day	Failure to thrive	Recovered
4 lbs. 4 ozs.	1 day	Poor condition	Recovered
4 lbs. 4 ozs.	4 days	Cyanosis	Died
4 lbs. 4½ ozs.	3 days	Cyanosis	Died
4 lbs. 8 ozs.	3 days	Torn tentorium	Died
4 lbs. 8 ozs.	7 days	Upper respiratory infection	Recovered
4 lbs. 10 ozs.	3 days	Failure to thrive	Recovered
4 lbs. 10 ozs.	17 days	Upper respiratory infection	Recovered
4 lbs. 10 ozs.	—	Ruptured liver	Died
4 lbs. 10 ozs.	6 days	Upper respiratory infection	Recovered
4 lbs. 13 ozs.	10 days	Vomiting	Recovered
4 lbs. 13 ozs.	14 days	Mother's condition	Recovered
4 lbs. 14 ozs.	1 day	Loss of weight	Recovered
5 lbs.	4 days	Oedema	Died
5 lbs. 1 oz.	4 weeks	Pyloric Stenosis	Recovered
5 lbs. 1½ ozs.	3 weeks	Loss of weight	Recovered
5 lbs. 2 ozs.	1 day	Home conditions	Recovered
5 lbs. 3 ozs.	29 days	Gastro-enteritis	Recovered
5 lbs. 3½ ozs.	1 day	Cerebral haemorrhage	Died
5 lbs. 3½ ozs.	14 days	Mother's condition	Recovered
—	3 weeks	Upper respiratory infection	Recovered
—	2 hours	Prematurity	Died

The neonatal death rate of premature babies born and nursed at home who did not receive this specialised nursing is very much higher. These results show how important it is to extend the specialised nursing for premature babies born in their own home.

The following table shows the success which has attended the home nursing by the premature baby midwives.

	<i>Neonatal death rate</i>	
	<i>Nursed by</i>	
	<i>Premature baby midwife</i>	<i>Other-wise</i>
Born and nursed entirely at home .....	..... No deaths	126.1
Born at home—removed to hospital later .....	..... 303.4	305.7

Of premature infants born in hospital, 29 were discharged requiring special care and were looked after by the special midwives. Among these, there were 4 sets of twins and one of triplets. Two children of this group died—one microcephalic of perityphlitis and one triplet died of gastro-enteritis.

PREMATURE BIRTHS BY PLACE OF CARE. BIRTH WEIGHT AND SURVIVAL

	1,000 grams. (2.2 lbs.) or less				Over 1,000 grams. and up to 1,500 grams.				Over 1,500 grams. and up to 2,000 grams.			
	Live births	Neo-natal deaths	Neonatal death rate		Live births	Neo-natal deaths	Neonatal death rate		Live births	Neo-natal deaths	Neonatal death rate	
1. Born and nursed entirely at home	5	5	1,000.0	1,000.0	1	1	1,000.0	1,000.0	16	3	187.5	200.0
2. Born at home and transferred to hospital after 24 hours	—	—	—		900.0	—	—		—	545.4	4	
3. Born at home and transferred within 24 hours	5	4	800.0		21	11	523.8		48	15	312.5	
4. Born and nursed in hospital	32	30	937.5		80	53	662.5		168	42	250.0	
5. Born in nursing home	—	—	—		—	—	—		2	1	—	
All cases	42	39	928.6		102	65	637.3		238	62	260.5	

CONTINUED OVERLEAF

PREMATURE BIRTHS BY PLACE OF CARE. BIRTH WEIGHT AND SURVIVAL—(continued)

	Over 2,000 grams, and up to 2,250 grams.		Over 2,250 grams, and up to 2,500 grams.		Total 2,500 grams, or less	
	Live births	Neonatal deaths	Live births	Neonatal deaths	Live births	Neonatal deaths
1. Born and nursed entirely at home	37	—	209	5	268	14
2. Born at home and transferred to hospital after 24 hours	10	4	10	4	24	9
3. Born at home and transferred within 24 hours	24	2	22	3	120	35
4. Born and nursed in hospital	194	20	390	11	864	156
5. Born in nursing home	2	—	8	—	12	1
All cases	267	26	639	23	1,288	215

*Neonatal death rate* (Over 2,000 grams, and up to 2,250 grams): 85.1 (bracketed over 4 and 2), 84.5 (bracketed over 4 and 2), 97.4 (bracketed over 26 and 20)  
*Neonatal death rate* (Over 2,250 grams, and up to 2,500 grams): 41.1 (bracketed over 5 and 4), 49.8 (bracketed over 4 and 3), 36.0 (bracketed over 23 and 11)  
*Neonatal death rate* (Total 2,500 grams, or less): 78.8 (bracketed over 14 and 9), 140.8 (bracketed over 35 and 291.7)

NOTE. = 1,000 grams. = 2.2 lbs.

WEIGHT DISTRIBUTION

<i>Weight Class</i>	<i>Live births Number</i>	<i>% age of all live pre- mat. births</i>	<i>Stillbirths Number</i>	<i>% age of all prem. s.b's of known weight</i>
Up to 2 lbs. ....	33	2.6	29	14.7
2-3 lbs. ....	80	6.2	44	22.3
3-4 lbs. ....	182	14.1	46	23.4
4-5 lbs. ....	458	35.6	57	28.9
5-5½ lbs. ....	535	41.5	21	10.7
Under 5½ lbs., exact weight unknown ....	—	—	7	.
All 5½ lbs. and under ....	1,288	100.0	204	100.0

STILLBIRTH RATE BY PRIMARY FACTOR FOR PREMATURE BIRTHS  
AND FOR BABIES OVER 5½ LBS.

<i>Causes of death</i>	<i>Deaths of premature babies (per 1,000 premature births live and still)</i>	<i>Deaths of babies over 5½ lbs. (per 1,000 births over 5½ lbs. live and still)</i>
<i>Antenatal deaths :</i>		
<i>(a) Known causes :</i>		
Toxaemia ....	19.4	0.5
Syphilis ....	—	—
Rhesus incompatibility ....	0.7	0.5
Other maternal conditions ....	2.0	0.1
Separation of placenta ....	6.7	0.2
Foetal deformity ....	12.1	0.4
Other conditions ....	10.7	0.6
<i>(b) Unknown</i> ....	25.5	1.6
Total antenatal death rate ....	77.1	3.9
<i>Intranatal deaths :</i>		
<i>(a) Antenatal causes :</i>		
Toxaemia ....	10.0	1.1
Syphilis ....	1.3	—
Rhesus incompatibility ....	—	0.1
Other maternal conditions ....	0.7	0.1
Separation of placenta ....	6.7	0.7
Foetal deformity ....	15.4	0.3
<i>(b) Intranatal causes :</i>		
Breech presentation ....	7.4	0.9
Other difficult labour ....	6.7	2.5
Other ....	5.4	1.4
<i>(c) Unknown</i> ....	2.0	0.7
Total intranatal death rate ....	55.6	7.8

NEONATAL DEATH RATE BY PRIMARY FACTOR FOR  
PREMATURE BIRTHS AND FOR BABIES OVER 5½ LBS.

<i>Primary factor</i>	<i>Death rates</i>	<i>Death rates</i>
	<i>for premature babies</i> (per 1,000 live premature births)	<i>for babies over</i> 5½ lbs. (per 1,000 live births over 5½ lbs.)
<i>Antenatal causes :</i>		
Toxaemia .....	16.3	0.1
Syphilis .....	—	—
Rhesus incompatibility .....	0.8	0.4
Other maternal conditions .....	14.7	0.1
Separation of placenta .....	28.7	0.06
Other .....	* 9.3	0.06
<i>Intranatal causes :</i>		
Breech presentation .....	3.9	0.3
Other difficult labour .....	0.8	0.6
Other causes .....	17.1	1.3
<i>Postnatal causes :</i>		
Infection .....	12.4	1.3
Other .....	1.6	0.8
Foetal deformity .....	14.7	2.8
Prematurity only .....	46.6	—
<b>TOTAL neonatal death rates</b> .....	<b>166.9</b>	<b>7.8</b>

PERINATAL MORTALITY RATES BY PRIMARY FACTOR FOR  
PREMATURE BIRTHS AND BABIES OVER 5½ LBS.

<i>Primary cause of death</i>	<i>Perinatal Mortality Rate</i>	
	<i>Premature Babies</i> (per 1,000 premature births, live and still)	<i>Babies over 5½ lbs.</i> (per 1,000 births over 5½ lbs., live and still)
<i>Antenatal Causes :</i>		
Toxaemia .....	43.6	1.6
Syphilis .....	1.3	—
Rhesus incompatibility .....	2.0	1.0
Other maternal conditions .....	15.4	0.3
Other Causes .....	57.6	1.6
<i>Intranatal Causes :</i>		
Breech presentation .....	10.8	1.2
Other difficult labour .....	7.4	3.1
Other causes .....	20.1	2.7
<i>Postnatal Causes :</i>		
Infection only .....	10.7	1.3
Other .....	1.3	0.7
Foetal Deformity .....	40.9	3.5
Prematurity only .....	40.2	—
Unknown Causes .....	29.5	2.4
<b>All causes</b> .....	<b>280.8</b>	<b>19.4</b>

AGE AT DEATH OF PREMATURE BABIES AND OF BABIES OVER 5½ LBS.  
(DEATHS UNDER 4 WEEKS)

Age at death	Premature babies		Babies over 5½ lbs.	
	per cent. of deaths	per cent. of live births	per cent. of deaths	per cent. of live births
Less than 24 hours .....	43.7	7.3	31.3	0.24
24—48 hours .....	19.1	3.2	7.0	0.06
48 hours to 1 week .....	28.8	4.8	28.1	0.22
1—2 weeks .....	4.6	0.8	13.3	0.10
2—3 weeks .....	3.3	0.5	9.4	0.07
3—4 weeks .....	0.5	0.1	10.9	0.09
All ages to 4 weeks .....	100.0	16.7	100.0	0.78

DEATH RATE OVER 4 WEEKS AND UNDER 1 YEAR

By Cause	Premature Babies		Babies over 5½ lbs.	
	(Rate per 1,000 premature live births)		(Rate per 1,000 live births over 5½ lbs.)	
	1950	1951	1950	1951
Infections :—				
Respiratory .....	10.9	12.9	3.8	4.2
Digestive .....	5.5	5.3	1.5	1.2
Other .....	3.4	3.8	2.1	1.5
Foetal deformity .....	5.4	2.3	1.2	1.0
Other causes* .....	3.4	3.8	1.0	1.3
Total death rate 4 weeks—				
1 year .....	28.6	28.1	9.6	9.2

\* Including tuberculosis.

INCIDENCE OF PREMATURE BIRTH AS A PERCENTAGE OF :

	1944	1945	1946	1947	1948	1949	1950	1951
Total births	6.3	7.2	7.9	7.9	7.6	8.2	9.0	8.2
Stillbirths	44.2	44.8	41.3	47.1	47.0	45.6	51.8	51.0
Live births	5.4	6.2	7.1	6.9	6.7	7.3	8.0	7.2
Neonatal deaths	59.3	59.2	54.2	56.9	59.6	60.9	59.5	61.6
Deaths (1—12 months)	—	—	—	16.5	21.2	16.7	20.6	19.2
Total infant mortality	—	—	—	34.4	42.9	42.2	45.5	46.6

NEONATAL DEATHS (PER CENT.) IN THE VARIOUS BIRTHWEIGHT GROUPS

Birth-weight	1945 (1,222 babies)	1946 (1,560 babies)	1947 (1,648 babies)	1948 (1,431 babies)	1949 (1,410 babies)	1950 (1,468 babies)	1951 (1,288 babies)
Up to 2 lbs.	100.0	100.0	93.0	97.2	100.0	100.0	100.0
2—3 lbs. ....	80.0	77.4	71.1	75.3	74.4	64.8	66.2
3—4 lbs. ....	45.2	35.2	33.8	35.2	26.4	24.2	35.7
4—5 lbs. ....	14.0	9.2	7.6	11.0	8.9	10.7	10.3
5—5½ lbs. ....	6.7	3.4	6.0	3.2	4.0	3.3	3.2
All weights to 5½ lbs.	21.1	17.3	16.8	16.0	14.9	14.6	16.7

## MATERNITY SERVICES

The effect of the National Health Service on the maternity services has been a subject for discussion over the past three and a half years. In Birmingham where, before the appointed day, most of the maternity beds were provided by the local authority and where most of the domiciliary patients received their antenatal care at local authority clinics and were delivered by City midwives, a considerable amount of disruption took place. It was immediately realised, however, that no useful purpose would be served in trying to preserve as far as possible the old situation which, in spite of much criticism, had many excellent points. Rather was it felt that the new set of circumstances should be approached in a constructive way incorporating into the new scheme that which was good in the old. Thus from the commencement the view was taken that general practitioners undertaking maternity services under the new arrangements should, in fact, be responsible for the antenatal care of their patients and should not confine their examinations to the minimum requirement of two examinations, leaving all the intermediate examinations to be carried out at the antenatal clinic, by the local authority medical officer. Such an arrangement could only perpetuate the division of responsibility which had been criticised in the past. In consequence, patients who have booked the general practitioner in this way are not accepted at clinics for intermediate examinations by local authority medical officers unless at the request of their general practitioner and for some specific reason. On the other hand, where general practitioners hold special sessions for expectant mothers at their surgeries, the domiciliary midwives have been encouraged to attend there with their patients. In one instance, a health visitor also attends to give health talks. Not all surgeries, however, are suitably adapted for this purpose, nor have all general practitioners a sufficient number of patients to justify a separate session being set aside for this purpose. Midwives, in certain instances, hold their own clinics either at separate sessions or at the same time as the ordinary local authority clinics. Patients who have booked a general practitioner may attend these clinics with his consent. They are not examined by the local authority medical officer but they have the opportunity of meeting the health visitors and deriving benefit from the health teaching which is given at the clinic. General practitioners may recommend their patients for inclusion in the antenatal exercise classes which are held at the welfare centres. They may also send their patients to have blood taken for the Wassermann and Rhesus reactions or, alternatively, if they themselves take the blood, they can send the tubes to the nearest welfare centre for conveyance to the central laboratory.

Informal meetings have been held at each welfare centre to enable general practitioners to meet the local authority staff working in that area

and to have an opportunity of discussing mutual problems. In these various ways, an attempt is made to improve the working of the new service and to promote greater understanding in the domiciliary field.

Problems in the hospital field are of a different character. With the majority of beds no longer necessarily reserved for Birmingham women and the attraction of the free services provided there contrasted with the additional expenses inevitably incurred in a domiciliary confinement, problems relating to priority of admission arise. Where patients booked for hospital admission were receiving their intermediate antenatal examinations from the general practitioner, the question arose of interchange of information on lines similar to that in operation for many years in the welfare centres. Although in one sense this was not the immediate responsibility of the local authority yet it was of interest and concern in that it had an important bearing on the wellbeing of expectant mothers. After discussions, a record card was devised which is now in general use by general practitioners in the area.

After the lapse of three and a half years it would now seem appropriate to review the progress of the maternity services in Birmingham since the appointed day.

In 1949 a new health visitors' visiting card and neonatal death card were introduced, the information from which could be transferred to a punch card. In 1951 a similar type of card was introduced for stillbirths. In 1949 the information obtained was relatively incomplete because of various difficulties in initiating such a scheme. Now, with the staff well accustomed to the new methods, very detailed information can be obtained.

In the first place, a comparison between the years 1945—47 and the years 1949—51 may prove of interest. The general trend of the birth rate was downwards. The infant mortality rate fell sharply in 1949 and in 1951 stood at 30 per 1,000 live births.

The stillbirth rate and the neonatal death rate, which are influenced in a very large measure by the adequacy of the antenatal and intranatal care, showed the same downward trend but to a much less degree. To obtain a clear picture it is now becoming customary to consider stillbirths and neonatal deaths together as the sum total of perinatal deaths. The perinatal death rate is, therefore, the total number of stillbirths and neonatal deaths per 1,000 total births and may be considered a better index of the adequacy of the maternity services.

	1945	1946	1947	1949	1950	1951
Birth rate .....	20.2	22.5	22.2	18.1	16.8	16.5
Stillbirth rate .....	25	25	24	22	23	22
Infant death rate .....	49	40	41	31	30	30
Neonatal death rate	22.5	22.1	20.9	17.7	19.2	19.2
Perinatal death rate	46.7	47.0	43.9	39.0	41.8	40.9
Death rate :						
4 weeks—12 months	26.5	17.9	19.5	13.1	10.9	10.5

When this comparison is made it is found that the average perinatal death rate in the three year period 1949—51 has fallen by 11.5 per cent. compared with the average in the three year period 1945—47, whereas the average death rate for the age range 4 weeks to 1 year has fallen by 46.0 per cent. between the two periods 1945—47 and 1949—51. In other words, the mortality rate in the period of the infant's life (4 weeks to 12 months) which is most influenced by environmental conditions has shown a much greater improvement than the mortality rate before and immediately after birth, which is greatly influenced by the health of the mother and the quality of the maternity services.

### Antenatal Care

Before the coming into force of the National Health Service Act there was a very close integration between the hospital and domiciliary midwifery services. The vast majority of women confined in hospital were confined in the local authority hospitals and there was a close exchange of information. Many of the women confined in hospital attended the local authority clinics for their intermediate examinations. In 1947, 84 per cent. of the women confined, whether at home or in hospital, attended the local authority antenatal clinics. By 1951 that figure had been greatly reduced.

In 1950-51, responsibility for antenatal care was as follows :

	1950	1951
Hospital .....	39.9%	44.2%
Private practitioner .....	5.5%	2.9%
Maternity Service general practitioner .....	30.3%	31.6%
Centre .....	23.2%	20.4%
None .....	0.4%	0.4%
Unknown .....	0.5%	0.4%

The value of frequent antenatal examinations is well known and is brought out in the following table :

	Total births	No. of stillbirths and neonatal deaths	Perinatal death rate
1—2 visits .....	541	53	97.9
3—5 visits .....	2,209	125	56.6
6—8 visits .....	3,645	148	40.6
9 or more visits .....	7,964	226	28.4
None .....	73	23	315.1
Unknown .....	2,758	168	60.9

To ensure good antenatal attendance requires constant vigilance on the part of doctor, midwife and health visitor. Before the National Health Service Act came into operation the close liaison between the health visiting service, the midwife and the hospital went far to diminishing the defaulter rate. The liaison between the general practitioners and the hospital on the one hand and the health visiting service on the other must be maintained and, in the case of the general practitioner,

developed to ensure that expectant mothers attend as frequently as may be necessary.

#### ANTENATAL CARE

				<i>Percentage Attendance</i>			
				<i>1 or 2</i>	<i>3—5</i>	<i>6—8</i>	<i>9+</i>
				<i>visits</i>	<i>visits</i>	<i>visits</i>	<i>visits</i>
<b>Hospital</b>							
1950	.....	.....	.....	2.5	12.1	25.0	60.3
1951	.....	.....	.....	2.9	11.9	24.4	60.8
<b>Private practitioner</b>							
1950	.....	.....	.....	4.3	15.3	41.8	38.4
1951	.....	.....	.....	6.1	15.9	46.4	31.6
<b>Maternity Service general practitioner</b>							
1950	.....	.....	.....	3.4	14.8	24.1	47.6
1951	.....	.....	.....	3.7	15.3	36.8	44.2
<b>Midwife and Centre</b>							
1950	.....	.....	.....	4.4	16.9	31.7	47.0
1951	.....	.....	.....	4.2	17.4	31.5	46.9
<b>All cases</b>							
1950	.....	.....	.....	3.3	14.3	30.3	51.9
1951	.....	.....	.....	3.5	14.2	30.1	51.7

One of the most important functions of the antenatal clinic is the education in healthy living which the expectant mother receives. The accommodation in surgery premises where the expectant mother receives her antenatal care from the general practitioner in many cases makes health teaching difficult. As has already been said, in one instance, a health visitor attends at the practitioner's surgery to give health talks. Health talks are also given at the antenatal exercise classes, which the patients of general practitioners attend. Owing to the shortage of physiotherapists, however, only a comparatively small proportion of expectant mothers can avail themselves of this service.

Health visitors attend the antenatal clinics at some of the maternity hospitals to give health talks but not all the hospitals are covered in this way.

As far as health education of the expectant mother is concerned, because of the diminution in attendance at the local authority antenatal clinics, the ground is not as well covered as it was before the appointed day. At the end of the year active consideration was being given to remedying this defect and to strengthening the association between the general practitioner and the health visitor.

## Place of Birth

The proportion of births occurring in hospital, in nursing homes and the patients' own homes remained the same throughout the period 1945—47 but throughout the period 1949—51 the proportion of domiciliary births and births in nursing homes steadily declined while the proportion in hospitals increased.

Place of Birth	Percentage					
	1945	1946	1947	1949	1950	1951
Domiciliary	48	48	48	44	44	43
Hospitals	44	44	44	} 53	52	55
Nursing Homes	8	8	8		4	2

## Hospital Deliveries

This rise in hospital deliveries resulted in such pressure on hospital beds that 3,728 women were discharged before the end of the puerperium in 1949 (39.1 per cent. of the hospital deliveries in Birmingham and Marston Green), in 1950 the figure was 3,829 (20.7 per cent.) and in 1951 was 2,822 (15.7 per cent.).

All cases requiring admission for social reasons are expected to make application through the Public Health Department. In 1949 7,124 cases made application, of whose applications 4,584 were granted. In 1950, 6,195 applications were received, of which 4,060 were granted. In 1951, 5,181 applications were received, of which 4,824 were granted.

### APPLICATIONS FOR HOSPITAL CONFINEMENTS

	1950	1951
Number of applications received for social reasons	6,195	5,181
Number of applications granted	4,060	4,824
Total number of hospital confinements	9,561	9,715
Number of hospital deliveries with no antenatal disease or complication	5,325	5,847
Number of hospital deliveries with spontaneous onset : spontaneous delivery	7,253	7,599
Number of hospital deliveries presenting as normal vertex (L.O.A. or R.O.A.)	7,913	8,343

The first point of interest is whether those cases requiring admission to hospital for medical reasons are, in fact, being dealt with there.

As the stillbirth record card in its new form only came into use in 1951, it is not possible to compare the perinatal death rates relating to the various abnormalities of pregnancy and labour with those of the previous year. It is, however, possible to compare the neonatal death rates associated with these conditions. These are set out on pages 141—143. The perinatal death rate for 1951 is also given.

The figures in most instances are small and no firm conclusion can be drawn. Differences only can be noted with a view to observing trends in succeeding years. As already stated, the proportion of domiciliary confinements as opposed to hospital confinements has fallen. As far as hospital confinements are concerned the proportion of emergency to booked cases has increased from 5.4 per cent. in 1950 to 7.0 per cent. in 1951.

If the antenatal period is considered first it is seen, when 1950 and 1951 are compared, that there has been a rise in the neonatal death rate associated with the three groups—nontoxic antepartum haemorrhage, pyelitis and the group "other conditions". It is in these groups too that a higher proportion of women had made arrangements to have their confinement at home and subsequently had to be admitted as emergencies.

<i>Confinements</i>	<i>Percentage Incidence</i>	
	<i>1950</i>	<i>1951</i>
Nontoxic antepartum haemorrhage, pyelitis and other conditions		
Domiciliary .....	20.7	19.9
Hospital emergencies .....	5.4	8.9
"    booked .....	73.9	71.2
	} 26.1	} 28.8
	-----	-----
	100.0	100.0
	=====	=====
All other antenatal diseases or com- plications		
Domiciliary .....	29.3	27.1
Hospital emergencies .....	5.6	6.1
"    booked .....	65.1	66.8
	} 34.9	} 33.2
	-----	-----
	100.0	100.0
	=====	=====
No antenatal disease or complication		
Domiciliary .....	53.1	50.2
Hospital emergencies .....	1.6	2.4
"    booked .....	45.3	47.4
	} 54.7	} 52.6
	-----	-----
	100.0	100.0
	=====	=====

In the case of abnormal presentations there has been an increase in the neonatal death rate associated with face presentation and transverse lie. In 1951 these two groups also had the highest perinatal mortality rate. Here, too, a much higher proportion made arrangements for home delivery and subsequently had to be admitted as emergencies to hospital.

<i>Confinements</i>	<i>Percentage Incidence</i>	
	1950	1951
Face and transverse presentations		
Domiciliary .....	18.6	26.3
Hospital emergencies .....	9.3	20.5
„ booked .....	72.1	53.2
	27.9	46.8
All other abnormal presentations		
Domiciliary .....	37.8	33.7
Hospital emergencies .....	7.5	9.9
„ booked .....	54.7	56.4
	45.3	43.6
Normal presentation (L.O.A. or R.O.A.)		
Domiciliary .....	47.3	44.7
Hospital emergencies .....	2.3	2.9
„ booked .....	50.4	52.4
	49.6	47.6

Where labour was abnormal there has been a rise in the neonatal death rate associated with the five groups—instrumental delivery following spontaneous onset, instrumental delivery following medical and surgical induction, as well as surgical induction with spontaneous onset and the group “other conditions”. Here the situation is in a sense reversed in that a smaller proportion of women in this group made arrangements for domiciliary confinement. The rise in the neonatal death rate here is mainly associated with surgical interference in the course of labour. Although the neonatal death rate associated with Caesarean section has fallen there has been a rise in the emergency admissions which were followed by Caesarean section.

<i>Confinements</i>	<i>Percentage Incidence</i>	
	1950	1951
Instrumental delivery with spontaneous onset and medical and surgical induction, also surgical induction with spontaneous delivery, and other conditions		
Domiciliary .....	20.5	10.4
Hospital emergencies .....	15.4	12.3
„ booked .....	64.1	77.3
	35.9	22.7
All other abnormal labours, excluding Caesarean section		
Domiciliary .....	14.7	12.5
Hospital emergencies .....	8.0	10.9
„ booked .....	77.3	76.6
	22.7	23.4
Normal		
Domiciliary .....	51.2	48.8
Hospital emergencies .....	2.0	2.8
„ booked .....	46.8	48.4
	53.2	51.6
Caesarean section		
Hospital emergencies .....	12.9	15.6
„ booked .....	87.1	84.4

From this analysis it appears that about 50 per cent. of the women with a normal pregnancy, labour and puerperium were confined in hospital and that only about one twentieth of these were not booked cases. On the other hand, among the cases showing abnormality during the pregnancy or labour between one tenth and one fifth were admitted to hospital as emergencies and between one fifth and one quarter were confined at home. It would appear that a further effort is required by all concerned to ensure that the mother who needs admission to hospital for medical reasons is not confined at home.

The Ministry of Health have suggested, on the advice of the Standing Maternity and Midwifery Committee of the Central Health Services Council, that the order of priority of admission to hospital should be (a) all cases in which there are medical or obstetric reasons in the widest sense of these terms and (b) adverse social conditions, especially bad housing. It is considered that group (a) "should not be regarded as necessarily including all primigravidae though admittedly a large proportion should be admitted and unquestionably most multiparae who have four or more children would be within the group having medical reasons for admission".

In view of these recommendations it is of interest to examine what has been Birmingham's experience in 1951.

The question of admission for abnormal conditions during pregnancy and labour has already been discussed. Seventy per cent. of the primigravidae and twenty-eight per cent. of the women who had already had four or more children were booked for hospital delivery. The reason, other things being equal, for giving priority to these two groups is that the hazards for mother and child are greater than in the intermediate groups. This was the experience in Birmingham in 1951 where the perinatal death rate was greater in these two groups.

	<i>Perinatal death rate</i>
Primigravidae	46.4
Parities 2, 3 and 4	33.4
Multiparae 5 and over	61.1

A much larger proportion of the group who already had four or more children were booked for home delivery compared with the primigravidae and those multigravidae 5+ who were, in fact, delivered at home had a lower perinatal death rate than the primigravidae delivered at home, i.e., 21.8 compared with 37.9. However, a higher proportion of the multigravidae 5+ booked for home delivery had to be admitted to hospital

as emergencies, i.e. primigravidae 4.4 per cent; multigravidae 5+ 6.1 per cent., and the perinatal mortality for multigravidae 5+ among these emergency admissions was much higher, i.e., primigravidae 184.4: multigravidae 5+ 274.2. Further efforts must be made to persuade more women in this group of multigravidae 5+ to book for hospital delivery. This is not easy as family responsibilities make them unwilling to be away from home at this time.

Application for admission for social reasons is usually because of housing difficulties. Not all pregnant women living in overcrowded conditions, however, make application for admission to hospital. Family responsibilities, especially where there are several children, deter some. Others are actively hostile to the idea of hospital confinement although they may have no real family commitments and are living in bad conditions. In these cases, they are often admitted to hospital as emergencies when they go into labour. Although the housing conditions of pregnant women showed the same degree of overcrowding as in 1950 yet it is satisfactory to record that a smaller proportion than in 1950 of pregnant women living in these conditions were confined in their own homes. The proportion of women in the group multigravidae 5+ who were confined in their own home, however, was three times as great as in the group of primigravidae. This underlines the importance of trying to persuade these women to book for hospital confinement. Unfortunately women admitted for social reasons have often to return with their babies to these overcrowded conditions, in a number of cases before the tenth day after delivery.

<i>Housing condition</i>	<i>Percentage confined at home</i>	
	<i>1950</i>	<i>1951</i>
1½ and less than 2 persons per room .....	42.1	34.4
2 or more persons per room .....	37.7	36.1

To sum up, it may be said that after the initial disruption in the maternity services which took place in 1948, co-operation and co-ordination between the various branches of the service is developing along satisfactory lines which gives great promise for the future. There are still many gaps to be filled and improvements made, but given a continuance of the goodwill on all sides, which has been such a marked feature in this City so far, there seems no doubt that a first class maternity service will emerge.

CONFINEMENTS BY PLACE OF OCCURRENCE AND INCIDENCE OF  
ABNORMALITY

		<i>Percentage Incidence</i>		<i>Neonatal Death rate</i>		<i>Perinatal Death rate</i>
		<i>1950</i>	<i>1951</i>	<i>1950</i>	<i>1951</i>	<i>1951</i>
<i>Antenatal Disease or Complication</i>						
Toxaemia	Domiciliary	16.7	15.9	35.3	30.8	98.5
	Hospital emergencies	8.8	10.4			
	Hospital booked .....	74.5	73.7			
W.R. +	Domiciliary	24.6	42.9	50.8	46.5	46.5
	Hospital emergencies	7.0	2.4			
	Hospital booked .....	68.4	54.7			
Rubella	Domiciliary	50.0	66.7	—	—	—
	Hospital emergencies	—	—			
	Hospital booked .....	50.0	33.3			
<i>Nontoxic Antepartum Haemorrhage</i>						
	Domiciliary	21.7	14.7	143.6	170.4	254.0
	Hospital emergencies	23.2	33.2			
	Hospital booked .....	55.1	52.1			
Pyelitis	Domiciliary	24.8	26.4	37.9	41.7	65.0
	Hospital emergencies	1.3	7.4			
	Hospital booked .....	73.9	66.2			
Anaemia	Domiciliary	31.9	20.6	19.9	10.1	16.1
	Hospital emergencies	1.7	1.6			
	Hospital booked .....	66.4	77.8			
Varicose veins	Domiciliary	56.1	59.8	14.6	12.3	25.6
	Hospital emergencies	1.3	2.0			
	Hospital booked .....	42.6	38.2			
Other	Domiciliary	19.9	20.2	30.1	39.0	83.9
	Hospital emergencies	3.5	4.9			
	Hospital booked .....	76.6	74.9			
<i>Combination of above</i>						
	Domiciliary	15.9	13.6	40.7	31.5	61.0
	Hospital emergencies	6.9	7.2			
	Hospital booked .....	77.2	79.2			

		Percentage Incidence		Neonatal Death rate		Perinatal Death rate
		1950	1951	1950	1951	1951
<i>Abnormal Presentation</i>						
Occipito Posterior						
	Domiciliary .....	46.1	44.1	18.8	16.2	50.5
	Hospital emergencies	4.6	6.5			
	Hospital booked .....	49.3	49.4			
Brow	Domiciliary .....	15.0	—	47.6	—	238.1
	Hospital emergencies	25.0	25.0			
	Hospital booked .....	60.0	75.0			
Face	Domiciliary .....	28.3	37.2	40.8	139.5	372.9
	Hospital emergencies	4.4	18.6			
	Hospital booked .....	67.3	44.2			
Breech	Domiciliary .....	26.6	20.4	118.3	83.8	193.3
	Hospital emergencies	11.2	12.6			
	Hospital booked .....	62.2	67.0			
Transverse	Domiciliary .....	3.4	10.0	57.1	133.3	422.2
	Hospital emergencies	17.2	23.3			
	Hospital booked .....	79.4	66.7			
Other	Domiciliary .....	24.5	20.0	28.2	—	210.5
	Hospital emergencies	11.3	20.0			
	Hospital booked .....	64.2	60.0			

*Abnormal Labour*

Spontaneous onset :

instrumental delivery :

	Domiciliary .....	24.7	19.7	26.1	32.5	86.5
	Hospital emergencies	10.0	13.2			
	Hospital booked .....	65.3	67.1			

Medical induction :

spontaneous delivery :

	Domiciliary .....	36.0	25.9	17.7	6.6	71.0
	Hospital emergencies	3.1	6.9			
	Hospital booked .....	60.9	67.2			

Medical induction :

instrumental delivery :

	Domiciliary .....	7.3	10.2	24.4	65.2	140.0
	Hospital emergencies	4.9	0.6			
	Hospital booked .....	87.8	89.2			

Surgical induction :

spontaneous delivery :

	Domiciliary .....	1.9	3.2	30.6	33.0	98.5
	Hospital emergencies	8.3	11.6			
	Hospital booked .....	89.8	85.2			

		<i>Percentage Incidence</i>		<i>Neonatal Death rate</i>		<i>Perinatal Death rate</i>
		<i>1950</i>	<i>1951</i>	<i>1950</i>	<i>1951</i>	<i>1951</i>
Surgical induction :						
instrumental delivery :						
	Domiciliary .....	3.4	1.7	66.7	75.5	209.7
	Hospital emergencies	8.6	10.0			
	Hospital booked .....	88.0	88.3			
Medical and surgical induction :						
spontaneous delivery :						
	Domiciliary .....	—	1.6	57.1	33.9	80.6
	Hospital emergencies	4.8	8.2			
	Hospital booked .....	95.2	90.2			
Medical and surgical induction :						
instrumental delivery :						
	Domiciliary .....	—	—	58.8	—	52.6
	Hospital emergencies	11.8	5.3			
	Hospital booked .....	88.2	94.7			
Other	Domiciliary .....	30.9	15.5	58.8	81.6	237.3
	Hospital emergencies	19.0	20.7			
	Hospital booked .....	50.1	63.8			
Caesarean section :						
	Hospital emergencies	12.9	15.6	66.3	59.4	82.1
	Hospital booked .....	87.1	84.4			

# CARE OF MOTHERS AND YOUNG CHILDREN

(SECTION 22—NATIONAL HEALTH SERVICE ACT, 1946)

## MATERNITY AND CHILD WELFARE CENTRES

The number of Centres provided and maintained by the Council is 33. While the attendance of mothers at antenatal and postnatal clinics continued to fall, the attendance of children at child welfare clinics was well maintained. This may be considered very satisfactory in view of the fact that there was a considerable movement of population into new housing estates where mothers and their children may live long distances from the nearest maternity and child welfare centre.

The effect of the National Health Service on the attendance at antenatal and child welfare clinics is shown in the following table:

### ANTENATAL AND POSTNATAL CLINICS

Year	(1)	(2)	(3)	(4)	(5)
	<i>Total live and still births notified</i>	<i>Total number of individual women attending A.N. clinics</i>	<i>(2) as percentage of (1)</i>	<i>Total of mothers attending for P.N. examination</i>	<i>(4) as percentage of (1)</i>
1947	24,512	20,671	84	4,922	20
1948	21,822	17,283	79	4,830	22
1949	20,499	12,891	63	3,456	17
1950	19,277	10,732	56	2,751	14
1951	18,771	8,868	47	2,397	13

### CHILD WELFARE CLINICS

PERCENTAGE OF CHILDREN VISITED IN THEIR OWN HOMES, WHO ATTENDED THE CHILD WELFARE CENTRES

Year	0—1 year	1—2 years	2—3 years	3—4 years	4—5 years
1947	77.3	68.9	33.9	25.7	19.7
1948	76.6	67.1	33.9	24.2	18.8
1949	76.5	63.0	32.0	22.6	18.3
1950	73.2	62.2	33.8	24.0	19.0
1951	71.9	59.1	34.8	26.4	20.5

### Antenatal Clinics

These clinics are staffed by a medical officer, midwives and a health visitor. The midwives assist the medical officer and undertake all other duties in the clinic apart from the booking in of patients and the health talks, which are the responsibility of the health visitor.

It has been the policy of the department since the commencement of the National Health Service Act not to accept as patients at these clinics women who have booked general practitioners to give them antenatal care and if need be attend them at the delivery unless their practitioner makes a specific request that they should do so. Although the new arrangements for general practitioners' attendance in this way should go far to provide continuity of care, yet it has the disadvantage that these patients do not receive the kind of health education which is available at antenatal clinics held at welfare centres. In an attempt to overcome this difficulty, at some of the clinic sessions two couchès are available so that two patients can be examined simultaneously, one by the medical officer and the other by the midwife. Mothers who have booked their general practitioner may, with his consent, attend these sessions and be examined by the midwife. They are not examined by the centre medical officer. At one or two centres, antenatal clinics have been held by midwives only, without a local authority medical officer, for the patients of general practitioner obstetricians. A health visitor attends to give health education talks.

The number of antenatal clinics held weekly was 72 with an average attendance of 13.3.

	1949	1950	1951	<i>Decrease on 1950</i>
Number of antenatal clinics held	4,110	*3,965	† 3,724	241
New expectant mothers booked during year	10,329	8,555	7,558	997
Total individual women attending	12,891	10,732	8,868	1,864
Total antenatal attendances	67,926	56,387	49,618	6,769

\* including 724 midwives' clinics

† including 705 midwives' clinics

### Blood Tests

All mothers who attend the antenatal clinics have their blood tested for the Wassermann reaction and the Rhesus factor. Facilities have been made available for general practitioners to send their patients to the clinics to have their blood specimens taken. Where general practitioners themselves take the blood specimens they are at liberty to send the tubes to the nearest antenatal clinic, from where they are taken to the central laboratory. In 1951, 1,165 women were referred by the general practitioners to the centres for blood tests, an increase of 217 over the previous year.

## Mass Radiography

All pregnant women on the clinic register are given the opportunity of attending the Mass Radiography Centre. Sixty-two per cent. of 9,570 invited did, in fact, attend. One hundred and eighty-nine were requested to attend for further examinations, of whom 31 (0.52 per cent. of these attending for X-ray) were found to suffer from active tuberculosis. In 1950, 6925 attended for X-ray but only 19 (0.27 per cent.) had active tuberculosis. The number of inactive cases of tuberculosis noted was much less than in 1950.

	1950	1951
Number requested to attend .....	11,400	9,570
Number attended .....	6,925 (60.7%)	5,952 (62.2%)
Abnormality shown—further examination requested	364	189

### Analysis of larger X-ray film :

Normal .....	153	63
Active pulmonary T.B. ....	19	31
Inactive T.B. ....	129	47
Acquired cardio-vascular lesions .....	13	6
Other abnormal conditions .....	26	23
Failed to complete .....	14	8

### Incomplete :

Under medical direction .....	5	9
Awaiting sputum test .....	2	0
Awaiting large film .....	3	2

## Postnatal Clinics

The attendance of mothers at postnatal clinics for the purpose of their own examination has continued to decline. Many mothers now attend their own general practitioners for this purpose. The mother is also given the opportunity of bringing her young infant for examination and advice at the same time as she receives her own examination at the postnatal clinic. This aspect of the work is referred to in greater detail below under the heading of Child Welfare Clinics.

Number of primary postnatal cases examined at clinics .....	2,397
Total number of examinations .....	2,587
Number of cases showing no abnormality .....	1,112
Number of cases showing abnormality .....	1,285
Percentage of cases showing abnormality .....	53.6%

*Conditions found :*

Breasts—mastitis .....	23
Abnormalities in genital tract :	
Subinvolution .....	56
Retroversion .....	188
Deeply torn cervix .....	82
Parametritis .....	14
Cystocele, rectocele or prolapse (repair) .....	201
Poor perineum (result of no repair or of ineffective repair) .....	80
Fistula (urinary or faecal) .....	9
	} 630
Vaginal discharge.....	280
Persistent loss .....	77
Abnormalities in urinary tract :	
Albumin present .....	54
Pus present .....	1
Sugar present .....	7
Precipitancy of micturition .....	5
	} 67
White leg .....	4
General conditions :	
Raised blood pressure .....	36
Debility .....	178
Anaemia (a) following haemorrhage .....	21
(b) of pregnancy .....	33
(c) nutritional .....	121
	} 389
Backache .....	182
Abdominal muscles (lax, divarication of recti) .....	322
Other conditions .....	269

(More than one abnormality may be found in the same mother).

### Relaxation Classes for Mothers

Relaxation classes for expectant mothers were held at the following Centres—Bromford, Erdington, Handsworth, King's Heath, Kingstanding, Lancaster Street, Monument Road, Selly Oak, Small Heath, Sutton Street, Tennyal Road, Treaford Lane, Trinity Road and Washwood Heath. The relaxation exercises taught in these classes are of great benefit to mothers at the time of their delivery. Expansion of this section of the work is highly desirable as soon as circumstances permit. Mothercraft classes are held in conjunction with the relaxation classes at a number of the Centres.

Number of individual mothers attending .....	1,053
Number of sessions held .....	598
Total number of attendances .....	5,726

## Child Welfare Clinics

Three types of clinic are held :

- (1) the postnatal clinic where the mother may bring her young infant until he is three months old for examination and advice at the same time as she receives her own examination
- (2) the ordinary children's clinic where children of any age up to five years may attend
- (3) the toddlers' clinic where children between 18 months and 5 years attend every 3 or 4 months by appointment for medical inspection. If more frequent supervision is considered desirable the mother is advised to bring the child in the interim to the ordinary children's clinic.

The attendance of individual children at these three types of clinics has been well maintained as the following table shows :

Percentage of visited children who attended Centres :—

	0—1 year			1—2 years			2—5 years		
	1949	1950	1951	1949	1950	1951	1949	1950	1951
Children who made									
1—2 attendances	24.2	23.4	24.3	30.5	30.1	30.2	63.9	61.1	58.1
3—5 attendances	22.2	22.3	21.7	22.5	22.0	22.8	29.3	32.4	33.2
6—11 attendances	27.8	28.5	27.5	23.9	25.7	24.2	5.6	5.1	6.6
12 and over attendances	25.8	25.8	26.5	23.1	22.2	22.8	1.2	1.4	2.1

## Postnatal Clinics for Infants

	1950	1951
Number of clinics held	1,490	1,448
Number of new infants attending	9,424	9,168
Total number of infant attendances	57,253	54,882
Total examined by doctor	23,135	22,201
Average attendance of infants per consultation	38.4	37.9
Average number of infants seen by Doctor, per consultation	15.3	15.4

## Children's Clinics

	1950	1951
Number of Clinics held :		
(1) With doctor attending	3,183	2,994
(2) Without doctor attending	185	328
<b>TOTAL</b>	<b>3,368</b>	<b>3,322</b>
New children attending	7,101	7,071
Total attendances	156,839	144,506
Average attendance per clinic	46.6	43.5
Total seen by doctor	53,670	48,282
Average seen by doctor per clinic	16.9	16.1

## Toddlers' Clinics

	1950	1951
Number of clinics .....	1,727	1,793
Total attendances .....	29,418	30,880
Total number of individual children examined .....	14,427	14,375
Number of these children attending pre-school clinic for the first time .....	8,102	5,644

(Of these, 1,857 children were making their first attendance at the centre).

The following table shows the results of these examinations :

### *Environmental conditions :*

Clothing unsuitable or inadequate .....	37	53
Rest. Bed-time later than 7 p.m. ....	2,159	3,583
No day-time rest .....	5,898	5,907

### *Defects :*

Number of individual children having a defect .....	Not available	7,434
Eyes. Squint .....	269	274
Inflammatory conditions .....	106	96
Other eye conditions .....	44	36
Skin. Eczema .....	187	189
Purulent conditions .....	56	42
Ear, Nose and Throat. Otorrhoea .....	128	138
Deafness .....	31	28
Enlarged or diseased T's and/or A's.....	2,270	2,321
Nasal obstruction and/or mouth breathing .....	199	220
Teeth. Carious or defective .....	1,620	2,128
Glands. Enlarged .....	1,362	1,490
Heart. Congenital disease .....	92	74
Rheumatic heart conditions .....	50	36
Anaemia .....	26	33
Lungs .....	86	74
Rickets Active .....	44	14
Rachitic deformities .....	261	113
Knock knee .....	1,613	1,545
Flat foot .....	535	638
Other deformities .....	212	365
Mentality (Backward) .....	79	49
Speech. (Backward or defective) .....	210	141
Enuresis .....	1,294	2,032

More than one defect may have been found in the same child.

## Remedial Exercise Classes

During the year remedial exercise classes were held at the following Centres—Bromford, Erdington, Kingstanding, Lancaster Street, Monument Road, Selly Oak, Small Heath, Tennyal Road, Tower Hill, Treaford Lane, Trinity Road and Yardley Wood.

Number of individual children attending .....	643
Number of sessions held .....	459
Total number of attendances .....	5,991

## Sewing Classes

Sewing classes have been held at 27 Centres with a total attendance during the year of 10,228.

## Consultation Clinics

The following consultation clinics are held at Carnegie, to which children are referred by the medical officers of the child welfare centres:

<i>Doctor</i>	<i>No. of sessions</i>	<i>No. of children attending</i>
Dr. Braid—consultation clinic	38	199
Dr. Crosse—consultation clinic	52	295
X-ray clinic	47	330

## Parents' Guidance Clinic

Patients referred during the year totalled 142, compared with 178 during 1950, 130 during 1949 and 109 during 1948. Of these, 61 were boys, 51 girls, 28 mothers and 2 were members of staff. The psychiatrist saw 70 new patients at the clinic and 32 were seen by the psychiatric social worker only. In 35 instances home visiting only was carried out but as far as possible those attending the clinic were also visited. Three mothers refused appointments and the infant welfare centres concerned were notified. In two instances the symptoms cleared up during the waiting period. Two were admitted to hospital before they could be visited and one was referred to the Midland Nerve Hospital where she was known. Another was found to be known to the Psychiatric Social Service and was dealt with by them. Ten of the patients seen for the first time were referrals from 1950 and seven referred during 1951 were carried forward to 1952.

The patients were referred by the following:

Medical Officers at Infant Welfare Centres	58
Superintendent of Health Visitors and Health Visitors	51
General Medical Practitioners	4
Direct request by parents	8
Day Nurseries	9
Nursery Schools	2
Children's Department	3
Other Social Workers	7

The psychiatrist attended 93 sessions with a total attendance of 246. In addition there were 127 interviews with the psychiatric social worker only.

Reasons for referral given below are grouped according to the parents' description of the difficulty at the first interview and where more than one symptom was present the classification is according to the symptom felt by the parents to be most troublesome.

*Aggression* (including temper tantrums, destructive and disobedient behaviour, biting and fighting) :

Boys .....	22
Girls .....	15

*Timidity* (including shyness, fretfulness, fears, thumb sucking) :

Boys .....	7
Girls .....	17

*Enuresis* :

Boys .....	10
Girls .....	8

*Encopresis* :

Boys .....	8
Girls .....	Nil

*Sleeping difficulties* :

Boys .....	4
Girls .....	6

*Feeding difficulties* :

Boys .....	3
Girls .....	Nil

*Speech difficulties* :

Boys .....	2
Girls .....	1

*Masturbation*

Boys .....	1
Girls .....	3

*Retarded Mental Development* :

Boys .....	3
Girls .....	1

*Pilfering* :

Boys .....	1
Girls .....	Nil

Mothers' difficulties are grouped under the following headings, according to the most outstanding difficulty, but it will be obvious that

those coming under the heading of domestic difficulties and social problems were also anxious, but the anxiety was less acute than in those coming under the headings of depression and anxiety. Overcrowding and bad housing were contributory factors in a number of cases.

Depression	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
Anxiety	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Domestic problems	.....	.....	.....	.....	.....	.....	.....	.....	.....	8
Other emotional difficulties	.....	.....	.....	.....	.....	.....	.....	.....	.....	6

Some fathers have been seen and co-operated well.

The health visitors discuss difficulties with the psychiatric social worker, but the child or parent concerned is not necessarily referred to the Parents' Guidance Clinic.

Talks have been given by the psychiatric social worker to groups of parents and young people and to professional groups.

Visitors to the Public Health Department have been interested in the work of the clinic.

The work with the Children's Department, for which the psychiatric social worker is seconded, occupies an average of three sessions weekly.

### Chiropody Clinic

The chiropody clinic continued to be held for four sessions a week.

Total number of sessions held	.....	.....	.....	.....	186
Total number of attendances	.....	.....	.....	.....	1,485
Average number of patients per session	.....	.....	.....	.....	8
Average number called per session	.....	.....	.....	.....	10

### Voluntary Workers

Two meetings of the Executive Committee of Voluntary Workers were held, one in April and the other in September. At the April Committee, the members received with regret the resignation, after many years as Secretary, of Mrs. F. J. Woodcock. Mrs. Eleanor Hackett of Storchley Centre was appointed in her place.

Two meetings of Voluntary Workers were held during the year, one at Marsh Lane Centre in May, when Mr. C. E. Garland spoke on "Probation work among Juveniles". A second group meeting was held at Tyburn Road Centre in November, when Councillor Mrs. Trevor Cooke and Miss M. Slack spoke on "The work of the Children's Department".

At the Exhibition of Women's Work held at Bingley Hall in connection with the Old People's Fair, a rota of voluntary workers attended a stall depicting the work at welfare centres.

At the end of December, 1951, the only Centres without any voluntary workers were Heath Mill Lane, Irving Street, Kettlehouse, Lea Hall and Stratford Road.

### Clinic Assistants

Forty-one part-time clinic assistants continued to give help at welfare centres for a total of 190 sessions a week.

### Family Service Unit

The work of the Family Service Unit was begun on September 1st. Under the guidance of an experienced member of a Family Service Unit, two workers, whose headquarters are at the University Settlement, Summer Lane, are concentrating on certain problem families living in the areas covered by Carnegie and Lancaster Street and parts of the districts covered by Lansdowne Street, Trinity Road and Sutton Street Welfare Centres.

### School Clinics

The Education Department have continued to hold a weekly minor ailment clinic at Kingstanding Welfare Centre.

### Visits of Lady Mayoress

During her year of office, the Lady Mayoress has paid a visit to each welfare centre. These informal visits have been much appreciated by both the mothers and staff.

### Dental Treatment

Facilities for dental treatment during 1951 improved towards the end of the year as the result of (a) the appointment of two extra part-time dental surgeons and one part-time dental anaesthetist and (b) an arrangement with the School Medical Service whereby four sessions per week were made available for the provision of dentures to expectant and nursing mothers. The conservative treatment previously provided by the School Medical Department was discontinued from that date and undertaken by our own dental officers.

(a) *Numbers provided with dental care :*

	<i>Examined by medical officers</i>	<i>Treated</i>	<i>Made dentally fit</i>
Expectant and nursing mothers .....	7,558	694	571
Children under five .....	41,779	993	991

(b) *Forms of Dental Treatment provided :*

	<i>Anaesthetics</i>			<i>Fillings</i>	<i>Scalings or gum treatment</i>
	<i>Teeth Extracted</i>	<i>Local</i>	<i>General</i>		
Expectant and nursing mothers .....	2,589	61	2,528	18	18
Children under five .....	2,616	—	2,616	2	—
	<i>Silver nitrate treatment</i>		<i>Dressings</i>	<i>Radiographs</i>	<i>Dentures provided</i>
Expectant and nursing mothers .....	1		3	10	9
Children under five .....	7		—	—	—

	<i>Lancaster Street</i>	<i>Stratford Road</i>	<i>School Clinics</i>	<i>Total</i>
New mothers booked at welfare centres during 1951 .....	—	—	—	7,558
Numbers inspected by dental surgeon .....	All new mothers are inspected by the Medical Officer.			
Numbers having dental treatment	494	166	34	694
Total number of individual children between 2—5 years who attended welfare centres during 1951 .....	—	—	—	15,963
Total number of children having dental treatment .....	696	297	—	993
Number of extraction clinics .....	84	34	—	118
Total attendances :				
Mothers .....	527	184	—	711
Children .....	736	316	—	1,052
Average attendance per session :				
Mothers .....	6	5	—	5.5
Children .....	9	9	—	9
Local anaesthetics .....	22	8	—	30
Extractions with local anaesthetics .....	38	23	—	61
General anaesthetics .....	1,122	443	—	1,565
Extractions with general anaesthetics .....	3,817	1,323	—	5,140
Other dental operations, including X-rays, gum treatment, etc. ....	28	4	27	59

### HARBOROUGH HALL CONVALESCENT HOME FOR MOTHERS AND BABIES

This Home, which consists of a large country mansion in beautiful grounds, is situated at Blakedown, near Kidderminster, some 15 miles from the centre of Birmingham. It was opened in July 1951 and provides convalescent care for mothers and their babies who are under the age of six months. There is accommodation for 21 mothers and their babies. The first mother was admitted on September 19th and by the end of the year a total of 43 had derived considerable benefit from their period of rest in the country. The majority of mothers stay for 2 weeks only, although a longer period is encouraged in some cases. Special attention is given to feeding difficulties and the teaching of mothercraft.

This Home should fulfil a long felt need as the City has been without any accommodation of this kind since Pype Hayes Hall was converted into a residential nursery at the beginning of the last war.

### THE HUMAN MILK BUREAU

The purpose of the above Bureau is to supply pasteurised human milk for premature and seriously ill infants and has a staff consisting of two state registered nurses, who reside on the premises.

The milk, which is subjected to chemical and bacteriological tests and examined for adulteration with water and cow's milk, is collected daily from the donors' houses by the nurses, a van being provided for this purpose. Special zinc lined ice boxes are used for :

- (1) Storing the milk in the donor's home if the donor has no refrigerator,
- (2) Transporting the milk to the Bureau, and
- (3) Despatching the milk by rail.

Mothers are paid 2d. an ounce and the milk is at present being sold at 7d. per ounce. It is free to domiciliary cases within the City.

During 1951, 30,559 ounces were supplied to 20 hospitals, 8 of which were in the City, 11 in the adjacent counties and 1 on the South coast. The major portion of the milk (25,808 ounces) was supplied to the City hospitals.

A total of 106 ounces was supplied to 2 domiciliary cases in the City. This small figure is explained by the fact that the majority of acutely ill infants in this City are nursed in hospital.

During 1951, the Bureau was given the names of 194 donors.

## DAY NURSERIES

On 1st January, 1951, there were 2,156 places for children in the 45 day nurseries and one 24 hour nursery with 40 places (30 resident and 10 non-resident) maintained by the Health Committee. During January, to conform with the requirements of the Ministry of Health, the numbers in 9 day nurseries were reduced by 10 in each case.

The demand for priority places in the day nurseries was found to vary considerably in different parts of the City, and in certain areas it was felt that a reduction could be made in the number of nurseries. Accordingly, Marsh Lane was closed on November 30th and Highfield Road, Yardley Wood was closed on December 31st. Alma Street Nursery was closed on December 31st as the Education Department wished to use the premises for children attending Alma Street School. Most of the children and staff from these nurseries were transferred to neighbouring nurseries.

The number of children by age group on the registers and the average daily attendances at the beginning and end of the year are given below :

### CHILDREN ON DAY NURSERY REGISTERS, 1951

	<i>0—1 year</i>	<i>1—2 years</i>	<i>2—5 years</i>	<i>Total</i>	<i>Average daily attendances</i>
1st January	180	461	1,409	2,050	1,704
31st December	151	337	1,322	1,810	1,530

New admissions to the day nurseries are restricted to children who come within the priority categories decided upon by the Health Committee in 1949. An analysis of the children in the nurseries on December 31st is as follows :

GROUP I. Children whose mothers are wholly or mainly responsible for the maintenance of the family :

	<i>1951</i>	<i>1950</i>
(a) Children of unmarried mothers .....	390	392
(b) Children of women separated from husbands .....	408	319
(c) Children of women with sick or disabled husbands .....	261	197
(d) Children of widows .....	118	110
(e) Children of women with husbands in prison .....	21	12
	<hr/>	<hr/>
	1,198	1,030
	<hr/>	<hr/>

GROUP 2. Children whose mothers are unable to look after them through illness, confinements, etc.

<i>1951</i>	<i>1950</i>
202	156

GROUP 3. Non-priority cases .....

410	864
-----	-----

Priority cases only are now entered on the waiting lists. The numbers are as follows :

#### NUMBER OF CHILDREN ON PRIORITY WAITING LIST

<i>Age Group</i>	<i>1951</i>	<i>1950</i>
0—1 years .....	79	140
1—2 years .....	175	301
2—5 years .....	291	562
	<hr/>	<hr/>
TOTAL .....	545	1,003
	<hr/>	<hr/>

#### Admission of Outside City Cases

Applications for the admission of children in priority groups living outside the City boundary were granted where suitable vacancies existed. Twenty-three of these cases were admitted, for whom full financial responsibility was accepted by the appropriate local authority.

#### Transport of Children from Balsall Heath Area

This arrangement ceased on March 16th. The day nursery at 92, Pershore Road was rearranged to accommodate children from 2—5 years as well as from 0—2 years—a total of 23 places. A number of the children who had been transported to other areas were approaching school age and were discharged. The remainder were accommodated at 92, Pershore Road.

## Central Kitchen and Cooking Arrangements

In the early part of the year, apart from 7 nurseries equipped with full cooking facilities, the nurseries received a cooked mid-day dinner delivered from the Central Kitchen, while breakfasts and teas were cooked at the nurseries. In order to improve the catering facilities, 30 nurseries were equipped with additional gas stoves, and after arrangements had been completed whereby uncooked supplies of meat and other foods were sent direct to the nurseries, these nurseries commenced the cooking of all their meals on May 21st.

Bacchus Road Kitchen supplies cooked mid-day meals to the remaining 8 nurseries. Oak Tree Lane Kitchen was closed on May 18th.

## Laundry

The arrangements whereby Bacchus Road Laundry collects and delivers goods twice a week at each nursery have continued.

## Somerset Road 24 hour and Day Nursery

Accommodation is provided for 30 children as residents from Monday to Saturday each week. Ten non-resident children also attend daily. The mothers of the children are mainly employed on transport or shift work, but 26 short stay cases have been accommodated during the year. These were admitted owing to illness of the mother; there has been a heavy demand from such cases.

## Mass Radiography

During the year, 226 new staff (135 nursing staff and 91 domestic workers) attended the Mass Radiography Centre prior to appointment. Of this number, only 1 case was found to be unsuitable for nursery work.

After appointment each member of the staff receives a yearly mass radiograph examination. Of the existing staff, 249 nurses and 78 domestic staff have so far been re-examined.

## Training Nurseries

Inspectors from the Ministries of Health and Education visited a group of nurseries in February to assess whether they provided the necessary facilities for training students in the care of children 0—5 years. Their reports were as follows:

- (a) *Approved for training* :
  - Bournbrook Road
  - Flaxley Road
  - Islington Row
- (b) *Approval withdrawn pending further inspection* :
  - Camden Street
- (c) *Approval withdrawn finally* :
  - Wordsworth Road

## Nursery Students

The two year training course for the National Nursery Examination Board Certificate continues. The students attend Garrison Lane Training Centre for 1 day a week for vocational training and Bournville Day Continuation College 1 day a week for further education.

In the past year, 95 candidates came up for selection for training, of whom 55 were accepted, 4 were refused as unsuitable, 27 were given a trial pending a decision, 6 postponed starting the course and 3 decided to take other work.

At the 2 examinations conducted in Birmingham by the National Nursery Nurses' Examination Board, the following were the results obtained by candidates from the day nurseries:

April, 1951	.....	10 passed	.....	1 failed
October, 1951	.....	20 passed	.....	3 failed

One of the Nursery Supervisors seconded as Assistant Health Tutor has continued to assist with the training at Garrison Lane Training Centre.

## Training Courses for Nursery Staff

### 1. Senior Child Care Reserve Course

Two courses, lasting four weeks each, were held during the year for nursery assistants. Certificates were awarded as follows:

March, 1951	.....	14 successful	.....	None failed
July, 1951	.....	17 successful	.....	None failed

### 2. Supplementary Child Care Reserve Course (Warden)

Two courses, each lasting four weeks, were held during the year. The length of the course was extended as it was felt that 3 weeks did not afford sufficient time for the syllabus to be adequately covered. The results were as follows:

February, 1951	.....	10 successful	.....	1 failed
November, 1951	.....	9 successful	.....	None failed

### 3. Refresher Courses

The following refresher courses were held during the year:

- (a) Matrons' Course—14 matrons attended a 2 weeks' course in September.
- (b) Deputy Matrons' Course—15 deputy matrons were present during a 2 weeks' course in October.
- (c) Wardens' Course—Two courses, each lasting two weeks, were held in April and May. Eighteen wardens attended.
- (d) Staff Nurses' Course—14 staff nurses attended a 2 weeks' course in November.

## DAILY GUARDIAN SCHEME

The Daily Guardian Scheme was inaugurated in 1951. A maximum of 50 persons can be registered to receive not more than 2 children in their care by day, the home being first approved by an officer of the local authority.

Guardians are appointed as far as possible to cover those areas where the need is greatest.

At the end of December, 47 guardians were registered and 80 places were available. A total of 86 children have been accommodated during the 9 months the scheme has been in operation.

## INVESTIGATIONS

### Study of the Growth of Infants

This investigation, organised by the Ministry of Health and which began in October, 1949, has now reached the end of its second year. The results are only fairly satisfactory, as out of the original number of 2,000, there were only 851 children remaining on the register at the end of the year, which falls short of the expected figure by 7 per cent. The two chief reasons for defaulting are illness and removal from the district.

### Effect of Fluorine on Dental Decay

Four hundred children between the ages of 3 and 5 recruited from toddler clinics in the City are being examined at regular intervals by Dr. Hardwick and his colleagues at the Dental Hospital with a view to assessing the influence of fluorine on dental decay.

### Virus Infection during Pregnancy

An investigation is being carried out by the Ministry of Health to ascertain the risk of congenital defects occurring among children born of women who have suffered from a virus infection during pregnancy, compared with those children whose mothers had no such infection. The hospital authorities, private practitioners and midwives are co-operating in the investigation. During 1951, 23 virus infections in pregnant women were notified as shown in the following table:

Chickenpox	.....	.....	.....	7
Mumps	.....	.....	.....	5
Rubella	.....	.....	.....	8
Measles	.....	.....	.....	3

The children of 88 women who were free from virus infection during their pregnancy are also being observed. The children will be examined on their first birthday and again when they are two years of age.

## CARE OF THE UNMARRIED MOTHER

Although the number of women who sought the assistance of the Department has almost returned to the pre-war level, yet the proportion of married women who asked for help was much greater than it was in 1938. The following table shows how the situation has changed:

	1938	1951
1. Total number of women, arrangements for whose confinement were supervised by the department .....	650	768
2. Number in Item 1 who were :		
(a) single women—first pregnancy	469 (72·2%)	453 (59·0%)
(b) single women—2nd pregnancy or more .....	103 (15·8%)	148 (19·3%)
(c) married women .....	78 (12·0%)	167 (21·7%)
3. Number of single women requiring institutional care in Item 2 (a) .....	160	119
Item 2 (b) .....	37	32
	} 200	} 164
4. Number of married women in Item 2 (c) requiring institutional care .....	3	13

Although the number of cases dealt with in 1951 was 118 more than in 1938 yet the number of cases requiring institutional care was less by 36. This is probably a reflection of improved economic circumstances, as well as of a more enlightened attitude of the community to this problem. In 1951, at the end of the year, 69 per cent. of the babies were at home with their mothers whereas in 1938 the figure was 47 per cent. Because of this, the Committee were hopeful that by the end of the year they would be able to dispense with the accommodation at Birmingham Infirmary in spite of the fact that Hope Lodge closed on the 29th September, 1951. These hopes, however, were not fulfilled and at the end of December the unit at Birmingham Infirmary remained open.

Because of the diminution in the number of girls seeking institutional accommodation during their first pregnancy, the numbers entering Hope Lodge fell sharply so that it was found necessary to close these premises in September, thus bringing to an end a long and valued service to the community.

During 1951, 57 girls were admitted to Beechcroft House for Unmarried Mothers. Four girls were subsequently transferred to other homes and one girl was married and left the home before delivery. Of the remainder, 26 girls were discharged home with their babies and two were found domestic posts with their babies. Eleven babies were placed for adoption, 2 babies were transferred to residential nurseries and 5 were put in the care of foster mothers.

Thirty unmarried mothers resident out of the City were dealt with.

There were 5 cases of Venereal Disease and these were admitted to Dudley Road Infirmary for treatment.

In addition, 59 married women with legitimate pregnancies applied to the Department for help with regard to accommodation or adoption of their children. The latter were referred to the Children's Department. Of these 59, 17 were admitted to Birmingham Infirmary.

Money grants for lodgings to the extent of £16 11s. 0d. were made throughout the year, of which 17/6d. was refunded.

<i>New cases in 1951</i>	<i>First cases</i>	<i>Multiple cases</i>	<i>Married women</i>
Hope Lodge .....	12	2	—
Lyncroft House .....	4	1	—
Woodville .....	18	—	—
Francis Way .....	15	4	—
Beechcroft .....	38	8	2
Park Hill .....	7	—	—
Birmingham Infirmary.....	18	15	11
Homes out of City .....	7	2	—
Own home except for confinement .....	232	61	112
Own home entirely .....	65	33	36
Returned to Ireland .....	8	2	—
Left City.....	21	14	4
Born out of City .....	4	3	2
Miscarriages .....	4	3	—
	<u>453</u>	<u>148</u>	<u>167</u>

<i>Situation at end of year</i>	<i>1938</i>		<i>1951</i>	
	<i>No. of cases</i>	<i>%</i>	<i>No. of cases</i>	<i>%</i>
Mothers and babies still in the Homes .....	96	15	35	4.5
Babies died, including stillbirths .....	42	6	13	1.7
Babies have been adopted .....	43	7	71	9.2
Babies are with foster mothers .....	49	8	5	0.7
Mothers have married babies' fathers .....	46	7	50	6.5
Mothers and babies have left the City .....	53	8	42	5.5
Babies are in Homes without the mother .....	14	2	15	2.0
Mothers at home with their babies .....	307	47	530	69.0
Miscarriages .....	—	—	7	0.9
	<u>650</u>	<u>100</u>	<u>768</u>	<u>100.0</u>

<i>Parity—1951</i>	<i>Number of cases</i>
1st .....	453
2nd .....	97
3rd .....	35
4th .....	9
5th .....	5
6th .....	2

*Girls under the age of consent :*

	1938	1951
14 years old .....	2	1
15 years old .....	8	6
16 years old .....	3	17
	—	—
	13 (2·0%)	24 (3·1%)
	—	—
Home visits paid <i>re</i> unmarried mothers .....		1,231
Special visits paid <i>re</i> unmarried mothers .....		326
Cases visited in hospitals .....		519
Homes inspected <i>re</i> suitable lodgings with babies .....		8
Special visits <i>re</i> V.D. ....		1
Office interviews, applications .....		588
Office interviews, other than applications .....		3,303
Office interviews <i>re</i> V.D. ....		6

**Multiple Cases** (excluding married women)

Of the 97 women who were pregnant for the second time, two had their first child living with them and in 16 cases the first child had died. The other 79 children were cared for as follows :

- 16—first child in residential nursery
- 28—first child adopted
- 4—first child adopted by grandparents
- 31—first child cared for by relatives, apart from mother.

51 women who had had at least two illegitimate pregnancies previously had other children in their care and 23 of these have more than one child.

Of the 148 cases, 43 are living with the putative father.

Seventy-seven of these women had sought our aid in a previous pregnancy.

**Married Women**

The following tables give details of the cases among married women :

- 124 separated from husband
- 13 divorced
- 19 widows
- 9 husband in forces
- 2 married to putative father

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167

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Of these 167 :

- 53 living with putative father
- 3 left City
- 9 in Dudley Road Infirmary
- 3 in residential nursery
- 18 had baby adopted
- 81 own home with baby

## MIDWIFERY

### DOMICILIARY MIDWIFERY

(SECTION 23—NATIONAL HEALTH SERVICE ACT, 1946)

The following table gives details of the number of domiciliary midwives in practice during the year :

	<i>No. in practice 1.1.51</i>	<i>Number retired during year</i>	<i>Number resigned during year</i>	<i>Deaths</i>	<i>New appoint- ments</i>	<i>No. in practice 1.1.52</i>
<i>Employed by Local Authority :</i>						
(1) Midwives .....	122	3	14	—	16	121
(2) Maternity Nurses	16	1	—	—	4	19
(3) Ambulance Midwives	14	—	3	3	—	8
<hr/>						
<i>In private practice :</i>						
(1) Living in City .....	14	—	3	—	3	14
(2) Living outside City	5	—	—	—	2	7

Of 7,871 domiciliary confinements, 7,619 were delivered by City midwives and 78 by private midwives. In addition, there were 174 attended in patients' homes or in ambulances by the ambulance midwives.

The approximate average number of deliveries per month, per midwife was 5. This makes no allowance for 276 weeks lost by sick leave. In addition, owing to the great pressure on the hospital bed accommodation, 2,822 women had to be discharged to their own homes before the 14th day of the puerperium. In these cases, the City midwives continued in attendance as long as was necessary.

The following table gives details of the domiciliary confinements attended by midwives :

	<i>City midwives</i>	<i>Private midwives</i>
1. (a) Number of cases where midwife was engaged and solely responsible .....	3,157	16
(b) Number of cases in 1 (a) where for some reason it was necessary to seek the doctor's assistance during labour .....	309	3
(Of these, the doctor was present at the actual delivery in 110 cases and of these, 41 were instrumental deliveries).		

	<i>City midwives</i>	<i>Private midwives</i>
2. (a) Number of cases where the doctor was booked for antenatal and postnatal care under the National Health Service and where the doctor had not expressed a wish to be present .....	3,766	43
(b) Number of cases in 2 (a) where for some reason it was necessary to seek doctor's assistance during labour .....	404	4
(Of these, the doctor was present at actual delivery in 150 cases and of these, 41 were instrumental deliveries).		
3. Number of cases where the doctor, having undertaken antenatal and postnatal care, had expressed a desire to be notified of the onset of labour and his intention was to be present irrespective of whether that labour was likely to be normal or not .....	668	6
(Of these, 29 were instrumental deliveries).		
4. Number of cases where the doctor was privately booked to deliver the patient .....	28	13
(Of these, 1 was an instrumental delivery).		
5. Number of cases delivered by ambulance midwives	174	—

Of the 174 cases delivered by ambulance midwives, 168 were booked for hospital confinement and 6 were unbooked emergencies.

There were 383 general practitioners on the general practitioner obstetrician list. This number is 13 less than in 1950.

An analysis which was made from domiciliary midwives' records of the number of medical aid calls for the mother received by individual general practitioners shows that 355 general practitioners received medical aid calls, of whom 219 were general practitioner obstetricians. Altogether 298 practitioners, of whom 184 were general practitioner obstetricians, received calls on behalf of the mother from the midwives who were responsible for the antenatal and postnatal care of their own patients. In cases where the general practitioners were responsible for antenatal care, 195 practitioners received calls, of whom 141 were general practitioner obstetricians.

<i>Number of calls received</i>	<i>No. of practitioners who received</i>	
	<i>Midwives' calls</i>	<i>Maternity Service calls</i>
31—40 .....	1	—
21—30 .....	3	—
11—20 .....	23	2
10 and under .....	271	193
<hr/>		
Total number of practitioners .....	298	195

## MIDWIVES ACT, 1951

### Supervision of Midwives

During the year 1951, 443 midwives notified their intention to practise in the City.

Number of City Domiciliary Midwives	135
Number of Independent Domiciliary Midwives	21
Number of Midwives in Institutions	213
Number of Midwives in Birmingham Fire and Ambulance Service	15
Number of Midwives in Private Nursing Homes	35
Number of Domiciliary Maternity Nurses	19
Number of Independent Maternity Nurses	5
	443

### Number of Midwives ceasing to practise in the City

Number of Domiciliary Midwives and Maternity Nurses who left City in 1951	18
Number of Domiciliary Midwives ceasing to practise	3
Number of Birmingham Fire and Ambulance Midwives ceasing to practise	6
Number of Hospital Midwives ceasing to practise	49
Number of Midwives in Nursing Homes ceasing to practise	3
	79

The following visits were paid during the year by the Supervisors of Midwives :

Routine visits to midwives	421
Special visits to midwives	407
Visits to stillbirths	109
Visits after neonatal deaths	136
Nursing and deliveries supervised	226
Visits to Ophthalmia Neonatorum cases	910
Visits to puerperal sepsis cases	72
Other visits	727
Unsuccessful visits	655
Number of interviews with midwives	1,110

Midwives sent for medical aid in 2,186 cases, for the mother in 1,729 instances and for the child in 457.

## REASONS FOR SENDING FOR MEDICAL AID

### MOTHERS

	<i>Midwife booked and solely responsible</i>	<i>Doctor booked for antenatal and postnatal care</i>
A. Delayed labour .....	176	77
Haemorrhage .....	97	39
Adherent placenta .....	39	14
Placenta praevia .....	3	—
Abnormal presentation .....	45	17
Unable to make out presentation .....	5	1
Abortion and miscarriage .....	13	3
 B. Ruptured perineum .....	 517	 206
C. Puerperal pyrexia .....	67	33
Phlegmasia alba dolens .....	—	—
Inflamed breast .....	43	7
D. Varicose veins .....	51	4
Unsatisfactory feeding .....	5	2
Retention of urine .....	1	—
E. Excessive sickness .....	1	1
Eclampsia .....	2	1
Albuminuria .....	21	3
F. Other causes .....	176	59
	1,262	467

### CHILDREN

Ophthalmia neonatorum .....	126	71
Premature birth and debility.....	13	5
Convulsions .....	3	—
Deformity or malformation .....	40	11
Umbilical inflammation .....	2	1
Inflamed breasts, or abscess of .....	1	2
Skin eruption, pemphigus .....	28	10
Unsatisfactory condition .....	56	15
Other causes .....	63	10
	332	125

Midwives were temporarily absent from duty for the following reasons :

Influenza .....	16	Debility .....	3
Accidents .....	6	Sinusitis .....	2
Operations .....	5	Pyelitis .....	2
Bronchitis .....	4	Miscarriage .....	2
Tonsillitis .....	3	Other causes .....	21

## Gas and Air Analgesia

All the City midwives have their gas and air certificate and 110 sets of apparatus are available. During 1951, 3,013 patients were given gas and air anaesthesia by the City midwife in the domiciliary service, in 2,574 cases as midwife and in 439 cases where the midwife was acting as maternity nurse.

## Pethedine

During 1951, 2,679 cases received this drug. In 348 cases the drug was supplied by the doctors and in 2,331 cases by the midwives.

## District Training

During the year 1951, 27 teacher midwives were taking pupils on the district. No further midwives have been approved as teachers during the year but 4 teachers have resigned.

	<i>Pupils trained for the Central Midwives Board Certificate</i>		<i>Obtained Gas and Air Certificate</i>
	<i>Part I</i>	<i>Part II</i>	
	Selly Oak Hospital .....	5	
Dudley Road Hospital .....	27	—	2
Maternity Hospital .....	48	—	—
Sorrento Hospital .....	18	—	2
Heathfield Road .....	—	9	8
Lordswood .....	—	30	14
Marston Green .....	11	42	23
St. Chad's .....	—	19	8

## Emergency Maternity Service

This is a service whereby an obstetric consultant and/or a resident doctor and nurse attend the patient in her own home. They are conveyed by ambulance and carry special equipment, including blood transfusion equipment, for the treatment of obstetric shock or haemorrhage.

The service is staffed by personnel from Birmingham Maternity Hospital who usually attend at the request of the general practitioner. In cases of great urgency and where a general practitioner is not available, a midwife may, herself, call the Emergency Service.

There was a considerable increase in the number of calls on this service during the year. There were 140 calls as compared with 112 in 1950. Forty-one of these were to patients outside Birmingham. All the calls were made by the general practitioner.

The reasons for being summoned to the Birmingham cases (99) are classified below. Thirteen of these cases were transferred to hospital and blood transfusion was given in 82 instances.

	<i>1950</i>	<i>1951</i>
Post partum haemorrhage and placenta retained .....	39	49
Post partum haemorrhage and placenta delivered	25	35
Haemorrhage and abortion .....	3	7
Antepartum haemorrhage .....	1	1
Obstetric shock only .....	1	1
Eclampsia .....	2	2
Retained placenta .....	4	3
Inversion of uterus .....	0	0
Complicated breech delivery .....	0	0
Failed forceps .....	1	0
Embolism .....	—	1
	<hr/>	<hr/>
	76	99
	<hr/>	<hr/>

### **Maternity Services**

A discussion on the general operation of these services will be found on page 132.

## HEALTH VISITING

(SECTION 24—NATIONAL HEALTH SERVICE ACT, 1946)

### HEALTH VISITING SERVICE

The health visiting staff continue to carry their heavy load of work. They are now concerned with every member of the family and, in consequence, their work is extending and altering in a number of ways. The individual health visitor is the pivot round which the health services for her district revolve.

The child population under five years of age visited by them was 95,582. This number shows a decrease of 2,270 on that of the previous year. In spite of the fact that the birth rate for 1951 was lower than in 1938 yet, because of the high birth rates during the war years, the visited child population under five years is higher by 25,884. This is an increase of 37 per cent. on the 1938 figure whereas the number of health visitors on the staff engaged solely on district work, including attendance at centres, has only increased by 6 per cent. The establishment allows for the appointment of 156 health visitors but the highest number we have had on the staff at any one time was 118 in September, 1947. The number on the staff at the 31st December, 1951 was 101. In recent years recruitment of health visitor students has fallen off substantially all over the country. A number of factors have contributed to this including the creation of a new grade of special visitor to undertake certain duties previously done by health visitors, and delay in making salary adjustments which, when finally decided, placed the health visitor in a less favourable position financially in relation to other members of the nursing profession than she had been previously. It is to be hoped that as the National Health Service develops the key position which the health visitors occupy in the preventive health service will receive more adequate recognition.

The following is a summary of the health visitors' work :

*Total number of routine visits paid to children under 5 years :*

Primary visits .....	18,264	} Total	228,879
Routine visits—Children 0 to 1 .....	61,800		
Routine visits—Children 1 to 5 .....	148,815		

*Total number of special visits paid to children :*

Children 0 to 1 .....	9,465	} Total	15,878
Children 1 to 5 .....	6,413		

*Total number of visits to expectant mothers :*

Antenatal first visits .....	4,171	} Total	9,989
Antenatal re-visits .....	3,023		
Antenatal special visits .....	2,795		

*Total number of visits postnatally :*

(a) Ophthalmia Neonatorum	.....	.....	1,074	} Total	1,297
(b) Neonatal deaths	.....	.....	94		
(c) Stillbirths	.....	.....	129		

*General Health Visiting :*

(a) Neglect, insufficient clothing, etc.	.....	.....	131	} Total	2,483
(b) Scabies—primary visits	.....	.....	27		
(c) Re-visits	.....	.....	191		
(d) Home helps	.....	.....	448		
(e) Other visits, including 1,583 Tuberculosis follow-ups	.....	.....	1,686		

258,526

Total number of useless calls ..... 56,828

Of the total visited child population of 95,582 who were under 5 years of age on the 31st December, 1951, the number who attended centres during the year was 39,760. This shows the same percentage as for last year—41.6 per cent. (41.6 per cent. in 1950).

<i>Age of children</i>	<i>Total visited children</i>	<i>Total individual children who attended centres</i>	<i>Percentage of visited group attending centres</i>
Under 1 year	17,980	12,928	71.9
1—2 years	18,405	10,869	59.1
2—3 years	18,781	6,545	34.8
3—4 years	19,381	5,109	26.4
4—5 years	21,035	4,309	20.5
All ages	95,582	39,760	41.6

### HEALTH VISITORS' TRAINING COURSE, 1951—1952

The 29th course of training for the Health Visitor's Certificate commenced on the 3rd September, 1951.

Response to the advertisements for Birmingham assisted students again showed a decrease on previous years. Eighty-three enquiries were received, of these 49 applicants failed to return their application forms; of the 34 completed applications received, 7 candidates failed the entrance examination, 7 candidates withdrew before the Committee interview, 7 candidates failed the Committee interview and 13 students were accepted for training—1 student failing the medical examination. Ten local authorities in the West Midland region submitted 14 candidates for training and the Birmingham Education Department sent 2 candidates to the Course, making a total of 28 students.

During the summer vacation, the University reorganised part of its premises and the Health Visitors' Training Centre was removed to other quarters at 10, Great Charles Street. The new arrangement is working satisfactorily.

This is our first Course of nine months' duration and at the conclusion of the Course the Royal Sanitary Institute has arranged to hold an examination in Birmingham on the 19th, 20th and 21st June, 1952. The extension has enabled the lectures to be spread over a longer period, thus giving the students more opportunity for private study and reading. As an experiment, six lectures on the basic principles of elementary psychology were included in the curriculum, and as a result the students have expressed their appreciation of this instruction.

In the Spring Term, the students will spend one week in a rural area. They will be resident near to the health visitors who will be responsible for their instruction. Practical work has also been extended to include visiting with the sanitary inspector and conducting a survey on "How the people of Birmingham live".

Thirty-six students of the 1950—1951 Course entered for the Health Visitor's Examination in April, 1951, 32 students being successful. The other students, except one, re-entered for the examination and have now obtained the Health Visitor's Certificate.

The Royal College of Nursing, London, sent 10 health visitor tutor students to Birmingham in January. Their three weeks' experience included lectures on various aspects of their syllabus and visits of observation.

## HOME NURSING

(SECTION 25—NATIONAL HEALTH SERVICE ACT, 1946)

### HOME NURSING SERVICE

The demands on the Home Nursing Service continue to increase. If this means that the pressure on hospital accommodation is thereby diminished, it is, no doubt, a trend in the right direction. For social, economic and in some cases psychological reasons, it is very desirable that only those patients whose medical condition makes it necessary should be admitted to hospital. Households where patients are being nursed may need assistance in a number of ways, i.e., nursing, nursing aids (details of sick-room equipment made available are given on page 209), bath attendants, laundry service, domestic help, night watchers and invalid accessories.

This increase in demand for services calls, however, for an increase in nursing personnel and here we have experienced difficulty. Whereas in 1951, 409,126 nursing visits were paid compared with 330,788 in 1949, an increase of 23.7 per cent., there has not been a corresponding increase in the number of nurses. In consequence the daily case load has increased. There are still many vacancies for nurses in all areas of the City. The comparative figures are as follows:

	1949	1951
Resident staff	45%	20%
Non-resident—whole-time :		
married	24%	26%
unmarried	10%	26%
Non-resident—part-time :		
married	19%	27%
unmarried	2%	1%

It will be seen that there has been an increase in the non-resident staff and in the married women on the staff.

The shortage of nursing personnel would seem to be as great, if not greater, than in many hospitals. The problem is still further complicated by the increase in the sickness rate from 1,409 days in 1949 to 2,936 in 1951. This increase was almost entirely confined to the non-resident personnel, particularly the married women.

Two male nurses who were called up for service in Korea have completed their term of service with the Reserve and have returned to duty.

## Training

There has been an increase in the number of candidates coming forward for Queen's training this year. The Queen's Institute has approved the District Nurses' Home at King's Heath as an additional training home and candidates commenced there in December.

Twelve candidates (1 male and 11 female) were trained at the Bordesley Training Home during the year and all were successful in the examination for the Queen's Roll.

## Refresher Courses

A five-day refresher course for district nurses in the Birmingham Region was held in May. A total of 38 nurses attended the course, of whom 10 were from the Birmingham staff and 28 were sent by eight local authorities in the region.

## Student Nurses' Visits

The Senior Superintendent has given several talks on the work of the Home Nursing Service, illustrated by films, to the student nurses in Birmingham hospitals.

Two hundred and nine student nurses have spent a day with the district nurses accompanying them on their rounds.

## X-ray of District Nursing Staff

Apart from the x-ray of all new entrants to the service, it was decided to offer all the nursing staff x-ray examination at six-monthly intervals. One hundred and forty-three initial examinations were made of new entrants and present staff and so far 59 six-monthly re-examinations have been made. Two cases of tuberculosis were discovered and are now under treatment. Two nurses received B.C.G. vaccination.

## Nursing Attendants

In July, a Nursing Attendants Service was inaugurated to attend the elderly and infirm who do not require skilled nursing attention and their work has been helpful in relieving the heavy case load of the district nurses.

Six orderlies are at present employed, all of whom work part-time. In addition, 1 member of the St. John Ambulance Brigade is working in a voluntary capacity.

## Analysis of Cases Attended

	1949	1950	1951
Cases on books, 1st January	1,478	1,675	2,135
New cases attended	12,652	14,409	15,678
Total cases attended	14,130	16,084	17,813
Total visits paid	330,788	387,965	409,126

	1950	1951
New cases during year	14,409	15,678
<i>Referred by :</i>		
Doctors	11,635	12,741
Hospitals	2,252	2,465
Health Department	148	182
Employers	—	5
Patients' friends	289	172
Transferred from other areas	62	88
Found by nurse	23	25
<i>Medical :</i>		
Cardiac	1,215	1,333
Pneumonia (lobar and influenzal)	600	822
Bronchitis	491	1,012
Diabetes	421	465
Arthritis	191	210
Carcinoma	878	829
Senility	766	757
Other medical	5,591	5,720
<i>Infectious disease :</i>		
Tuberculosis	457	659
Whooping cough	42	28
Measles	62	44
Pemphigus	5	5
Other notifiable diseases	76	47
<i>Midwifery :</i>		
Puerperal fever	89	68
Antenatal complications	50	49
Postnatal complications	113	94
Abortion	85	76
Uncomplicated puerperium	—	2
<i>Surgical :</i>		
Post operation	1,413	803
Minor surgical	1,864	1,507
Other operations	—	1,148

## DOMESTIC HELP

(SECTION 29—NATIONAL HEALTH SERVICE ACT, 1946)

Requests for the services of domestic helps are received from general practitioners, district nurses, health visitors and midwives, as well as direct from the persons requiring help. Many expressions of appreciation of the domestic helps' work have been received.

Compared with 1950, the number of full-time domestic helps has fallen by 12, but there has been an increase in the number of part-time home helps of 67. Even so, it is not possible to meet all the requests that are made and many more domestic helps are required in all areas of the City. Recruitment is difficult because of the many other and more remunerative opportunities which are available for women who wish to work outside their own homes.

The number of elderly persons helped has again increased both by day and by night.

Only domestic helps who volunteer and whose x-ray and tuberculin tests are satisfactory are sent into homes where there are cases of lung tuberculosis. The demand continues to exceed the supply.

Training courses for domestic helps have continued and 16 received their training.

Number of domestic helps employed full-time	.....	.....	.....	92
Number of domestic helps employed part-time	.....	.....	.....	277
Number of night watchers employed	.....	.....	.....	18
				387

Number of individual cases dealt with :

Confinements	.....	.....	.....	.....	1,274
Postnatal	.....	.....	.....	.....	162
Illness of the housewife	.....	.....	.....	.....	398
Elderly persons :					
(a) By day	.....	.....	.....	.....	558
(b) By night	.....	.....	.....	.....	71
Lung tuberculosis	.....	.....	.....	.....	45
					2,508

## PRIVATE NURSERIES AND CHILD-MINDERS

### NURSERIES AND CHILD-MINDERS REGULATION ACT, 1948

There are now 12 persons and premises approved for registration under the Nurseries and Child-Minders Regulation Act, 1948, making a total of 81 places available for children of 0—5 years.

	<i>Persons</i>		<i>Premises</i>	
	<i>Number registered</i>	<i>Places for children</i>	<i>Number registered</i>	<i>Places for children</i>
On 1st January .....	4	17	3	26
Applications during 1951	6	27	3	21
Resignations during 1951	2	9	2	16

In addition, during 1951, one person registered for five children was allowed to take ten children and one premises registered for ten children was allowed to increase the number to twenty children. Thus, on December 31st, there were seven persons registered with places for twenty-five children and five premises registered with places for fifty-six children.

An inspection was made approximately every three months.

One person was not recommended by the Maternity and Child Welfare Sub-Committee for registration in December, 1951. The applicant appeared before the Health Committee to state her case but the decision to refuse registration was upheld.

### INSPECTION AND REGISTRATION OF NURSING HOMES AND NURSES AGENCIES

#### Nursing Homes (Public Health Act, 1936)

At the end of 1951, there were 29 nursing homes on the register. One home, with thirteen beds for medical cases, closed during the year and one home increased its accommodation by five beds. Five maternity homes were approved for the admission of medical cases, thus reducing the total maternity beds by 21.

The total number of visits paid to nursing homes during the year was 126 (85 by medical officers and 41 by supervisors of midwives):

Total number of beds in homes .....	367
Number of homes which are equipped for surgical work .....	4
Number of homes which take in chronic or senile cases only .....	13
Number of homes which take in maternity cases only .....	7*
Number of homes which keep some beds for maternity work .....	6†
* with 57 beds	† with 25 beds

#### Nurses Agencies (Nurses Act, 1943)

In accordance with the Nurses Act of 1943 and the Nurses Agency Regulations, 1945, applications were received from four agencies and renewals of licence were granted in each case. Two agencies which had previously held a licence did not renew their applications.

The total number of visits of inspection paid during the year was twelve.

# MEDICAL CARE OF DEPRIVED CHILDREN

## CHILDREN ACT, 1948

At the end of the year 1951 there were approximately 3,130 children under the care and supervision of the Children's Committee. The Administration of Children's Homes Regulations, 1951 came into operation on 1st September, 1951. The recommendations made therein with regard to the medical care of deprived children have been in operation in Birmingham since 1949. Only in respect of dental care has it not so far been possible to implement the recommendations fully.

### **Tuberculosis and B.C.G. Vaccination.**

An excellent liaison exists with the Anti-Tuberculosis Department. Children who are in danger of infection from tuberculous parents are admitted into care when places are available. All children before admission are examined and x-rayed to ensure they themselves are not in an infectious condition and arrangements are made for their periodic supervision. B.C.G. vaccination is carried out in appropriate cases.

Fifty-seven children were admitted throughout the year where one or other parent was suffering from tuberculosis and there was danger of infection.

The Home Office Circular No. 228/50 relates to the medical and x-ray examination of staff employed in children's homes making the following recommendations for the protection of the children :

- (1) No persons suffering from tuberculosis should be engaged on the staff of children's homes.
- (2) If a person, whilst employed, is found to be suffering from respiratory tuberculosis, such employment should cease at once and should not be resumed until medical evidence is received showing that the disease is no longer active.
- (3) Any candidate for employment should not be engaged without a medical examination including, wherever possible, an x-ray examination and an annual re-examination of the chest.

It has been arranged that all staff of the Children's Department, including the administrative staff, should undergo x-ray examinations, such facilities being on a voluntary basis for existing staff, but in the case of all future entrants into the service of the Committee, that the examination be a condition of service. These arrangements have presented no difficulty so far as the residential establishments within the City are concerned. The first of the periodic re-examinations was in progress at the end of the year.

Difficulties have been experienced in arranging for staff to be examined before engagement, but, as regards local appointments, it has been possible sometimes for the examination to take place before the candidate took up duty. The majority of staff appointed at residential establishments come from various parts of the country and it has been impossible for them to be examined whilst they are in Birmingham for the interview so it has been necessary, therefore, to resort to arranging for the examinations to take place after the employee has started work. The nurseries situated outside the City present a different problem in view of the distance involved in travelling into Birmingham. At the end of the year negotiations were proceeding to overcome these difficulties.

### **Ophthalmic Services.**

A complete service is available for all the children.

### **Diseases of Ear, Nose and Throat**

Full facilities are available for any children requiring examination and treatment. Thirty-one children in the homes have had their tonsils and adenoids removed during the year.

### **Chiropody**

Routine medical examinations of children accommodated in various residential establishments in the City have revealed that some children were in need of urgent treatment for corns and callouses on their feet. These children are given facilities to attend a chiropody clinic held in one of the maternity and child welfare centres in the City. During the year five children attended the clinic.

### **Dental Arrangements**

After negotiations with practising dental practitioners a comprehensive scheme has been completed whereby each home, where children in care are accommodated, can call on a local dental practitioner for emergency treatment and routine dental inspections. It has not been possible to comply with the recommendations of the Home Office, namely—"that all children in care over the age of 2 years should be examined shortly after admission by a dentist and **re-examined at intervals of not more than six months**", but at least each child over the age of 2 years will be examined by a dental practitioner soon after admission and, in the case of nurseries, they will have another inspection between 4 and 4½ years of age, prior to admission to school.

At the routine medical inspections, the medical officer can also refer a child for inspection to the local dental practitioner and he will undertake treatment. As the teeth of children in residential nurseries are remarkably free from caries, it is thought that this amount of inspection is adequate. Regarding school children, they are eligible for the usual dental service

provided by the Education Committee and, at the present time, each school receives a dental inspection approximately once a year. The school dental clinics are available for emergencies should these occur during the hours when they are open, i.e., Monday morning to Saturday morning.

For Erdington Cottage Homes, over and above the school dental service, the dental practitioner has agreed to undertake regular inspections and give the necessary treatment by inspecting and treating each home in rotation as and when his practice work allows and he has arranged to deal with emergencies.

In the case of Shenley Fields Cottage Homes, the local dental practitioner undertakes routine inspections and treatment in the course of his school dental clinic. He has also agreed to examine and treat, if necessary, all children under five years of age through the National Health Service.

A dental practitioner is also supplementing the school dental service for the children accommodated in Middlemore House.

Shawbury Approved School has a regular fortnightly attendance of the local dental practitioner, who inspects the teeth and provides treatment.

The supply of dentures to school children has become a very necessary part of the school dental service. Special priority for the fitting of dentures is given at the Dental Hospital.

#### **Problems in relation to Mentally Disturbed and Mentally Deficient Children**

At present the following psychiatric services are available :

- (1) Part-time services of a psychiatrist and an educational psychologist for one session per week each for Forhill House Remand Home, and in other homes when psychiatric reports are requested by the magistrates of the Juvenile Court.
- (2) The part-time services of an educational psychologist and a psychiatric social worker are available, when required, for all other children. A psychiatrist is also available for consultation as and when required.

Among the most significant developments in psychiatry during the past quarter of a century has been the steady growth of evidence that the quality of parental care which a child receives in his earliest years is of vital importance for his future mental health.

The World Health Organisation's Expert Committee on Mental Health consider that mental hygiene enters directly or indirectly into all phases of public health and that it should be made known not only to parents but all staff engaged in the teaching and care of children, that

many practices such as rigid feeding schedules, intolerant and premature toilet training and restriction of infants' movements may subsequently damage the child's physical and mental development.

It is emphasised that the mother-child relationship must be preserved and stabilised in the early years and separation of a child from its mother during the first three years should be avoided except as an emergency measure. When, however, such separations are necessary, it is urged that the separation should be made as harmless as possible by creating a homelike environment and by supplying a mother substitute relationship. This has been the earnest endeavour of the Children's Committee and family grouping in the Cottage homes and nurseries and the provision of the new family homes are two outstanding examples of what has been done.

On occasion mentally disturbed and mentally deficient children appear before the Juvenile Court for various misdemeanours. The Children's Committee have viewed with some concern the committal of these children to remand homes for observation and report, where conditions are not suitable to deal with them. The Home Office are well aware of this problem and have pointed out that the long term solution to the problem would be the provision of sufficient institutional accommodation where such children may receive suitable care and treatment before they actually become offenders or, failing that, after their appearance in Court. If such accommodation were available, the Court, no doubt, instead of committing them to a remand home would adopt a different course, e.g., by directing the local authority to present a petition under Section 8 of the Mental Deficiency Act, 1913, with a view to the removal of the child to an institution for mental defectives and by ordering the child to be detained in such an institution as a place of safety pending the presentation of the petition.

The provision of remand centres, when established, will facilitate enquiry into the physical and mental condition of persons between the ages of 14 and 17, for whom there are no adequate arrangements in the remand homes.

Neither remand centres nor remand homes are intended to provide treatment for mentally disturbed or deficient children and the Government Department primarily concerned with the provision of vacancies for accommodation of this kind, i.e., the Ministry of Health, is being informed by the Home Office of the difficulties encountered in our area.

As a temporary measure, however, it has been possible to make arrangements with the medical superintendents of the two mental institutions in Birmingham whereby mentally disturbed or defective children remanded by the Courts may be accommodated, and it is hoped that the number of such cases may be sufficiently small to enable this arrangement to continue.

The parents of mental defectives are beset by many problems when they are unable temporarily, or otherwise, to look after their children, and applications for admission are carefully considered in the light of whether temporary admission to a home would be practicable or desirable.

Children in care from infancy who show signs of mental backwardness when over the age of two years are examined by a special medical officer of the Education Department. Owing to the urgency and length of the present waiting lists, transfer of our children to institutions may be long delayed, with the result that these children remain in our nurseries and homes.

Seventy-two children in care were accommodated this year in residential special schools and four in mental deficiency institutions. There are six mentally defective children in the nurseries and homes under the care of the Children's Committee.

Following discharge from attendance at special schools at the age of 16 years, many of these children are capable of social adaptation and they take their place in the community.

The following is the report of the Psychiatric Social Worker :

"Sixty-eight children were seen during the year. Children's Visitors and staffs of Cottage Homes, Milton Grange Reception Centre and others have co-operated with the psychologist and the psychiatric social worker.

Twenty-one of the children seen were boarded out and there were thirty-four interviews with foster-parents, twenty-eight visits and six interviews at the Children's Department or Lancaster Street Infant Welfare Centre. One prospective foster home was visited. Forty-seven children were in residential care and those seen at the Reception Centre were followed up in their new homes. One adolescent was seen at The Limes Remand Home and two at The Home of the Good Shepherd, Malvern.

Some of the follow-up work is done at Lancaster Street Infant Welfare Centre. In sixteen instances children's relatives were seen.

Some children are seen only by the psychologist or by the psychiatric social worker, but others are treated by both the psychologist and the psychiatric social worker.

Contacts are made with schools, social workers, and any others who may be of help.

It is possible to do intensive work with only a few of the children or foster parents, but house-mothers and other workers have given considerable help to the children with the support of the psychologist and psychiatric social worker.

As is to be expected, the large majority of behaviour difficulties are due to the emotional insecurity and conflicting loyalties of the children, many of whom find it difficult to face the reality situation”.

On an average the psychiatric social worker spends one third of her time with the Children's Department. Under present staffing arrangements the time factor limits the expansion of this side of the work.

### **Epileptics**

Chalfont Colony in Buckinghamshire is prepared to consider the admission of any child in care who develops epilepsy and becomes unsuitable for accommodation in a children's home. Where the need arises, children may be referred to Winson Green Hospital for an electroencephalogram to help in the diagnosis of epilepsy.

It has not been necessary to use either of these facilities this year.

### **Summer Holiday Arrangements.**

Arrangements were made for approximately 630 children to spend a three weeks' holiday at Gosport, Hampshire and a small group on the Isle of Wight during August, 1951, with consequent benefit to the health and general wellbeing of the children.

### **Convalescent Care**

Thirteen children have been sent to Hillaway Homes, Devon, and others have been sent to Lancing, Plymouth, Cheshire and Margate Convalescent Homes through the Education Department.

### **FAMILY GROUP HOMES**

By the end of the year the first two family group homes on new housing estates were opened. They accommodate eight children of both sexes and wide age range with a married couple in charge—the house-father following his employment outside the home and the housemother having the assistance of a resident assistant and part-time domestic help. The children go to the local school or work and it is hoped to bring the children up in much the same way as others living with their own families in the neighbourhood. Although several difficulties such as bed-wetting on transfer did arise in the early days, these have abated as the children have become used to their new surroundings. Medical services under the National Health Service Act, 1946, are provided by a local general practitioner and six-monthly routine medical examinations are carried out in the home by a local authority medical officer.

### **GROUPED COTTAGE HOMES**

These homes are reserved in the main for long-term children. The overcrowding at Shenley Fields and Erdington Cottage Homes has been vigorously tackled with the result that the numbers are now approaching Home Office standards.

	<i>January 1951</i>	<i>December 1951</i>	<i>Home Office standards</i>
Erdington .....	382	248	230
Shenley .....	266	190	150

November, 1951, showed the lowest number of children in care and the smallest number of long-term children admitted in any month since January, 1950.

These homes, when transferred to the Children's Committee, were in urgent need of modernisation and adaptation in order to make them reasonably satisfactory for the purpose for which they were being used. In order to bring them up to the standard laid down by the Home Office, work on a scheme of modernisation including the supply of hot water and additional sanitary arrangements and adequate heating, has been in progress in Erdington Cottage Homes throughout the year. Better amenities and a higher standard of furnishing have provided brighter and more home-like environments. The children's clothing has become more individual and attractive and more toys, pocket money and outings have been provided.

In spite of the large communities of children in care it is possible within the cottages to create a family atmosphere. The health record of the children has been good.

In Erdington during 1951 there have been reported four cases of whooping cough and five cases of measles. Eight children have had their tonsils and adenoids removed and four children have been sent to convalescent homes for varying periods of convalescence. Seven other children have been admitted to hospitals for varying reasons: 1 acute rheumatism, 2 acute abdomen, 1 pneumonia, 1 mastoidectomy, 1 appendicectomy and 1 foot operation.

The following infections have been reported from Shenley: nine cases of measles, ten cases of chickenpox, one case of mumps, one case of whooping cough, four cases of ringworm and sixteen cases of impetigo. Sixteen children had their tonsils and adenoids removed and eight children were admitted to hospitals for various reasons: 2 with pneumonia, 1 with bronchitis, 1 mastoidectomy, 1 fractured elbow, 1 strabotomy, and 1 child with tuberculosis of the hip and another child for investigation of the abdomen.

Upper respiratory infections and rheumatic complaints have been responsible for a considerable amount of absenteeism amongst the staff; non-resident staff have a much higher rate of illness than the resident staff.

Middlemore House with accommodation for 100 children in one building is the biggest single home in the City. The health record has been extremely good, only one case of scarlet fever and one case of

measles being reported. Three children have had their tonsils and adenoids removed and three have had treatment for ear discharge.

The health of the staff has been good.

## **RESIDENTIAL NURSERIES**

When the eight residential nurseries were transferred from the Health Committee to the Children's Committee finally in July, 1950, it soon became evident that there was urgent need to provide additional accommodation for children in the nursery group, and during 1950 steps to meet this need were taken in the acquisition of an additional nursery at Clent. It was hoped to open this new nursery during 1951, but as it has been impossible to complete the adaptations and decorations, the opening has had to be postponed until early in 1952. This nursery will provide a further 40 beds. The shortage of beds towards the end of the year has been aggravated by the extensive structural repairs that have been carried out at Pye Hayes Nursery to rid the building of wood-worms, and the numbers here have had to be drastically reduced.

Improvements in the hot water supply at Perry Villa and Overbury Nurseries and the provision of a new water supply main to Wassell Grove Nursery, the adaptation of and the increase in sanitary arrangements at Flint Green Nursery to provide facilities for the toddler age range, are some of the schemes which have been completed throughout the year.

It is hoped that in the future all the residential nurseries will accommodate the full age range of 0—4½ years so that one move only will be necessary prior to the child going to school. The need for attention during day and night for bottle-fed babies, the risk of infection when very young children are grouped together and the task of ensuring their individual development by arranging family groups within the nurseries, make heavy demands on staff.

The incidence of infection in the nurseries has been fairly high but has followed the trend of the measles and scarlet fever infections in the City as a whole.

### **Influenza Outbreaks**

Owing to outbreaks of influenza amongst the nursing staff in nurseries during February, considerable difficulty was experienced in providing care for children accommodated in these nurseries. In an endeavour to maintain an efficient standard in the nurseries effective help was obtained from the St. John Ambulance Service, W.V.S. and staff of the Children's Department and the services of two retired health visitors.

### **Inspection for Training Purposes**

Inspection of residential nurseries for training purposes is undertaken jointly by Inspectors of the Home Office and the Ministry of Education.

A high standard of care, good material conditions and a properly qualified staff are required of nurseries seeking approval as training centres for students under the regulations of the National Nursery Examination Board. All the nurseries under the control of the Children's Committee are training nurseries.

**Flint Green. Accommodation 25—Home Office Standard 22**

Twenty out of twenty-five children here developed whooping cough during June and July. They were treated with chloromycetin and the progress was uneventful and the recovery normal. Twenty-three out of twenty-five children developed measles during July. Fortunately, the epidemic was mild and quickly over. At the beginning, in order to avoid spread of infection, five of the children with measles were transferred to the Infectious Diseases Hospital. One case of Sonne dysentery was transferred to hospital.

Unfortunately, a child who was admitted in a very poor physical condition, and who was subject to respiratory catarrh, was transferred to hospital during one of his attacks and though apparently progressing quite well, died suddenly. The post mortem revealed that the cause of death was chronic lung infection.

The general health of the staff has been excellent.

**Hawthorne House. Accommodation 34—Home Office Standard 34.**

Twenty-one cases of measles, twenty-two cases of chickenpox and eight cases of whooping cough were all nursed in the nursery throughout the year. Four children were transferred to hospitals, one with bronchitis, one with otitis media, and one for repair of squint. A small girl who was admitted to the nursery and who had had a severe attack of tuberculous meningitis, developed convulsions within two weeks of admission and died as she reached hospital. Post mortem revealed that death was due to natural causes.

The health of the staff here has been excellent.

**Meadway. Accommodation 30—Home Office Standard 24**

There were twenty cases of measles during February and March. Four of these were transferred to the Infectious Diseases Hospital in the early stages hoping to avoid an epidemic. Two children developed complications, one pneumonia and one pleurisy and were transferred to hospital. Two cases of German measles occurred in June.

Two children were admitted to the Children's Hospital, one for tonsillectomy and the other with enlarged glands.

The health of the staff has been excellent.

### **Oaklands. Accommodation 50—Home Office Standard 39**

This nursery has hardly been free of infection the whole year commencing with three cases of scarlet fever in January, followed by seventeen cases of measles in March and April, twenty-two cases of chickenpox in April and May, fifteen cases of whooping cough in April, May and June, and thirty cases of German measles from July to December. When the first case of measles was reported, the ten contact children were given irradiated adult measles serum and although this did not prevent spread, all the cases were extremely mild. Twenty-seven of the children were admitted to hospital with infectious diseases. One child was admitted to hospital with broncho pneumonia, one with a leg injury, three for tonsillectomy and one was transferred to Yardley Green Sanatorium with evidence of pulmonary tuberculosis.

The health of the staff has been good.

### **Perry Villa. Accommodation 32—Home Office Standard 32.**

Three children were transferred to Little Bromwich Hospital in January with glandular fever. A small baby developed measles on the 18th day following admission in March. There were four contacts and they were treated with Gamma Globulin inoculations which were successful in preventing the spread. A child who had returned twelve days previously from the Infectious Diseases Hospital developed measles and thirteen children became contacts. Seven were inoculated with irradiated measles serum but developed a mild attack of measles and the six who had been given Gamma Globulin were protected during that particular infection. Two children were transferred to hospital and nine were nursed in the nursery.

Nineteen children were vaccinated against smallpox in this nursery and ten days following, the majority of them developed mild diarrhoea.

Three cases of mumps and one case of scarlet fever were also reported.

Three children were admitted to hospital with respiratory and mouth infections and three children were admitted with pneumonia.

The health of the staff has been good.

### **Pype Hayes. Accommodation 42—Home Office Standard 36.**

The health of the children here has been excellent. One case of enteritis, one case of chickenpox and two cases of infected eczema were successfully treated in hospital. Three cases were admitted to hospital for observation. Thirteen cases of whooping cough, which were, fortunately, mild in character, occurred in October and November. Seven were transferred to hospital and six were nursed in the nursery.

**Red House. Accommodation 30—Home Office Standard 25.**

Three cases of whooping cough were reported in the early part of the year and this was followed by 19 cases of measles, four of whom were transferred to hospital. A small mild epidemic of German measles affecting a group of five children occurred and nine cases of mild diarrhoea were reported during the summer. Two children were transferred to hospital, one with eczema and one with anaemia and otitis media.

The health of the staff has been very good but two students developed German measles from the children.

**Wassell Grove. Accommodation 45—Home Office Standard 45.**

There was a mild epidemic of measles affecting eighteen children, all of whom were admitted to hospital, and thirteen cases of chickenpox who were nursed in the nursery.

Only two other children were admitted to hospital, one for the removal of a tuberculous gland and another for investigation.

A small active baby died from asphyxia due to strangulation by a tape which attached a toy to his cot. Death from misadventure was recorded.

**RECEPTION UNIT. Milton Grange. Capacity 35.**

Section 15 (2) of the Children Act requires that children's homes provided by a local authority under the Act should include separate accommodation for the temporary reception of children with the necessary facilities for observation of the physical and mental condition.

As the primary purpose of the placement of children in a reception unit is to arrive at a decision as to their future placing, it has been necessary to make arrangements for the services of an educational psychologist who attends for three sessions a week. She assesses the children's intellectual capacity and educational attainments. Through the courtesy of Dr. Wall the facilities of the Remedial Education Centre at Selly Park are made available to her where play therapy can be carried out and individual tuition can be given. Other specialist services can be arranged, e.g., audiometer tests at the Deaf School. The services of a psychiatric social worker employed by the Health Department are available part-time. In selected cases, children can be seen by a psychiatrist privately pending further arrangements which the Health Committee hope to make in the near future.

A local general practitioner is responsible for the medical services under the National Health Service Act, 1946, but as the children are seldom here for longer than three months, they have to be treated as temporary residents.

The children are medically examined within twenty-four hours of admission and discharge by a local authority medical officer. When the

opinion of a consultant is required, arrangements are made for the use of the facilities available at the various hospitals within the City. No difficulty has been found in arranging the necessary treatment. Any treatment can be continued when a child is transferred from the Reception Unit to another of the residential homes or foster homes. Arrangements have also been made with a local dental practitioner for emergency dental treatment.

Case conferences are held weekly and all those who can contribute to the final assessment of the child's needs are present. During the year eighty children have been reviewed at case conferences.

In spite of the frequency of admissions and discharges, the health record has been extremely good, only one case of measles, six cases of chickenpox and four cases of Sonne dysentery having been reported.

### **HOSTELS**

There are two boys' hostels provided in the City, both of which accommodate boys from school leaving age to about 18 years. The health of the boys in these hostels has been very good with little sickness to report.

There is also a hostel provided for adolescent girls but the grouping together of girls of this age under one roof presents many problems.

### **VOLUNTARY HOMES**

There were 133 children in voluntary homes under Section 13 (1) (b) of the Children Act in November, 1951 compared with 154 in November, 1950.

### **SHAWBURY APPROVED SCHOOL. 100 BOYS**

Medical arrangements—the medical officer visits the school at least once weekly, examines all children on admission and before discharge and once quarterly during their stay, attends any sick children and advises on general questions of health and hygiene.

The school has a sick room and both Matron and her deputy are trained nurses.

The school furnishes to the Home Office details of the quarterly inspections and of sickness and dental treatment during the quarter and an annual medical report.

A dentist visits fortnightly and examines each boy shortly after admission and subsequently at least twice a year. Treatment and extractions are also carried out.

The Home Office has recently recommended the medical examination, including an x-ray examination, of the staff annually.

During the year, 117 boys, as well as eleven members of the staff, were examined at the mass radiography unit. The health of the boys

has been extremely good—one case of mumps and nineteen cases of tonsillitis were reported.

The services of a psychiatrist can be made available to advise on any particular problem.

**REMAND HOMES** in Birmingham include junior and senior boys' remand homes and a girls' remand home.

Medical officers are appointed for every remand home, the duties to include regular visits to the remand home, attending the children during sickness and advising on general questions of health and hygiene. Every child must be medically examined on admission to the remand home and immediately before discharge if he/she is awaiting transfer to an approved school and at any other time considered necessary. Arrangements can be made for the ascertainment of venereal disease when this is suspected.

The rules require that any death, case of serious illness, infectious disease or accident shall be notified to the Home Office. A sick room is provided in all of the remand homes.

The health of the boys and girls admitted has been extremely good on the whole with little sickness to report.

#### **INSPECTION BY CENTRAL AUTHORITY—HOME OFFICE**

Medical inspectors of the Home Office Children's Department visit all the establishments periodically to review the medical and general arrangements for the care of the health of the children.

An individual medical record is kept giving full particulars of the health of the child on admission, his medical history during care and his condition on discharge. Weights and heights are recorded on admission and quarterly. A doctor's day book and a record of minor treatments are also kept.

#### **BOARDING OUT**

194 children were placed in foster homes during 1951, and each child was medically examined within one month of boarding out. At the end of the year 350 children were in foster homes, and arrangements were made for each child to be medically examined every six months.

Altogether, 894 medical examinations were carried out.

#### **ADOPTION**

The powers and functions under the Adoption Act, 1950 were delegated by the City Council to the Children's Committee as and from 1st July, 1950, and the position in Birmingham from that date to the end of 1951 is as follows :

Number of children placed for adoptions from 1.7.1950	.....	.....	96
Number of children returned from placing	.....	.....	1
Number of children who had to be removed for illness or temperament of adopting parents	.....	.....	2
Number of children for investigation with a view to placing	.....	.....	12

Placing a child for adoption is a process requiring human understanding and professional skill. The process of adoption concerns three sets of people, the mother, the baby (usually illegitimate) and the prospective adopters. In the Children's Department the arrangements are as follows: the local authority Medical Officer and an Assistant Children's Officer interview the mother and child. Help must be given to the mother to enable her to reach a decision which is realistic and in the best interests of the child. This requires skill in establishing a relationship of mutual confidence with her, in understanding her personality and social situation and in helping her to face unpalatable facts in a constructive way.

An attempt at the assessment of the potentialities of the baby is also made. This is no easy task.

The proposed adopting parents are interviewed, when an attempt is made to assess the real motive behind their desire to adopt a baby and to predict how they will care for a child. If the proposed adopting parents have any children of their own they are requested to bring them to the interview so that some idea can be obtained as to how they have managed their own children. Flexibility and the capacity to face the truth are clearly necessary if the parents are to tell the child of his adoption—this is a condition laid down by the Children's Committee that must be agreed to at the preliminary interview.

With the reduction in the illegitimate birth-rate and the poor calibre of some of the mothers offering their babies for adoption, it is difficult to try to fit in these children with good adopting parents. There has been a marked increase in the number of illegitimate children being born to married women.

All proposed adopting parents have to produce satisfactory medical certificates of fitness and of a satisfactory report following a mass radiography examination before a baby is placed with them for adoption. If there are already children in the family, the Chief Tuberculosis Officer has agreed to x-ray them as a precautionary measure.

Medical examinations of children to be considered for adoption are conducted by a local authority medical officer. These facilities have been extended to include direct placings with near relatives and children placed in the area by adoption societies.

- A. A preliminary medical examination is undertaken before a child is placed for a three month probationary period. During 1951, 61 children received preliminary medical examinations.
- B. A full detailed medical examination is undertaken of all children prior to the hearing of the application for the adoption in Court. One hundred and ninety examinations were conducted during 1951.

The following table gives a list of the findings at these examinations :

<i>Total examinations</i> .....				287
(a) <i>Preliminary examinations</i> .....				61
Fit for placing .....	58	}	61	
Unfit for placing .....	3			
(1) Hydrocephalus—mother married and kept baby.				
(2) Anaemia .....		}	In Canwell Hall past two months placing deferred	
General debility .....				
Congenital heart murmur .....				
(3) Problem child—in Cottage Homes—placing deferred.				
(b) <i>Final examinations</i> .....				190
Healthy .....	111	}	190	
Minor defects .....	65			
Major defects .....	14			
(4 adopted nevertheless)				
(c) <i>Adopted children reviewed from 1947—1950</i> .....				34
(d) <i>Foster child examined—problem child referred to Education psychologist</i>				1
Baby (in care at Overbury)—for Gessell Tests—under average mentally for age .....				1
(e) <i>Adopting mothers' examinations</i> .....				—
				287
				287

<i>Major Defects</i> .....				14			
(1) Subnormal mentality (13 years)—attends Special School—Long-term fostering .....		}	Adopted				
(2) Slightly subnormal mentality—evacuee 16 years .....							
(3) Slightly subnormal mentality (17 years)—Long- term fostering .....							
(4) Subnormal mentality (10 years)—I.Q. 66%— Long-term fostering .....							
(5) Poor physique (1 year 6 months)—for boarding-out .....			}	For later review			
(6) ? Subnormal mentality (1 year 4 months)—in nursery .....							
(7) ? Subnormal mentality (9 months)—Hypertelorism and unable to sit up—in nursery .....							
(8) ? Mentality (1 year 6 months)—Facial paresis torticollis, poor posture—in nursery .....							
(9) ? Mentality (13 months)—backward at present— in nursery .....							
(10) Subnormal mentality (4 years)—Hyperexcitable and unfit to board-out at present—in Cottage Homes .....					}	Adoption deferred but continuing to be fostered by potential adopting parents.	
(11) Healing primary tuberculosis (6½ years)—Under review by T.B. Department .....							
(12) Severe scoliosis (4 months)—under care of Ortho- paedic Department .....							
(13) Head-nodding (5 months)—hyperexcitable ? hyperintelligent. Adoption deferred on the advice of Consultant .....							
(14) Severe congenital heart (5 months)—in nursery. Twin has been adopted and same adopting parents may foster this child later.							

(a) *Respiratory :*

Bronchitis	11
Enlarged tonsils and adenoids	3
Otorrhoea	2
Post measles debility	2
Post whooping cough debility	1
Tuberculosis contact	1
Post pneumonia	2

(b) *Blood and Circulatory :*

Enlarged heart (x-ray)	1
Secondary anaemia	3

(c) *Genito-urinary :*

Phimosis	5
Undescended testicle	2

(d) *Congenital :*

Birth-mark mottling chest and leg	1
Cervical rib (bilateral)	1
Cervical rib (unilateral)	1
Mole	1
Metatarsus varus (one foot)	2
Paresis face (mild)	1
Naevus	2
Scoliosis (slight)	1

(e) *Miscellaneous :*

Conjunctivitis	1
Eczema (improving)	2
Enlarged thymus	6
General debility	2
Genu valgum	3
Habit vomiting	1
Indistinct speech	2
Less intelligent twin	1
Myopia	1
Neurotic temperament	1
Strabismus	2

**Adopted Children Reviewed from 1947—1950**

At the medical examination of children prior to adoption, some children are found to suffer from certain defects. Although the proposed adopting parents are informed of these defects, they may decide to complete the arrangements for adoption or they continue to foster the children with a view to adoption later.

Children whose adoption has been deferred are given appointments for a further examination. Thereafter the medical officer is able to discuss with the mother the improvement or otherwise in the child's condition, and whether adoption arrangements should now proceed. The mothers who adopted children in spite of defects are invited by the Medical Officer

of Health to attend the clinic for review from time to time, or to discuss any difficulties that may have arisen later in connection with the defects.

	<i>Nothing abnormal discovered</i>	<i>Improved</i>	<i>Condition stationary</i>
Cardiac bruit .....	—	—	1
General debility.....	3	1	—
Subnormal mentality .....	—	3	—
? subnormal mentality .....	1	—	—
Post-pneumonia (x-ray) .....	1	3	1
			(no symptoms)
Phimosis .....	—	1	—
Healing rickets .....	1	—	—
Strabismus .....	—	1	—
		(after operation)	
Acquired tantrums (lacking companionship) .....	—	—	1
Enlarged thymus .....	7	5	1
Acquired tonsils and adenoids .....	—	—	1
			(To ear and throat dept.)
Primary T.B. complex .....	1 (quite healed)	—	—
T.B. contact .....	—	1	—

## NATIONAL HEALTH SERVICE ACTS

### General

In last year's report information was given of the co-operation between the authorities concerned with the operation of the National Health Service Act and also of the administrative arrangements within the Department. It is not felt necessary to repeat this but it is a pleasure to record that the co-operation which has proved so helpful to the Department and also to the community has prevailed and in many respects gained strength. The problems created by the financial stringency have been felt no doubt by all concerned with the services provided under the enactment, and a great deal of care has had to be exercised in formulating plans for any expansion in the services likely to involve additional financial expenditure. It has been possible, however, to effect improvements despite this handicap.

CARE OF MOTHERS AND YOUNG CHILDREN.	—Sec. 22	} See Maternity and Child Welfare Section
MIDWIFERY	—Sec. 23	
HEALTH VISITING	—Sec. 24	
HOME NURSING	—Sec. 25	
VACCINATION AND IMMUNISATION	—Sec. 26	See General Epidemiology

### AMBULANCE SERVICES

#### SECTION 27

A further increase in the number of patients conveyed by the City Ambulance Service in 1951 has accentuated the need for the exercise of a rigid control upon requests for ambulances. This is a difficult problem which has necessitated a wide field of action, ranging from personal contact with hospital staffs and discussions with members of the medical profession, to the issue of circulars setting out the principles which should be followed in the ordering of ambulances.

It is necessary to exercise constant vigilance so as to ensure that the local health authority's Ambulance Service is not misused and this applies particularly to out-patient treatment cases. That the Ministry of Health

is aware of this problem is evidenced by the issue to all doctors and hospitals of a document setting out general rules for the guidance of the medical profession in connection with the scope and use of the Ambulance Service. These instructions represent the most advanced and authoritative Government statement which has yet been issued on this subject and whilst it is too early to assess fully the effect upon the present heavy demand for ambulance transport, it is anticipated that it will at least assist in slowing down the present upward trend.

The main problem for the local health authority is to provide an establishment of staff and ambulances capable of conveying over 5,500 people each week, without involving long and unnecessary waiting on the part of the patients. Of this number, approximately 90 per cent. have to be carried between the hours of 8.30 a.m. and 5.30 p.m. from Monday to Friday, and it will be appreciated that to maintain a Service which is both adequate and economic in these circumstances requires a fine sense of balance. On the one hand, provision must be made for vitally urgent cases to be dealt with at a moment's notice and, on the other, there must be proper planning and co-ordination for the daily routine transportation of large numbers of patients between hospitals and their homes, situated both inside and outside the City.

The following detailed statistics give some indication of the extent of the services provided by the City Ambulance Service during 1951.

#### Hospital Removal Service

The increase in the number of patients conveyed by this section was noticeably more gradual during 1951, when the figures reached a total of 254,370 patients, an increase of 15,002 over the previous year's total.

Comparative figures of the monthly totals during both these years are as follows:

	<i>1950</i>	<i>1951</i>	<i>Increase</i>	<i>Decrease</i>
January	20,398	21,016	618	
February	19,126	20,159	1,033	
*March	21,486	20,127		1,359
*April	17,550	20,884	3,334	
May	21,093	22,038	945	
June	19,974	22,085	2,011	
July	19,956	22,089	2,133	
August	19,599	20,668	1,069	
September	19,910	19,925	15	
October	20,944	22,368	1,424	
November	20,880	22,924	2,044	
December	18,452	20,087	1,635	
	†239,368	254,370		

\* In 1950 the Easter Holiday period occurred during April as against March in 1951.

† Includes patients conveyed by outposted ambulances stationed at Little Bromwich, and Yardley Green Hospitals, and Monyhull Colony—not included in figures given in 1950 report.

An analysis of cases into categories shows that the main increases were in patients attending clinics, discharges and tuberculosis treatment cases. In the two latter classifications, the increases were over 14 per cent. and 100 per cent. respectively and reflect

- (a) the increased pressure on beds for admissions causing the earlier discharge of patients and
- (b) the improved and extended facilities for dealing with tuberculosis.

#### ANALYSIS

	<i>1950</i>	<i>1951</i>
Clinic cases.....	167,029	173,773
Admissions.....	22,414	23,594
Discharges.....	28,871	32,821
Transfers.....	5,289	5,585
Emergency Maternity Service.....	111	140
Maternity cases.....	7,378	7,436
Miscellaneous.....	1,006	926
Monyhull—Mental.....	658	754
Little Bromwich—Infectious.....	3,190	2,481
Yardley Green—Tuberculosis.....	3,422	6,860
	<hr/> *239,368	<hr/> 254,370

#### DIVISION INTO STRETCHER AND SITTING CASES

	<i>1950</i>	<i>1951</i>
Sitting cases.....	188,042	199,552
Stretcher cases.....	51,326	54,818
	<hr/> *239,368	<hr/> 254,370

#### Cases requiring transport outside the City Boundary

The number of cases transported over the City boundary showed an increase on the previous year, as is evidenced by the following comparative figures.

	<i>1950</i>	<i>1951</i>
Patients conveyed from outside to inside the City boundary.....	2,484	3,583
Patients conveyed from inside to outside the City boundary.....	5,327	5,460

Some operational relief was afforded to the Birmingham Ambulance Service as a result of mutual arrangements made with neighbouring health authorities in connection with the conveyance of patients back to their home areas. Of the above patients conveyed during 1951, 307 were dealt with at the request of other health authorities on a chargeable basis.

#### Outposted Ambulances

The policy of allocating separate ambulances for the exclusive handling of infectious disease, tubercular and mental patients was continued throughout the year. The total number of patients transported

\*See footnote page 195.

under these arrangements was 10,095, as compared with 7,162 in 1950 and 5,152 in 1949. This is almost entirely due to an increase of 100 per cent. in the number of tubercular cases carried for the Yardley Green Hospital and it is anticipated that additional ambulances and staff will have to be allocated to cover the rising commitments at this Hospital.

### Accident Ambulances

The eight accident ambulances, which are manned by firemen and strategically sited about the City, continued to provide the necessary cover for all emergency and accident calls. During 1951, a total of 13,482 calls (involving 12,826 patients) were dealt with, this being practically the same as for the preceding year, when 13,457 calls were answered. The following tables show the classification of accidents and types of injury in the cases for which ambulance calls were received:

#### CLASSIFICATION OF ACCIDENTS BY LOCATION

Street accidents (involving vehicles)	2,663
Factory accidents	983
Private houses	4,405
Offices	81
Shops and restaurants	271
Outdoor (other than street accidents)	3,023
Licensed premises	191
Schools	308
Cinema and theatres	165
Other premises	1,341
False alarms (malicious)	51
	Total Calls 13,482

#### TYPE OF INJURY

Fractures	2,125
Wounds	2,809
Collapse, fits, strokes	2,545
Abrasions and bruises	504
Gas poisoning	120
Drowning	11
Eye injuries	174
Dislocation and sprains	385
Hanging	2
Concussion, shock	674
Haemorrhage	414
Scalds and burns	480
Poisoning	270
Not classified	2,313
	Total Patients 12,826

The number of casualties in the calls to street accidents (involving vehicles) was 2,791, of which 23 were dead before the arrival of the ambulance or died on the way to hospital.

## Injured Persons

The table below shows the incidence of accidents during the hours of the day and in relation to the age groups of the patients.

### EMERGENCY AMBULANCE CALLS, 1951

TABLE SHOWING NUMBER OF PERSONS OF VARIOUS AGE GROUPS CARRIED IN EMERGENCY AMBULANCES FOR EACH HOUR OF THE DAY

Age Group	HOURS OF DAY																								Total
	Mid. 0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
Unknown	1	—	2	—	2	1	—	3	3	1	3	5	3	1	1	1	8	2	1	2	2	2	8	53	
Under 5	22	12	7	5	5	4	2	7	16	31	44	69	97	85	70	94	96	89	88	73	58	38	28	1071	
6-10	4	1	2	3	—	2	3	5	13	24	36	58	83	86	56	96	97	115	75	76	52	32	21	953	
11-15	4	4	4	1	—	—	2	5	15	29	42	63	69	60	65	72	93	68	60	54	68	54	24	868	
16-20	30	12	8	3	4	3	3	19	43	36	42	61	57	55	48	36	50	58	51	48	86	86	48	945	
21-25	57	29	12	7	8	4	8	35	54	50	48	51	74	54	68	81	60	68	68	57	47	71	127	1244	
26-30	58	28	13	6	7	4	11	32	37	33	42	58	60	45	51	52	53	46	56	42	40	50	109	1033	
31-35	44	17	7	8	3	3	8	20	27	35	36	49	53	39	47	54	44	58	39	35	28	38	82	853	
36-40	38	21	7	6	7	7	8	22	21	40	40	50	59	37	49	74	59	43	42	37	30	38	80	897	
41-45	39	16	5	3	7	3	6	20	21	41	47	49	54	35	48	40	42	37	39	36	28	25	63	750	
46-50	32	17	5	9	9	2	4	16	24	34	51	45	56	32	54	60	43	51	38	27	37	34	65	795	
51-55	11	9	5	6	8	3	9	18	16	39	36	35	56	32	41	40	51	34	31	28	22	51	53	665	
56-60	14	2	5	5	3	3	6	17	20	37	29	45	39	50	47	31	32	41	28	16	34	32	46	615	
61-65	15	7	6	6	4	3	8	18	17	19	23	35	43	36	31	33	22	39	36	24	25	21	31	523	
66-70	12	5	4	2	2	2	4	11	13	21	27	38	51	40	32	39	37	28	25	33	26	18	25	517	
Over 70	16	8	5	4	10	3	5	18	35	44	60	79	100	71	85	71	67	64	61	49	57	49	50	1047	
TOTAL	397	188	97	74	79	47	87	266	375	514	606	790	954	758	796	874	847	847	746	639	608	610	890	12826	

## HOSPITALS TO WHICH CASUALTIES WERE REMOVED

Accident Hospital	4,664
General Hospital	5,426
Other Hospitals	2,491
Patients conveyed other than to hospitals	245
	12,826

## METHOD OF TRANSMISSION OF CALLS

Exchange Telephone	2,935
" 999 " system	7,549
Police information room	2,168
Street fire alarm	42
Messenger	424
Private wire telephones	330
Wireless cars	16
Observed	18
	13,482

## MILEAGE STATISTICS

	<i>Removal Ambulances</i>	<i>Accident Ambulances</i>	<i>Outposted Ambulances</i>	<i>Mileage Total</i>
January	109,307	7,292	10,238	126,837
February	105,644	7,713	6,543	119,900
March	108,268	9,652	6,488	124,408
April	118,689	5,163	5,896	129,748
May	118,306	6,878	8,467	133,651
June	109,668	9,807	10,686	130,161
July	117,612	7,247	7,595	132,454
August	109,407	8,657	8,168	126,232
September	102,310	9,485	7,628	119,423
October	117,439	7,464	8,264	133,067
November	120,435	7,060	9,054	136,549
December	109,470	8,443	10,444	128,357
Total	1,346,555	94,861	99,371	1,540,787

### Catastrophe Service

During 1951 it was again unnecessary to operate the "Catastrophe Service" which is the predetermined plan to provide the necessary ambulances and equipment in the event of a large scale accident or public disaster.

### Ambulance Fleet

At the commencement of the year 1951, the strength and make up of the fleet was :

General Purpose Ambulances	.....	.....	.....	.....	.....	73
Sitting Case Ambulances	.....	.....	.....	.....	.....	22
Sitting Case Cars	.....	.....	.....	.....	.....	3
Mobile Surgical Unit	.....	.....	.....	.....	.....	1
						<hr/> 99

As from 1st April, 1951, the Mobile Surgical Unit was handed over to the Regional Hospital Board in accordance with a decision of the Committees concerned, and with the approval of the Ministry of Health.

The establishment of the fleet was thereby reduced to 98 and with the replacements and disposals which took place during the year, the position at 31st December, 1951, was as follows :

General Purpose Ambulances	.....	.....	.....	.....	.....	72
Sitting Case Ambulances	.....	.....	.....	.....	.....	23
Sitting Case Cars	.....	.....	.....	.....	.....	3
						<hr/> 98

### Ambulance Premises

In September, 1951, work was commenced on the construction of a new Ambulance Depot at the Henrietta Street site, and good progress was maintained to the end of the year. It is hoped that the building will be completed towards the end of 1952, and it is anticipated that considerable advantages will result from the occupation of these premises.

### Staff

The strength of the Service has shown an increase in the numbers of drivers and attendants from 154 in 1950 to 175 at the end of 1951, and a small decrease in the number of midwives. This has resulted in an overall increase of 17 during the year. Details are :

<i>Operational Staff</i>	<i>Establishment</i>	<i>Strength, 31.12.51</i>	
		<i>Men</i>	<i>Women</i>
Depot Superintendent	..... 1	1	
Staff Officer	..... 1	1	
Hospital Liaison Officer	..... 1	1	
Deputy Depot Superintendent	..... 1	1	
Leading drivers	..... 15	9	
Drivers and Attendants	..... 171	145	21
Midwives	..... 12		9*
<i>Ambulance Control :</i>			
Ambulance Control Officer	..... 1	1	
Senior Control Operatives	..... 8	5	2
Control Operatives	..... 20	1	15
		<hr/> 231	<hr/> 47

\* Includes 2 part-time.

### **Voluntary Service**

The St. John Ambulance Association continued their very valuable assistance to the City Ambulance Service by providing a rota of volunteers who man ambulances during the evenings and week-ends. Such assistance, in addition to making more ambulances available, also provides the volunteers with opportunities for practical experience in their first aid work.

### **Hospital Car Service**

The arrangements whereby drivers of the Hospital Car Service carry out work on behalf of the Ambulance Service were continued during the year and some 9,700 patients were conveyed by this means. The mileage involved in this work showed a decrease as compared with the previous year, the figure for 1951 being 188,928 as against 226,453 in 1950. This is attributable partly to a decrease in the number of drivers available and partly to improved co-ordination with journeys carried out by the Ambulance Service itself.

### **Emergency Maternity Service**

Special arrangements made with the Board of Governors of the United Birmingham Hospitals, in connection with the Maternity Hospital, Loveday Street, for the immediate provision of an ambulance, on request, for the Emergency Maternity Service, were continued during the year. This service involves the conveyance of specialists, nursing staff and equipment from the hospital to the patient's home address in cases of emergency, and 140 responses were made during the year 1951.

### **Bed Bureau**

During 1951 the Service continued to operate the bed bureau from the Central Ambulance Control on behalf of the Regional Hospital Board, when in response to 11,591 requests for beds, 11,176 were obtained. The corresponding figures for 1950 were 12,175 requests and 11,403 beds obtained.

## **PREVENTION OF ILLNESS, CARE AND AFTER CARE**

### **SECTION 28**

#### **Convalescent Care**

For the year 1951, 1,891 applications for recuperative convalescent care were made through almoners of the Birmingham Hospitals as follows:

	<i>General Practitioner cases</i>	<i>Hospital cases</i>
Nerve Hospital .....	—	9
Dudley Road Hospital .....	147	349
Selly Oak Hospital .....	129	294
Queen Elizabeth Hospital .....	28	235
General Hospital .....	113	201
Orthopaedic Hospital .....	13	14
Accident Hospital .....	4	45
Children's Hospital .....	60	132
Skin Hospital.....	—	7
Eye Hospital .....	6	23
Women's Hospital .....	12	28
Maternity Hospital .....	7	34
All Saints' Clinic .....	—	1
	519	1,372

Total applications — 1,891.

The Almoners were unable to arrange convalescence for 34 patients (1.8 per cent.). These were mothers and babies, young children, persons suffering from asthma and cardiac conditions and elderly patients who could not be accepted for convalescence. The cost, or part cost, of the convalescence is met by the Health Committee in only a third of the cases (actually 686). Nearly all of the remainder are covered by the Birmingham Hospital Saturday Fund, or themselves paid the full cost of their convalescence.

The following are the age groups of the 686 cases for whom accounts were received by the Public Health Department and for whom the Health Committee accepted financial responsibility.

<i>0—5</i>	<i>5—15</i>	<i>15—21</i>	<i>21—40</i>	<i>40—55</i>	<i>55—65</i>	<i>Over 65</i>	<i>Total</i>
55	19	39	132	149	113	179	686
<i>Corresponding total for 1950</i>							603

The seasonal demand for convalescence is shown by the monthly figures for applications during 1951.

<i>Jan.</i>	<i>Feb.</i>	<i>Mar</i>	<i>Apr.</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>	<i>Total</i>
61	115	121	217	218	206	256	182	167	159	122	67	1891

### Care of the Aged and Chronic Sick

The call on the services affording help in the care of the aged and chronic sick has increased considerably during the past twelve months. This is revealed by the figures quoted of the number of individual cases

visited by the two senior health visitors who undertake this work. It will be noted that the increase is to the extent of 35 per cent. Increased co-operation between the various hospitals, the general practitioners and this Department, together with the growing knowledge of the general public of the facilities which are available may, of course, account for the rise in the cases referred to the Department.

It is not possible to deal with this subject without making some reference to the investigations which are carried out in relation to applications for compulsory removal under the National Assistance Act (page 218). On the frequent visits which are made to the elderly in this connection, it was disturbing to find how many ended their days in conditions of squalor and utter loneliness and also how easily relatives appeared to tire of caring for their parents, and how readily they agreed to their removal to an institution. On the other hand it was refreshing to find a spirit of helpfulness prevailing amongst neighbours, mostly elderly themselves, who would turn to the less fortunate in their trouble.

The squalor in which many aged people live is something that has come about gradually, almost imperceptibly, occurring in those who have been accustomed to a high standard of cleanliness as well as those who have been less exacting. This seems to result from a state of physical incapacity and senility or the inertia caused by despair in their physical limitations. Although many of the elderly lose their critical faculties they retain an independent outlook and a fixed determination to remain in their own homes until they die. This attitude or state often presents one of our most difficult problems and at the same time imposes an unreasonable strain on neighbours or relatives. Despite the difficulties and the very many complex problems which are met in dealing with the aged and the chronic sick, the statistics which follow reveal that we have been able to afford a large measure of help and comfort.

Of the facilities provided by the Department, the greatest demand is still for that of the home help. The yearly figures show that, because of shortage of personnel, 43 per cent. of these demands were still not met at the end of the year. The demand for night watchers was heavier during the early weeks of the year and it was not always possible for these demands to be met.

The laundry service which was suggested in 1950 finally came into operation at the end of August, 1951. The Public Health Department's laundry at Bacchus Road is used for the purpose and the service is provided only in respect of bed linen provided by the Department. Collections and deliveries are made either once or twice weekly according to the needs of the particular case and the number of items provided varies accordingly. The amount paid by each person is assessed according to the financial means, the maximum charge being 2/- per complete set of laundry consisting of 1 pair of sheets, 2 pillow cases and draw sheets according to

requirements, which may be daily. This service is providing a long felt want in that it enables cases to be looked after at home which otherwise would require admission to hospital. By the end of the year, 26 cases had been provided with the service. It has been greatly appreciated by all the individuals concerned and has been free from any serious administrative problems.

One of the problems in connection with the care of the aged and chronic sick in their own homes has been the question of bathing, and, in order to relieve the burden of the already fully taxed district nurses, it was decided to provide a number of bath attendants, one of whom would work from each district nurses' home on a part-time basis and be under the supervision of the home superintendent.

Number of cases on register on 1st January, 1951 .....	158
Number of new cases added during year .....	869
Number of cases remaining on register at end of year .....	770
Number of new cases requiring Home Helps .....	180
Number supplied .....	110
Home Help refused .....	18
Removed to institution .....	13
Made other arrangements .....	5
Health improved .....	9
Died .....	5
Still awaiting Home Help .....	20
Number of cases requiring Night Watchers .....	25
Number supplied .....	20
Number of cases where District Nurse attended .....	88
Number of cases supplied with nursing equipment .....	54
Number of cases provided with Bath Attendant .....	12
Number of cases provided with laundry service .....	26
Number of cases admitted to Hospital .....	371
Deaths .....	257
Number of cases referred to Welfare Department .....	33
Number of cases referred for voluntary visiting .....	27

### Health Education

There has been a continued expansion of Health Education, not only in the special section of the Department dealing with this subject, but in other aspects of this important work. So far as the special section is concerned, the lack of adequate accommodation has been alleviated by the provision of a new office into which the section moved in August of the year under review. The former office is now utilised as a demonstration room where lecture-demonstrations can be held and post-graduate teaching is undertaken.

The details which immediately follow relate to the work of the special section of the Department known as the Health Education section.

There was an increase in the number of lectures undertaken during 1951, 476 more than in 1950. Schools, approved schools and remand homes, youth groups including Westhill Training College, adult groups

including H.M. Prison, Winson Green, have been visited for the purpose of lectures :

<i>Lectures given</i>	<i>1951</i>	<i>1950</i>
Schools .....	2,278	2,028
Youth Organisations .....	617	443
Adult Groups .....	605	553
	3,500	3,024
	3,500	3,024

#### HEALTH TALKS AT CENTRES BY HEALTH VISITORS

These were given to no fewer than 52,182 mothers. Members of the health visiting staff also attended Ante-natal Clinics at Dudley Road and Loveday Street Hospitals, at which a total of 87 talks were given. The help and co-operation of the physiotherapists has been much appreciated, and through this it has been possible to start mothercraft courses in conjunction with the relaxation classes. These have been held at Lordswood Maternity Hospital and Infant Welfare Centres throughout the City.

#### H.M. PRISON, WINSON GREEN

Six courses of lectures were given during the year, three to the Men's Section and three to the Women's Section. A special effort was made to illustrate these with some form of visual aid such as films, film-strips or flannelgraphs.

#### CONTINUATION SCHOOLS

Courses of health education lectures were given to the junior staffs in two City stores and one industrial firm.

#### BIRMINGHAM ACCIDENT PREVENTION COUNCIL

The annual exhibition of the above Council was held in a City store, the display on "Home Safety" being provided by the Department. Another large store kindly allocated a window for one week to "Health Education" and an exhibit "Prevention of Accidents in the Home" was arranged by the Department, full size demonstration material being utilised.

#### POSTER CAMPAIGN

Posters on health topics are displayed in City Baths and Libraries and two City stores have granted us space to show Health Education posters.

Arrangements have been made with British Railways to display 31 posters on Health Education in three stations in the City. All posters are changed every six weeks.

### DEMONSTRATION HOUSE (MODEL)

A model house has been made in plywood, which can be adapted for demonstrations on such topics as prevention of food or other infection, the domiciliary care of the tuberculous patient or prevention of accidents in the home.

### OUT OF CITY LECTURE DEMONSTRATION

A member of the health education staff spoke on "Planning a Health Education Programme" at a post-graduate refresher course for health visitors on October 23rd in Stoke-on-Trent, and on November 20th in London. Some recently acquired visual aids were also demonstrated at both these lectures.

### FILMSTRIPS

There is a further film strip in preparation entitled "The Public Health Services", and it should be completed in the near future.

### CLEAN FOOD CAMPAIGN

This campaign to educate the food handler has been continued under the general supervision of Dr. W. R. Martine, and the following lectures supported by films were given during the year under review (1950 figures in brackets).

	<i>No. of Lectures</i>	<i>Total Attendances</i>
Food Trades .....	32 (8)	1,126 (177)
General Public .....	4 (27)	138 (817)
	<hr/>	<hr/>
	36	1,264
	<hr/>	<hr/>

The preponderance of support from the Food Trades is accounted for by the co-operation of the School Meals Service and of three large catering firms who made special arrangements to permit their staffs to attend.

Three 8-lecture courses were also arranged with the co-operation of the St. John Ambulance Association, one for the outside staff of a large catering firm and two for staffs of industrial canteens. These attracted an average attendance of 27, 22 and 25 respectively, a total of 28 attending subsequently for oral examination and qualifying for the Association's Food Handler Certificate.

Another and successful feature of the Campaign was a Brains Trust organised by the Industrial Catering Managers' Association. This attracted an attendance of 97.

A Clean Food Guild is not yet launched. A provisional committee consisting of representatives of various of the Food Trades and organisations and of the Local Authority has met on a number of occasions and prepared Draft Codes of Practice for the various trades. Certain of the trades concerned, however, have recently intimated that while in

sympathy with the Guild project they would prefer to await implementation, by way of National Code or otherwise, of the recommendations contained in the Reports of the Catering Trade and Meat Products Working Parties, before committing themselves locally to policy which might not be nationally accepted.

For such a project to be successful, it would seem imperative that each of the Food Trades and, in particular each section of the catering industry, should be represented and take an active part.

It must always be borne in mind however, that membership of a Clean Food Guild or, for that matter, attendance at lectures, attracts only the converted or those prepared to be converted, and it is likely therefore, that the most profitable work in this field is done by the District Sanitary Inspector in his day-to-day routine visits. He has the opportunity to draw attention to faults, explain why they are faults and prescribe the remedy. Much of the improvement noted in the past few years may be placed to his credit.

#### **EDUCATION IN SMOKE ABATEMENT**

The dangers to health resulting from the incomplete combustion of solid fuel in the old fashioned domestic fire-grate, and the consequent emission of sulphur, grit and soot into the atmosphere, are not yet sufficiently appreciated. Every opportunity has therefore been taken to speak to housewives' organisations on this subject and it is hoped that the present small demand for information may be increased.

A section on Smoke Abatement has recently been incorporated in a film strip showing the general work of the Department as a whole and should serve to ventilate this important problem more widely than heretofore.

#### **GENERAL**

Lectures in addition to those quoted above are given by several medical officers on the staff to voluntary associations, church guilds, to such organisations as the St. John Ambulance Association and the British Red Cross Society, to hospital staffs and similar institutions on request and to the staffs of other Corporation departments. There has been an increase too in the demand for this type of lecture.

The Sanitary Inspector performing his daily routine inspection of dwellinghouses, industrial premises, catering and food preparation premises, is able to offer advice on conditions which may appear to him at the time of visit to be inimical to the health of the persons in the home, in industrial premises or otherwise. By this means health instruction is widely disseminated. Coupled with this the Health Visitor and the Midwife cover the domestic field and during their visits are able to give intimate advice to the housewife as required or requested. Similarly so the Home Nurse, during her visits, is able to make suggestions to improve the conditions surrounding those ill at home.

In making reference to the day-to-day functions of officers of the Department in relation to this subject, the magnitude of the possibilities which are presented to us as a Department for the proffering of advice on Health Education matters can be seen by perusal of the tables relating to the inspections and visits performed by the staffs above mentioned during the year. It can fairly be stated that in the majority of cases some form of Health Education has been given during each inspection or visit.

### **Loan of Equipment**

With widening knowledge of the availability on loan of sick-room equipment and other special apparatus to aid the disabled, there has been a substantial growth in this service. In the past year the total number of items loaned was 3,831, an increase of 968 or 34 per cent. when compared with the previous year. The largest increase was in the case of wheel chairs of various types which showed an increase of 61 per cent. over the previous year. Many of these chairs are loaned on the recommendation of hospital almoners to patients awaiting the provision of a permanent chair by the Ministry of Pensions, which frequently takes many months to complete.

The system of loan charges for the hire of equipment which is made in appropriate cases has been revised in order to simplify collection and in the vast majority of cases such charges are gladly paid. Moreover, the attachment of a small charge does also ensure that the equipment will be promptly returned when it is no longer required.

Difficulty is sometimes experienced when a patient removes from Birmingham taking hired equipment and fails to notify his new address, but it is satisfactory to report that in all such cases the equipment has ultimately been traced and recovered.

Whilst every case requires and receives individual attention to ensure that the precise needs of the patient are adequately met, and the great majority are satisfied within a few days, there are cases which present special problems of which the following is an example:

A is a young man with two young children, living on a small disability pension, and suffering from paraplegia. On discharge from hospital a lifting pole and chain was recommended to assist the patient. This was supplied but the bedstead was unsuitable and was twice exchanged until the right type was secured. Other initial equipment supplied was a urinal, rubber sheeting, an air ring and a leg cradle. Later a special sectional mattress and Dunlopillo cushions were provided in order to ease the patient's distress but this proved unsuitable and was exchanged for a Dunlopillo mattress. Owing to the tendency to bedsores attributable to the patient's disability, he was required to spend some time out of bed and a commode and special chair were also loaned, and later when the patient's condition worsened, bed-linen was loaned and laundered under the Domiciliary Laundry Service.

Whenever possible the manufacturers' standard equipment is used but in some cases special adaptation is necessary to meet the needs of a particular patient and it is pleasing to report that the makers have co-operated and given every assistance in producing a satisfactory adaptation.

LIST OF EQUIPMENT AND APPARATUS LOANED DURING PERIOD  
1st JANUARY TO 31st DECEMBER, 1951.

Wheel chairs	261
Merlin chairs	38
Stairway chairs	13
Spinal carriages	10
Bedsteads	19
Special mattresses	34
Fracture boards	3
Lifting poles and chains	5
Self-operating tilting bed	1
Crutches, pairs	22
Walking sticks	3
Walking machines	2

The above are additional to the normal items of "sick-room equipment" available on loan to persons in need. The following is a list of items of ordinary "sick-room equipment" issued during the year:

Air/water beds	98
Air rings and sorbo cushions	835
Back rests	318
Bedpans	923
Leg cradles	82
Mackintosh sheets	708
Urinals	319
Sick feeders	42
Commodes	54
Miscellaneous items	41

## MENTAL HEALTH

### SECTION 51

The administration of this service is still in the form referred to in last year's report, three separate sections comprised of the inspectors under the Mental Deficiency Acts, the duly authorised officers under the Lunacy and Mental Treatment Acts and the Psychiatric Social Service, co-ordinating their work in an endeavour to provide a complete Mental Health Service. It has not been possible, despite particular exertion, to achieve our aim to bring the activities of this section under one responsible officer, namely an Administrative Medical Officer of Health for Mental Health.

The following particulars of the service are set out in compliance with the request of the Minister of Health:

## 1. ADMINISTRATION.

(a) **Mental Health Sub-Committee** of Health Committee, composed of chairman and 10 members of Health Committee. Monthly meetings are held.

### (b) **Numbers and Qualifications of Staff**

<i>Psychiatrists</i> (part time) .....	2
M.B., Ch.B., D.P.M. (Mental Deficiency)	
M.R.C.S., L.R.C.P., D.P.M. (After-care)	
<i>Certifying Medical Practitioners</i> (part time) .....	10
M.D., F.R.C.S.E.	
M.B., B.Ch., B.A.O.	
M.B., B.Ch., B.A.O.	
L.R.C.P., L.R.C.S., L.R.F.P.S.	
L.R.C.P.I., L.M., L.R.C.S.I.	
*M.R.C.S., L.R.C.P., D.P.M.	
*M.D., D.P.M.	
*M.D., L.R.C.P., L.R.C.S., L.R.F.P.S.	
*M.B., Ch.B., D.P.M.	
*M.A., B.M., B.Ch., D.P.M.	

\*These medical practitioners are of consultant status and have continued additionally, during the year, to certify in cases where, having been called out in consultation they find that certification is necessary.

#### *Inspectors* (Mental Deficiency)

Chief, Deputy and 3 Inspectors :

no academic qualifications but all with long experience.

Clerical Staff: 4 clerks, full time, with share of general purposes clerical staff.

#### *Occupation Centres and After-care*

(under management of Education Committee on behalf of Health Committee) :

*After-care Officer* ..... 1

National Froebel and Social Science Certificates; qualified Teacher.

*Supervisors* ..... 7

1 holding Diploma of National Association for Mental Health: remainder no specific qualifications apart from experience.

<i>Assistant Supervisors</i> .....	8
<i>Attendants</i> .....	6
<i>After-care Visitors</i> .....	4
M.A. Social Science Diploma	
S.R.N. Domestic Science Diploma	
2 without specific qualification.	
<i>Home Teachers</i> —full time.....	2
part time.....	1
<i>Duly Authorised Officers</i> (Lunacy and Mental Treatment Acts). Chief, Deputy and 3 authorised officers.	
3 hold certificate of Poor Law Examinations Board (E. and W.) and all but one, appointed in 1949, have long experience in the work.	
Clerical Staff: 1 clerk, full time, and share of general purposes clerical staff.	
<i>Pre-care and After-care</i> (psychiatric social service)	
Sen. Psychiatric Social Worker .....	1
B.A. Hons. (Oxon)	
B.A. Hons. (Lond.) (Psychology)	
Mental Health Certificate.	
Social Workers .....	3
2 Social Science Diploma	
1 B.Com. (B'ham.).	
Clerical Staff: 1 Clerk, full time, and share of general purposes clerical staff.	

(c) **Co-ordination**

- i with Regional Hospital Board, by regular consultation with the Board's officers in regard to the admission of mental defectives to institutions.
- ii with Hospital Management Committees by correspondence as necessary, the furnishing of reports on the home circumstances of patients detained in institutions, the provision of reports for the Visiting Justices, and the after-care and rehabilitation of patients on licence from institutions for mental defectives, including periodic reports upon their progress.

(d) **Duties delegated to Voluntary Associations**—Nil.

(e) **Training of Mental Health Workers**—Nil.

## 2. ACCOUNT OF WORK UNDERTAKEN IN THE COMMUNITY

### (a) Under the Mental Deficiency Acts, 1913—1938

#### i *Ascertainment* (1950 figures in brackets).

The primary duties of the Local Health Authority under the Mental Deficiency Acts are the ascertainment of mentally defective persons subject to be dealt with, the arrangement of suitable supervision, guardianship or institutional care where such is necessary, and the provision of training and occupation for all defectives.

The majority of cases ascertained are those notified by the Education Authority in accordance with Section 57 of the Education Act, 1944. Other cases are, however, notified by medical practitioners, relatives, hospitals, probation officers, Magistrates' Courts and welfare officers.

Reported during 1951 ..... 256 (268)

In institutions at 31st December, 1951 ..... 2,204 (2,205)

Awaiting admission at 31st December, 1951 ..... 167 (180)

The list of cases awaiting admission to institution is still lengthy, but it is pleasing to observe that there is a reduction on the figures quoted for last year, added to which there are prospects that there may be still further improvement next year.

#### ii *Guardianship and Supervision* (1950 figures in brackets)

Under guardianship ..... 34 (41)

Under statutory supervision ..... 2,490 (2,515)

On licence from institutions† ..... 237 (238)

†The cases on licence are supervised on behalf of the respective Hospital Management Committees. The majority of these patients have been found suitable employment, are successfully earning their living and proving their worth in the community. They are engaged in various occupations, e.g., domestic service, hotel service, factory work, building trades, Corporation Parks, Salvage and Public Works Departments and Hospital domestic staff.

#### iii *Training* (1950 figures in brackets).

The Mental Deficiency Act, 1927, Section 7, empowered Local Authorities to establish Occupation Centres for the training of mental defectives, and facilities for this training exist at 6 centres situated at Kingstanding, Handsworth, Aston, Glebe Farm, Moseley and Weoley Castle, and 1 industrial centre at Aston. Arrangements are being made for the opening of 2 more occupation centres and 1 industrial centre. In certain cases, mental defectives unable to attend occupation centres are provided with training in their own homes by visiting Home Teachers.

During the latter part of 1951, arrangements were made for the

transport of a number of spastic and otherwise physically handicapped mentally defective children from their homes to Occupation Centres.

Attending Occupation Centres	.....	.....	.....	223	(198)
Receiving Home Teaching	.....	.....	.....	43	(29)

The After-care of statutory supervision cases and the provision of training in Occupation and Industrial Centres are carried out by the Education Authority by contractual arrangement on behalf of the Health Committee.

iv *Special Holiday Arrangements.*

Arrangements were made by the Health Committee, for the provision of a week's holiday for 100 mentally defective children, the majority of whom were attending occupation centres. It is difficult to find suitable accommodation of the type required during the normal holiday season, but facilities were found at a country home, located outside the City and organised by the Birmingham Association of Girls' and Mixed Clubs. The first party, consisting of children of age 4—16 years, went in September and the second of somewhat older children (11—17 years) went in October. Two further parties are booked to go in March, before the close of the financial year. The scheme has so far proved most successful, the children receiving benefit from the change of air and surroundings and the parents being afforded some relief through a well-earned rest from the strain of caring for the children.

(b) **Under the Lunacy and Mental Treatment Acts, 1890—1930.**

1,868 cases were dealt with by the Duly Authorised Officers classified as follows:—

<i>Classification</i>	<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>	<i>Total</i>	<b>1950</b>
Certified.....	42	52	54	55	45	65	51	47	35	45	60	34	585	580
Voluntary	86	68	64	56	73	64	76	61	60	61	57	52	778	655
Temporary	3	2	2	1	—	—	—	1	2	—	1	—	12	7
Sec. 20 Lunacy Act	9	7	11	8	5	10	6	8	3	6	5	9	87	112
Sec. 21 Lunacy Act	13	15	10	13	15	11	8	11	12	15	7	12	142	103
Urgency Orders	8	9	1	2	3	8	3	8	5	5	9	2	63	38
Not certified	25	17	19	11	24	14	10	13	12	11	15	7	178	172
Other cases	1	3	3	2	3	3	—	—	1	2	3	2	23	20
Total cases dealt with, 1951	187	173	164	148	168	175	154	149	130	145	157	118	1868	1687

(c) **Under Section 28, National Health Service Act, 1946**

After-care of persons discharged from mental hospitals, and pre-care of selected cases, either ex-service men or persons referred with a view to certification but found not to be certifiable, has been undertaken as set out in the following table :—

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Total	1950
New cases .....	19	18	21	24	25	22	17	33	33	42	27	32	313	234
Referred by Public Health Dept.	3	6	9	3	9	3	4	8	6	15	7	11	84	91
Referred by outside agencies	16	12	12	21	16	19	13	25	27	27	20	21	229	143
Cases Closed .....	6	26	7	20	18	20	18	14	18	40	24	26	237	194

At the end of the year 228 cases remained under supervision.

There has thus been a considerable increase in the number of cases dealt with, this increase justifying the appointment during the year of an additional social worker. Many cases prove to be complex, exacting and time-consuming, and Mr. T. G. Rankin, Senior Psychiatric Social Worker, has set out the following information with a view to ensuring the widest possible understanding of the work involved.

Broadly speaking there are two kinds of social case work; on the one hand there is direct treatment where the aim is to help the patient through the worker-patient relationship and on the other hand there is indirect treatment which may mean giving help in kind, but more generally by the manipulation of the environment, reducing pressures and acting as a link between patient and environment, interpreting a patient's needs to his family and to other social agencies who it is thought can best help. In the case work of the Psychiatric Social Service few cases if any can be described as clear-cut examples of either direct or indirect treatment, because as a rule both of these methods of approach are involved; there are, however, many cases where one or other approach is predominant and it is probable that in comparison with most other forms of case work, psychiatric social work makes the greatest use of the direct method. The function and needs of a Psychiatric Social Service can be considered under the following headings :—

(1) To act as a kind of sheet-anchor for cases which in the course of treatment to final settlement may attend at a number of centres where segmental needs are met—hospitals, clinics, rehabilitation units, training centres, etc., and where there is a danger that in the absence of this sheet-anchor the patient may be left stranded and without support after the completion of one phase of treatment.

(2) There are a number of patients in the community who, because of the nature of their illness, place themselves outside the reach of the normal health service, refusing to see their general practitioner or to attend at clinics for treatment, or to go into hospital as a voluntary patient. Some of these will in time be put up for certification by relatives, but frequently they are found not to be certifiable.

(3) Minor maladjustments of personality and behaviour severe enough to interfere seriously with the patient's work, family relationships or social life, but not necessarily severe enough to warrant treatment at a psychiatric clinic or mental hospital. The patient's needs cannot always be adequately met by the general practitioner as he may not be free always to devote the time and attention that such cases demand, nor in fact is the problem always a purely medical one; usually it has a social aspect, where the patient's mental symptoms are in part a reaction to social difficulties.

(4) After-care of patients discharged from mental hospitals and from the services on psychiatric grounds.

*Case Work Practice.* New patients are referred by a wide range of medical and other agencies. At the first interviews with the patient, which may take place either in the office or at home, the worker has a dual function: 1—An attempt is made to diagnose and assess the nature of the problem. 2—The case worker tries to win the confidence and co-operation of the patient, and in the early stages of treatment it is the establishment of rapport which is the more important and sometimes the more difficult task; without it, moreover, very little can be achieved. Once rapport has been established and a provisional assessment of the problem has been made, a treatment plan is evolved, the details of which will be varied and modified in the light of experience, but in general terms is likely to be on one of the following lines:—

(1) Indirect treatment through manipulation of environment, together with support and reassurance by regular interviews with the patient—approximately 70 per cent. of referrals are dealt with in this way.

(2) Where it appears necessary, the need for further specialist treatment will be explored and arranged with the help of general practitioner and consultant psychiatrist. The worker will during treatment keep in touch with the family and as soon as treatment is completed, will be available to help the patient with reassurance and support with a view to the solution of outstanding social difficulties. During the period under review 65 cases have been referred to the consultant psychiatrist and further treatment has been arranged for 47.

(3) A minority of cases, about 10—15 per cent., will remain who may appear to be in need of treatment at hospital or clinic, but who because of fear or prejudice refuse to attend. Such cases may be taken on and a

form of direct treatment attempted by frequent and regular interviews. Among these cases we have had some notable successes, as well as a number of failures.

Men who have not worked for years, who have been in mental hospitals a number of times without responding to or deriving benefit from treatment, have returned to regular work. There have been others who, after spending many years in hospitals and institutions and who have been considered hopeless, have been given help and support over long periods by the Psychiatric Social Service and have been gradually helped back to work and normal living. Work on these apparently hopeless cases may in the course of a year involve over a hundred interviews per case and they are likely to remain under care and supervision for a number of years.

This is a new field of psychiatric social work which might well repay further study and exploration. There are a number of men and women in the community, often house-bound for years, who are eking out a miserable existence and causing untold unhappiness to their relations. They are frequently not in touch with any medical or social agency, though many of them are in receipt of National Assistance. If only a minority of these could be helped back to a more normal, independent and productive way of life, a real service would be done to them, to their families and to the community, and it is to be hoped that in time more of these apparently hopeless men and women will be referred for investigation and help.

Pressure of work, and there has been a fairly steady increase of new referrals, must of necessity limit the amount of intensive case work that can be undertaken, but even the cases of minor maladjustment are handled intensively for a while. Usually during the first few weeks following referral several interviews per week take place in each new case, and this may be sufficient to restore the patient's confidence. Having shown him a way round the difficulties which had been pressing hardest upon him, he is able to move towards a new adjustment, conscious that if troubles and anxieties start piling up again, he has someone to whom he may turn for support and guidance.

In addition to a number of patients who have been persuaded to attend out-patient's clinics or to go into hospital in Birmingham as voluntary patients, admission has been arranged for 13 patients to go to an industrial-neurosis centre at Belmont Hospital, Surrey, and treatment has been arranged for a further 3 at Roffey Park, Sussex. With the co-operation of the Welfare Department 3 patients have also received treatment at an Epileptic Colony.

Throughout the year excellent co-operation has been maintained with the Disablement Rehabilitation Officers of the Ministry of Labour and National Service, and about 10 per cent. of new referrals have been

helped by a course of rehabilitation at the Ministry of Labour (Industrial Rehabilitation) Unit at Handsworth.

The Psychiatric Social Service is frequently in touch with officers of the National Assistance Board on behalf of patients, and there has been helpful co-operation. It is, however, desirable that relations with the Assistance Board Officers should become even closer as it is felt that many of the people in receipt of assistance for long periods might benefit by help from the Psychiatric Social Service.

Much the same comment might be made of relations with the Corporation Welfare Department. Whenever co-operation has been sought it has been given, but here again it is felt that District Welfare Officers in the course of their duties might recognise and refer many more cases that could be helped by the Service.

Other social agencies with whom close co-operation has been effected are the Probation Department, the Children's Department, the Ministry of Pensions, the Birmingham Council of Social Service, the British Red Cross Society, the British Legion and the Family Service Unit.

The Psychiatric Social Service has also continued to undertake part-time work on behalf of Highcroft Hall Hospital. Assistance as set out below has been given in the case of 319 patients during the year.

	<i>Jan.</i>	<i>Feb.</i>	<i>Mar</i>	<i>Apr.</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>	<i>Total</i>
Social Histories	24	32	18	11	19	27	19	28	14	24	19	11	246
Leave Reports	—	—	—	—	—	—	—	—	—	—	6	2	8
On Trial Reports	—	—	—	—	1	—	—	—	2	—	—	2	5
Pre-Discharge Reports	6	6	—	2	1	2	7	5	1	—	4	2	36
Miscellaneous Reports	2	4	4	1	2	2	—	—	—	3	1	5	24
TOTALS	32	42	22	14	23	31	26	33	17	27	30	22	319

## NATIONAL ASSISTANCE ACT, 1948 NATIONAL ASSISTANCE (AMENDMENT) ACT, 1951

Under Section 47 of the National Assistance Act, 1948 application may be made to a court of summary jurisdiction for an order to remove an aged person, in need of care and attention, to a suitable institution, provided it is certified by the Medical Officer of Health that removal is in the interests of the person concerned or in the interests of others. Before appearing in court it is necessary to give 7 clear days' notice to the patient and the person managing the institution of the intended application.

It was generally felt that this period of waiting, which often exceeded the statutory 7 days, was unfortunate as in many cases where compulsory removal was necessary immediate hospitalisation was a matter of urgency especially as such a course of action was only taken following much consideration and after persuasion had failed.

The National Assistance (Amendment) Act, 1951, was introduced to meet this defect. In this Act the appropriate Authority or the Medical Officer of Health, if authorised (Resolution 977 of the Welfare Committee authorised the Medical Officer of Health to make the appropriate application on behalf of the Welfare Committee acting for the City Council) may apply to the Court of Summary Jurisdiction or Justice of the Peace for an order for compulsory removal, without giving any notice of intention provided removal is considered necessary by the Medical Officer of Health and one other registered medical practitioner.

In 1951 no aged person was removed compulsorily to hospital, although many cases were investigated. In some death intervened, while in others many visits and much persuasion resulted in their entering hospital voluntarily.

Cases investigated	87
Cases removed under Section 47 N.A.A., 1948	0
N.A. (Amendment) Act, 1951	0
Other arrangements	67
No action	16
Died before admission to hospital	4

Two typical cases of investigation are recorded below:

### CASE A.

Mrs. A., aged 91 years, lived alone. She was almost blind and very deaf. The house itself was filthy and much in need of repair. Her bed-

clothes were soiled and she depended on friendly neighbours for her food. She was exceedingly frail and despite her handicaps insisted on carrying out many of her household duties even to setting the fire, although she had burned herself on several occasions. She refused all help from the Department, despite the fact that she was a source of worry to her neighbours, and, in spite of her independence, was much dependent on charity. Eventually, she agreed to enter hospital, but only when she lay dying, and after the preliminary steps for compulsory removal had been initiated.

In another case a similar determination was noted.

#### CASE B.

This old lady aged 85 years, lived alone with a dog who was her constant and much loved companion. She was obviously an intelligent educated person but now bedridden because of an un-united fracture. She could only move by crawling on all fours dragging the useless limb behind her. Mrs. B., her dog and house were neglected and extremely filthy. She was almost completely uncared for, only an occasional visit being made by old friends.

She refused to enter an institution unless the dog could accompany her. Fortunately sub-tenants were found who were prepared to look after her, and compulsory removal was avoided.

There were many other cases where the elderly were found to be ending their days in such squalor; fortunately most seemed totally unaware of their almost animal existence. (Reference is also made to this point in *Care of the Aged*, etc., page 203). It is to be regretted that the knowledge of such cases comes to the Department too late for much constructive work to be done.

## FOOD AND DRUGS

### **Eating Houses and Premises where food is prepared or Stored for Sale.**

The supervision of premises where food is prepared, stored or sold, in any large city, is one of necessity involving not only conscientious attention to detail on the part of the District Sanitary Inspector, but an effective liaison between the various sections of the Public Health Department and other departments. With the specialisation inevitable in a large authority and with the varieties of food trading carried on, more than one inspector is frequently involved in the supervision of one premises.

Inspection of all types of food preparation premises has proceeded apace, and during the year 10,171 visits have been made representing an increase of 3,461 over last year.

Included therein were 1,933 visits to canteens in factories and industrial premises, and in these much progress has been made towards achieving a uniformly high standard of food hygiene. The friendly co-operation of managements has in almost all cases been obtained, and in 423 canteens works of improvement asked for by this department have been carried out. Principally these improvements have been necessary in respect of ventilation, decoration, food storage and staff sanitary and washing facilities. Co-operation with H.M. Factory Inspectors has been maintained during this year.

Eating houses registered under Section 54 of the Birmingham Corporation Act, 1935, totalled 1,155 at the end of the year, representing an increase of 50 since the previous year. Most of these, however, had already been inspected in 1950 with a view to such registration. The general standard of cleanliness of eating houses has been maintained and improved during the year. In one instance, however, the Health Committee, on this department's recommendations, withdrew the registration of the premises following repeated warnings to the occupier as to the low standard of cleanliness prevailing. An appeal was lodged, but before the Court hearing, was withdrawn.

The following tables give details of the number and type of new applications for catering licences dealt with during the year:—

1.	Public Houses	(a) full catering	.....	.....	11	
		(b) snacks only	.....	.....	10	
					<hr/>	21
2.	Cafes	(a) full catering	.....	.....	41	
		(b) snacks only	.....	.....	44	
					<hr/>	85
3.	Fish friers providing meals on premises	.....	.....	.....		7
4.	Factory canteens	.....	.....	.....		22
5.	Mobile canteens, with premises at which food is stored and prepared	.....	.....	.....		2
6.	School canteens	.....	.....	.....		7
7.	Food preparation premises providing meals for consumption off the premises	.....	.....	.....		8
8.	Clubs, full-time (unlicensed)—					
		(a) full catering	.....	.....	3	
		(b) snacks only	.....	.....	5	
					<hr/>	8
9.	Clubs, full-time (licensed)—					
		(a) full catering	.....	.....	2	
		(b) snacks only	.....	.....	1	
					<hr/>	3
10.	Clubs, part-time (unlicensed)—					
		(a) full catering	.....	.....	3	
		(b) snacks only	.....	.....	64	
					<hr/>	67
11.	Clubs, part-time (licensed) —					
		(a) full catering	.....	.....	1	
		(b) snacks only	.....	.....	3	
					<hr/>	4
12.	Residential establishments—					
		(a) Private hotels	.....	.....	5	
		(b) Boarding houses	.....	.....	10	
					<hr/>	15
13.	Premises used for manufacture of cooked meats and other foods	.....	.....	.....		3
14.	Premises proposed but found unsuitable (Public Works (Town Planning) Department, or this Department), or licence refused by Food Office	.....	.....	.....		13
15.	Proposal subsequently abandoned	.....	.....	.....		2
						<hr/>
						267
						<hr/>

The number of applications is reduced by half compared with 1950 and it would appear that a saturation point has been reached following the lifting of wartime restrictions. The problem of club meeting premises has continued to give rise to difficulties in achieving even a minimal standard, and certain unsuccessful applicants have shown concern at the department's interest in the hygiene of their proposed catering arrangements. In a number of instances, direct approach has been made to the actual owners of the meeting halls, etc., involved (often church authorities) with a view to the establishing of a worthwhile kitchen for use by their various lessees.

In dealing with catering applications excellent co-operation with the Food Office has been maintained, and similarly with the City Engineer and Surveyor in connection with the new construction and extensions of food premises.

### **Bakehouses**

The number of bakehouses in the City at the end of the year was 187, including 21 primarily concerned with cake confectionery manufacture. During the year sanitary inspectors made a total of 564 visits to bakehouses, and 52 letters were sent asking for improvements to be effected. In one instance, due to mismanagement and impending bankruptcy, one firm failed to comply with this department's letters of requirements, and the Health Committee sanctioned the institution of legal proceedings. However, a Receiver was appointed for the firm, and his co-operation was soon obtained and worthwhile improvements put in hand.

An outbreak of paratyphoid fever was traced to a carrier employed by one medium sized bakehouse using synthetic cream. Investigation showed in addition unsuitable and inadequate hand washing facilities—prompt action was taken to rectify this. Following this occurrence a special, as distinct from routine, survey of all bakehouses revealed that 75 were using synthetic cream, and it was, therefore, decided to intensify the periodic sampling of the various creams in use. In 22 cases unsatisfactory results were obtained and approach was made to the managements and improvements in methods of handling, storage and sterilization of utensils and apparatus were effected.

The byelaws made under Section 15 of the Food and Drugs Act, 1938, with respect to the handling, wrapping and delivery of food sold or intended for sale for human consumption came into force on the 9th April, 1950, and have proved of benefit in securing the observance of sanitary and cleanly conditions and practices. The attention of food handlers has been drawn to the requirements of these byelaws during the course of routine inspections, and their provisions have been embodied in schedules where necessary.

In one private hotel it was observed that dogs were habitually permitted in the kitchen. The management was asked to exclude the animals to prevent risk of contamination of food in course of preparation, but declined to do so. Authority to institute legal proceedings was given by the Health Committee, but the management of the hotel on hearing this gave up catering, surrendered their food licence and concentrated on the business of dog breeding.

### **MILK AND DAIRIES, ICE CREAM AND SYNTHETIC CREAM**

The Senior Milk and Dairies Inspector, with four inspectors, two samplers and one full-time clerk, working under the general direction of

the Administrative Medical Officer of Health for General Purposes, are responsible for carrying out the statutory duties delegated to the Health Committee and the large amount of advisory work necessary to ensure attainment and maintenance of the high standards which are expected in this City.

The following details summarise the work of supervision of plant and premises carried out during the year :

Visits to pasteurising plants	.....	.....	.....	.....	.....	.....	569
"    "    sterilizing plants	.....	.....	.....	.....	.....	.....	524
"    "    wholesale purveyors	.....	.....	.....	.....	.....	.....	294
"    "    retail purveyors	.....	.....	.....	.....	.....	.....	399
"    "    ice cream manufacturers	.....	.....	.....	.....	.....	.....	1,434
"    "    ice cream dealers	.....	.....	.....	.....	.....	.....	4,370
"    "    milk bars	.....	.....	.....	.....	.....	.....	178
"    "    milk shops*	.....	.....	.....	.....	.....	.....	3,401
"    "    confectionery bakehouses**	.....	.....	.....	.....	.....	.....	452
Other visits	.....	.....	.....	.....	.....	.....	588
Unsuccessful visits	.....	.....	.....	.....	.....	.....	853
Interviews	.....	.....	.....	.....	.....	.....	123

\* The supervision of these premises has been in the hands of the District Sanitary Inspectors, as previously.

\*\* These visits do not include visits for the purpose of taking samples of synthetic cream, nor do they include visits by District Sanitary Inspectors to bread bakeries or smaller premises where synthetic cream is not so extensively handled as at the larger confectionery bakeries.

### Milk and Dairies

The supervision of milk processing and sale has led to the issue of licences as follows :

Pasteurising plants	H.T.S.T.	.....	.....	.....	.....	.....	9
	Holder	.....	.....	.....	.....	.....	4
	Other	.....	.....	.....	.....	.....	1
Sterilising plants	.....	.....	.....	.....	.....	.....	13
Wholesale and retail distributors	.....	.....	.....	.....	.....	.....	102
Dealers' licences (Milk Shops)	.....	.....	.....	.....	.....	.....	2,630
" Tuberculin Tested " licences issued to producers of pasteurised and sterilised milk for the production of T.T. (Pasteurised) and T.T. (Sterilised) Milk	.....	.....	.....	.....	.....	.....	12

Towards the end of the year agreement was reached with the Ministry of Food over the specification of a time-temperature combination in connection with the application of a dairyman for the issue of a pasteuriser's licence for his "in-bottle" method of heat-treatment, a method which had, after the incorporation of certain safeguards, been approved by the Health Committee towards the end of the previous year.

The pasteurising premises referred to in my last report as overcrowded and substandard are to be vacated early in the new year as reconstruction of the firm's other premises has now been completed and H.T.S.T. plant installed.

Another firm changed over to the H.T.S.T. process during the year, and it is estimated that more than 90 per cent. of the milk pasteurised in the City is now processed by this method.

The following complaints were received during the year :

Dirty bottles and foreign matter in bottles ..... 11  
 Watery sterilised milk (due to defective crown cork) ..... 1

In some premises, the bottle-washer is controlled by one operator, whose duty it is both to load the machine with dirty bottles, and to examine the washed bottles on discharge. Not only is this monotonous work tending to "accident", but it places an unwarranted responsibility upon the operator who cannot be expected adequately to supervise both operations. To ensure thorough supervision, a viewer should be positioned on the bottle-line between washer and filler.

The following table shows the result of examination of samples of various milks taken for methylene blue and phosphatase or turbidity tests, 2,155 in all :

<i>Classification</i>	<i>Total No. of Samples</i>	<i>Failed Methylene Blue Test</i>	<i>Failed Turbidity Test</i>	<i>Failed Phosphatase Test</i>	<i>Declared Void</i>
Raw Milk	148	29 (19.6%)	Not applicable	Not applicable	Not applicable
Designated Raw Milk	147	5 (3.4%)	Ditto	Ditto	Ditto
Pasteurised Milk (Processed inside City)	1256	11 (1.19%)	Ditto	31 (2.46%)	337
Pasteurised Milk (Processed outside City)	289	15 (7.85%)	Ditto	15 (5.19%)	98
Sterilised Milk	265	Not applicable	Nil	Not applicable	Not applicable
Heat Treated Milk*	50	Nil	Not applicable	Nil	7

\* "in bottle" method prior to acceptance of Ministry of Food of time-temperature specification approved by the local authority.

It will be noted that 442 samples (28 per cent.) submitted for methylene blue test were declared void in accordance with the provisions of Section I of Part 3 of the Third Schedule of the Milk (Special Designation) (Pasteurised and Sterilized Milk) Regulations, 1949.

No instance of milk-borne infection was ascertained during the year but one notice was served under Regulation 20 of the Milk and Dairies

Regulations, 1949, in respect of the milk from one cow infected with *Brucella Abortus*.

### Ice Cream

During the year, 56 manufacturers' licences were cancelled, these traders becoming retailers only, and there were at the end of the year a total of 145 registered manufacturing premises in the City.

The number of premises registered for sale only was 2,377 against 2,040 at the end of the previous year. The majority of applications for registration related to the sale of wrapped ice cream, and it has been noted that the products of the larger firms are steadily replacing those of the smaller firms, in so far as retail sales in shops are concerned.

Thirty-five applications for registration for the sale of ice cream were made in respect of premises found on investigation to be unsuitable, and the applicants on being informed that no recommendation for registration could be made, decided voluntarily to withdraw their applications, although advised of their right of appeal in the event of a refusal of registration by the Health Committee.

Six temporary registrations were granted for the sale of ice cream at fetes, etc., and during exhibitions at the Bingley Hall.

Visits of inspection paid to ice cream premises during the year were as follows:

Manufacturers	.....	.....	1,434
Dealers	.....	.....	4,370

Sampling, both as routine and in following up unsatisfactory results, has been continued as formerly, samples submitted to the Methylene Blue Test being reported upon as follows:

#### METHYLENE BLUE TEST

<i>Pro- visional Grade</i>	<i>Samples of Ice Cream manufactured on Premises in the City</i>	<i>Samples of Ice Cream manufactured on Premises outside the City</i>	<i>Total Samples 1951</i>	<i>Results 1950</i>
1	325 (76.29%)	145 (79.67%)	470 (77.30%)	456 (58.39%)
2	60 (14.09%)	27 (14.83%)	87 (14.31%)	207 (26.50%)
3	24 (5.63%)	5 (2.75%)	29 (4.77%)	66 (8.45%)
4	17 (3.99%)	5 (2.75%)	22 (3.62%)	52 (6.66%)
Void	4	1	5	
	<hr/> 430	<hr/> 183	<hr/> 613	<hr/> 781

Analysis of the 41 samples of ice cream manufactured in the City falling in provisional grades 3 and 4 showed that 14 manufacturers failed on one occasion only out of at least three samples of their ice cream taken between April and September. Five failed on more than one occasion, one large manufacturer having a total of 15 failures in all, these, however, including test samples taken from various points in the processing plant with a view to ascertaining the cause of the

original failure; the remaining 12 unsatisfactory samples related to four small manufacturers in each instance requiring advice and a series of sampling before satisfactory results were obtained.

Informal sampling was also carried out under the Food Standards (Ice Cream) Order, 1951. This gave the following results:

		<i>Number of Samples</i>	<i>Number falling below standard</i>
Manufactured inside City	.....	335	49
Manufactured outside City	.....	77	6

Five samples taken were incapable of analysis by reason of the condition of the mix. In all instances of failure to reach the prescribed standard, local manufacturers were advised. It had been anticipated that certain of the smaller manufacturers would find difficulty at first in attaining the required standard but later samples generally indicated that any difficulty had been surmounted. Anomalous results were found, however, in certain mixes where a well known standard cold mix powder was employed. These are believed to have been due to the vendor switching off his electrically controlled conservator over night. In this way some liquefaction of the ice cream occurs, with some degree of separation of the ingredients, and a lack of homogeneity in the re-frozen product. This is a most undesirable and dangerous procedure, but one most difficult to detect. The solution would appear to be the requirement of thermostatic control of the conservator.

The small number of failures in ice cream manufactured outside the city, as compared with that of local manufacture, is explained by the fact that "imported" ice cream is the product of large firms, the majority of whom have their own laboratory facilities.

### **Synthetic Cream**

The closest supervision of the handling of synthetic cream has been maintained during the year and results of sampling suggest that the improvement in method of manufacture and subsequent handling, which was noted last year, has been maintained. That continued and close supervision is necessary is shown by the incidence of Paratyphoid B. infection resulting from, or seriously suspected as resulting from, consumption of cream cakes, referred to elsewhere in this Annual Report.

While the results of examination for coliform organisms have been generally satisfactory, there are still a number of instances of high total organism count which can only be explained by unsatisfactory methods of transportation.

Routine sampling to the capacity of the laboratories concerned has been carried out at the following premises, and has given the results set out in Table I opposite:

(a) Confectionery bakeries, under the supervision of the milk and dairies staff, both from the unopened container and from the mixing bowl after making-up ready for use. The latter has provided an essential check upon the method of handling adopted.

(b) Smaller bakeries, similarly, controlled by the general staff of the Chief Sanitary Inspector. A number of products, previously unknown, have come to light in this way.

(c) City dairies, where synthetic cream has been bottled for sale by the dairyman for liquid consumption as a substitute for fresh cream.

TABLE I

<i>Source of Samples</i>	<i>Colony Count per 1 ml. of cream after 48 hours' incubation at 37°C.</i>	<i>Number of Samples</i>	<i>Coliform Bacilli present in 1.0 cc.</i>	<i>Number of Samples</i>
<i>(a)</i>				
Confectionery bakeries unopened container.	0—1,000	45	Nil	81
	1,001—10,000	15	1—10	1
	10,001—100,000	11	11—100	1
	100,001—500,000	7		—
	over 500,000	5		—
		83		83
		—		—
Mixing bowl	0—1,000	36	Nil	60
	1,001—10,000	14	1—10	Nil
	10,001—100,000	9	11—100	2
	100,001—500,000	1		—
	over 500,000	2		—
		62		62
		—		—
<i>(b)</i>				
Smaller bakeries unopened container	Nil	4	Nil	36
	1—1,000	19	1—10	Nil
	1,001—10,000	7	11—100	1
	10,001—100,000	3		—
	100,001—500,000	1		—
	over 500,000	3		—
		37		37
		—		—
Mixing bowl	Nil	2	Nil	41
	1—1,000	11		—
	1,001—10,000	14		—
	10,001—100,000	6		—
	100,001—500,000	3		—
	over 500,000	5		—
		41		41
		—		—

(c) Bottles	0—1,000	17	Nil	47
	1,001—10,000	13	1—10	Nil
	10,001—100,000	10	11—100	Nil
	100,001—500,000	4	101—1,000	3
	over 500,000	6		—
		—		—
		50		50
		—		—

During the year the sampling of various cake fillings, other than synthetic cream, was also undertaken, with results as set out in Table II. A number of the products sampled are supplied ready for use, although certain of them are made up at the respective bakeries from various ingredients which may be available to them.

TABLE II

<i>Nature of Sample</i>	<i>Colony Count per 1 ml. of filling after 48 hours' incubation at 37°C.</i>	<i>Number of Samples</i>	<i>Coliform Bacilli present in 1.0 cc.</i>	<i>Number of Samples</i>
Before handling	Nil	1	Nil	19
	1—1,000	13		—
	1,001—10,000	4		
	10,001—100,000	Nil		
	100,001—500,000	1		
	over 500,000	Nil		
		—		
		19		
		—		
Mixing bowl	Nil	1	Nil	20
	1—1,000	9		—
	1,001—10,000	6		
	10,001—100,000	1		
	100,001—500,000	2		
	over 500,000	1		
		—		
		20		
		—		

### Shell Fish

During the year, 2 samples of oysters and 50 samples of mussels were taken by the Veterinary and Food Inspection Department, for bacteriological examination. These were reported upon as follows :

<i>B. Coli Type I per 1.0 cc. of fish</i>	<i>Number of Samples</i>
Nil	38
1—5	11
6—10	2
11—50	1

Two samples of mussels showed 9 and 12 B. Coli Type I per 1.0 c.c. of fish, respectively. Shell fish reaching the City from the area in question have never been consistently satisfactory, and certain layings are subject to the Birmingham (The Wash) Shell Fish Order, 1944. These samples came from two layings outside the area covered by this Order. One of these has been the subject of a recommendation for closure by the Local Authority while the other is being kept under close observation.

One sample of mussels, showed 10 B. Coli Type I per 1.0 c.c. of fish: the condition of these mussels is thought to have been prejudiced by the length of time in transit during a spell of mild weather.

No infection was traced, during the year, to the consumption of contaminated shell-fish.

## INSPECTION OF MEAT AND OTHER FOODS

*Report by C. G. ALLEN, M.R.C.V.S., D.V.S.M., F.R.SAN.I., Chief Veterinary Officer and Chief Inspector of Meat and Other Foods.*

The statute law relating to food is contained in the Food and Drugs Act, 1938. The Act also deals with related matters including slaughterhouses and knackers' yards which must be licensed annually as from 1st February. In addition to the public abattoir, licences have been issued in respect of sixteen slaughterhouses connected with bacon factories and also in respect of one knacker's yard. In the case of the knacker's yard, the owner is also required to hold a licence issued by the Ministry of Food.

**Meat Supplies.** Practically all the home-killed meat consumed in Birmingham and surrounding district comes from the public abattoir and sixteen bacon factories located in various parts of the City. The customers registered with butchers' shops in the City number well over a million, and the surrounding districts draw on Birmingham for meat supplies for approximately 250,000 registered customers. Since 1940, except for the bacon factories, all slaughtering in the City has been concentrated at the abattoir.

In addition to the home-killed meat, there are large refrigerated stores at the abattoir where imported meat is stored until allocated to the various retail shops. Actually, prior to 1939, imported meat formed approximately 55 per cent. of Birmingham's meat supply.

**Slaughter of Animals and Inspection of Meat.** The meat inspection staff at the abattoir includes qualified veterinary and food inspectors, and animals are examined both before and after slaughter. These inspectors also supervise the humane and scientific methods of slaughter carried out by licensed slaughtermen: 292 slaughtermen's licences were in force at

the 31st December. Carcases and offals are submitted to careful examination before meat supplies are distributed to retail butchers in Birmingham and district.

A laboratory is maintained at the abattoir to help with the diagnosis of various diseases.

**Bacon Factories.** Birmingham is a large centre for bacon factories, there being sixteen with licensed slaughterhouses in operation. Veterinary inspectors are constantly engaged examining pigs' carcases at these premises.

#### RETURN OF ANIMALS SLAUGHTERED

	<i>Beasts</i>	<i>Calves</i>	<i>Sheep</i>	<i>Pigs</i>	<i>TOTAL</i>
Public Abattoir	75,512	72,459	157,504	42,619	348,094
Pigs slaughtered in Bacon Factories				182,774	182,774
<b>TOTAL, 1951</b> .....	<b>75,512</b>	<b>72,459</b>	<b>157,504</b>	<b>225,393</b>	<b>530,868</b>
<b>TOTAL, 1950</b> .....	<b>68,265</b>	<b>74,758</b>	<b>181,968</b>	<b>187,337</b>	<b>512,328</b>

*Note* :—316 cases of cysticercus bovis (measly beef) were found at the abattoir during the year.

Of the 75,512 cattle slaughtered at the public abattoir, 12,564 or 16.6 per cent. were low-grade cattle of manufacturing grade. The percentage of the total number of cattle killed during 1951 affected with tuberculosis was 24.1 per cent., whereas the corresponding percentage for the year 1939 was 24.0.

**Meat from Outside Sources.** Home-killed dressed meat coming from outside sources to the abattoir is all inspected before being passed on to the consumer.

**Vehicles** used for the transport of meat from the abattoir to retail and other premises are inspected by the abattoir meat inspection staff.

**Fish, Poultry, Fruit and Vegetable Supplies.** The wholesale supplies of fish, poultry, fruit and vegetables in the markets are subjected to regular daily inspection. In the case of shellfish, such as oysters, mussels, etc., a careful check on the origin of the supplies is kept and in addition, samples are taken for bacteriological examination.

The fish market supplies an area within a radius of twenty miles from the City centre and about 800 tons of fish pass through weekly.

**Hawkers.** The Bull Ring hawkers who purchase their goods in the wholesale markets are regularly visited by a food inspector. The provisions of Section 42 of the Birmingham Corporation Act, 1948, provide for the registration of hawkers of food and their storage premises and operated from 1st June, 1949. At the end of 1951 registration had been effected in 266 cases.

**Retail Food Shops and other Premises.** After foodstuffs have been distributed from the wholesale markets they are still under the supervision of the district food inspectors, for which purpose the City is divided into eight districts. The visiting list contains over 9,000 establishments and includes butchers, fishmongers, grocers, greengrocers, fish and chip shops, wholesale warehouses, etc. In addition, supervision of food supplies is maintained of over 200 Birmingham Restaurants and School Meal Centres.

The district inspectors also pay attention to the observance of the provisions of the byelaws made under Sec. 15 of the Food and Drugs Act, 1938, for the purpose of securing sanitary and cleanly conditions and practices in connection with the handling, wrapping and delivery of food sold or intended for sale for human consumption, and in connection with the sale and exposure for sale in the open air of food intended for human consumption.

**Foods judged as Unfit.** Condemned meat and offal are utilised by the Corporation Salvage Department, and manufactured into fertilisers, bone meal, etc., and other suitable condemned foodstuffs are salvaged for animal feeding.

RETURN OF FOODS JUDGED AS UNFIT

<i>Number of Surrenders</i>	<i>Class of Foodstuff</i>		T.	C.	Q.
13,052	Meat and offal	.....	1,057	12	2
1,006	Fish	.....	98	17	0
269	Poultry, Rabbits, etc.	.....	10	16	2
169	Fruit and Vegetables	.....	117	19	2
3,675	Miscellaneous	.....	147	6	0
<hr/>			<hr/>	<hr/>	<hr/>
18,171		1951	1,432	11	2
<hr/>			<hr/>	<hr/>	<hr/>
18,217		1950	1,492	8	2
<hr/>			<hr/>	<hr/>	<hr/>

**Food and Drugs Act, Sec. 14 (1) (b).**

**Registration of premises used for the preparation and manufacture of sausages, or potted, pressed, pickled or preserved food intended for**

**sale.** Registration of premises which complied with the requirements of the Veterinary and Public Health Departments was carried out in 8 cases during 1951. At the end of the year there were 320 food preparation premises on the register as follows :

Sausages, cooked meat and pork pie manufacturers	.....	318
Jam manufacturers	.....	2
		—
		320
		—

There were 8,601 visits of inspection made to these premises during the year.

**Changes of Occupancy.** In 7 cases registered food preparation premises changed hands and the register was amended accordingly.

**Inspection of Meat, Fish and other Foods at Birmingham Restaurants, School Meal Centres, Etc.** The premises visited include :

Institutions and Residential Homes	.....	44
School Meal Centres	.....	179
Birmingham Civic Restaurants	.....	45
Factory Canteens	.....	18
		—
		286
		—

There were 2,973 visits of inspection made during the year to the above premises. In cases where food supplies and storage conditions are found to be unsatisfactory at school meal centres, reports are sent to the Education Department, and reports relating to food inspected at Birmingham Civic Restaurants are sent to the Birmingham Restaurants Department.

**Meat Contracts.** In addition to their normal food inspection duties, the district food inspectors maintain a supervision of meat supplied to institutions, schools, restaurants and canteens, and check for quality and prices according to the conditions of contract.

#### PROSECUTIONS

	<i>Fines</i>	<i>Costs</i>
Bye-laws made under Section 15 of the Food and Drugs Act, 1938 :		
2 cases.....	£4	—
Food and Drugs Act, 1938 : Section 9 :		
3 cases of selling food unfit for human consumption	£57	25/-

CARCASSES INSPECTED AND CONDEMNED

	CITY MEAT MARKET				BACON FACTORIES
	Cattle excluding Cows	Cows	Calves	Sheep and Lambs	
Number killed .....	48,751	26,761	72,459	157,504	182,774
Number inspected .....	48,751	26,761	72,459	157,504	40%
<i>All diseases except Tuberculosis:</i>					
Whole carcasses condemned .....		119	763	126	128
Carcasses of which some part or organ was condemned .....		1,098	248	4,000	2,149
Percentage of the number killed affected with disease other than tuberculosis .....		1.61	1.40	2.62	1.25
<i>Tuberculosis only:</i>					
Whole carcasses condemned .....		898	38	—	137
Carcasses of which some part or organ was condemned .....		17,290	8	—	8,274
Percentage of the number killed affected with tuberculosis .....		24.09	0.06	—	4.60
Total diseased, 1951 .....		25.70	1.46	2.62	5.85
Total diseased, 1950 .....		28.64	1.08	2.95	5.82

For analysis of diseases no distinction made between cows and other cattle.

## THE MILK SUPPLY

(Report by C. G. ALLEN, M.R.C.V.S., D.V.S.M., F.R.SAN.I., *Chief Veterinary Officer*)

### City Dairies

At the end of 1951 there were 29 dairy farms housing 583 milch cows, in 76 sheds, viz :

Attested herds .....	2
Tuberculin Tested herds .....	2
Accredited herds .....	12
Non-designated herds .....	13

Regular monthly veterinary inspections were made of all City dairy herds.

On 26th January an outbreak of foot-and-mouth disease occurred in a City dairy herd at Kings Norton, which involved the slaughter by the Ministry of Agriculture of all the cattle on the premises.

### Inspections—Milk and Dairies Regulations, 1949 (Part IV).

Inspections were made on behalf of the Ministry of Agriculture and Fisheries and certificates of freedom from disease were issued in respect of :

Accredited herds	Cows examined
23	632
Non-designated herds	
16	155

In connection with the Ministry's voluntary scheme for vaccination of heifer calves against contagious abortion, 43 calves have been vaccinated.

**Cows.** The cows were examined for any evidence of disease and uncleanness and for preventing danger to health from the sale of infected milk. The health and cleanliness of the cows in City dairy herds remain good.

**Mastitis.** During the year 18 cows were found to be affected with acute catarrhal mastitis and the milk produced from these cows was prohibited from sale.

**Cowsheds.** Any conditions relating to the buildings and water supplies, coming to the notice of the veterinary inspector, affecting or likely to affect the health and cleanliness of cattle, are reported to the Ministry of Agriculture. No such complaints were made during the year.

A fairly high standard of cleanliness is being maintained and all cowsheds have been limewashed or sprayed with lime at least twice during the year.

## Tuberculosis and the Milk Supply

In order to detect the sources of tuberculous milk and to eliminate the infected cattle, four-dozen samples of milk are collected weekly and submitted for biological test. In addition to the bulk samples of milk taken at depots, samples are also collected from City dairy herds.

The supplies continue to be handled mainly by large milk depots from approximately 3,000 farmer producers.

The system is to sample as far as possible each source of supply and samples are obtained from raw milk before heat treatment. Each sample represents the mixed milk of the cows of a single herd.

The following return shows the number of samples of milk taken and submitted for biological examination during 1951:

<i>Source</i>	<i>Samples taken at Depots, etc.</i>	<i>Samples infected</i>	<i>No. of T.B. Cows traced</i>
Derbyshire .....	3	1	1
Gloucestershire .....	15	1	—
Herefordshire .....	19	—	—
Leicestershire .....	144	11	6
Shropshire .....	246	9	10
Staffordshire .....	660	43	28
Warwickshire .....	761	27	19
Worcestershire .....	398	6	7
	<hr/>	<hr/>	<hr/>
	2,246	98	71
City Dairies .....	82	1	2
	<hr/>	<hr/>	<hr/>
	2,328	99	73
	<hr/>	<hr/>	<hr/>

### Summary of Results

<i>From Outside Dairies</i>	<i>No. taken</i>	<i>No. infected</i>
Tuberculin Tested .....	6	—
Accredited and Non-designate 1 .....	2,240	98
	<hr/>	<hr/>
<i>From City Dairies</i>		
Mixed Samples .....	82	1
	<hr/>	<hr/>
	2,328	99
	<hr/>	<hr/>

With regard to the infected samples, in addition to notifying the County Medical Officers concerned, and in order to avoid delay, copies of notifications are sent to the County Divisional Veterinary Officers of the Ministry of Agriculture (Animal Health Division) who arrange veterinary examinations of the herds in question, in order to find and eliminate the infected cows.

As a direct result of sampling milk for the presence of tubercle bacilli, 73 tuberculous cows (71 outside dairies, 2 City dairies) were known to have been eliminated during 1951 from dairy herds supplying milk to Birmingham, and dealt with under the Tuberculosis Order.

At 23 farms the investigations had not been completed at the end of the year.

**Comparative Return.** The following table shows the number of samples of milk sent in from outside sources, taken during the past ten years, and the percentage infected :

<i>Year</i>	<i>Samples Taken</i>	<i>Samples Infected</i>	<i>Percentage Infected</i>
1942	2,408	182	7.5
1943	2,456	146	5.9
1944	2,434	138	5.7
1945	2,396	122	5.1
1946	2,232	128	5.7
1947	1,659	84	5.0
1948	2,306	69	3.0
1949	2,326	133	5.7
1950	2,211	98	4.4
1951	2,246	98	4.3
AVERAGE FOR PERIOD			5.28

It will be seen from the figures given in the above comparative return that the average percentage of infected milks was 5.28 over the period. The average percentage of infected milks for the preceding ten years (1932-1941) was 8.7. The improvement can be attributed in a large measure to dairy farmers disposing of old and unprofitable cows for slaughter owing to the high cost of feeding stuffs ; also the percentage of attested cattle (herds free from tuberculosis) to total cattle in Great Britain has increased from 22 per cent. at 30th September, 1950, to 31.3 per cent. at 31st December, 1951.

**Attested Herds Scheme (Herds free from Tuberculosis).** The position as at 31st December, 1951, in the Counties with which we are chiefly concerned, was as follows :

<i>County of</i>	<i>Total Cattle as at 4.6.51</i>	<i>Number of Attested Herds as at 31.12.51</i>	<i>Number of Cattle in Attested Herds as at 31.12.51</i>	<i>Percentage of Attested Cattle to Total Cattle</i>
Derby	191,445	651	31,120	16.3
Gloucester	203,382	1,129	61,060	30.0
Hereford	139,533	635	27,970	20.0
Leicester	174,334	419	23,210	13.3
Salop	280,257	1,059	58,930	21.0
Stafford	240,728	682	31,930	13.3
Warwick	156,792	547	29,390	18.7
Worcester	105,750	331	16,840	15.9
England	6,952,266	36,181	1,720,287	24.7
Great Britain	9,513,521	74,025	2,977,056	31.3
Great Britain			At 30/9/50	22.0

**Tuberculin Testing of Herds.** The following return gives the number of animals tested by us during 1951 at :

Rubery Hill Hospital	107	animals tested and passed.
Monyhull Hall	143	.. .. .
Marston Green Homes	86	.. .. .

## ENVIRONMENTAL CONDITIONS THE CITY'S WATER SUPPLY

Mr. A. E. Fordham, the General Manager and Secretary of the Water Department, has once more very kindly co-operated by forwarding the following particulars :

### Head Works

At the head works in Wales good progress has been made with the construction of the new Claerwen Dam. The capacity of the completed reservoir has now been calculated at 10,625 million gallons. Provisional impounding was commenced in April, 1951, and the advanced state of the works has permitted certification for impounding to be continued up to a quantity of 5,580 million gallons.

### Aqueduct.

Work has continued on the Aqueduct with the laying of instalments of the Fourth Main in 60-in. concrete-lined steel pipes. On the Severn Siphon a length of about  $4\frac{1}{2}$  miles from the Inlet to Sturt is nearing completion whilst on the Downton Siphon the section of some  $1\frac{1}{4}$  miles from Inlet to Woodhouse has been completed and good progress made with a length of about 1 mile between Woodhouse and Stanage.

The two original 42-in. diameter unlined cast iron mains on the Hopton Siphon have been scraped and lined with cement mortar, resulting in a very satisfactory increase in their capacity. The 42-in. mains on the Teme Siphon are being scraped and painted.

### Frankley

At the Frankley Works further progress has been made in the construction of a block of eight rapid gravity filters which will have a combined maximum capacity of 16 million gallons per day.

### Area of Supply

The laying of concrete-lined cast iron and steel pipes has proceeded on the under-mentioned lengths of trunk mains, which are required to improve supplies in the Department's area :

<i>Diameter</i>	<i>Zone</i>	<i>Locality</i>	<i>Length in miles</i>
18"	Hagley Road	Woodburn Road to Wellington Street	0·7
36"	Northfield	Rednal Road to Wharf Road, King's Norton	1·5
24"	Hagley Road	Rotton Park Road to Wellington Street	1·7
60"	Middle	Whitehill to Selly Oak	1·3
15'	Warley	City Road to Meadow Road	1·4

The 18-in. Hagley Road main was completed and brought into commission in December and the 36-in. Northfield Level main was practically completed.

### **General**

All water distributed has been treated with chlorine, generally at a rate of about 0.3 parts per million.

Whilst there was no serious trouble from seagulls at Bartley Reservoir during the year, the birds were undoubtedly responsible for the contamination revealed in the reservoir water samples in the early part of January. This was effectively dealt with by filtration and chlorination.

Water distributed in the City area was almost entirely the soft moorland water of the Elan Supply, although for several months during periods of high consumption it was necessary to draw on the local Short Heath Well in order to assist in maintaining pressures in parts of the distribution system, which is now working to full capacity even under normal conditions of draught.

At all times throughout the year water supplies have been satisfactory both from the point of view of quality and quantity.

At 31st December there were 331,778 domestic supplies in the Department's area of supply.

## **ROUTINE SAMPLING OF CORPORATION WATER**

### **Elan Valley Supply**

20 bacteriological samples were taken during the year from the River Claerwen and moorland streams on the Corporation gathering grounds in Wales. Most of them showed a little faecal pollution as would be expected from the presence of animals upon the land. Owing to the natural purification which water undergoes when standing in a reservoir, the two samples of water from the Welsh Reservoirs gave improved results.

Prior to its 73½ mile journey along the aqueduct, the water undergoes rapid filtration and its natural acidity derived from the moorland peat is neutralised with lime. In addition, since 26/6/50, 0.3 p.p.m.\* of chlorine has been added as a safeguard for those communities along the aqueduct which use the water without themselves taking steps to render it entirely safe. This chlorination is intended to counter any danger which might arise from human contamination in building the new Claerwen dam.

On 22/4/51, although the new Claerwen dam was not completed, impounding of water in the reservoir began. In July and August the impounded water was noticed to have an unpleasant taste and smell.

p.p.m. = parts per million.

It was regarded as being due to the rotting of land plants which had died through becoming submerged. The figure for oxygen consumption in 3 hours was raised to 7.07 p.p.m. and the free and albuminoid ammonia were 1.20 and 0.29 p.p.m.

27 samples have been taken from a point about half way along the aqueduct at Ludlow. Their total bacterial count has ranged between 1 and 43 organisms per 1 m.l. with a single report of 129. In only 6 samples was B. Coli reported in 100 m.l. and these contained:

2, 2, 5, 5, 8, 38. B.Coli per 100 m.l.

The very high degree of purity of the water issuing from the aqueduct at Frankley is illustrated by the fact that the average number of organisms per m.l. in the 52 weekly samples was 11 and the average Coli content less than 1 per 100 m.l., with extremes of 52 organisms per 1 m.l. and 15 B.Coli respectively.

The water flowing into Frankley and Bartley reservoirs being so pure, it would not be expected that the outflowing water which was also sampled weekly, would be significantly improved by the storage. In fact, within the limits of experimental error, the qualities of the inflowing and outflowing water were similar except at the beginning and at the end of the year. On these occasions the water issuing from Bartley reservoir through No. 1 Valve Chamber contained faecal B.Coli in amounts of the order of 100 and 240 B.Coli per 100 m.l. Flocks of seagulls were frequenting the reservoirs at the time, and the pollution was no doubt largely due to them though, since the end of the year, small quantities of polluted water have been discovered entering Bartley Reservoir, which latter situation was promptly dealt with.

The City's ever growing demands for water, which now average 48.3 million gallons a day, have rendered the filtering capacity at Frankley insufficient, and water to the average volume of some 7 million gallons has been passing into supply unfiltered but chlorinated. This had led during 1950 to a few complaints of the presence in the drinking water of tiny forms of animal life. Only one such complaint arose during 1951. That was on the 8th June and coincided with the introduction of a successful screening process for that water not subjected to sand filtration.

During the year there were in use at the Frankley works 6 rapid filters and 18 slow sand filters. Samples of filtered water from one, two or three of these (as necessary) were examined bacteriologically each week. After cleaning, the filters discharged to waste until a satisfactory bacteriological report was obtained.

Weekly samples of the chlorinated and filtered water leaving the works never contained coliform organisms and the average number of organisms per 1 m.l. was 3 with extremes of 0 and 12 per 1 m.l.

Monthly examinations gave Ph. values ranging between 6.9 and 7.5 (average 7.1) and the content of lead after contact with lead shot for 180 seconds, varied little from the average figure of 1.3 parts per million.

The high level supplies in the City are maintained by pumps installed at Frankley, while the remainder is fed from Frankley by gravitation.

Purified water is stored in covered reservoirs in various parts of the City as follows :

*High Level*

Northfield    Hagley Road    Warley

*Gravitation System*

Erdington    Monument Road, Edgbaston  
Highters Heath    Perry Barr.

During the day time, when the demand for water is high, the reservoirs pass into supply water in addition to that which the area receives direct from Frankley. When the demand is low, as at night, these reservoirs are enabled to fill up again.

The early part of November was very wet. It happened that the routine samples from both Highters Heath and Hagley Road covered reservoirs were taken after prolonged heavy rain and in both cases water could be heard falling from the roof into the water in the covered reservoir. The residual chlorine content of the purified water was intentionally virtually negligible and the contamination brought in by the water entering through the roof resulted in the sample containing 240 B.Coli Type 1 per 100 m.l. A close mesh fence has been erected around Highters Heath Reservoir to keep the area free from contamination and facilities have been provided for emergency chlorination of the water as it leaves each covered reservoir should contamination from any cause be detected in future.

At regular intervals throughout the year a total of 139 samples was taken from these covered reservoirs and, apart from the two incidents mentioned above, no B.Coli was found and the total number of organisms per m.l. never rose above 132, the average being 5 per m.l.

Samples were also taken from taps throughout the City, 43 on the high level supply, 12 on the middle level and 12 on the low level. On no occasion were coliform organisms detected and there were never more than 25 organisms per m.l. These samples were obtained merely by allowing the tap to run before filling the sampling bottle. Flaming the tap is not practised. In any case it would seem most difficult to sterilise completely the tap washer and its seat—the location, it is said, of some organisms.

## Whitacre Supply.

The supplying to Coventry of purified water from the River Bourne requires a great deal of care owing to the heavy pollution of the raw water. The River Bourne has its entire course through agricultural country and picks up on its way liberal contributions of pollution from farm land and villages. On reaching the purification works it is a dirty stream with bacterial content ranging between 100 and 42,000 organisms per m.l. and 220 to 25,000 B.Coli per 100 m.l. The higher counts are frequently attained in times of flood.

The river water passes into Shustoke upper reservoir, which has a capacity of 20 million gallons with the object of allowing sedimentation of solid particles to occur. It then passes into Shustoke lower reservoir which has a capacity of 423 million gallons and here a remarkable process of self purification occurs, a typical report upon a sample of water taken from near the outlet valve being 16 organisms per 1 m.l. and 2 B.Coli per 100 m.l. During the wintertime, however, much inferior results are obtained, up to 5,000 organisms per m.l. and 240 B.Coli per 100 m.l. being usual. Conditions however, improve rapidly in the early Spring.

There are 6 slow sand filters at Whitacre to which the water from Shustoke reservoir is supplied. Great care is needed to ensure that the zoogloal layer is properly formed upon the surface of the sand, as it is upon this that the purifying properties of the filter depend. If the water still contains B.Coli or it has a high bacterial count after passing through the filter, it is not used for supply. 95 samples were taken, the average bacterial content of filtered water used for supply being 50 organisms per m.l. before chlorination. After chlorination this is reduced to an average of 31 organisms per m.l. with extreme values of 2 to 110. On two occasions coliform organisms were detected in the water from the Coventry main as it left the works. The reports upon these samples were:

	<i>Total Organisms per 1 m.l.</i>	<i>Coliform Organisms per 100 m.l.</i>
29th Jan., 1951	32	2 B.Aerogenes Type I.
1st October, 1951	11	9 Intermediate Type I.

During April and May a most interesting problem arose in connection with the Whitacre works. During the four weeks commencing 24th April, the River Bourne water attained an unexpectedly high degree of bacterial purity and samples from Shustoke reservoir were exceptionally good. It was also noticed that a similar marked reduction in the minute animal and vegetable life of the river had occurred but, in spite of this the amount of water passing through the filters was much reduced. (A reduction in flow through the Whitacre filters is usually caused by blockage with algae). It was then found that the uppermost layer of sand had formed a hard mortar-like crust. This could be lifted off in

slabs and, upon analysis, was shown to be true lime mortar. Aluminium was also detected in the water and an extensive search of the catchment area was made for a possible source.

A possible explanation was that many fields in the catchment area had been limed and an appreciable quantity of lime had been washed into the streams by heavy rain and was present in the form of such minute particles that it was by no means entirely deposited in the Shustoke Reservoirs. The filters, however, removed the minute lime particles completely and they combined chemically with the sand in the filters producing a lime mortar. The presence of aluminium in the water arose through the lime decomposing particles of clay of which aluminium is an essential constituent. The diminution of the bacterial flora of the river would be produced by the precipitating action of the lime and the aluminium salts.

### The Wells

Short Heath and Longbridge Wells are available for public supply but are only used in emergency. The chemical composition of water from each well varies little, average figures for the year being :

	<i>Ph.</i> <i>Range</i>	PARTS PER 1,000,000							<i>Hardness</i>	
		<i>Total Solid Matter</i>	<i>Free Ammonia</i>	<i>Albuminoid or Organic Ammonia</i>	<i>Nitrogen in Nitrates</i>	<i>Oxygen consumed in 4 hours at 27°C. (80°F.)</i>	<i>Chlorine in Chlorides</i>	<i>Total Alkalinity (as CaCO<sub>3</sub>)</i>	<i>Perm.</i>	<i>Temp.</i>
Longbridge Well	6.4 to 6.8	263	.000	.015	3.7	0.150	18.0	101.5	90	72
Short Heath (Witton) Well	7.4 to 7.7	422.5	.000	.013	9.8	0.085	31.0	89.5	134.75	85.5

It will be noted that the well water is harder than the upland surface water from Wales, the latter having a hardness of only 24 p.p.m.

Short Heath Well water was used for supply between 1st June and 24th November, 1951.

The following is a summary of bacteriological results.

#### SHORT HEATH WELL

RAW WATER (5 samples)		CHLORINATED WATER (3 samples)	
<i>Bact. Count per 1 m.l.</i>	<i>Coliform Count per 100 m.l.</i>	<i>Bact. Count per 1 m.l.</i>	<i>Coliform Count per 100 m.l.</i>
Never more than 1.	Always absent.	Never more than 3	Always absent.

## LONGBRIDGE WELL

The reports on 6 samples of raw water and 16 samples of chlorinated water gave results similar to those from Short Heath Well. The following are details of the only 2 unsatisfactory samples.

### RAW WATER.

<i>Bact. Count per 1 m.l.</i>		<i>Coliform Count per 100 m.l.</i>
24.7.51	24	5 B.Coli Type I.
13.11.51	62	38 B.Coli Type I.

When the pump at Longbridge is not working, the level of the water in the well is 12-ft. below the floor of the pump house, and at this height it just submerges a concrete platform. When the pump is operated it rapidly lowers the water level 50-ft. and at about that point it remains stationary until the pump is stopped, when the water again rises in the well shaft and submerges the platform about 24 hours afterwards. It was noticed that the two contaminated samples were taken when the concrete platform was submerged. Samples taken when the water level had been lowered by pumping were satisfactory. On the assumption that the pollution was derived from the platform, this was walled off so that it would not be necessary to walk upon the part that becomes submerged. All samples since have been satisfactory.

During this investigation a small watercourse passing within some 31 yards of the well was found to be persistently and heavily sewage polluted. The cause of this was traced to incorrect drain connections but there is no evidence to suggest that this watercourse was associated with the pollution of the well.

Set out opposite to facilitate comparison are reports upon the chemical analysis of samples of water from the various sources taken during the summer period.

### Private Wells

(a) *Dwellinghouses.* With the exception of a large block of residential flats in the city, which is supplied by water from a private bore hole, there remain 48 dwellinghouses within the city known to the department which do not draw their water from a main supply. These houses are served by 21 wells and 3 springs, and the water from these sources is sampled and examined periodically. It is anticipated that 22 of these houses served by 5 wells and 3 springs will shortly be demolished, either by reason of their dilapidated condition or in connection with the development of new housing estates. As estates are developed and main water supplies become available, steps are taken to secure the provision of a piped supply within all houses which have not formerly enjoyed such amenities. This is brought about either by voluntary action by the owner or more generally as a result of action by the department, the owner then being entitled to financial assistance when the cost involved is high.

		Ph.	Total Solid Matter	Free Ammonia	Albuminoid or Organic Ammonia	Nitrogen in Nitrates	Oxygen consumed in 4 hrs. at 27°C. (80°F.)	Chlorine in Chlorides	Hardness
<b>WELSH WATER</b>									
Aqueduct Outlet	June 13th	9.4	35.0	.000	.036	0.07	1.22	8.5	22.1
After Storage in Bartley Res.	June 13th	7.7	37.0	.000	.042	0.07	1.06	9.0	20.8
After Filtration	June 13th	7.1	36.0	.000	.020	0.07	0.72	9.0	21.0
<b>WHITACRE</b>									
River Bourne	May 29th	8.0	422	.050	.140	3.9	2.03	31.0	231
After Storage in Shustoke Res.	May 29th	8.5	368	.010	.192	2.96	1.26	35.0	189
Filtered Water	May 29th	7.6	146	.004	.032	0.99	0.92	18.0	56
<b>WELLS</b>									
Longbridge Well	July 24th	6.8	254	.000	.004	2.57	0.08	17.0	141 Perm Temp 54 87
Short Heath Well	Aug. 8th	7.6	443	.000	.014	11.2	0.17	32.0	221 Perm Temp 120 101

(b) *Industrial Premises and Institutions.* A total of 130 premises is known to use water from bore holes within the city, made up as follows :

Breweries and Mineral Water Manufacturers, using well water for all purposes .....	10
Hotels and blocks of flats using well water for all purposes .....	3
Hospitals using well water for all purposes .....	2
Industrial premises using well water for all purposes .....	19
Industrial premises using well water for industrial purposes only .....	96
	130

A firm at Erdington, already drawing water from one bore hole, sank a second to the same depth and 10 ft. away from the other one. Employees complained of the peculiar taste of the water from the new bore hole and a number suffered from mild diarrhoea when the water was brought into use. A sample of the water was seen to contain myriads of minute sparkling crystals which, upon examination, were found to be magnesium sulphate (Epsom Salts), hence the diarrhoea.

#### **Provision of a Piped Water Supply within Dwellinghouses**

The task of securing a piped water supply from the mains to every house in the city was resumed in 1948, and by the end of 1951 the vast majority of houses, where the occupiers desired such a supply, had been provided with a tap and sink within the house. Some 1,508 houses within the Redevelopment Areas of the city, either recently vested in the Corporation or about to be acquired, had still to be provided with water in the house. During the year 115 notices were served on private owners under Section 138 of the Public Health Act, 1936, as amended by Section 30 of the Water Act, 1945.

#### **HOUSES PROVIDED WITH INTERNAL WATER SUPPLY DURING THE YEAR**

By private owners after service of notice .....	124
By tenants .....	5
By Corporation in vested houses .....	816
	945
TOTAL .....	945

The 1946 Housing Survey disclosed that there were 6,429 houses without an internal water supply, 3,853 of these being within the Central Redevelopment Areas.

Since January, 1948, action by this department has resulted in 1,836 houses situated outside the Redevelopment Areas being provided with such a supply by the owners.

The number of houses within the City known still to be without a separate supply within the house is 2,373. A large proportion of this number is, however, made up of houses which, although having a separate supply in a detached washhouse, are not considered to have water within the house.

Those where notices had been served and were outstanding .....	38
Those where the life of the property was considered insufficient to justify the cost of the provision of a separate internal supply .....	155
Those at present supplied by wells and usually situated some distance from the nearest main supply .....	20
Those where the absence of adequate drainage arrangements made such provision impracticable .....	3
Those where, through limitation of space within the livingrooms or for other reasons, it was not practicable to provide sinks and water supply within the house .....	9
Those where the occupiers did not desire a separate water supply within the house .....	630
Those which are situated on Redevelopment Areas and many of which are to be provided with such a supply as they vest in the Corporation :	
Already vested .....	1,194
Not yet vested .....	314
	1,508
Those where the Corporation was negotiating for acquisition .....	10
	2,373

At the beginning of the year there were nine houses in the city known to draw water from three standpipes, but by the close of the year six of these houses had been demolished and the use of two standpipes discontinued. It is probable that during 1952 the remaining three cottages will be demolished.

### SAMPLING OF SWIMMING BATH WATER

225 samples of water were taken during the year at approximately monthly intervals during the period each bath was in use. Owing to the heavy bathing loads during the summer season, it was not always possible to maintain the concentration of chlorine at as high a level as was desirable.

The following table is derived from reports upon samples taken between May and December.

<i>Concentration of Free Cl<sub>2</sub> (parts per million)</i>	<i>Number of Samples containing no B. Coli and not more than 11 organisms per 1 m.l.</i>	<i>Total Samples</i>	<i>Percentage of excellent results</i>
Nil	1	4	25%
·1 p.p.m.	20	35	57%
·2 p.p.m.	18	22	82%
·3 p.p.m.	23	27	85%
·4 p.p.m.	10	12	83%
·5 p.p.m.	9	12	75%
·6 p.p.m.	5	5	100%
·7 p.p.m.	5	5	100%
more than ·7	30	30	100%



Sewerage work in connection with the following Corporation Housing Estates is in hand :

Bucklands End Estate	.....	.....	.....	.....	Direct Labour
Shard End Estate, Part I	.....	.....	.....	.....	„ „
Ward End Hall Estate	.....	.....	.....	.....	„ „
Bangham Pit Farm Estate	.....	.....	.....	.....	Contract
Brays Road (Sheldon) Estate	.....	.....	.....	.....	„
Church Road Estate, Northfield	.....	.....	.....	.....	„
Fordrough and Rednal Road Estate	.....	.....	.....	.....	„
Hamstead House Estate	.....	.....	.....	.....	„
Heathy Farm Estate	.....	.....	.....	.....	„
Jiggins Lane Estate	.....	.....	.....	.....	„
Staplehall Farm Estate	.....	.....	.....	.....	„
Tile Cross Estate	.....	.....	.....	.....	„
West Heath Main Estate	.....	.....	.....	.....	„
Woodcock Lane Estate, Parts 1 and 2	.....	.....	.....	.....	„

Taking into account the sewers which have been completed up to December last, the total length of sewers now laid in the City is 1,543·30 miles, an increase of 8·01 miles.

The City is situated on the Midland Plateau, at an average height of 400 feet above sea level. Its highest point is 821 feet above sea level. This is on the south-west side where the boundary approximates to that dividing the basins of the Rivers Trent and Severn. The area drains naturally to the River Tame which flows through the northern part of the City and to its main tributaries the Rivers Cole and Rea and the Hockley Brook. The main sewers have been laid in these four valleys and discharge by gravitation to the Birmingham Tame and Rea District Drainage Board's Sewage Disposal Works at Saltley, Minworth, Yardley, Coleshill and Ashhold Farm. In certain areas which are low-lying the sewage has to be raised by pumping, otherwise the drainage of the City is effected by means of gravitation.

The report of the Birmingham Tame and Rea District Drainage Board for the period 1949-51 gives some interesting details of sewage disposal. In addition to dealing with the whole of the City, the adjacent areas of Smethwick, Aldridge (part), Sutton Coldfield, Meriden (part), Solihull, Bromsgrove (part), and Oldbury (part), come within the scope of the Board's operations.

The magnitude of this undertaking is revealed by the following extract of statistics :

(a) Daily dry weather flow of sewage: at the Tame Valley Works inclusive of Coleshill, gallons 57,250,000; at the Cole Valley Works (Yardley) 7,750,000; at the Blythe Valley Works 1,500,000.

The total acreage drained is 104,372 and the estimated population so served is 1,354,307.

The lands within the Board's ownership are given as 2,297 acres.

It is recorded in this report of the Board that modifications are now being made to one-sixth of the bacteria bed area at Minworth—an area known as Block A—which is to be converted for working on the alternating double filtration principle and additional humus tanks are also being constructed at an estimated cost of £356,400. A further instalment of the general improvement scheme consists of the provision of 16 deep circular primary digestion tanks, 80 feet in diameter, constructed of reinforced concrete. Only 12 of the 16 tanks will at first be provided with floating steel gas collectors. Until new sedimentation tanks are constructed, the remaining 4 new circular tanks will be required for dewatering secondary sludges. The proposals also include provision of plant for pumping the crude sludge, digested sludge and ripe sludge for inoculation purposes, together with plant for circulating and heating the digesting sludge. Sludge gas from a contributing population of 1,102,000 will be collected from the 12 tanks, the capacity of which will be 2,250,000 cubic feet. The gas will be derived from the crude sludge, storm-water sludge, activated sludge and humus sludge and is estimated to amount to 300,000,000 cubic feet per annum. By utilising the sludge gas the temperature of the digesting sludge will be maintained at 85°F. The estimated cost of this proposed sludge digestion plant at present prices is £738,900.

Active consideration is being given by the Board in conjunction with the Birmingham Corporation and the Councils of adjacent areas, for works of improvement and expansion at Castle Bromwich, Hampton-in-Arden, Yardley and Coleshill, their latest Scheme being the enlargement of Langley Mill Sewage Purification Works at Sutton Coldfield at an estimated outlay of £98,100. These Works drain via Langley Brook to the River Tame, and their extension is urgently required owing to housing developments in the Falcon Lodge area of the Borough.

### **SUPERVISION OF INDUSTRIAL PREMISES**

A senior inspector and four inspectors, working in close collaboration with the Administrative Medical Officer of Health for General Purposes and Chief Sanitary Inspector, are charged with all duties relating to smoke, fumes and noise, while they have also duties under the Factories Act, 1937, and have maintained a very helpful liaison with the Public Works Department in the operation of the Town and Country Planning Act, 1947.

#### **Smoke Abatement**

Sunlight and clean air are essential factors in the maintenance of health and wellbeing of a community, and in carrying out the statutory and advisory work of control of atmospheric pollution, the department contributes not only to the benefit of the population, but also to the national economy, because, by promoting smoke abatement, a more efficient and economic use of fuel results.

To fulfil the basic principles required for the complete combustion of bituminous coal, the stoker of a hand-fired installation has to adjust his methods of firing to suit varied consignments of fuel. During the past year this has been quite noticeable, especially where an inferior fuel has been supplied. Fuels vary to such a degree, in relation to their fixed carbon, volatile, and ash content, that the need for skilled stokers and furnace-men with theoretical and practical training is more necessary than ever if excessive smoke emissions are to be avoided and fuel used to the best advantage.

Advice and practical demonstrations in hand-firing are regularly given by the smoke inspectors to stokers and furnace-men, and the personnel and managements of industrial firms are made aware of the educational facilities available at technical colleges in the area, for stokers and furnace-men of hand-fired coal-burning installations. It is to be regretted, however, that there is not a greater response from industry in the encouragement of operatives to learn the finer points of work which, because of the fuel position, quite apart from smoke abatement, is to-day work of national importance.

The shell boiler of the Lancashire or Economic type is the commonest steam-raising unit found in industrial premises. Stoking operations are mainly manual, and there was a time when suitable grades of coal for these manual operations were relatively cheap and easy to obtain. Such conditions do not, however, prevail to-day. The cost of fuel has increased, and in many cases the quality of the fuel has decreased, with the result that the need for complete combustion of the fuel, which means also the reduction of smoke emission, is becoming, and rightly so, an important factor in industrial costs and efficiency. Heat wastage through smoke emission must inevitably affect efficiency and increase costs.

After observations of a smoke nuisance the authorised inspector visits the works where he interviews a responsible person, and also inspects the boiler or furnace plant. This visit gives the inspector the opportunity of discussing the problem with the persons concerned, and also to gain information as to: (a) the method of firing; (b) the type of fuel in use; (c) the construction and design of the furnace; (d) draught conditions, i.e., natural, induced or forced, and (e) the general working conditions. It is at this point that the advisory work of the inspector is most valuable. If he can demonstrate to the management that by taking certain measures the emissions of smoke can be controlled, then co-operation begins without resort to legal action. Should, however, the advice tendered be ignored, and the nuisance continue, then the full details are reported to the Health Committee for their consideration, and, if necessary, legal proceedings are instituted.

This advisory work on the site has proved beneficial with the result that many firms and their architects now consult the department in matters relating to their fuel burning installations.

### **Fumes**

There are many industrial processes which lead to the emission of fumes, as apart from smoke, due to the inefficient combustion of solid, liquid or gaseous fuels.

The non-ferrous metal industry is a typical example; whilst the fuel used in the heat treatment may not give rise to any visible obnoxious emissions, vapours arise in the form of fumes during melting, fluxing and pouring operations, and unless considerable attention is paid to the installation of efficient means of collection, treatment and dispersal of these fumes, a serious atmospheric pollution problem affects the immediate neighbourhood. It would appear that there is need for further research in overcoming this problem, not only for the benefit of the local inhabitants, but also of the industry itself, for zinc oxide can be reclaimed from these fumes when efficient arrestation plant is available.

Other operations where fumes give rise to complaints are cellulose paint-spraying, phosphor bronze melting, zinc recovery furnaces, and plating vats. All such types of process have had to be dealt with during the past year.

There are certain emissions, mainly of a chemical nature, which arise from industrial processes registered as such under the Alkali, etc., Works Regulation Act, 1906, and the various orders made under that Act. When complaints of objectionable fumes from such registered processes are received, H.M. Alkali Inspector under the Alkali, etc., Works Regulation Act is immediately informed, and by his efforts, sometimes in co-operation with the Smoke Inspectors, remedial measures are introduced and the nuisance mitigated.

### **Noise Abatement**

It is inevitable that nuisance from noise should upset those whose lot it is to dwell in or adjacent to industrial premises, and particularly where a night shift is operated. During the past year complaints have been received concerning noise from the working of machinery such as guillotines, planing and barrelling machines, exhaust-fans, internal combustion engines, power-presses, and wood-working machinery. To effect the abatement of such nuisances entails a wide technical knowledge, but it may be said that noise is, in general, either air or structure borne. Each case must receive individual consideration. When dealing with fan noises, for example, the speed of the fan or impeller blade determines to a large extent whether the operation is silent or noisy, and in cases where this speed is excessive and, owing to the nature of the work, cannot be reduced, the delivery duct on the fan discharge should be lined with

a sound-absorbing material if any appreciable noise reduction is to be brought about.

The direct transmission of noise from working machinery through building structures can be avoided or reduced in several ways, the most common being, (a) to mount the machines on vibration dampers, one to each bolt holding the machine down. There are many patterns available, utilising springs, rubber or rubber-metal bonded connections for this work; or (b) to isolate and insulate the concrete bed on which the offending machinery stands.

Complete isolation of machinery is not always practicable, but by co-operation with industrial managements, remedial measures on the lines indicated have been carried out and in most cases the excessive noise has been mitigated to the satisfaction of the complainants.

### SANITARY INSPECTION

The year 1951 was an eventful one so far as the work of the sanitary inspectors' department was concerned.

In January Mr. Harold Howes, the Deputy Chief Sanitary Inspector, retired after just over 36 years' service with the Corporation, and in April the whole of the staff of the ten sanitary districts and associated clerical staff was moved to new office accommodation at 141, Newhall Street. Thanks to the untiring energies and organising abilities of the then Chief Sanitary Inspector, Mr. A. W. Turley, this move was accomplished with no interruption of service to the public. On June 15th Mr. Turley retired after 38 years' service.

Certain reorganisation in duties delegated to the Chief Sanitary Inspector took place, and the staff of the Senior Smoke and Factories Inspector, the Rodent Control Section and the Shops Act Inspectors came under his supervision.

The year saw an intensification in the inspection of food premises, including canteens in factories and business premises. During the latter half of the year the routine house to house inspection for the detection of nuisances was resumed. This work was carried out to improve conditions in dwellinghouse properties, and to seek out and remedy such nuisances as defective roofs, spoutings and gutters, which were causing dampness. Perished and falling plaster, broken floorboards and obstructed drains also received attention. The worst known blocks of properties were dealt with first.

The Rag Flock and Other Filling Materials Act, 1951, came into force on the 1st November, 1951, and has increased the duties of the local authority with respect to premises where these materials are manufactured or used.

The total number of notices served during the year was 15,844; 15,486 statutory notices and 358 preliminary notices. These figures compare

with 12,591 statutory and 295 preliminary notices served during the year 1950. This increase in the number of notices served is largely accounted for by the introduction of house to house inspections.

#### SUMMONSES TAKEN OUT DURING THE YEAR 1951

		<i>Total fines imposed</i>
General nuisances	946	—
Houses let-in-lodgings (3 penalties)	12	£5 0 0
Contraventions of Shops Act	8	£10 10 0
Smoke and atmospheric pollution	1	£1 0 0
Dogs fouling footpath	2	£1 0 0
Non-compliance with Nuisance Orders	2	£4 0 0
Offences under Furnished Houses (Rent Control) Act, 1946	5	£23 10 0
	<hr/> 976 <hr/>	

Magistrates' Orders were obtained in 140 instances.

The Court also ordered refund of payment of excess rent amounting to a total of £87 9s. 6d. in all five cases brought under the Furnished Houses (Rent Control) Act, 1946.

#### Repairs to Dwellinghouse Property

Complaints of housing defects continued to form the largest single item in the work of the sanitary inspector. All complaints received prompt investigation and every effort was made to reduce to a minimum the lapse of time between the date of the investigation and the date of the execution of the works to comply with notices, whether executed by the owner or by the department.

During April in accordance with Committee policy systematic house to house inspection was instituted throughout the city under the requirements of Section 91 of the Public Health Act, 1936. The city, for sanitary administration purposes, is divided into ten districts. The sanitary inspectors were instructed to carry out routine inspections commencing with the worst blocks of property situate within each of the ten sanitary districts.

As a result of this policy 2,841 inspections of properties were carried out covering the period May to December inclusive, the programme gathering momentum during the last quarter of the year. These inspections resulted in the service of 2,484 abatement notices. Of this total 1,227 notices were satisfactorily completed, and on the 31st December works were in progress in relation to the requirements of 567 of the notices.

The service of these notices resulted, in certain cases, in owners requesting interviews with the department in order to explain difficulties, and that they could not see their way clear to comply with the requirements of the notices served. At these interviews owners expressed inability to

pay, and the same view was put forward to the department that the properties in question were sub-standard and, in fact, "worn out". Furthermore, controlled rents and the steady rise in the cost of labour and materials no longer rendered their property an economic proposition. Some owners provided statements arriving at the net income which the property yielded and compared it with the approximate cost of complying with the requirements of the notices. These figures showed that if the essential repairs were executed, the rent for many years to come would, in fact, be swallowed up.

In some instances owners frankly admitted that the properties had been purchased during the post war period, not as a source of income, but in the hope that demolition would occur at an early date and the site could then be utilised for urgent industrial development. The department was also asked in other cases if an assurance would be given that no further abatement notices would be issued in the event of outstanding notices receiving compliance.

The combination of all the above-mentioned factors has brought about the continued use of Section 275 of the Public Health Act, 1936, whereby owners may request the local authority to undertake essential repairs. In every case, where such a request has been made, the department has undertaken the task of carrying out the work by indirect labour. Interviews with owners have left no doubt that in some cases they are experiencing true financial hardship, and when the above-mentioned suggestion has been put to them by the department they have readily availed themselves of the opportunity, expressing their relief at such a solution.

The normal practice is to engage a contractor whose yard is situated close to the job in question. The contractor is selected from an extensive list of builders, who are known to the department, and who are well experienced in general repairs. All such works are the subject of a specification which is prepared in strict accordance with the abatement notice or nuisance order, where applicable. These works are executed upon a labour and materials plus costs basis and in accordance with the National Schedule of Day Work Charges.

In November the Committee authorised the use of this system where the Chief Sanitary Inspector should deem it advisable, even if the execution of such works was estimated to exceed £250, but subject to the Town Clerk being instructed to prepare the necessary contract.

With regard to recovery of the costs of works executed, the general rule is to assess the net income derived from the rent yield of the property, and to fix a period over which repayment must be made in relation to the debt incurred. This instalment policy is arranged in accordance with the provisions of Section 291 of the Public Health Act, 1936, and the rate of interest is fixed at present at  $2\frac{1}{2}$  per cent. No administrative charges are imposed by the department, as provided for under Section 292 of the Act.

It would appear that many small property owners are not aware of the true extent to which the cost of building materials and labour charges has risen. This applies particularly in the case of owners who are, for the first time since the War, contemplating repair of their property, either by pressure being exerted through the local authority or by voluntary effort.

### MATERIALS AND LABOUR

Prices of building materials in general have more than trebled since 1939. For example timber which was priced at £45 per standard is today in the region of £140 to £145 per standard. In the case of 7-in. x 1-in. flooring, this shows an increase from 3d. per foot run to 10d. per foot. Similarly 4-in. x 3-in. quartering has risen from 4d. per foot run to 2/ per foot. Sanitary fittings in general are up approximately 300 per cent. For example a two gallon cistern which cost 18/6d. in 1939 is today retailed as high as £2 10s. 0d. Lead which was priced at £32 per ton in 1939 has fluctuated throughout the year between £200 and £230 per ton.

In view of the scarcity of lead and its excessively high cost, copper has been used on several jobs, but this too was rapidly becoming in short supply at the end of the year.

A tradesman received 1/7½d. per hour in 1939 whilst at the end of this year his rate was 3/1½d. per hour. Similarly a labourer's rate has increased from 1/2¾d. to 2/8d. per hour.

### Urgent Nuisances

#### 1. Section 59 Birmingham Corporation Act, 1946

This useful section gives the Medical Officer of Health or Sanitary Inspector power to serve notices on a responsible person requiring him to unstop an obstructed drain within 48 hours of the receipt of the notice. The Corporation has power to do the work at the default or request of the owner, and this section has proved beneficial to the owner and to the tenant alike. The work is given out to approved contractors and care is taken to see that costs incurred are reasonable. 503 jobs were done by the department during the year at a cost of £1,215, and steps are taken to recover this money in full from the owners concerned.

Total number of notices served during 1951	.....	.....	.....	1,419
Work carried out by owners in the time specified	.....	.....	.....	916
Orders given by Corporation to builders to carry out necessary work				503

#### 2. Section 32, Birmingham Corporation Act, 1948

The Corporation are empowered under this section to serve a notice on an owner where a house is found to be in such a defective state that an urgent nuisance is deemed to exist requiring especially urgent treatment. The notice informs the owner that unless he gives a written undertaking

within nine days to do the work himself, after the ninth day the Corporation may themselves have the necessary work done and recover the expense from him. The section gives the owner the right of appeal and has been used with good advantage. Disputes with owners have arisen in some cases as to the costs incurred by the Corporation but these disputes can be settled after the work has been carried out and the nuisance abated.

Total number of notices served during 1951	.....	.....	.....	449
Work carried out by owners in the time specified	.....	.....	.....	365
Orders given by Corporation to builders to carry out necessary work				84

The works executed by the department were at a cost of £699, and appropriate steps are taken to recover this money from the owners.

### Enforcement Section

This section has now completed its fifth year of duties, and during the year 122 specifications have been prepared, the total cost of the works involved being £3,994 6s. 8d. 104 of these specifications were prepared to abate nuisances at 173 working class houses, covering a total cost of £2,937 18s. 2d.

The cost of repairs to individual houses varied considerably from a few pounds to amounts exceeding £160. All these works, with one exception, have been executed by building contractors on a labour and materials cost plus profits basis. This procedure has proved most satisfactory, and has obviated any unavoidable delay which might have occurred in carrying out essential repairs to property by tender. Experience has shown that the cost of works done by this method has compared favourably with those where tenders have been invited.

During the year 63 houses have been repaired at the default of owners and 110 at the request of owners.

#### NUMBER OF DEFECTIVE HOUSES REPAIRED AT DEFAULT

		<i>Cost</i>
1950	64	£856 2 5
1951	63	£753 15 1

#### NUMBER OF DEFECTIVE HOUSES REPAIRED AT REQUEST

		<i>Cost</i>
1950	152	£3,093 0 0
1951	110	£2,184 3 1

It will be observed that owners are continuing to avail themselves of the provisions of Section 275 of the Public Health Act, 1936, which permits the local authority to carry out the work by agreement with the owners, and Section 291 of the same Act which allows for the recovery of expenses incurred by instalments over a period agreed by the Health Committee. During the year 44 such instalment orders were prepared by the Town Clerk.

The following table indicates the works undertaken by the Enforcement Section during the year.

	<i>Jobs</i>	<i>Houses</i>	<i>Cost</i>		
			£	s.	d.
<i>Section 93, Public Health Act, 1936</i>					
Abatement of nuisances— housing defects					
At default of owners.....	42	63	753	15	1
At request of owners.....	62	110	2,184	3	1
<i>Section 56, Public Health Act, 1936</i>					
Paving and drainage of yards, courts and passages					
At default of owners.....	2	7	38	8	11
<i>Section 39, Public Health Act, 1936</i>					
Defective drainage systems					
At default of owners.....	1	12	56	14	5
At request of owners.....	1	1	12	0	0
<i>Section 44, Public Health Act, 1936</i>					
Provision of additional water closet accommodation					
At default of owners.....	2	6	95	2	11
<i>Section 138, Public Health Act, 1936</i> <i>as amended by Section 30, Water</i> <i>Act, 1945</i>					
Houses provided with internal water supply					
At default of owners.....	4	14	266	15	10
At request of owners.....	1	1	27	0	1
<i>Houses already having internal</i> <i>water supply, but where supply</i> <i>was insufficient—improvement</i> <i>effected</i>					
At default of owners.....	} 5	4	40	0	1
At request of owners.....		41	456	12	7
<i>Provisions of Houses let-in-Lodgings</i> <i>Byelaws</i>					
At request of owners.....	2	3	63	13	8

### Rent Restrictions Acts

In accordance with the provisions of the above-mentioned enactments, the Chief Sanitary Inspector acts in the capacity of Local Registrar and maintains the following two registers in his department, viz:

- (a) The Furnished Houses (Rent Control) Act, 1946
- (b) The Landlord and Tenant (Rent Control) Act, 1949

Appropriate entries are made in both of these registers as and when official notifications are received from the Rent Tribunal regarding rent decisions. During the year under review 452 entries were recorded in Register (a) and similarly 37 entries in Register (b).

The public have the right to inspect these registers, and during the year approximately 60 such perusals were made. This resulted in the

issue of 12 certified copies of entry after payment of 1/- had been made in each case.

The local sanitary authority is also responsible for house inspection with a view to the issue of Certificates of Disrepair and also Clearance Certificates. A fee of 1/- must be paid with every application and before inspections are carried out. In this respect a total of 107 inspections were made throughout the year resulting in the issue of certificates as follows :

(1) Certificates of Disrepair granted	.....	.....	.....	.....	.....	73
(2) Clearance Certificates	.....	.....	.....	.....	.....	22
(3) Applications not warranting issue	.....	.....	.....	.....	.....	12

It should be noted that Clearance Certificates are not issued automatically subject to satisfactory completion of any works detailed on a previously issued Certificate of Disrepair. An application for "clearance" must be made in every case.

Numerous enquiries have been received from tenants either threatened with eviction, or, in one or two instances, after eviction had been made. In every case advice was given relevant to the case in question.

Many cases were brought to the notice of the department, whereby sub-tenants had been denied cooking facilities, the use of sanitary accommodation, the use of water supply or that their artificial lighting had been cut off. On these occasions the landlord or principal tenant was informed by the department that the facilities afforded at the commencement of the tenancy should still be in existence at the termination of same. This action has been instrumental in bringing any dispute to a satisfactory conclusion.

### **Insufficient Information on Rent Books**

Over 40 letters were sent to owners where tenants were in possession of rent books not giving the statutory information required, as to "permitted numbers", name and address of owner, address of local authority or Medical Officer of Health.

It was not necessary to institute legal proceedings in any of these offences.

### **Houses let in lodgings**

Certain houses which are let off in rooms to two or more families become houses let in lodgings within the meaning of the Byelaws and must be registered with the department. There were 314 such houses registered at the end of 1951.

There is a great demand for lodgings from the many workers of all nationalities who have been attracted to work in this city from such distant parts of the world as Pakistan, India, Jamaica, West Africa and Poland. Also many families who have come from other towns in this



no great increase in the number of caravans and sites. Such as have been dealt with were in the main ancillary and adjacent to dwelling-houses and used as additional sleeping quarters.

The establishment of two caravan sites in the Northfield area was referred to the City Engineer and Surveyor, with whom co-operation has been maintained during the year in respect of all such sites.

### **Canal Boats**

The number of boats inspected on the canals within the City area was 814. These boats were registered for the accommodation of 2,358 persons, and when inspected were found to be carrying 543 men, 513 women and 482 children, represented in terms of adults as 1,297.

Of the 814 boats inspected during the year it was found that 751 or 92.26 per cent. were in good condition and conforming with the Act and Regulations, while in 63, or 7.74 per cent. of the total, various contraventions were found.

Complaint notes were duly served on the owners in all cases. There were 70 contraventions outstanding at the end of 1950, and a further 196 were found during 1951. Of these, 174 were remedied during the year, leaving 92 still outstanding at the end of December.

It has not been necessary during the year to take any Court proceedings under the Act or Regulations.

The number of canal boats on the Birmingham register at the end of 1951 was 586.

### **Offensive Trades**

The establishments in the city where offensive trades are carried on are controlled by the Offensive Trades Byelaws which became operative on the 1st May, 1951. They do not present any serious difficulty or cause undue trouble.

If it is appreciated that such trades must necessarily possess unpleasant and undesirable aspects, the fact that complaints of nuisances from them are very few and infrequent may be taken as a reliable indication of their proper and satisfactory operation.

The few complaints received have been in respect of smells, dust and flies and the appropriate remedies were obvious. It is noteworthy that, such has been the relationship and co-operation between the department and the traders, in no instance was the service of a notice necessary. A discussion on the spot or an informal letter has effected the desired result.

During the year 81 visits were made to offensive trade premises.

## **Tips**

131 visits have been made to refuse tips during the year, and in a number of cases action has been taken to ensure compliance with the City Byelaws relating to tipping. In all cases the goodwill of the owners and users of the tips has been obtained and it has not been necessary to serve statutory notices. The number of complaints received has been small and any nuisances involved were soon remedied. An outbreak of fly infestation near a tip was traced to adjacent playing fields where, in preparation for grass seeding, layers of sludge and humus had been deposited.

One application for the establishment of a new tip of about 13 acres was received, and in conjunction with the City Engineer and Surveyor the requirements of the City Byelaws and the Town and Country Planning Act, 1947 were stipulated.

## **Pleasure Fairs**

The proprietor of a fair or circus wishing to occupy a site within the city makes application to the Clerk to the Justices for a music licence. The Clerk, in turn, notifies the interested departments of the Corporation, including the Public Health Department and the Public Works Department, so that a visit of inspection may be made to ascertain if the requirements of these departments, which are strictly limited, have been met. So far as this department is concerned the provision of sanitary accommodation and water supply and the siting of the electric generators are the main concern. Recommendations are made for the guidance of the Justices so far as practicable in order to prevent the risk of nuisances before a music licence is granted. The Magistrates may or may not grant the application, with or without conditions, but should they refuse the music licence, there is nothing to stop the pleasure fair from continuing on the site without music. The difficulty then arises in the case of nuisances created, that fairs which normally occupy a site for a matter of a few days, have moved off before legal proceedings can be instituted.

Generally the siting of fairs in close proximity to dwellinghouses is not welcomed by local residents, and complaints are sometimes received concerning the undesirable types of person attracted to the area, noise and congestion caused by the vehicles and crowds, and sometimes allegations are made of nuisances created by the improper use of the sanitary accommodation provided.

The Town and Country Planning Act, 1947 requires planning permission to be obtained where it is intended to establish a fair for more than 28 days, and in these cases a copy of the application is forwarded by the Public Works Department so that this department may make observations for consideration by the Town Planning Committee, which may be included in any conditions imposed in connection with the granting of approval.

## **Pig Keeping**

The provisions of Defence Regulation 62B, which made it possible for a pig keeper to keep pigs in close proximity to houses even though formerly prevented by Byelaws and Tenancy Agreements from so doing, were revoked with effect from the 1st July, 1951. Accordingly the provisions of the Nuisance Byelaws made in 1909 once more have to be observed. Where pigs are found to be kept at a distance of less than 60 feet from the nearest dwellinghouse, or where any contravention of the byelaws is found action is taken against the pig keeper.

There are still many people keeping pigs in gardens and on small plots of ground near to their homes. Complaints from neighbours are relatively few, but when received, investigated and substantiated, a direct approach to the pig keeper usually results in the necessary improvement. In 22 cases, however, it was necessary to take formal action and the necessary remedy was effected without recourse to court proceedings.

During the year two pig farms which had been conducted in a most unsatisfactory manner were the subject of action, but since that date development of municipally owned estates has encroached upon the sites and has resulted in the complete removal of the pig farms from the district.

## **Rag Flock and other Filling Materials Act, 1951**

On the 1st November, 1951, a new Act came into force which laid down standards of cleanliness for rag flock and certain prescribed filling materials which are used in the stuffing or lining of bedding, toys and baby carriages, and the upholstery of new furniture. This Act endeavours to control the type of material which is used for these purposes, and should do much to prevent the use of unclean materials which have been made from the tearing up, pulling or shredding of dirty used clothing, sacking, etc. The Act requires all premises, where materials covered by the Act are used, to be registered with the local authority, and all premises where rag flock is manufactured or stored for sale to registered premises, to be licensed. Power is given to authorised officers of the department to sample the materials and submit them to prescribed analysts for examination. By the close of the year 41 applications for registration and 5 applications for licences had been received, and preparations made for the regular sampling of materials used.

## **Infectious Disease**

A total of 1,696 visits was made by inspectors in connection with enquiries into outbreaks of infectious disease and food poisoning, which were being undertaken by the Medical Officer of Health. Visits have had to be made to the homes, and in certain cases to premises where persons are engaged in the handling and distribution of food, such as shops, cafes, bakeries, etc., and specimens required for bacteriological

examination collected. The total of visits above includes those visits made in connection with the keeping under surveillance of persons who have been exposed to risk of infection from such diseases as smallpox and typhus fever.

### **Disinfestation of Verminous Premises**

The department continues to give, free of charge, treatment to domestic premises found to be infested with either bugs, fleas, flies, black beetles, cockroaches, crickets, etc. This work is carried out after a thorough investigation has been made by the sanitary inspector as to the cause of the infestation and steps are taken, so far as practicable, to prevent a re-infestation. The work may include minor structural alterations which are invariably undertaken by co-operation with the owner of the premises. During the year 1,190 premises were so treated. This figure compares with 1,548 for the year 1950, and would appear to confirm the impression gained, that infestations of bugs, fleas, etc., are less common since modern insecticides, including D.D.T. and benzene hexachloride have become available for general use.

In co-operation with the Housing Management Department treatment of furniture and effects is always carried out prior to a family being moved from a house found to be infested to another house in Corporation ownership. The work of disinfestation is undertaken by this department and during the year 830 houses were so treated.

Occupiers of business premises frequently make application for advice and assistance in the disinfecting of their premises in cases of steam flies, cockroaches and ants. Advice is given and the necessary treatment for the disinfestation of the premises is sometimes undertaken and a charge made for the service rendered.

Another service undertaken by the staff of the Disinfecting Station at Bacchus Road is the removal of refuse which has accumulated in the homes of old people, who, usually through infirmity, become incapable of keeping their houses reasonably clean. In the absence of relatives able and willing to undertake this work for them there is sometimes risk of danger to health. This is a free service, and during the year 13 houses were cleansed in this manner and 65 beds were collected for destruction.

Requests are sometimes received from the Anti-Tuberculosis Centre for assistance in removing the furniture and effects of a family from their old home to a new municipally owned house. Only families found to be in poor financial circumstances as a result of the father or mother suffering from tuberculosis are given this service. During the year 17 families have been helped in this manner.

## Supervision of Shops

At the commencement of the year, four whole time Shops Act Inspectors were available to carry out the systematic inspections required under the provisions of the Shops Act, 1950.

The Winter Closing Order, made by the City Council on October 20th, 1950, under Section 2 (1) of the Act, was in operation at the beginning of the year and remained in force until 3rd March.

During the year it was found necessary to institute proceedings against seven shopkeepers for contraventions of the Act. One case in particular being where the shopkeeper employed his staff on Sundays, and failed to grant the compensatory time off in lieu of such employment, and also failed to maintain a proper record of such employment. The remaining cases were taken against shopkeepers who had previously been sent an official warning for infringements, but had continued to trade illegally on the statutory halfday closing or on Sundays. In every case a conviction was secured.

The work of the Shops Act Inspectors is summarised as follows :

GENERAL INSPECTIONS	
Visits .....	8,930
Re-visits .....	2,458
	11,388
<b>TOTAL INSPECTIONS</b> .....	<b>11,388</b>

SPECIAL VISITS	
Half-day closing .....	4,436
Night closing .....	1,081
Sunday trading .....	1,578
Appointments, etc. ....	522
Complaints and enquiries .....	41
Jewish traders .....	88
	7,746
<b>TOTAL SPECIAL VISITS</b> .....	<b>7,746</b>

STREETS PATROLLED	
Half-day closing .....	4,341
Night closing .....	2,236
Sunday trading .....	1,856
	8,433
<b>TOTAL STREETS PATROLLED</b> .....	<b>8,433</b>

NOTICES AND STAFF ACCOMMODATION	
Shops Act forms provided .....	1,252
Staff accommodation remedied .....	574

## OFFENCES REPORTED

Half-day closing	64
Night closing	131
Sunday trading	34
Warning letters sent	103
Prosecutions	7

On October 25th, the City Council brought into operation the Winter Closing Order made under Section 2 (1) of the Act, whereby the general closing hour for shops was again 7 p.m. with 7.30 p.m. on the "late day". This Order took effect from the 4th November and remained in force for the rest of the year.

### Rodent Control

The year under review is the first full year since the inception of the Prevention of Damage by Pests Act, 1949.

There has again been an increase both in inspections, treatments and complaints received, although the increase has not been at the same rate as previous years.

	<i>1951</i>	<i>1950</i>	<i>1949</i>	<i>1948</i>
Complaints	4,901	4,843	3,536	2,649
<hr/>				
Treatments :				
Domestic	3,837	3,614	2,458	1,765
Industrial	1,675	1,615	1,240	1,120
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TOTAL TREATMENTS	5,512	5,229	3,698	2,885
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One complaint frequently leads to visits to adjoining premises, and consequently the total number of inspections and re-inspections must show an increase above the number of complaints.

	<i>Domestic</i>	<i>Industrial</i>
Inspections	5,784	2,357
Re-inspections	1,437	1,703
	<hr/>	<hr/>
	7,221	4,060
	<hr/> <hr/>	<hr/> <hr/>

This shows a total of 11,281 visits to properties in the investigation of complaints.

An analysis of the records for the year shows the following :

	<i>Inspection</i>	<i>Re-inspection</i>
Domestic .....	5,784	1,437
Industrial :		
(1) Schools .....	108	39
(2) Corporation premises .....	110	32
(3) Bakehouses .....	15	29
(4) Tips .....	7	9
(5) Farms, piggeries, etc. ....	23	1
(6) Nurseries .....	61	30
(7) Cafes, restaurants and food premises	701	672
(8) Cinemas and theatres .....	19	165
(9) Destructors .....	7	226
(10) Various premises with canteens ....	372	197
(11) Various premises without canteens	597	276
Unsuccessful visits .....	62	6
Appointments .....	101	
Other visits .....	174	21
Night visits .....	283	
Smoke tests .....	364	
Premises proofed without notices .....	117	
Notices served for proofing .....	87	
Notices served for treatment .....	—	
Notices completed (which includes some served in 1950) .....	100	
Reminder letters sent .....	5	

From this it will be seen that inspection of domestic premises totalling 7,221 visits forms the largest single group, cafes and food premises showed the next highest total 1,986.

Very few heavy infestations have been found, the majority of the treatments being either for minor rat infestations or infestations of mice. All complaints received are dealt with immediately, and to do this the city has been divided into five districts. Each district has one inspector, with the exception of the Central district, which has two. The Central district, which covers a radius of approximately two miles from the Council House, shows the highest number both of complaints and inspections. This is due to its complexity, including as it does, the older areas of the city. The complaints and inspections on this district continue to show that the main cause of rat infestations is the old drainage systems, which over a period of years, have become defective, due principally to collapse of the drain, careless and bad drain laying, omission of sealing of disused systems after alterations, etc., and in some instances to bomb damage. This latter is particularly evident on the many bombed sites in the city.

An example of the omission of sealing disused systems was found at a large block of flats. Complaints of many rats being seen in the gardens of the flats were received, and after tests were carried out, the root cause of the trouble was proved to be the old drainage systems of the houses which were demolished about 1935 to make way for the flats. Although there was a clause in the contract for demolition and rebuilding which covered this specific point, it is quite evident that the contractors did not observe the clause.

In consequence of this, and in view of the rebuilding which is to take place in the redevelopment areas during the next few years, the attention of the appropriate departments of the Corporation has been drawn to the necessity for adequate sealing of drains before demolition of properties, and observance of the contract clause, which has been redrafted. The sealing of these drains at the outset will save costly excavations at a later date and will thus save the City a considerable amount of money and labour in the future.

The number of primary and secondary tests applied to drainage systems during the year was 364, and the majority of these tests proved that rats were issuing from the defects in the drainage systems. In the main this work was carried out on the Central Area, and in all cases the drains were repaired with or without the service of a notice on the owner.

In the field of infestation of domestic premises, by far the most trouble has been experienced on the new post-war estates in all parts of the city in the management of the Housing Management Department. Complaints of rats in these post-war houses were received in many instances after a few days' occupancy by the tenants, and in view of the number of complaints from the Shard End and Sheldon Estates in particular, reports on the matter were submitted to the appropriate departments. Usually the root cause of the infestation was carelessness on the part of the builders in not sealing the footings of the houses around the rest bends at the base of the "all in one" drainage systems. This sealing, if done when the bend is laid through the footings, costs a few coppers, but if it has to be done when the houses are tenanted, then the cost is increased enormously due to the fact that the yard paving has to be lifted and ground dug out to expose the rest bend. As a result of the reports submitted to the Public Works Department the attention of contractors on all these estates has been drawn to this important point, and the observance of these instructions will save a considerable amount of time, money and labour in the future.

### **Salvage Department Destructors**

The five destructors continue to be sites of the heaviest rat infestations in the city. Due to the inherent difficulties attached to the

destructors it is impossible to completely clear the premises, and efforts are directed mainly to ensure that the rats do not overflow into the adjoining properties.

Regular inspections are carried out by day and night and when necessary poisoning and other methods, including hand killing, are adopted and the rat population is kept at a reasonable level in the destructors. The section has the closest co-operation with the Salvage Department on this matter.

### Sewer Baiting

Closely allied with the problem of defective drainage systems is the problem of dealing with the rat population in the sewers of the city. The city has 1,543 miles of sewers, which are provided with approximately 18,000 manholes. These manholes afford a convenient place for baiting and poisoning the rats in the sewers. For this purpose the city sewage system has been plotted into 115 areas, and the sewer squads continually bait and poison the sewers week by week. During the year the 11th maintenance treatment was completed and the 12th maintenance treatment commenced.

For a considerable portion of the year it was only possible, due to staff difficulties, to have one squad of men engaged on the treatment of sewers, instead of the normal two squads, and this accounted for a considerable diminution in the amount of work and the inevitable increase in the population of rats in the sewers, which is evident from the increase in the number of takes of bait at the manholes.

<i>No. of Maint.</i>	<i>No. of M'holes</i>	<i>M'holes pre-baited</i>	<i>Complete Takes</i>	<i>Good Takes</i>	<i>Small Takes</i>	<i>No Takes</i>	<i>No. of holes poisoned</i>
11th	8,537	6,889	90	279	584	5,936	6,889
12th	3,300	2,766	125	144	364	2,133	2,832
	11,837	9,655	215	423	948	8,069	9,721

Due to the staff problem it was not possible to continue with the new technique devised by the Chief Rodent Officer in 1950.

### General

At various times throughout the year, the facilities and experiences of the Section have been used by the Research Staff of the Ministry of Agriculture and Fisheries Infestation Division. Approximately 400 to 450 live rats have been supplied. Dead rats have been supplied to the London School of Hygiene and Tropical Medicine for their experiments and to other institutions for the purpose of research into infections carried by rats.

At the request of the Foreign Office of Administration for African Territories, instruction and training were given in the various aspects of rodent control to a student from Libya.

From time to time attention has been drawn in the medical press to the danger of acquiring from rats a disease called leptospirosis. All specimens of blood from the rodent control staff, however, showed no evidence of past infection.

#### **Town and Country Planning Act, 1947.**

The continued liaison between this department and the City Engineer and Surveyor has resulted in the maximum use being made of this Act to ensure that good planning incorporates the legislated requirements of public health and the recommendations in codes of practice.

During the year 653 planning applications together with appropriate plans were examined by this department and in 167 cases constructive comment was offered and acted upon.

An example of the benefits to be derived from this liaison can be seen from that between the officers of the Public Works Department concerned with Town Planning, and the Smoke and Factories Inspectors of this department. The liaison provides useful machinery for dealing rapidly with such applications as those connected with the work of the Smoke and Factories Inspectors, and affords an opportunity for the utilisation of such local knowledge and experience in industrial processes, especially in regard to the siting of industry and to proposals for new industrial development which come within the purview of the Town and Country Planning (Use Classes) Order, 1950. Under this order a light industrial building means a building in which the processes carried on, or the machinery installed, are such as could be carried on or installed in any residential area, without detriment to the amenity of that area, by reason of noise, vibration, smell, fumes, smoke, soot, ash, dust or grit. It is, therefore, obvious that specialised inspectors who have been dealing with problems of this nature over many years are well qualified to advise and comment on any proposals for the development of such industries, so that nuisances which may arise can be controlled at the planning stage, and the amenities of the neighbourhood preserved to a certain degree.

#### **Outworkers**

Certain light tasks in connection with trades carried on in the city are given out to persons who do this work in their own small workshops or homes. These are mainly in connection with the making of small brass articles, wearing apparel and the carding of buttons. Under Section 110 of the Factories Act, 1937, employers are required to supply lists of these workers to the local authority in the months of February and August, and inspections of premises where the work is carried out form part of the routine of the sanitary inspector on whose district they are situate.

<i>Nature of Work</i>	<i>No. of outworkers in August. (List required by Sect. 110(1)(c) )</i>
Wearing apparel :	
Making, etc., cleaning and washing .....	164
Furniture and upholstery .....	12
Electro-plate .....	41
Brass and brass articles .....	184
Paper bags .....	4
The making of boxes or other receptacles or parts thereof made wholly or partially of paper .....	5
Brush making .....	16
Carding of buttons .....	267
Stuffed toys .....	3
TOTAL .....	696

### Factories Act, 1937

The operative provisions for factories, generally including those in which mechanical power is not used, are contained in the Factories Act, 1937, and when these are not observed the factory occupier or other person responsible, becomes liable to a fine on summary conviction. The definition of factory, which is found in Section 151, embraces almost all manufacturing establishments, and this general definition is supplemented by the specific inclusion of particular works and premises. For certain purposes, however, a distinction is drawn between factories where mechanical power is used and factories where mechanical power is not used.

The number of visits paid to these industrial premises totalled 2,505. This figure includes visits paid under Section 9 of the Factories Act, 1937, also advisory and routine visits in respect of work in progress following the service of notices.

During factory inspection one case of gross overcrowding of the females employed in a workroom was noted and the appropriate action taken to secure a remedy.

Several joint visits have been paid in an advisory capacity with the Factory Inspectorate of the Ministry of Labour and National Service, mainly in regard to the alteration or rebuilding of sanitary accommodation and the ventilation of underground rooms.

Factories on the register are classified as follows :

Factories with non-mechanical power .....	843
Factories with mechanical power .....	6,149

## FACTORIES ACTS, 1937 and 1948

1.—**INSPECTIONS** FOR PURPOSES OF PROVISIONS AS TO HEALTH (including inspections made by Sanitary Inspectors).

<i>Premises</i> (1)	<i>Number on Register</i> (2)	<i>Number of</i>		
		<i>Inspections</i> (3)	<i>Written notices</i> (4)	<i>Occupiers prosecuted</i> (5)
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authority .....	843	77	7	—
(ii) Factories not included in (i) in which Section 7 is enforced by the Local Authority .....	6,149	2,402	249	—
(iii) Other premises in which Section 7 is enforced by the Local Authority (excluding outworkers' premises) .....	122	26	1	—
<b>TOTAL</b> .....	<b>7,114</b>	<b>2,505</b>	<b>257</b>	<b>—</b>

2.—CASES IN WHICH DEFECTS WERE FOUND

Particulars (1)	Number of Cases in which Defects were found				Number of cases in which prosecutions were instituted (6)
	Found (2)	Remedied (3)	To H.M. Inspector (4)	Referred By H.M. Inspector (5)	
Want of cleanliness (S.1) .....	4	14	—	5	—
Overcrowding (S.2) .....	1	1	—	—	—
Unreasonable temperature (S.3) .....	—	—	—	—	—
Inadequate ventilation (S.4) .....	—	1	—	1	—
Ineffective drainage of floors (S.6) .....	—	2	—	1	—
Sanitary conveniences (S.7)					
(a) Insufficient .....	30	73	—	40	—
(b) Unsuitable or defective .....	419	407	—	150	—
(c) Not separate for sexes .....	26	24	—	6	—
Other offences against the Act (not including offences relating to outwork) .....	29	15	4	—	—
TOTAL .....	509	537	4	203	—

## COLLECTION AND DISPOSAL OF REFUSE

The collection, utilisation and disposal of domestic refuse and certain trade refuse, the cleansing of cesspools, privy pans and privy middens and the removal of condemned meat, offal and other refuse from the city markets and abattoirs is undertaken by the Salvage Department, of which Mr. W. H. Andrews is the General Manager.

All vehicles in the fleet are mechanically propelled and are so designed as to minimise dust emission during loading operations. The bulk of the refuse is dealt with at the five refuse utilisation and salvage works of the department, and only a small proportion of refuse, being mainly of an incombustible nature, is disposed of by controlled tipping.

The Salvage Department has an organic plant for the production of feeding meal, fat and fertilisers, which are manufactured from material collected in the city.

As from the 1st April, 1950, the Corporation have undertaken to provide dustbins for use in the collection of household refuse at the cost of the general rate fund.

As a result of extension of sewers to serve outlying portions of the city the number of cesspools has been reduced from 179 at the end of 1950 to 163 at the end of 1951. These cesspools are regularly emptied by the Salvage Department.

100 of the cesspools serve 186 dwellinghouses

63 of the cesspools serve 40 business premises.

## HOUSING

Although the number of new houses erected during the year was half as many again as in 1950 there has been no substantial improvement in the housing position. The number of official representations has with difficulty been kept down to a small number, but there is no doubt that during 1952 this number will have to be increased as the deterioration mentioned in previous Reports is approaching a crisis in an increased number of cases. Superficial repair is expensive and, in the case of the worst of the condemnable houses, involves an expenditure out of all just proportion to the rent yield. Radical repair is impossible; the defects are of such a nature that rebuilding would afford the only method of dealing properly with structural defects if the inherent defects of size, arrangement and amenity were not so grave as to cut out all possibility of rebuilding on the sites. The aggregations of unfit houses usually described as slums are arranged at such heavy density that no form of reconstruction, even multi storey flats, will replace house for house those units which may have to be demolished. In brief the only remedy for the conditions met with is demolition and clearance, and this duty will certainly be placed upon the Local Authority in an increased degree, not by any orders of the central government, but by the deterioration and decay of the houses.

So far as can be ascertained new construction exceeded known demolition and other permanent loss of dwellings by 3,865 houses (as against 2,165 houses during 1950). The number of marriages registered in the City in 1951 was however 10,320.

Progress has continued on the Areas covered by the Birmingham Central Redevelopment Order, 1946. At the end of the year 24,093 dwellings had been acquired by the Corporation. A start had been made on the erection of new blocks of flats on the Duddeston and Nechells Area. Day-to-day and urgent repairs received constant attention and the Block Repair Scheme had been applied to a total number of 5,200 houses.

The extent of the repair operations has now been sufficient to make it clearly evident that they are worthwhile as a contribution to the well being of the tenants who will have to continue in residence in condemnable houses in these areas for a number of years, although this very necessary operation has involved heavy expenditure, the average cost per house renovated in 1951 being £180. The experience gained in the management and repair of sub-standard houses has now extended over a sufficient period to make it of extreme value in connection with the consideration of alternative methods of dealing with conditions in the poorest grade houses.

Further submissions have been made to Government Departments by organised bodies dealing with property management with a view to a general rent increase as a means of enabling owners more satisfactorily to maintain their properties, but the experience above quoted makes it

clear that any percentage increase not in the realms of fancy would not yield a sufficient return to enable the very worst houses to be maintained. It has been suggested that acquisition by the Corporation is an alternative. The principles involved are beyond my province but the figure quoted above would enable an estimate to be made of the cost of applying such a theory, and make it clear that very substantial sums would be involved.

If no unexpected difficulties are encountered in the near future it may be hoped that those houses outside the scope of the Vesting Orders already made but within the boundaries of the areas affected by the Central Redevelopment Scheme will in fact be vested, as these houses present difficulty to the Department's officers. For instance, the general policy of the Health Committee is to secure that an internal water supply shall be provided to every dwellinghouse likely to remain in occupation for 5 years or more, but to order owners of houses likely to be affected by Vesting Orders within a year or so to carry out the works of installation at their expense would clearly be unreasonable. Once the houses are in Corporation ownership the Housing Management Department, in pursuance of its normal policy, provides such a supply at the earliest opportune time.

Satisfactory progress has been made in the installation of separate internal water supplies in general. On the Redevelopment Areas 816 installations were made, leaving 1,508 occupied houses without that service. Progress in relation to privately owned houses was even more complete and it will be seen from the figures quoted later in this Report that there are now no uncomplicated cases outstanding.

The following figures show the number of inspections carried out by the staff of housing inspectors as distinct from the staff of general sanitary inspectors :

Number of initial inspections in response to complaints on vested houses .....	10,810
Number of re-visits .....	29,332
Number of visits made under Part IV Housing Act, 1936 (Overcrowding) including cases referred by the Housing Management Department .....	14,955
Miscellaneous, including visits in liaison with other Departments .....	4,891

No figure can be quoted as properly representing the number of houses inspected or surveyed on duties under the Housing Acts (less Part IV), as review of blocks of central and other mainly unfit property varied from a detailed internal examination of individual houses to a survey check of whole blocks; approximately 50,000 houses were thus involved.

### **New Houses**

During the year 4,022 houses were built, 3,467 (or 86.2 per cent.) by the Corporation and 555 (or 13.8 per cent.) by private enterprise. Of

these 1,793 erected by the Corporation were non-traditional in type. In addition 8 war damaged houses were rebuilt by private enterprise and 100 additional dwellings were provided by conversions into flats, 4 by the Corporation and 96 by private enterprise.

The gross yield of new dwellings during the year was, therefore, 4,130 additional houses or flats, 3,471 (or 84.04 per cent.) being constructed by the Corporation and 659 (or 15.96 per cent.) by private enterprise.

I am indebted to the City Engineer and Surveyor for these figures and also for the fuller information set out below, covering the period since the end of the 1914-18 war :

NUMBER OF HOUSES ERECTED

Year	By Private Enterprise	By Corporation		Government	Total
		Traditional	Non-traditional	Temporary Bungalows	
1919	29	—	—	—	29
1920	244	553	—	—	797
1921	426	970	—	—	1,396
1922	382	810	—	—	1,192
1923	556	1,621	—	—	2,177
1924	1,201	2,004	—	—	3,205
1925	1,774	3,215	—	—	4,989
1926	1,775	5,159	—	—	6,934
1927	2,445	4,007	—	—	6,452
1928	1,487	3,505	—	—	4,992
1929	2,456	4,359	—	—	6,815
1930	1,738	6,687	—	—	8,425
1931	1,983	3,893	—	—	5,876
1932	2,159	1,703	—	—	3,862
1933	3,028	2,029	—	—	5,057
1934	4,226	837	—	—	5,063
1935	6,265	985	—	—	7,250
1936	6,926	2,285	—	—	9,211
1937	7,662	2,643	—	—	10,305
1938	7,804	3,003	—	—	10,807
1939	5,178	1,413	—	—	6,591
1940	1,183	302	—	—	1,485
1941	181	10	—	—	191
1942	26	63	—	—	89
1943	5	35	—	—	40
1944	37	2	—	—	39
1945	25	6	—	325	356
1946	550	413	—	1,475	2,438
1947	667	826	—	1,333	2,826
1948	470	1,400	—	1,492	3,362
1949	470	1,225	2	—	1,697
1950	671	1,478	538	—	2,687
1951	555	1,674	1,793	—	4,022
	<u>64,584</u>	<u>59,115</u>	<u>2,333</u>	<u>4,625</u>	<u>130,657</u>

These figures relate to new houses only and do not include numbers of houses rebuilt after war damage nor flats provided by the sub-division of existing larger houses.

No applications have been dealt with by the Public Works Committee during the year under Section 4 of the Housing Act, 1949, but five applications under Sections 20—30 of the Act have been approved by the House Building Committee in respect of the payment of an Improvement Grant, subject to the approval of the Minister of Housing and Local Government.

### Housing Act, 1936

The production of new houses in 1951 was markedly greater than in any year since the war, 4,022 houses being erected, as against 2,687 in 1950, an increase of 49.7 per cent. Despite this, it has not been possible to resume slum clearance operations. Official representations with a view to the demolition or closure of individual houses have continued to be restricted to the most extreme cases, involving during the year 63 with a view to demolition and 11 with a view to closure. These figures bring the total number of such representations to 785 during the period September, 1939 to December, 1951.

There are still many houses standing in respect of which slum clearance action was initiated before September, 1939. On areas affected by Clearance Orders or Housing Compulsory Purchase Orders fully approved and capable of being operated when other accommodation becomes available there are 119 houses still standing, 90 of them occupied. In 17 areas officially represented before the war for clearance but in respect of which proceedings were suspended at some stage short of an operable Order, there are 271 houses standing, 235 of which are still occupied. These figures do not include those areas taken over by the Corporation under the Central Redevelopment Scheme, but the condition of the houses affected is similar, and it is the experience of the Corporation that it is impossible to carry out work of maintenance, even to a very low standard, out of the rent yield over a number of years.

This observation applies equally to the other condemnable houses in the City, that is to approximately 25,000 such houses outside the redevelopment areas.

The following Table gives particulars of individual action taken under the Housing Act, 1936, during the year:

#### *Proceedings under Sections 11 and 13 of the Housing Act, 1936*

1. Number of dwellinghouses in respect of which official representations were made .....	63
2. Number of dwellinghouses in respect of which undertakings under Section 11 (3) were accepted :	
(a) Not to use for human habitation .....	4
(b) To carry out works to render fit for human habitation .....	—

3. Number of dwellinghouses in respect of which Demolition Orders were made .....	37
4. Number of houses demolished :	
(a) In pursuance of Demolition Orders .....	63
(b) After the making of Closing Orders .....	2
(c) After an Undertaking Not to Use for human habitation had been accepted .....	2
(d) After representation and prior to the making of Demolition Orders .....	5
5. Number of dwellinghouses rendered fit for human habitation in pursuance of undertakings under Section 11 (3) .....	2
<i>Proceedings under Section 12 of the Housing Act, 1936</i>	
1. Number of parts of buildings, separate tenements or underground rooms in respect of which official Representations were made .....	11
2. Number of parts of buildings or underground rooms in respect of which Closing Orders were made .....	10
Total number of houses dealt with under Sections 11 and 12 of the Housing Act, 1936, during 1951 .....	74
Total number of houses dealt with under Sections 11 and 12 of the Housing Act, 1936, up to December 31st, 1950 (since September, 1939) .....	711
TOTAL AT 31ST DECEMBER, 1951 .....	785

It has been possible to suspend action already embarked upon in the case of 153 houses. Under the authority of Ministry of Health Circular, 1866, of the 8th September, 1939, 22 houses remain in occupation even though officially represented, and are regularly inspected to ensure that reasonable conditions are maintained. On certain areas purchased by the Corporation for clearance or redevelopment 131 houses have been repaired and are being maintained by the Housing Management Department until demolition becomes practicable.

At the close of the year 199 houses represented in the past were restricted by non-user undertakings or by Closing Orders. These houses are visited periodically to ensure that they are not re-occupied in contravention of the statutory restriction.

### Central Redevelopment

Acquisition of the areas covered by the Birmingham Central Redevelopment Order continued at a relatively slow speed during the year. Orders made covered 1,693 dwelling houses and 176 shops with dwellings attached, bringing the total to 24,093 dwellings acquired.

I am indebted to Mr. Allerton, the Housing Manager, for the following figures :

Number of houses renovated during 1951 .....	2,340
Total number of houses renovated at December 31st, 1951 .....	5,200
Number of houses at which renovation was in progress at December 31st, 1951 .....	900
Number of houses in respect of which repair schedules or contracts were prepared or were in course of preparation at December 31st, 1951 .....	315
Estimated average cost of renovation per house during 1951. (Including repairs prior to final renovation) .....	£180 0 0
Average number of initial tenants' complaints per week during 1951 .....	2,000

Because of the low standard of maintenance of the houses acquired the extent of day-to-day repair has proved to be formidable. Notifications of disrepair were passed by the Chief Housing Inspector to the Housing Management Department in 7,520 instances, each of these notifications being in respect of an item or items which would, had the house been in private ownership, have been the subject of a Notice served upon the owner; 6,504 such notifications were complied with during 1951, leaving 3,222 outstanding at the end of the year.

Complaints to this Department were in fact more extensive than the above figures would indicate, but each complaint is investigated immediately, examined as to merit, and the notification of necessary works is modified where necessary because of other factors which may have an effect, e.g., short potential life or knowledge that block repair operations are about to commence.

Separate internal water supplies were installed in 816 houses; at the year end there were 1,508 occupied houses on the Areas without that service. Action in respect of the balance may be affected in part by the earmarking of sites for early demolition in pursuance of the redevelopment operations. Extreme deterioration may justify the expectation that demolition will take place for this reason at an early date; in all other instances water supplies will continue to be installed in all houses where sufficient room exists.

Water closets were provided in 10 cases. In general the standard aimed at is that of not more than two houses to one W.C., but even this miserable standard is sometimes difficult of attainment because of lack of space in congested courtyards.

On the five Areas 318 houses have been demolished during the year. These fall into two principal groups, those so badly deteriorated as to be beyond practicable repair and those which lie on sites acquired at an early date. Further demolitions on the grounds of condition are inevitable; a greater number of houses will of course have to be demolished for site clearance. At the year end the number demolished since the inception of the scheme totalled 1,230, whilst 114 were held void pending demolition.

The progress of the redevelopment scheme substantially affects and is affected by the general housing situation in the city as a whole. The house building operations at present in progress will help to balance in part the loss occasioned by demolitions but even if resources were available to undertake large scale building operations on the Areas, the actual scheme of development must inevitably be limited by a balancing provision of new houses. In the arrangements at present in force 25 per cent of the new houses erected by the Corporation are, when handed over for letting, regarded as earmarked for use in connection with housing requirements arising from redevelopment. Since this arrangement came into force 8,353 houses have been built equivalent to 2,088 for redevelopment purposes; in fact 1,047 have been used for housing families from the redevelopment areas.

It is now possible to appreciate, on a much larger scale, the result of the systematic repair operations. Appreciation by the tenants is freely expressed and there is no doubt that these operations have substantially improved housing conditions which were extremely bad. It must be borne in mind, however, that these operations are frankly palliative and that the houses affected are in general of such a type that recurrence of defects is inevitable. The Housing Management Committee have a full knowledge of this point and authorise the repair at high cost of relatively worthless houses solely to avoid further depletion in the number of housing units available in the city.

The following figures relate to houses in the Redevelopment Areas which were represented as unfit for human habitation prior to the war, and show the position at December 31st, 1951.

	<i>Standing</i>	<i>Occupied</i>
Duddeston and Nechells	1,118	993
Summer Lane	118	95
Ladywood	355	348
Bath Row	—	—
Gooch Street	910	853
	<hr style="width: 100%; border: 0.5px solid black;"/>	<hr style="width: 100%; border: 0.5px solid black;"/>
	2,501	2,289
	<hr style="width: 100%; border: 0.5px solid black;"/>	<hr style="width: 100%; border: 0.5px solid black;"/>

All except two of these houses (both occupied) were in Corporation ownership at the 31st December, 1951.

### **Overcrowding**

Despite the increase in the number of allocations of tenancies by the Housing Management Department, there appears to be no diminution in the number of cases of overcrowding referred to, or discovered by the Department. Many of these cases are due to the influx of labour attracted by industrial activity.

The Housing Manager has kindly supplied the following figures relating to the relevant work of the Housing Management Department.

Total number of dwellings available for letting from Jan. 1st to Dec. 31st, 1951 :			
New properties	.....	3,345	
Re-lets	.....	772	
Central Areas re-lets	.....	312	
		<hr/>	4,429
Total number of families rehoused	.....		5,371
Number of weekly properties in rent up to Dec. 31st, 1951 (excluding Central Areas properties)	.....		66,468
Number of new applications received from Jan. 1st to Dec. 31st, 1951			
Tenant applicants	.....	1,830	<div style="display: inline-block; vertical-align: middle;"> <span style="font-size: 2em;">{</span> <div style="display: inline-block; vertical-align: middle; padding-left: 5px;">           18% 79% 3% <hr/>100%         </div> </div>
Lodger applicants	.....	7,864	
Single applicants	.....	299	
		<hr/>	9,993
Number of applicants on register at 29th Dec., 1951			
Living in rooms	.....	47,851	
Tenants of whole house	.....	7,744	
Single applicants	.....	3,988	
Out of City—lodgers	.....	1,556	
Out of city—tenants	.....	545	
		<hr/>	61,684
Less Building licences issued to applicants		1,291	
		<hr/>	60,393

Of the allocations made by the Housing Management Department, 938 were to tenants from overcrowded or undesirably sublet houses. Particulars of those cases were referred to the Public Health Department and 706 were found to be overcrowded according to the limited standard of the Housing Act, 1936. All the cases related to sub-tenant families living in rooms, 274 from Housing Management property, 664 from privately owned houses, involving in all 2,036 adults and 1,897 children, a total of 3,933 persons at an average of 4.2 persons per family rehoused.

Of the 706 houses found to be overcrowded when an allocation was made, 191 continued to be overcrowded when the family had been transferred, in some cases by the tenant family, in others by the remaining sub-tenants.

All cases were followed up in order to prevent recrowding. Immediately a transfer was arranged a formal warning letter was sent to the principal occupier and further visits were made to 706 such cases to ensure that contraventions did not occur later. Extremely grave cases continue to be brought to notice, many in which overcrowding is further accentuated by disease or disability.

As required by the Housing Acts, certificates giving "Permitted Numbers" were supplied—1,220 to owners of privately owned houses, 1,662 to the City Estates Officer and 3,931 to the Housing Management Department, a total of 6,813. These certificates involved measurement of rooms and a check of any existing records in each case.

Applications of 981 families for priority in rehousing on grounds of ill health, overcrowding, sanitary or structural defect were investigated by the Medical or Technical staff, separately or jointly as appropriate. Applications were received through every possible channel: direct from the tenant to the Public Health Department, through the Estates or Housing Management Departments, from Members of Parliament or Members of the Council, and from every type of voluntary association. Those involving considerations of health or disability often came from general medical practitioners or hospitals, whilst the Department's own visitors and inspectors referred all cases discovered by them which appeared to merit an opinion on medical issues.

In 372 cases recommendations were made for consideration to be given to priority rehousing and in 295 other cases information was passed to the Housing Management Department for use in the allocation of points. It was not possible in the remaining 314 cases for any recommendation to be made.

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