

**[Report 1966] / Medical Officer of Health, Watford U.D.C. / Borough.**

**Contributors**

Watford (England). Urban District Council.

**Publication/Creation**

1966

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I



BOROUGH OF WATFORD

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# Annual Report

of the

MEDICAL OFFICER OF HEALTH

and

CHIEF PUBLIC HEALTH INSPECTOR

for the year

1966

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W. ALCOCK

M.B., Ch.B., B.Hy., D.P.H.

Medical Officer of Health

K. H. MARSDEN

F.A.P.H.I.

Chief Public Health Inspector






~~Annual Report~~. M. J. H. B. A. Watford 1966  
A/R.M.

M<sup>r</sup> Goodburn. Royal Com. on Local Govt.)  
Gwydyr House Whitehall

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30 APR 1968

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PUBLIC HEALTH AND WATER SUPPLY COMMITTEE

1965 - 1966

Chairman

Alderman F. Mackenzie

Vice-Chairman

Councillor Dr. P. W. Roe

Members :

Councillor L. C. Wright, J.P. (Mayor)

Alderman A. Reynolds, J.P. (Deputy Mayor)

Alderman Mrs. M. Higgins

Alderman H. W. C. Lodder, J.P.

Councillor C. T. Bell

Councillor G. R. Berry

Councillor C. Braybrooke

Councillor Mrs. H. M. Dodd

Councillor J. Evett

Councillor R. S. Horner

Councillor C. F. W. Johnson

Councillor J. S. Oliver

Councillor A. L. Robinson, J.P.

Councillor J. R. Rourke

Councillor Miss D. M. Scawen

1966 - 1967

Chairman

Councillor A. L. Robinson, J.P.

Vice-Chairman

Councillor C. F. W. Johnson

Members:

Alderman F. Mackenzie, J.P. (Mayor)

Councillor L. C. Wright (Deputy Mayor)

Alderman J. R. Hicks, O.B.E.

Alderman H. W. C. Lodder, J.P.

Councillor C. T. Bell

Councillor G. R. Berry

Councillor C. Braybrooke

Councillor D. J. Coleshill

Councillor Mrs. H. M. Dodd

Councillor J. Evett

Councillor R. S. Horner

Councillor J. S. Oliver

Councillor W. T. H. Price

Councillor J. R. Rourke

Councillor Miss D. M. Scawen



S T A F F

Medical Officer of Health :

William Alcock, M.B., Dh.B., B.Hy., D.P.H.  
Public Health Department, Town Hall, Watford.  
Phone Watford 26400

Deputy Medical Officer of Health:

John Sleigh, M.B., Ch.B., D.P.H.

Chief Public Health Inspector:

K.H. Marsden, F.A.P.H.I. 1, 3, 4, 5.

Deputy Chief Public Health Inspector:

G.F. Willcox, M.A.P.H.I. 1, 3, 4, 5.

District Public Health Inspectors :

J. L. Willoughby, 1, 3, 4, 5.

T. B. Rosamond, 1, 3, 4.

D. C. Cahill, M.A.P.H.I. 1, 3, 5.

W. S. Biggins, M.A.P.H.I., 1, 3, 6.  
(resigned 31st August 1966)

Ronald Watkins, M.A.P.H.I., 2.

Joseph Brown, 1, 3, 5.

(appointed 10th October, 1966)

Specialist Public Health Meat Inspector :

David Mitchell. 1. 3.

Authorised Meat Inspectors :

J. L. Mackenzie. 1. 3. 7.

Brian Christie.

Student Public Health Inspectors :

G.J.A. Woolfe

Simon Bissell

Chief Clerk :

Mary Sherlock

Senior Clerk :

Marion Johnson

Clerks :

Mavis Tilbury

Doreen Roberts

Celia Beauchamp (resigned 18th March 1966)

Geraldine Pugh (appointed 9th May 1966)

Organiser, Workroom for the Elderly :

Captain T. B. Littlechild

1. Certificate, Royal Society of Health and Public Health Inspectors Joint Board.
2. Diploma, Public Health Inspectors Examination Board.
3. Meat and other Foods Certificate, Royal Society of Health.
4. Certificate in Sanitary Science, Royal Society of Health.
5. Diploma in Smoke Inspection, Royal Society of Health.
6. Testamur of the Institute of Public Cleansing.
7. Higher Certificate of the Institute of Meat.

# B O R O U G H   O F   W A T F O R D

Public Health Department,  
Town Hall,  
WATFORD.

September, 1967.

TO THE WORSHIPFUL THE MAYOR, ALDERMEN AND COUNCILLORS

Ladies and Gentlemen,

I have the honour to present my Annual Report on the work of the Public Health Department for the year 1966.

## PRINCIPAL VITAL STATISTICS

The birth rate has declined slightly, thus reversing the upward trend of the last few years.

The infant mortality rate has also fallen. The perimortality rate has also declined. This groups together still-births and death in the first week of life and is thus a valuable indication of the influences operating upon the infant just before, during, and immediately after, the birth event. The rate incidentally is lower than that for England and Wales.

There was, unfortunately, one maternal death, the circumstances of which were fully investigated.

## INFECTIOUS AND OTHER DISEASES

The incidence of the common infectious diseases was low. These now play a diminishing role in human affairs. Even measles, which as a killing disease has long ceased to be of importance in this country, may soon cease to manifest its familiar biennial trend when the new measles vaccines, which show great promise, come into regular use.

Statistics relating to notifications and deaths from tuberculosis also show further improvement.

The incidence of food poisoning was again low due in no small measure to the activities of your Public Health Inspectors, details of whose work are set out in the report of the Chief Public Health Inspector.

Deaths from lung cancer continue to rise and they can be expected to do so, so long as the consumption of tobacco continues at its present high levels. It is difficult to know what more can be done to bring home to the public the sombre facts linking smoking with the incidence not only of lung cancer but with those two other killing diseases, chronic bronchitis and coronary heart disease. Pamphlets and leaflets appear to have little influence, and the results of anti-smoking clinics have proved disappointing on the whole.



## FLUORIDATION

By May 1966 fluoridation of the public water supply had been in operation for ten years. During this period nothing has occurred which conflicts with the view, supported by a vast array of scientific evidence, that fluoridation is a safe, cheap, and effective measure directed towards the alleviation of one of the most prevalent and widespread diseases of modern civilisation - dental caries.

On page 32 will be found the report of the County Dental Officer, Mr. Millett, of a dental survey carried out in South West Herts, which clearly shows the benefit which this measure is now exercising on the teeth of Watford children.

## WORKROOM FOR THE ELDERLY

This venture commenced in July 1964. The aim of these workrooms is to provide work of a simple nature for elderly retired folk under congenial conditions. The numbers in attendance remained small despite efforts at recruitment, and the Council finally decided that the venture should cease to function at the end of March 1967 as the high overhead costs did not justify its continuance.

I am extremely grateful for all the help and encouragement I have received from Members of the Council, members of the Department's staff who have worked extremely hard during the year, other Departments of the Corporation, and all who have contributed to keep the wheels turning so efficiently and harmoniously.

I have the honour to be

Your obedient Servant,

W. ALCOCK

Medical Officer of Health

# SECTION A

## STATISTICS AND SOCIAL CONDITIONS OF THE AREA

	<u>WATFORD</u>		<u>ENGLAND &amp; WALES</u>
	<u>1965</u>	<u>1966</u>	<u>1966</u>
Area in acres	5, 275	5, 275	-
Registrar General's estimate of home population mid-year	76, 470	76, 350	48, 075, 000
Number of inhabited houses (end of year) according to rate books.	24, 581	24, 867	-
Rateable Value	£5, 666, 700	£5, 850, 838	-
Sum represented by a penny rate	£23, 550	£24, 220	-
Live Births :			
Number	1, 518	1, 499	849, 483
Rate per 1, 000 population	19.9	19.6	17.7
Illegitimate live births per cent of total live births	8.2	5.9	-
Stillbirths :			
Number	24	18	13, 242
Rate per 1, 000 total live and still births	15.6	11.9	15.3
Total live and still births	1, 542	1, 517	862, 725
Infant deaths (deaths under one year)	30	28	16, 147
Infant mortality rates :			
Total infant deaths per 1, 000 total live births	19.8	18.7	19.0
Legitimate infant deaths per 1, 000 legitimate live births	19.4	19.1	-
Illegitimate infant deaths per 1, 000 illegitimate live births	24.2	11.4	-
Neo-natal mortality rate (deaths under four weeks per 1, 000 total live births)	15.8	12.0	12.9
Early neo-natal mortality rate (deaths under one week per 1, 000 total live births)	13.8	10.0	11.0
Peri-natal mortality rate (stillbirths and deaths under one week combined per 1, 000 total live and stillbirths)	29.2	21.8	26.3
Maternal mortality (including abortions):			
Number of deaths	-	1	223
Rate per 1, 000 total live and stillbirths	0.00	0.70	0.26
Deaths :			
Number	833	882	563, 626
Rate per 1, 000 population	10.9	11.6	11.7



## POPULATION

Watford's population showed a decrease of 120 during the year from 76,470 to 76,350 according to the Registrar General's estimate. Births were 1,499 as compared with 1,518 for the previous year, and deaths 882 as compared with 833, so that the natural increase of births over deaths was 617 as compared with the estimated decrease of 120. Emigration must therefore have amounted to 737. There is a considerable amount of emigration from Watford. Since 1961 births have totalled 8,572 and deaths 5,193, a natural increase of 3,379, although the population has increased in the same period only from 75,000 to 76,350, an increase of 1,350. Emigration during the same period therefore has totalled 2,029. By contrast, between 1951 and 1960 births totalled 17,786 and deaths 12,557, a natural increase of 2,467 and the population increased in the same period from 72,700 to 75,000, an increase of 2,300.

### BIRTHS, STILLBIRTHS AND INFANT DEATHS

#### Live Births

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Legitimate	722	689	1,411
Illegitimate	47	41	88
Total	769	730	1,499

#### Stillbirths

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Legitimate	7	9	16
Illegitimate	2	-	2
Total	9	9	18

#### Deaths of Infants under One year of Age

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Legitimate	12	15	27
Illegitimate	1	-	1
Total	13	15	28

#### Deaths of Infants under Four Weeks of Age

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Legitimate	9	8	17
Illegitimate	1	-	1
Total	10	8	18

#### Deaths of Infants under One Week of Age

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Legitimate	8	6	14
Illegitimate	1	-	1
Total	9	6	15

BIRTHS

Watford's births for the year were 1,499 as compared with 1,518 for the previous year and representing a rate of 19.6, as compared with 19.9. The area comparability factor by which Watford's rate has to be multiplied to make it comparable with that for England and Wales is 0.98 which indicates that at the child-bearing ages Watford has slightly more population proportionately than England and Wales. When multiplied by this factor, Watford's birth rate is 19.2 as compared with a provisional birth rate for England and Wales for 1966 of 17.7.

STILL BIRTHS

Watford's still births for the year were 18 as compared with 24 for the previous year and representing a rate of 11.9 as compared with 15.6. The provisional still birth rate for England and Wales for 1966 is 15.4.

INFANT DEATHS

Watford's infant deaths for the year were 28 as compared with 30 for the previous year and representing a rate of 18.7 as compared with 19.8. The provisional infant death rate for England and Wales for 1966 is 19.0.

DISCUSSION OF STILL BIRTHS AND INFANT DEATHS

The 28 infant deaths listed according to the International Classification of Diseases and divided by sex and into Under 1 week, 1 - 4 weeks and 1 - 12 months are shown in the following table :-

15	13	7	2	1	8	9
----	----	---	---	---	---	---



## CAUSE OF DEATH IN INFANTS

	Under 1 week		1 - 4 weeks		1 - 12 months		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
Broncho-pneumonia						1		1
Primary atypical pneumonia					1	3	1	3
Pneumonia of the newborn				1				1
Congenital malformations of circulatory system		1						1
Other and unspecified diseases of heart						1		1
Gastroenteritis and colitis					1		1	
Congenital malformations of digestive system				1				1
Congenital malformations of genito urinary system						1		1
Spina bifida and meningocele			1				1	
Other and unspecified congenital malformations		1						1
Intra cranial and spinal injury at birth	2	1					2	1
Immaturity, unqualified	7	3					7	3
Accidental mechanical suffocation					1	1	1	1
	9	6	1	2	3	7	13	15

It will be seen that the main causes of death, other than pneumonia and congenital malformations, are intracranial and spinal injuries at birth (3 deaths), and immaturity unqualified (10 deaths). Intracranial and spinal injuries at birth are more likely to be found among immature babies, which reinforces the importance of immaturity as a cause of death, and they are also more likely to be found where the birth has been difficult, by reason of small pelvic diameter in the mother or of wrong presentation of the child. The first two points which arise, therefore, are the importance of better facilities for rest for the mother from the 32nd to the 36th week of pregnancy which might do much to reduce the number of births of immature babies, and the importance of good antenatal care by which small pelvic diameter might be ascertained and hospital admission for confinement arranged, and by which wrong presentation might be ascertained and corrected.

The 110 births of babies of 5 lb. 8 oz. and under, the 28 births of twins, the 18 stillbirths, the 15 deaths of babies aged under one week, and the 3 deaths of babies aged 1 - 4 weeks, are brought together in the following table. These categories overlap, and any baby coming into more than one category is shown in each.

Prematurity, Twins, Stillbirths and Infant Deaths

110 - 5 lb. 8 oz. and under	4 - 2 lb. 3oz. and under	4 deaths 0 - 1 week
	6 - 2 lb. 4oz. to 3 lb. 4oz.	2 twins 1 stillbirth 2 deaths 0 - 1 week
	25 - 3 lb. 5oz. to 4 lb. 6oz.	8 twins 2 stillbirths 1 death 0 - 1 week
	19 - 4 lb. 7oz. to 4 lb. 15oz.	3 twins
	56 - 5 lb. to 5 lb. 8oz.	5 twins 2 stillbirths 1 death 0 - 1 week
28 twins	2 - 2 lb. 4oz. to 3 lb. 4oz.	
	8 - 3 lb. 5oz. to 4 lb. 6oz.	
	3 - 4 lb. 7oz. to 4 lb. 15oz.	
	5 - 5 lb. to 5 lb. 8oz.	
	10 - 5 lb. 9oz. and over	1 stillbirth
18 stillbirths	1 - 2 lb. 4oz. to 3 lb. 4oz.	
	2 - 3 lb. 5oz. to 4 lb. 6oz.	
	2 - 5 lb. to 5 lb. 8oz.	
	13 - 5 lb. 9oz. and over	1 twin



15 deaths under 1 week      4 - 2 lb. 3oz. and under

2 - 2 lb. 4oz. to 3 lb. 4oz.

1 - 3 lb. 5oz. to 4 lb. 6oz.

1 - 5 lb. to 5 lb. 8oz.

7 - 5 lb. 9oz. and over

3 deaths 1 - 4 weeks

3 - 5 lb. 9oz. and over

Here again, the importance of low birth weight as a cause of infant mortality is clearly shown. If the stillbirths and neo-natal deaths are grouped according to birth weight, and stillbirth rates and neo-natal death rates for each group are calculated, the results obtained are as shown on the following table :-

#### STILLBIRTHS AND NEO-NATAL DEATHS GROUPED ACCORDING TO BIRTH WEIGHT

	2 lb. 3oz. and under	2 lb. 4oz. to 3 lb. 4oz.	3 lb. 5oz. to 4 lb. 6oz.	4 lb. 7oz. to 4 lb. 15oz.	5 lb. to 5 lb. 8oz.	5 lb. 9oz. and over	All Weights
Live and stillbirths	4	6	25	19	56	1,407	1,517
Stillbirths	0	1	2	0	2	13	18
Stillbirth rate	0.0	166.7	80.0	0.0	35.7	9.2	11.9
Live births	4	5	23	19	54	1,394	1,499
Neo-natal deaths	4	2	1	0	1	10	18
Neo-natal death rate	1000.0	400.0	43.5	0.0	18.5	7.2	12.0

The regular and very large increase in stillbirth rate and neo-natal death rate corresponding to the fall in the birth weight is most clearly shown.

The other feature that appears from the main table is the importance of twin pregnancy as a cause of infant mortality. This is as would be expected. Apart from the two stillbirths which occurred among twins, twins are likely to be smaller than average and so are more likely to die of immaturity, and they are more likely to die of intracranial and spinal injury at birth and post-natal asphyxia and atelectasis, because of the greater incidence of immaturity among twins and because of the greater likelihood of difficult birth as a result of wrong presentation among twins. The third point which arises therefore is the importance of correct diagnosis of twin pregnancy, followed by hospital admission for confinement.



The same babies are brought together in the following table, which shows how many in each group were first, second, third, fourth, and later babies, and in brackets how many in each group would have been first, second, third, fourth and later babies, if they had been distributed according to the proportions given by the Registrar General for legitimate live births for women married once only for 1965.

Prematurity, Twins, Stillbirths and Infant Deaths Grouped by Parity

	1st Pregnancy	2nd Pregnancy	3rd Pregnancy	4th Pregnancy	4th + Pregnancy
110 - 5 lb. 8oz. and under -					
4 - 2 lb. 3oz. and under	1 (1.4)	1 (1.3)	0 (0.7)	0 (0.3)	2 (0.3)
6 - 2 lb. 4oz. to 3 lb. 4oz.	2 (2.1)	1 (1.9)	1 (1.0)	0 (0.5)	2 (0.5)
25 - 3 lb. 5oz. 4 lb. 6oz.	8 (9.0)	10 (7.8)	3 (4.2)	2 (2.0)	2 (2.0)
19 - 4 lb. 7oz. to 4 lb. 15oz.	3 (6.8)	10 (6.0)	3 (3.2)	0 (1.5)	3 (1.5)
56 - 5 lb. to 5 lb. 8oz.	8 (20.1)	18 (17.5)	15 (9.4)	6 (4.5)	9 (4.5)
28 twins	14 (10.1)	4 (8.8)	4 (4.7)	4 (2.2)	2 (2.2)
18 stillbirths	7 (6.5)	9 (5.6)	0 (3.1)	0 (1.4)	2 (1.4)
15 deaths 0 - 1 week	9 (5.4)	3 (4.7)	1 (2.5)	2 (1.2)	0 (1.2)
3 deaths 1 - 4 weeks	2 (1.1)	1 (1.0)	0 (0.5)	0 (0.2)	0 (0.2)

The numbers in each group are too small to exclude variations produced by chance, and this is illustrated by the divergence between the actual and the expected figures for twins, which figures, if the numbers had been large enough, should have shown a large degree of correspondence. However, leaving out the figures for twins, which for the reason just given cannot be of importance, the figures do show that these conditions are considerably more common among fifth and later babies than might have been expected if they had been proportionately distributed. This experience is made clearer in the following table where the numbers are effectively increased by the combination of the five categories of premature babies and the two categories of babies dying after birth :-

Prematurity, Stillbirths, and Infant Deaths grouped by parity

	1st Pregnancy	2nd Pregnancy	3rd Pregnancy	4th Pregnancy	4th + Pregnancy
110 - 5 lb. 8oz. and under	22 (39.5)	40 (34.3)	22 (18.6)	8 (8.8)	18 (8.8)
18 stillbirths	7 (6.5)	9 (5.6)	0 (3.1)	0 (1.4)	2 (1.4)
18 deaths 0 - 4 weeks	11 (6.5)	4 (5.6)	1 (3.1)	2 (1.4)	0 (1.4)

The fourth point which arises, therefore, is that mothers of fifth and later babies should be admitted to hospital for confinement.



## DEATHS

Watford's deaths for the year were 882 as compared with 833 for the previous year and representing a rate of 11.6 as compared with 10.9. The area comparability factor by which Watford's rate has to be multiplied to make it comparable with that for England and Wales is 0.96, which indicates that at the older ages Watford has rather more population proportionately than England and Wales. When multiplied by this factor Watford's death rate is 11.1 as compared with a provisional death rate for England and Wales for 1966 of 11.7.

## DISCUSSION OF DEATHS

The 882 deaths listed according to the abbreviated list of the International Classification of Diseases, and divided by sex, and by age into eleven age groups, are shown in the following table. It will be seen that the main causes of death are cancer, which was responsible for 178 deaths or 20.2% of the total, coronary heart disease, which was responsible for 172 deaths, or 19.5% of the total, vascular lesions of the nervous system, which were responsible for 140 deaths, or 15.9% of the total, and heart disease other than coronary and hypertensive heart disease, which was responsible for 62 deaths, or 7.0% of the total. These four causes were responsible for 552 deaths or 62.6% of the total.

Lung cancer is almost entirely preventable by not taking up smoking and very considerably reduced by giving it up. Cancer of the neck of the womb can be prevented by regular microscopic examination of smears of mucosal tissue obtained by scraping, followed by the appropriate treatment where these show the presence of a precancerous state, as this form of cancer remains in a precancerous state for a number of years. A clinic for the taking of smears has now been set up by the Local Health Authority but the shortage of technicians employed by the Regional Hospital Board to read these smears is such that the waiting list has increased by a month for every month that the clinic has been open.

Coronary heart disease and vascular lesions of the nervous system all come under the general category of degenerative vascular disease, and evidence is steadily accumulating that the increase in degenerative vascular disease in privileged western communities is due to excess consumption of carbohydrate and animal and dairy fat.

Heart disease other than coronary and hypertensive heart disease consists largely of degenerative heart disease with rheumatic heart disease as the next most important component. Most of degenerative heart disease is old age (41 of the 62 deaths from other heart disease or 66.1% were in persons aged 75 and over) and nothing can be done about preventing old age. However, the Registrar General frowns on old age as a cause of death on a death certificate and the importance of heart disease other than coronary disease is exaggerated as a result. Rheumatic heart disease is prevented by permanent prophylactic treatment with penicillin or sulphonamide of all who have had rheumatic fever.



# DEATHS 1966

Cause of death	Sex	Total all ages	Under 4 weeks		Age in years									
			1 year	4 weeks and under	1 -	5 -	15 -	25 -	35 -	45 -	55 -	65 -	75 +	
Tuberculosis, respiratory	M	2	-	-	-	-	-	-	-	-	-	2	-	
	F	1	-	-	-	-	-	-	-	-	-	-	1	
Tuberculosis, other	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Syphilitic disease	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	1	-	-	-	-	-	-	-	-	-	-	1	
Diphtheria	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Whooping cough	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Meningococcal infections	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Acute Poliomyelitis	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Measles	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Other infective and parasitic diseases	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	1	-	-	-	-	-	-	-	-	-	-	1	
Malignant neoplasm, stomach	M	14	-	-	-	-	-	-	-	2	4	5	3	
	F	8	-	-	-	-	-	-	-	-	1	3	4	
Malignant neoplasm, lung, bronchus	M	36	-	-	-	-	-	1	2	12	14	7	3	
	F	14	-	-	-	-	-	-	2	5	4	3	3	

Cause of death	Sex	Total all ages	Under 4 weeks		Age in years									
			1 year	4 weeks	1 -	5 -	15 -	25 -	35 -	45 -	55 -	65 -	75 +	
Malignant neoplasm, breast	M	-	-	-	-	-	-	-	-	-	-	-	-	-
	F	12	-	-	-	-	-	-	2	4	2	4	4	4
Malignant neoplasm, uterus	F	1	-	-	-	-	-	-	-	-	1	-	-	-
Other malignant and lymphatic neoplasms	M	42	-	-	-	-	-	2	7	11	8	14	14	14
	F	41	-	-	1	1	1	1	8	8	13	14	14	14
Leukaemia, aleukaemia	M	5	-	-	1	-	-	-	1	-	2	1	1	2
	F	5	-	-	-	-	-	-	1	-	2	2	2	2
Diabetes	M	5	-	-	-	1	-	-	-	1	2	2	2	2
	F	2	-	-	-	-	-	-	-	1	-	-	1	1
Vascular lesions of nervous system	M	51	-	-	-	1	-	1	1	8	13	27	27	27
	F	89	-	-	1	1	-	1	4	4	14	65	65	65
Coronary disease, angina	M	102	-	-	-	-	-	2	8	30	33	29	29	29
	F	70	-	-	-	-	-	1	1	9	19	40	40	40
Hypertension with heart disease	M	7	-	-	-	-	-	-	-	1	3	3	3	3
	F	7	-	-	-	-	-	-	-	-	2	5	5	5
Other heart disease	M	26	-	-	-	-	-	1	1	6	4	14	14	14
	F	36	-	1	-	-	-	-	-	4	4	27	27	27
Other circulatory disease	M	19	-	-	-	-	-	-	-	2	9	8	8	8
	F	20	-	-	-	-	-	-	1	2	5	12	12	12
Influenza	M	4	-	-	-	-	-	-	-	-	3	1	1	1
	F	4	-	-	-	-	-	-	-	-	1	3	3	3
Pneumonia	M	22	-	1	-	-	-	-	1	2	4	14	14	14
	F	36	1	4	-	-	-	-	-	1	6	23	23	23
Bronchitis	M	31	-	-	-	-	1	1	2	7	11	9	9	9
	F	11	-	-	-	-	-	-	-	-	3	7	7	7



Cause of death	Sex	Total all ages	Under 4 weeks		Age in years									
			1 year	4 weeks	1 - 5	5 - 15	15 - 25	25 - 35	35 - 45	45 - 55	55 - 65	65 - 75 +		
Other diseases of respiratory system	M	8	-	-	-	-	-	1	1	3	-	3		
	F	5	-	-	-	-	-	-	-	2	-	3		
Ulcer of stomach and duodenum	M	2	-	-	-	-	-	-	-	1	-	1		
	F	3	-	-	-	-	-	-	-	-	1	2		
Gastritis, enteritis, and diarrhoea	M	3	-	-	-	-	-	-	-	1	-	1		
	F	2	-	-	-	-	-	-	-	-	-	2		
Nephritis and Nephrosis	M	5	-	-	-	-	1	-	-	1	1	2		
	F	3	-	-	-	-	-	-	-	1	-	2		
Hyperplasia of prostate	M	4	-	-	-	-	-	-	-	1	1	2		
	F	1	-	-	-	-	-	-	1	-	-	-		
Pregnancy, childbirth, abortion	M	3	1	-	-	-	-	-	-	-	-	-		
	F	4	3	1	-	-	-	1	-	-	-	-		
Other defined and ill-defined diseases	M	29	-	9	-	-	-	1	2	1	9	7		
	F	37	-	4	-	1	1	1	1	5	6	19		
Motor Vehicle accidents	M	9	-	-	2	2	3	-	2	-	1	-		
	F	5	-	-	-	-	-	-	-	2	1	1		
All other accidents	M	12	-	1	1	-	1	1	-	2	-	4		
	F	14	-	1	1	-	-	1	2	3	-	6		
Suicide	M	2	-	-	-	1	-	-	1	-	-	-		
	F	6	-	-	-	-	1	1	1	1	2	-		
Homicide and operations of war	M	-	-	-	-	-	-	-	-	-	-	-		
	F	-	-	-	-	-	-	-	-	-	-	-		
Total of all causes	M	443	10	3	4	4	8	12	31	94	123	152		
	F	439	8	7	2	2	3	6	19	53	89	247		

# BIRTHS, STILLBIRTHS, INFANT DEATHS, MATERNAL DEATHS AND DEATHS

## WATFORD AND ENGLAND AND WALES 1950-66

The following table may be of interest as permitting a comparison to be made of these statistics between Watford and England and Wales. The birth rate for England and Wales fell at the beginning of the period and then rose again, whereas that for Watford rose steadily over the period, so that at the end of the period the rate for Watford, which had been lower than that for England and Wales at the beginning of the period, was now higher. The stillbirth rate for both England and Wales and Watford fell over the period, and the fall over the period was the same for Watford as for England and Wales, so that at the end of the period the rate for Watford, which had been lower than that for England and Wales at the beginning of the period, was still lower. The infant death rate for England and Wales fell over the period, whereas that for Watford fell at the beginning of the period then rose again, so that at the end of the period, the rate for Watford, which had been lower than that for England and Wales at the beginning of the period, was now the same. It is, however, largely chance whether a feeble baby dies just before birth or just after birth, and if the stillbirth rate and infant death rate are taken together, there is no significant increase in infant mortality, the average for stillbirth rate and infant death rate together for 1964-66 being 33.0 as compared with the lowest figure for any three year period of 32.8 for 1960-62 (the figure of 30.7 for 1959-61 being distorted by the freak infant death rate figure of 7.8 for 1959). The maternal death rate for England and Wales fell steadily over the period but in the case of Watford the numbers are too small to be of any significance. The death rate for both England and Wales and Watford remained almost stationary over the period, but this figure represents an increase in the expectation of life of women accompanied by a decrease in the expectation of life of men, due largely to the great increase in the number of deaths from lung cancer.



YEARS 1950 - 66

	Births			Stillbirths			Infant deaths			Maternal deaths			Deaths		
	Watford		E & W	Watford		E & W	Watford		E & W	Watford		E & W	Watford		E & W
	Rate		Rate	Rate		Rate	Rate		Rate	Rate		Rate	Rate		Rate
	No.			No.			No.			No.			No.		
1950	1038	13.9	15.9	21	19.8	22.6	24	23.1	29.6	0	0.00	0.86	802	10.8	11.6
1951	1017	14.0	15.5	30	28.7	23.0	19	18.7	29.7	0	0.00	0.75	827	11.4	12.5
1952	1033	14.1	15.3	26	24.6	22.7	26	25.2	27.6	0	0.00	0.67	819	11.1	11.3
1953	966	13.3	15.5	18	18.6	22.4	25	25.9	26.8	3	3.05	0.71	864	11.9	11.4
1954	1018	14.0	15.2	21	20.2	23.5	19	18.7	25.4	3	2.89	0.65	758	10.5	11.3
1955	1045	14.4	15.0	13	12.3	23.2	14	13.4	24.9	0	0.00	0.60	836	11.5	11.7
1956	1079	14.9	15.7	30	27.1	22.9	15	13.9	23.7	0	0.00	0.52	807	11.1	11.7
1957	1078	14.8	16.1	16	14.6	22.5	29	26.9	23.1	0	0.00	0.45	800	11.0	11.5
1958	1088	14.8	16.4	27	24.2	21.5	20	18.4	22.5	0	0.00	0.43	884	12.1	11.7
1959	1157	15.7	16.5	25	21.2	20.8	9	7.8	22.2	0	0.00	0.38	870	11.8	11.6
1960	1232	16.6	17.2	22	17.5	19.8	19	15.2	21.8	0	0.00	0.39	781	10.5	11.5
1961	1329	17.7	17.6	22	16.3	19.0	19	14.3	21.4	4	2.96	0.34	865	11.5	11.9
1962	1353	17.9	18.0	24	17.4	18.1	24	17.6	21.7	0	0.00	0.35	859	11.4	11.9
1963	1399	18.5	18.2	23	16.2	17.2	24	17.2	21.1	1	0.70	0.28	909	12.0	12.2
1964	1474	19.3	18.5	20	13.4	16.3	29	19.7	19.9	0	0.00	0.26	845	11.1	11.3
1965	1518	19.9	18.1	24	15.6	15.8	30	19.8	19.0	0	0.00	0.25	833	10.9	11.5
1966	1499	19.6	17.7	18	11.9	15.3	28	18.7	19.0	1	0.70	0.26	882	11.6	11.7



LUNG CANCER, OTHER CANCER, CEREBRO-VASCULAR DISEASE,  
CARDIO VASCULAR DISEASE AND OTHER CARDIAC DISEASE

WATFORD AND ENGLAND AND WALES 1950 - 66

The following table may be of interest as permitting a comparison to be made for these statistics between Watford and England and Wales. The lung cancer death rate for both England and Wales and Watford rose steadily over the period and was twice as high at the end of the period as it had been at the beginning. On the other hand, the death rate for other cancer for both England and Wales and Watford remained remarkably steady over the period. If cancer is due to hereditary susceptibility and is activated by environmental influences, it is suggested that the environmental influences have remained constant for other cancer but have changed for lung cancer and the most obvious influence is increased consumption of tobacco. The chance of dying of other cancer is one in six. The chance of dying of lung cancer is one in twenty. Almost all of the deaths from lung cancer occur among the part of the population that smokes a medium or large amount. So while the chance of dying of all cancer among the part of the population that does not smoke, or that smokes a small amount, is one in six, the chance among the part of the population that smokes a medium or a large amount is one in four. The death rate for cerebro vascular disease for both England and Wales and Watford remained almost stationary over the period. The death rate for cardio vascular disease for both England and Wales and Watford rose steadily over the period, but the death rate for other cardiac disease for both England and Wales and Watford fell steadily over the period, and taking the two together for both England and Wales and Watford they remained almost stationary over the period. There is no obvious reason why the death rate for other cardiac diseases should have fallen and it is suggested that the increase in the death rate for cardio vascular disease is as much a change in the practice of diagnosis as a true increase, deaths which used to be certified as due to myocardial degeneration now being certified as due to coronary disease.



	Lung Cancer			Other Cancer			Cerebro-Vascular Disease			Cardio-Vascular Disease			Other Cardiac Disease		
	Watford		E & W	Watford		E & W	Watford		E & W	Watford		E & W	Watford		E & W
	Rate		Rate	Rate		Rate	Rate		Rate	Rate		Rate	Rate		Rate
	No.	Rate	No.	No.	Rate	No.	No.	Rate	No.	No.	Rate	No.	No.	Rate	No.
1950	26	0.35	0.28	122	1.64	1.67	106	1.43	1.48	86	1.16	1.25	102	1.37	2.21
1951	20	0.28	0.30	103	1.42	1.66	112	1.54	1.56	89	1.22	1.33	123	1.69	2.34
1952	27	0.37	0.32	118	1.61	1.67	97	1.33	1.58	107	1.46	1.40	153	2.09	2.00
1953	26	0.36	0.34	112	1.54	1.65	106	1.46	1.54	124	1.71	1.42	134	1.85	1.93
1954	19	0.26	0.37	121	1.67	1.67	97	1.34	1.63	116	1.60	1.53	130	1.79	1.87
1955	33	0.46	0.39	116	1.60	1.67	116	1.60	1.67	138	1.91	1.61	138	1.91	1.88
1956	21	0.29	0.41	125	1.72	1.67	126	1.74	1.67	126	1.74	1.70	132	1.82	1.82
1957	37	0.50	0.42	138	1.88	1.67	91	1.24	1.64	114	1.55	1.72	124	1.69	1.70
1958	42	0.57	0.44	146	1.99	1.68	101	1.46	1.69	138	1.88	1.86	123	1.68	1.72
1959	35	0.47	0.46	140	1.90	1.68	113	1.53	1.66	128	1.73	1.87	91	1.23	1.58
1960	36	0.48	0.48	94	1.26	1.68	135	1.82	1.67	140	1.88	2.01	87	1.17	1.55
1961	50	0.67	0.49	127	1.69	1.67	130	1.73	1.67	172	2.29	2.07	91	1.21	1.57
1962	43	0.57	0.51	135	1.79	1.67	103	1.36	1.68	166	2.20	2.19	96	1.27	1.50
1963	49	0.65	0.52	117	1.54	1.66	119	1.57	1.71	196	2.59	2.29	87	1.15	1.47
1964	38	0.50	0.54	137	1.80	1.67	112	1.47	1.56	186	2.44	2.24	59	0.77	1.25
1965	48	0.63	0.55	140	1.83	1.67	93	1.22	1.64	164	2.15	2.38	71	0.93	1.23
1966	50	0.65	0.56	128	1.68	1.69	140	1.83	1.64	172	2.25	2.39	62	0.81	1.23

## SECTION B

### GENERAL PROVISIONS OF HEALTH SERVICES FOR THE AREA

#### LOCAL HEALTH SERVICES UNDER PART III NATIONAL HEALTH SERVICE ACT 1946

Section 22	Care of Mothers and Young Children
Section 23	Midwifery
Section 24	Health Visiting
Section 25	Home Nursing
Section 26	Vaccination and Immunisation
Section 28	Prevention of Illness Care and After Care
Section 29	Domestic Help
Section 51	Mental Health

The provision of these services in Watford is the responsibility of Hertfordshire County Council as Local Health Authority. The Medical Officer of Health of Watford, in his capacity as Divisional Medical Officer for Hertfordshire County Council for South-West Hertfordshire, is responsible for the day-to-day administration of these services for Watford, and for Watford Rural District and Rickmansworth, Bushey and Chorleywood Urban Districts.



## SECTION C

### PREVALENCE OF AND CONTROL OVER INFECTIOUS AND OTHER DISEASES

#### Scarlet Fever

22 persons were notified as suffering from scarlet fever during the year. Scarlet fever today is a mild illness and need give rise to no anxiety but it is not certain that the complications of scarlet fever, particularly rheumatic fever, with its sequel of rheumatic heart disease, and nephritis, are as diminished in importance as is the illness itself. It is still necessary to obtain medical advice in cases of scarlet fever and to carry out this advice.

#### Whooping Cough

12 persons were notified as suffering from whooping cough during the year. Whooping cough is the main cause of bronchiectasis (lung abscess) and one of the causes of bronchitis. It is preventable by immunisation and now that immunisation against whooping cough is given to babies along with immunisation against diphtheria it is hoped that the number of notifications will fall.

#### Measles

457 persons were notified as suffering from measles during the year. Almost every child gets measles, usually before he goes to school, and as it is not a serious condition it is impossible to see why it is notifiable. In contrast rheumatic fever, which is the cause of rheumatic heart disease, is not notifiable although 6,076 people died of rheumatic heart disease in England and Wales in 1966.

#### Dysentery

5 persons were notified as suffering from dysentery during the year.

#### Acute Pneumonia

5 persons were notified as suffering from acute pneumonia during the year.

#### Erysipelas

1 person was notified as suffering from erysipelas during the year.

#### Food Poisoning

11 persons were notified as suffering from food poisoning during the year.

#### Tuberculosis

24 persons were notified as suffering from tuberculosis during the year.

## Infectious Hepatitis

17 persons were notified as suffering from infectious hepatitis during the year.

Meningococcal Infections, Acute Poliomyelitis, Diphtheria, Acute Encephalitis, Typhoid Fever, Paratyphoid Fever, Smallpox, Puerperal Pyrexia, Ophthalmia Neonatorum, Anthrax.

No notifications were received during the year.

There follows a table of infectious and other notifiable diseases notified during the year.



# INFECTIOUS AND OTHER NOTIFIABLE DISEASES

	Scarlet Fever		Whooping Cough		Measles (excluding Rubella)		Dysentery		Meningococcal infection		Acute poliomyelitis		Diphtheria	
	M	F	M	F	M	F	M	F	M	F	Paralytic	Non-paralytic	M	F
Under 1 year														
1 year			1	1	7	12								
2 years	1		2		38	27	1	1						
3 years	2	1		1	36	42								
4 years					39	33								
5 - 9 years	4	7	2		49	28								
10 - 14 years	2		1	1	64	74								
15 - 24 years	2				2	1								
25 and over	2		1	1	1	3								
Age unknown														
TOTAL	13	9	7	5	236	221	1	4	-	-	-	-	-	-

	Acute pneumonia		Acute encephalitis				Typhoid fever		Para-Typhoid Fever		Erysipelas		Food poisoning		Smallpox	
			Infective		Post-infectious											
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Under 5 years		1														
5 - 14 years		1											3	3		
15 - 44 years		1											1	1		
45 - 64 years		2											2	1		
65 and over											1					
Age unknown																
TOTAL	4	1	-	-	-	-	-	-	-	-	1	-	6	5	-	-



# Tuberculosis

	Respiratory		Meninges & C. N. S.		Other	
	M	F	M	F	M	F
Under 1 year	-	-	-	-	-	-
1 year	-	-	-	-	-	-
2 - 4 years	-	-	-	-	-	-
5 - 9 years	-	-	-	-	-	-
10 - 14 years	-	-	-	-	-	-
15 - 19 years	-	-	-	-	-	-
20 - 24 years	-	1	-	-	-	1
25 - 34 years	4	-	-	-	-	-
35 - 44 years	4	2	-	-	-	-
45 - 54 years	1	-	-	-	-	-
55 - 64 years	3	3	-	-	-	-
65 - 74 years	1	1	-	-	-	-
75 and over	1	2	-	-	-	-
Age unknown	-	-	-	-	-	-
TOTAL	14	9	-	-	-	1

# Other notifiable diseases

Original		Final	
M	F	M	F
Puerperal pyrexia			
-	-	-	-
Ophthalmia neonatorum			
-	-	-	-
Anthrax			
-	-	-	-
Infectious Hepatitis			
9	8	9	8

# PUBLIC HEALTH LEPROSY REGULATIONS 1966

The above Regulations came into force on the 1st March 1966. The chief change in the law is that leprosy is now notifiable to the Medical Officer of Health, not direct to the Ministry as previously and he will be required to keep a confidential list of persons suffering from this disease who are living in his district. Most of the cases now being discovered are occurring in immigrants or in people who have resided for some years in the tropics.

The number of persons known to be suffering from leprosy in this country who were in need of treatment and surveillance at 31st December, 1964, was 340.

It is important that the public should be made aware of the small degree of risk which contact with leprosy involves. People base their emotional reactions on the traditional views of leprosy as described in the Bible. As in tuberculosis so in leprosy there are two forms of the disease, the infectious or "open" case and the non-infectious or "closed" case. "Open" cases are potential sources of infection but as already indicated, leprosy is not a readily communicable disease and the possibility of its transmission under normal social conditions in this country is virtually negligible. Nevertheless this possibility may exist in special circumstances, for example, where there is overcrowding and where hygienic standards are low.



Year 1953 - 56

Year	Notification				Total
	Pulmonary		Non-Pulmonary		
	Male	Female	Male	Female	
1950	21	15	10	10	56
1951	20	14	10	10	54
1952	20	14	10	10	54
1953	20	14	10	10	54
1954	20	14	10	10	54
1955	20	14	10	10	54
1956	20	14	10	10	54
1957	20	14	10	10	54
1958	20	14	10	10	54
1959	20	14	10	10	54
1960	20	14	10	10	54
1961	20	14	10	10	54
1962	20	14	10	10	54
1963	20	14	10	10	54
1964	20	14	10	10	54
1965	20	14	10	10	54
1966	20	14	10	10	54
1967	20	14	10	10	54
1968	20	14	10	10	54
1969	20	14	10	10	54
1970	20	14	10	10	54
1971	20	14	10	10	54
1972	20	14	10	10	54
1973	20	14	10	10	54
1974	20	14	10	10	54
1975	20	14	10	10	54
1976	20	14	10	10	54
1977	20	14	10	10	54
1978	20	14	10	10	54
1979	20	14	10	10	54
1980	20	14	10	10	54
1981	20	14	10	10	54
1982	20	14	10	10	54
1983	20	14	10	10	54
1984	20	14	10	10	54
1985	20	14	10	10	54
1986	20	14	10	10	54
1987	20	14	10	10	54
1988	20	14	10	10	54
1989	20	14	10	10	54
1990	20	14	10	10	54
1991	20	14	10	10	54
1992	20	14	10	10	54
1993	20	14	10	10	54
1994	20	14	10	10	54
1995	20	14	10	10	54
1996	20	14	10	10	54
1997	20	14	10	10	54
1998	20	14	10	10	54
1999	20	14	10	10	54
2000	20	14	10	10	54

TUBERCULOSIS STATISTICS 1950 - 66

The following table may be of interest as permitting a review of the improvement in tuberculosis statistics over the period. All the statistics have improved, but some have improved more than others, and the difference in the experience of the sexes is also shown. The number of notifications of pulmonary tuberculosis dropped throughout the period, and was considerably lower in women than in men. On the other hand the number of notifications of non-pulmonary tuberculosis also dropped throughout the period, but was rather lower in men than in women. It is suggested that the excess in the number of notifications of pulmonary tuberculosis in men is due to their greater consumption of tobacco. The smaller excess in the smaller number of notifications of non-pulmonary tuberculosis in women is not considered significant. The number of deaths from pulmonary tuberculosis dropped throughout the period, and was lower in women than in men. On the other hand the number of deaths from non-pulmonary tuberculosis also dropped throughout the period, but was the same in both sexes. Not only was the number of deaths from pulmonary tuberculosis in men greater than the number in women throughout the period, but also a larger proportion of men notified as suffering from pulmonary tuberculosis died from the disease than was the case in women. It is suggested that the excesses in the number of deaths from pulmonary tuberculosis in men, and in the number of deaths in relation to the number of notifications in men, are due to their greater consumption of tobacco.



# TUBERCULOSIS

Years 1950 - 66

Year	Notifications						Deaths					
	Pulmonary			Non-Pulmonary			Total			Rate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1950	31	35	66	7	5	12	78	9	7	16	2	2
1951	59	38	97	4	5	9	106	7	7	14	1	2
1952	46	27	73	5	6	11	84	7	2	9	2	2
1953	41	38	79		2	2	81	12		12		12
1954	41	36	77	3	2	5	82	1	3	4		4
1955	48	26	74	5	2	7	81	5	1	6	1	1
1956	32	22	54	2	4	6	60	10	3	13	1	3
1957	60	32	92	2	4	6	98	6	2	8		8
1958	38	34	72	2	6	8	80	2		2		2
1959	47	28	75	2	3	5	80	1	2	3	1	3
1960	23	14	37	5	4	9	46	5	1	6		1
1961	20	18	38	5	1	6	44	4	2	6		6
1962	28	24	52		4	4	56	1		1		1
1963	27	22	49		2	2	51	1	2	3		3
1964	21	8	29	2	2	4	33	1	1	2	1	3
1965	20	11	31	2	1	3	34	3	2	5		5
1966	14	9	23		1	1	24	2	1	3		3

# REPORT ON THE WORK OF THE MASS RADIOGRAPHY UNIT

## IN WATFORD IN 1966

I am indebted to the Director of the unit for the following information.

During the year the Unit carried out 28,031 X-ray examinations as set out below :-

	Male	Female	Total
Firms	14,846	4,843	19,689
Public sessions	2,956	5,386	8,342
	<u>17,802</u>	<u>10,229</u>	<u>28,031</u>

As a result, 86 persons from industrial undertakings and 25 from public sessions were referred for further investigation with the following results :-

<u>Firms</u>	10	Active tuberculosis		
	5	Healed tuberculosis		
	11	Under observation at Chest Clinic		
	7	Carcinoma of lung		
	1	Leukaemia		
	9	Cardiac conditions, acquired		
	2	Sarcoidosis		
	2	Pneumoconiosis		
	3	Asbestosis		
	2	Spontaneous Pneumothorax		
	6	Pneumonitis		
	2	Bronchiectasis		
	2	Diaphragmatic abnormalities		
	24	Normal after investigation		
<u>General Public</u>	4	Under observation at Chest Clinic		
	5	Healed tuberculosis		
	4	Carcinoma of lung		
	1	Congenital heart condition		
	5	Acquired heart conditions		
	1	Pneumoconiosis		
	1	Bronchiectasis		
	1	Hiatus Hernia		
	3	No further action after investigation		



SANITARY CIRCUMSTANCES OF THE AREAReport on the Water Supply

Mr. J.R. Collins, C.Eng., M.I.C.E., M.I.W.E., M.R.S.H., the Borough Water Engineer and Manager, has kindly supplied the following information :-

1. The supply was satisfactory both in quality and quantity through the year.
2. 1,292 million gallons were supplied during the year averaging 3.544 million gallons per day and the supply on the maximum day (19th February 1966) was 4.698 million gallons.
3. The population supplied was approximately 75,056 and the average consumption for domestic, trade and industrial purposes was 47.16 gallons per head per day. 287 new supplies were connected during the year.
4. All water going into supply was softened to approximately 155 parts per million.
5. Fluoridation was continued at both pumping stations, in collaboration with the Ministry of Health. The fluoride content of the supply was tested some 2,500 times and these tests together with check samples taken independently by the Medical Officer of Health and tested by the Laboratory of the Government Chemist, confirmed that the treatment was maintained at the correct level of 1 part per million.
6. Sterilisation by super-chlorination and de-chlorination on all water supplied was carried out on the supplies from both pumping stations. Automatic sterilisation plant at The Grove Waterworks adjusts and records the sterilisation processes and gives an alarm if the pre-determined conditions are not maintained. Chlorine residual tests were taken at hourly intervals from the Watford Fields Pumping Plant, at 4 hourly intervals on the Merryhill Reservoir supply, twice daily from the Paddock Road Reservoir supply, and twice daily from the Abbots Langley Reservoir supply.
7. 161 bacteriological analyses have been made of the water drawn from various parts of the supply system, and of the raw and untreated water from both pumping stations and have indicated that the supply has at all times been of a satisfactory bacteriological quality.
8. Chemical analyses also indicated satisfactory chemical quality of the untreated and treated water. There was no plumbo-solvency.
9. A survey of water supplies to temporary dwellings within the water supply area revealed the following situation :-

Rear of 227 Horseshoe Lane	Two caravans
Rear of 289 Sheepcot Lane	Three caravans
Rear of 275 Sheepcot Lane	Four caravans
Rear of 106 High Road, Leavesden	Three caravans
Rear of 82 High Road, Leavesden	One caravan
"Rosebarn", Lady Capel's Wharf, Hempstead Road	One caravan



10. There was one permanent dwelling within the water supply area without a main water supply piped into the premises. This was "Rosevilla", North Orbital Road, where a standpipe supply and flush W.C. were available.

#### FLUORIDATION OF THE PUBLIC WATER SUPPLY

I am indebted to the County Dental Officer, Mr. Millett, for the following report on a survey into the incidence of dental caries which was carried out in South West Herts during 1966 :-

"Fluoridation of the public water supplies has been in operation in the Borough of Watford for 10 years, and this was considered to be an appropriate passage of time in which to assess the results of this dental health measure. Accordingly, a caries survey was carried out covering two groups of children. In the 5 - 7 year old group the caries attack rate was recorded in the temporary and permanent teeth, whilst in the 7 - 11 year old children the survey covered the permanent teeth only. The results were compared with those obtained in the non-fluoridated areas of the South-West Health Division of the County. These surveys took place in combination with routine school dental inspections, and caries assessment was based on the standards used in the quinquennial caries surveys which have been carried out by various education authorities since 1948. Dental officers taking part in the survey were briefed in accordance with these standards in order to ensure a uniform assessment. It must be stressed that the figures obtained in this survey cannot be compared directly with the results published by the Ministry of Health in 1962 or with other recorded figures of fluoridation studies. The Ministry of Health figures relate only to children born and reared in the fluoridation area, whilst the figures in this study relate to all children in attendance at a school on the date of the examination. It will be noted, therefore, that no account has been taken in this survey of immigration of children into the area. This would have the effect of lessening the differential between the two sets of figures by a greater or lesser amount according to the extent of child population movement at the schools. The comparison although not absolute is nevertheless relative as the purpose of the investigation was to note what degree of difference in dental fitness existed between the two areas in the South-West Division with differing water supplies. The variations were noted as follows :-



## COMPARATIVE FIGURES FOR 5 TO 7-YEAR OLD CHILDREN

### Deciduous and Permanent Teeth

S. W. Herts Division	Age	Number Inspected	Average number of carious teeth per Child (D. M. F.)	Children free from caries %
Non-fluoridated area	5	208	4.56	19.7
	6	208	5.97	13.9
	7	159	6.61	7.5
Fluoride area	5	277	2.49	39.3
	6	303	3.74	24.7
	7	111	3.94	25.2

## COMPARATIVE FIGURES FOR 7 TO 11-YEAR OLD CHILDREN

### Permanent Teeth Only

S. W. Herts Division	Age	Number Inspected	Average number of carious teeth per Child (D. M. F.)	Children free from caries %
Non-fluoridated area	7	97	1.86	33.0
	8	210	2.69	15.7
	9	234	3.12	11.5
	10	249	3.76	4.8
	11	163	4.65	1.8
Fluoride area	7	128	1.00	60.1
	8	268	1.73	36.5
	9	273	2.34	24.5
	10	249	3.17	13.2
	11	154	3.30	11.6

"A summary of these figures shows that in the fluoridated water area an average of 40.9 per cent less decay was found in the 5 to 7-year old group, whilst in the 7 to 11-year old group an average of 30.5 per cent less decay was noted. In both age groups the average number of naturally sound dentitions was over twice the number found in the non-fluoridated water area."

## WATFORD RAINFALL

The following table showing average monthly and annual rainfall over the last 42 years and monthly and annual rainfall for 1966, at the Water Department's Watford Fields Pumping Plant, may be of interest :-

	<u>42 years average</u>	<u>1966</u>
January	2.25	1.25
February	1.72	3.01
March	1.31	0.43
April	1.87	3.77
May	2.05	2.19
June	1.95	3.17
July	2.50	3.16
1 August	2.35	4.25
September	2.29	1.57
October	2.53	4.14
November	2.90	1.57
December	2.40	2.86
	<u>26.12</u>	<u>31.37</u>

It will be seen that over the 42 year period the six driest months are January to June inclusive and the six wettest months are July to December inclusive. The variations between the amounts of rainfall in the various months over the 42 year period are so wide that large alterations over a long period would be needed to cause much change in the present pattern.

Over a number of years it can safely be said that most Februarys will be comparatively dry and most Julys comparatively wet but no prognostications can be made for any one year. 1966 was a wetter than average year. Four months were drier than the 42 year average and eight were wetter and the total rainfall for the year (31.37 inches) was 120.1 per cent of the 42 year average (26.12 inches). In the first half of the year two months were drier than the 42 year average and four were wetter and the total rainfall for the first half of the year (13.82 inches) was 123.9 per cent of the 42 year average (11.15 inches). In the second half of the year two months were drier than the 42 year average and four were wetter and the total rainfall for the second half of the year (17.55 inches) was 117.2 per cent of the 42 year average (14.97 inches). November had 1.33 inches less than the 42 year average (1.57 inches as against 2.90 inches) and January had 1.00 inches less than the 42 year average (1.25 inches as against 2.25 inches) but this was more than balanced by April which had 1.90 inches more than the 42 year average (3.77 inches as against 1.87 inches) and August which had 1.90 inches more than the 42 year average (4.25 inches as against 2.35 inches).



## NATIONAL ASSISTANCE ACT AMENDMENT ACT 1962

### Workroom for the Elderly, Tudor Hall

The workroom at present employs twelve "old age pensioners" (two women and ten men) each afternoon from 1.30 p.m. to 4.0 p.m. No work in the morning is possible due to difficulties in heating the hall.

Each worker is paid 1/6d. per hour, tea and biscuits are provided. Public transport fares within the Borough are refunded.

Most of the work done is obtained from local factories by the Organiser. Some of it is interesting and worthwhile, giving a good return financially. The work comprises simple assembly work, generally in plastic, and also producing medical requirements for veterinary use.

In addition to the above, members of the Rheumatism and Arthritis Association attend on a Tuesday afternoon. They may sometimes share in the general activities of the workroom or if this is not possible carry out simple pursuits such as sewing.

### FIVE-DAY-PLAN ANTI-SMOMING CLINIC

A course of anti-smoking lectures was held at The Avenue Health Centre during the week May 16th to 20th, under the auspices of the British Temperance Association.

The general basis of the talks was group therapy, an ordained Minister concentrating on the psycho-therapeutic aspects and a doctor on the physiological and pharmacological effects of nicotine, the health hazards of smoking and methods of breaking the habit. Each session followed a similar pattern, commencing with a film and followed by lectures and discussion.

Participants were given a booklet with advice on diet and other assistance to augment the information given in the lectures. Forty-seven persons attended (30 men and 17 women) and at the end of the week 84% of those who attended the course had given up smoking.

A reunion was held in November, but only nine people attended. As a result of postal enquiries, however, it appeared that 19% were still non-smokers.

### HOME SAFETY COMMITTEE

The first meeting of the newly constituted Home Safety Committee was held on July 14th with the Chairman of the Public Health and Water Supply Committee in the chair. With the appointment of Mr. Maxted to the dual role of Road Safety Organiser and Home Safety Officer, hopes are high that the revived Home Safety Committee will play an active part in promoting a vigorous campaign to reduce the serious toll of accidents in the home. There are already favourable indications in this direction.



REPORT OF THE CHIEF PUBLIC HEALTH INSPECTOR

1. INTRODUCTION

It is pleasing to be able to report a continuity of work throughout the year; only one of the District Public Health Inspectors left Watford and it was possible to fill the vacancy without delay.

The most burdensome of our duties has for many years been meat inspection at the Abattoir involving shift work, often time extending over a 7-day week. The opportunity to negotiate with the Management a shorter working day with reduced slaughtering at week-ends was provided when the Meat Inspection (Amendment) Regulations 1966 were made. With a full-time staff of three meat inspectors it thus became possible to organise this service in a far more efficient manner. Although there was a reduction in the throughput of the Abattoir during the last quarter the number of animals slaughtered during the year increased by over 24,000.

There are very few unfit houses remaining in the Borough but there are many sound houses built about the turn of the century which lack modern amenities. The Council took early advantage of the powers provided under the Housing Act 1964 to enforce the improvement of a number of these houses. The progress which had been made in our first two improvement areas was sufficiently encouraging for the Council to press on with this work by the declaration of a third and larger improvement area.

The most unsatisfactory living conditions are undoubtedly associated with the overcrowding of houses in multi-occupation. Minimum standards have been laid down by the Council and these are strictly enforced.

A general inspection of all the registered offices and shops within the Borough was completed by the end of the year. It is believed that there are now very few of these premises which have not been registered.

HOUSING

2. CLEARANCE OF UNFIT HOUSES

The following unfit houses were demolished :-

282 and 219a High Street;  
3 Hempstead Road;  
93 High Road, Leavesden;  
107 Sutton Road.

Closing Orders were made on 34 and 36 Bedford Street.



### 3. REPAIR OF UNFIT HOUSES

During recent years many rented houses have been sold for owner-occupation and there has been a big improvement in the standard of maintenance of these and also of the remaining rented houses. This has resulted in a reduction in the enforcement of repairs by the Council. Of the 87 houses that were made fit for habitation as a result of action by the public health inspectors 66 were dealt with informally. It was necessary for the Council to enforce only 5 of the 21 statutory notices by carrying out the works in default. One closing order was determined following the reconditioning of the house.

### 4. IMPROVEMENT OF HOUSES

Applications for improvement grants are dealt with by the Borough Engineer; 34 standard and 74 discretionary grants were authorised of which 3 standard and 39 discretionary were in respect of rented houses. This shows an increase of 22 over 1965 and reflects the activity in the improvement areas.

Since February 1965, the Council have declared three improvement areas under the Housing Act 1964 - containing in total 507 houses. The legal procedures are complicated and time consuming, rapid progress cannot, therefore, be expected. The following report does however show that by the end of 1966 worthwhile results were being achieved :-

#### Improvement Areas Nos. 1 & 2

These two areas contain 195 houses, 100 of which were rented houses in February 1965 when the areas were declared.

Suspended Improvement Notices served	45
Final Improvement Notices served	9
Immediate Improvement Notices served	39
Undertakings accepted	7
Rented houses sold for owner/occupation	5
Rented houses improved	5

Applications for improvement grants or plans have been submitted in respect of all but five of the rented houses, the Immediate Improvement Notices on which expire in February 1967.

Twenty-six owner/occupiers whose houses in these areas were in need of improvement were urged to take advantage of the improvement grant scheme; of the ten who have done so, eight had completed the improvements by the end of 1966.

#### Improvement Area No. 3

This area was declared on 22nd August, 1966 and it forms an extension of the Council's number 2 Area. It contains 312 houses, 127 of which are rented. 97 of the rented houses and 98 owner/occupied houses are in need of improvement.



Thirty-nine tenants were unwilling to have their houses improved and Suspended Improvement Notices were therefore served.

Plans have been submitted for the improvement of 13 rented and 10 owner/occupied houses. Three undertakings to improve houses have been accepted by the Council.

#### Improvement of the Environment in Improvement Areas

Early in the year the Council gave consideration to the danger of carrying over into the 21st century the environment ideas of the 19th and agreed to the Borough Engineer carrying out an investigation into this important aspect of the process of urban renewal.

#### Improvement of houses outside Improvement Areas

The tenants of six houses made representations to the Council to exercise their powers under the provision of Section 19 of the Housing Act 1964 to enforce the owners to improve the houses. The necessary enforcement proceedings were taken in five cases.

### 5. OVERCROWDING AND HOUSES LET IN LODGINGS

Overcrowding of houses in Watford is almost always associated with multi-occupation involving immigrants. Watford has been more fortunate in this respect than many other towns and it has been possible to maintain a reasonable degree of supervision of the houses. While it is important that adequate amenities are provided for the persons living in these houses it is even more important that the number of persons sharing rooms is restricted to prevent the spread of lung infections.

At the beginning of the year there were 54 houses in the town where notices and directions under the Housing Acts 1957/1961 were still operative controlling the numbers of persons who could live or sleep in the houses.

During 1966 the Council made 14 directions under Section 19 of the 1961 Act and served one notice under Section 90 of the 1957 Act. Three houses reverted to single family occupation; there were therefore 65 houses under supervision at the end of the year.

The occupiers of five of these houses were prosecuted for causing over-crowding and were fined in total £120 plus 13 gns. costs.

Three notices were served under Section 15 of the 1961 Act requiring the provision of additional amenities and the Borough Engineer dealt with inadequate means of escape in four of the houses.

Inspections of most of the houses must be made not only during daytime but also late at night as many lodgers are employed on shift work.



## 6. RENT ACT 1957

No certificates were issued or cancelled.

## 7. CARAVANS

There has been a steady reduction in the number of residential caravans in the Borough since the Caravan Sites and Control of Development Act 1960 came into force. By the end of the year the number of caravans was 11 on 6 licensed sites which included one licence granted during 1966 for one caravan.

## 8. FOOD HYGIENE

There were seven hundred inspections of food premises including the market and mobile stalls. Very unsatisfactory conditions were encountered in an Indian restaurant. Dirty rooms, equipment and utensils and accumulations of filth were found; in addition there were inadequate lighting and other offences. The occupier was convicted of eighteen offences under the Food Hygiene Regulations and quite heavy fines were imposed (Table XIV).

The Food Hygiene (Markets, Stalls and Delivery Vehicles) Regulations and Amendment Regulations, 1966 come into force on January 1st, 1967. They apply hygienic requirements, suitably modified, to food in transit or sold in the open air similar to those already applicable to food premises.

## 9. FOOD INSPECTION

### (a) Meat

Slaughtering took place on nineteen Sundays and, for the greater part of the year, regularly on Saturday afternoons. The Meat Inspection (Amendment) Regulations 1966 enabled the Council, if they so decided, to restrict the hours of slaughter. Instead, the slaughtering Company revised their regular hours so as to eliminate slaughtering after 6 p.m. on weekdays (8 p.m. on Fridays) and 1 p.m. on Saturdays, with no killing on Sundays. The Council accepted that there might be exceptional circumstances (of which the Council would require particulars) which would justify slaughtering outside these hours after giving twenty-four hours notice. The new arrangements came into force on October 20th and slaughtering thereafter took place on three Sundays because of (i) mechanical breakdown of plant, (ii) urgent export order and (iii) demands of the Christmas trade. There has been no further slaughtering on Saturday afternoons.

Earlier in the year the slaughterhouse manager was convicted and fined £5 plus £6.6.0 costs for slaughtering outside the regular hours without giving the requisite twenty-four hours notice.

The Council continued to charge for meat inspection at the maximum rate but were able to make a refund to the slaughtering company of £403 in respect of the year ended March 1966. This sum was the difference between the fees charged in that period and the actual cost of the meat inspection service.



The slaughterhouse manager has continued to permit students of meat inspection to gain practical experience in the abattoir. Such facilities are very limited and local authorities over a wide area are indebted to him for the opportunity for their staff to receive the required training.

#### Cysticercus bovis

A three-month old calf was found to contain seven degenerated cysts, of which five were in the heart and one in each of the shoulders. Calves at or over this age are now examined routinely for this parasite.

#### Slaughterhouse

The slaughterhouse has been operated satisfactorily during the year.

#### Slaughter of Animals Act

Twenty-three licences to slaughter all classes of animals except horses were issued.

#### Diseases of Animals Acts

One case of suspected swine fever was dealt with in accordance with the Acts.

#### (b) Milk

All milk sold in the Borough is supplied either from a local dairy or by a large organisation retailing milk over a wide area. All samples taken were satisfactory, with the exception of one which was reported to be slightly under-pasteurised.

Two complaints of milk sold in dirty bottles were reported to the Council. They instructed a warning letter to be sent to one of the dairies.

#### (c) Ice-cream

Ice-cream was manufactured in four premises in Watford and in two of these the manufacture consisted only of passing prepared mixture through "soft" ice-cream machines. The principal manufacturer produced both "hard" and "soft" ice-cream which was sold from mobile stalls as well as from local shops.

Six chemical samples from these local producers were satisfactory (Table XI). All but two of the bacteriological samples from local sources were also satisfactory but seven "soft" ice-cream samples from mobile stalls visiting Watford were all unsatisfactory; the results were passed to the public health inspectors of the districts concerned.



(d) Unsound food

Ninety-four complaints were received of food sold in a stale, mouldy, decomposed or other unsatisfactory condition. One-third of these complaints concerned foreign bodies in food, including a paper towel which had been cut, battered, cooked, frozen and packed with fish fingers; and a pencil in a sponge sandwich.

All the complaints were thoroughly investigated and nineteen of them were reported to the Council, who authorised legal proceedings in six cases and instructed warning letters to be sent in seven others.

Two of the complaints led to the formal seizure of other foods which were found to be unfit for human consumption, in the shops which gave rise to the complaints.

Details of legal proceedings will be found in Table XII).

10. FOOD POISONING

Eleven cases of food poisoning were notified; two of these were in one family; three others which were associated were treated as an outbreak. Careful investigations failed to establish any common link in the remaining six sporadic cases.

A tabular statement of the notified cases is set out in Table XIII of the appendix.

Once again I am pleased to record our indebtedness to the staff of the Public Health Laboratory, Watford, for the help and advice they have so readily given.

11. MERCHANDISE MARKS ACTS, 1887 AND 1926

As a Food and Drugs Authority, the Council is charged with the enforcement of these Acts so far as they relate to foodstuffs. No offences were reported to the Council during the year.

12. COMPOSITION OF FOOD AND DRUGS

The report of the Public Analyst, Mr. J. D. Curzon, on the samples submitted for examination during the year 1966 is summarised as follows :-

Formal samples :	20	Informal samples :	144
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(i) Routine Samples

(a) Foods

Milk and milk products.

Sausages and other meat products.

Ice-cream, beverages and sweets.

Flour and cereal foods and vegetables oils.

Fruit, preserves, condiments, spices and well-water.

(b) Drugs

Appln. of Benzyl Benzoate	Antiseptic Food Powder
Linctus of Codeine	Calamine Lotion B.P.
Carbolic Acid (Phenol lotion)	Chloroxylonol B.P. Liquor
Chlorcyclizine Hydrochloride Tablets	(Chloroxylonolis B.P.C.)
Calcium Lactate Tablets	Calamine Lotion Oily B.P.C.
APC Tablets B.P.C.	Soluble Aspirin B.P.
Benzedrine Tablets	Ammonium Chloride Tablets B.P.C.
Medinal	Barbitone Sodium Tablets
Larcastil Tablets	Carbromal Tablets
Dexamphetamine Tablets	Diabinese Tablets
	Syrup of Codeine Phosphate

Two samples of saveloys were deficient in meat content, no allowance having been made by the manufacturer for loss during cooking. A sample taken after he had adjusted the recipe was satisfactory.

Two Slimcea Loaves and one Procea Loaf were deficient of protein. In the case of one Slimcea Loaf the baker concerned was fined £20 and costs.

Chocolate Mint Discs appeared to contravene the Labelling of Food Order; the matter has been taken up with the Association of Municipal Corporations.

Antiseptic Foot Powder was deficient of Boric Acid; the Pharmacy had used the wrong label.

All the other routine food samples were satisfactory and all the other drugs complied, where applicable, with the British Pharmacopoeia. No trace of lead arsenate was found on apples and pears examined in connection with a survey of pesticide residues made by the Association of Public Analysts.

(ii) Special Samples

Sievings from white flour delivered to a school were found to contain iron rust. Milk bottles (4) contained dried milk, dust, an irrecoverable foreign body and firework residues. In five cases of foreign matter in bread, charred dough was found; a white loaf contained brown dough and another, a piece of zinc.

Roast pork having an unusual pink colour contained sodium nitrite.

Marmalade, butter, instant coffee and ground nut oil were found to be normal.



## ATMOSPHERIC POLLUTION

### 13. INDUSTRIAL EMISSIONS

Excessive smoke emissions have been recorded on 14 occasions from boiler chimneys at 5 factories and the Peace Memorial Hospital. There has been a long a wearisome history of representations by the Council concerning smoke nuisance from the hospital. Following further representations during the year the furnaces were again modified and arrangements made for a new grade of fuel to be burned. The boiler plant is too big for the job it has to perform and skilled operation is always necessary.

#### Prior Approval of New Furnaces

Whenever there is a proposal to install new boiler plant the developer is advised to take advantage of the prior approval provisions of the Clean Air Act. 13 applications were approved during the year and 1 was rejected.

#### Height of chimneys

Plans were submitted to the Borough Engineer for the erection of 20 chimneys. It was necessary to require the height of 6 of these to be increased and the diameter of 2 to be reduced. Four of the plans referred to premises exempted from the requirements of Section 10 of the Clean Air Act.

### 14. ATMOSPHERIC POLLUTION RESEARCH

The Council co-operate with the Department of Scientific and Industrial Research in the National Survey of Atmospheric Pollution by maintaining in the Borough five volumetric gauges for the daily recording of smoke and sulphur dioxide in the atmosphere.

The gauges are situated in an industrial area; the commercial centre of the town; the Meriden Smoke Control Area and residential districts of high and low population densities.

The domestic and industrial consumption of coal in Watford and the natural ventilation of the town are all classified as of medium level by the Atmospheric Pollution Division of the D.S.I.R.

The tables and graphs in Appendix XVI show the average monthly recordings.

### 15. SMOKE CONTROL AREAS

The Establishment of Smoke Control Areas in Watford has proceeded at an irregular pace. The Council's No. 4 Smoke Control Order came into operation 1st August 1966. There was a delay of six months in the making of the Cassiobury No. 5 Smoke Control Order due to the overloading of electricity sub-stations on part of the estate. Eventually the Order was confirmed on 28th July 1966, the date of operation being 1st October 1967.



The Harwoods No. 6 Order became one of the casualties of the annual pruning of Estimates. The Council deferred making the Order until the end of August with the intention that it be confirmed by 1st April 1967. The area contains 1,088 houses and 45 other premises and has an acreage of 60.8.

The Callowland No. 7 Order was made in August with the same intention concerning confirmation as the previous Order. The area contains 462 dwellings and 13 other premises and has an acreage of 27½. The boundaries of the area embrace 413 houses in two housing improvement areas.

The Council considered a phased programme for the completion of Smoke Control work in Watford.

During August the Ministry of Housing and Local Government issued a circular to local authorities authorising the payment of grants for the replacement of open approved fires in future smoke control areas. The effect of this change of policy in our areas numbers 6 and 7 could be an increase in cost of 18 per cent.

The number of houses covered by the Council's first five smoke control Orders is 6,144 with a total acreage of 1,887.

### MISCELLANEOUS

#### 16. FACTORIES

There is close co-operation with the Borough Engineer on all plans of new factories or alterations to existing premises which are submitted to the Council for approval. This procedure ensures that the premises will comply with the various legislative requirements before structural work commences.

The items which have concerned the Health Department during the year are the layout and equipment of works canteens, sanitary accommodation, the prior approval of boiler plant, height of chimneys and the prevention of atmospheric pollution and other nuisances and the storage of petroleum spirit and petroleum mixtures.

#### Factories Acts 1937 and 1959

Certain health provisions of the Act are enforced by the Council; a summary of the work carried out during 1963 will be found in tabular form in the Appendix (Table XVII).

#### Part IV - Special Provisions - Section 54 - Underground Bakehouse

There is only one underground bakehouse in Watford, at 24 Langley Road and the Council have renewed the certificate of suitability.

#### Part VIII - Section 110 - Homework

The nature of the work undertaken by 39 outworkers within the Borough is set out in Table XVII.



## 17. OFFICES, SHOPS AND RAILWAY PREMISES ACT 1963

### 1. Registration and Inspection

The number of premises in Watford registered under the Act at 31st December 1966 and the number of persons employed therein are as follows :-

	<u>Registered premises</u>	<u>No. of persons employed</u>
Offices	359	6,203
Retail Shops	636	4,924
Wholesale shops and Warehouses	37	401
Catering Establishments and Canteens	60	841
Fuel Storage Depots	1	6
	<u>1,093</u>	<u>12,375</u>

(5,600 males and 6,775 females)

In considering the above figures it must be borne in mind that many persons are employed in the above classes of business which are not registered by the Local Authority, namely :-

- (1) Businesses in which only the employer's relatives work;
- (2) Businesses in which employees work less than 21 hours per week; and
- (3) Businesses which are registered by the Factory Inspector, e.g.  
offices in factories, Local Authority and Government buildings,  
certain railway premises, etc.

There seems to be no practical alternative to the Inspector himself being constantly on the look-out for unregistered occupiers and changes of occupation. Proceedings in Court for failure to register would appear to be pointless since all the information required for registration must be ascertained to provide the necessary evidence. At no time can statistics of numbers of persons employed be completely up-to-date.

By the end of the year all registered premises in Watford had received a general inspection. The necessity for inspection is accepted by occupiers and there has been a general willingness to comply with the informal written notifications of infringements of the Act.

During the year 476 general inspections of registered premises were made by the Public Health Inspectors and 321 other visits and inspections.

### 2. Operation of the General Provisions of the Act

By far the most common matters in which there has been failure to comply with the Act have been, in descending numerical order : information for employees (Section 50); provisions of first-aid boxes (Section 24); and provision of thermometers (Section 6). About one in every six premises inspected lacked running hot water and a similar proportion had other defects in respect of sanitary accommodation or washing facilities; in six per cent of premises the sanitary accommodation or washing facilities were found to be insufficient. In at least three such cases compliance with the law was achieved by ceasing to employ the one person of the sex opposite to that of the remainder of the staff.



Defective ventilation was found in 15 per cent of premises inspected, these for the most part comprising shop premises. Many shopfitters propose new shops in which provision for ventilation is minimal or absent and plans for these are examined in the light of the Act in the Public Health Department before the Council approves them. The problem is much more difficult in existing shops where internal alterations have rendered ineffective the provision for ventilation originally made. Section 7(1), moreover, is so imprecise as to give no guidance as to what may constitute an enforceable standard of ventilation. In the absence of regulations under Sub-section 2 the best that can be attained amounts to, in practice, the most that the occupier can be persuaded to do in the way of improvement.

Of nine premises where lighting was judged to be insufficient, four were Banks and one an office where it was found that at some desks the artificial lighting did not give the minimum illumination of 20 lumens per square foot at the working place, adopted by the Watford Inspectors as the standard for judging compliance with the Act in office premises.

In ten per cent of premises inspected, unguarded machines were found and in a similar proportion staircases lacked handrails. Five per cent had unsatisfactory arrangements for maintaining a reasonable temperature.

### 3. Accidents

A number of trivial accidents have been reported which really have nothing to do with a person's place of employment and which defy attempts to code them. Two examples are :-

- (a) "Was taking a fork for his lunch from a box of cutlery in the staff dining room when a prong from a fork penetrated his right thumb under the nail."
- (b) "Was sweeping the floor from loading bank when one of the van drivers came up behind her and, in a playful mood, took her by the waist and lifted her off her feet momentarily, causing chest pain."

(See Table XV for Analysis of causes of accidents)

### 4. Prosecutions

One shopkeeper was prosecuted for failure to provide conveniently accessible and effective means of heating in a fishmongers shop. The Council's case was that a tubular heater in the small staff room in the basement of the shop, to which access was difficult, was inadequate. Counsel for defence submitted that the facilities in the basement were conveniently accessible and that heating facilities in an office at the rear of the shop were available for use by shop assistants. The case was dismissed.

## 18. SHOPS ACT, 1950

The Public Health Inspectors are also appointed as Shop Acts Inspectors. This is difficult legislation to enforce as so many confusing judgments have been given on what constitutes illegal trading on Sundays and the half-day holiday.



The Shops (Early Closing Days) Act came into force on 5th November 1965. This gives a shopkeeper the right to choose whichever day he wishes as his early closing day. Although the Council held ballots in 1964 and 1965 they were again obliged to hold another ballot in 1966 to find out what Orders should be made exempting individual trade classes from the half-day Closing Order in the central area of the town, i.e., to permit trading on 6 days a week. Of the 52 separate classes of shops within the area the Council made exemption Orders in respect of 21, which include as a separate trade class "mixed shops" as defined; these Orders came into operation 12th May, 1966.

For all the attempts that have been made by the Council and officials to establish an orderly pattern of trading in the central area of the town the year ended with a complex of opening hours extending over a 5, 5½ and 6-day trading week.

There was a development of Sunday trading by second-hand car dealers. Three were convicted and were fined in total £42 + 20 gns. costs. Notice of appeal to the High Court on a point of law was given by one of the convicted dealers.

#### 19. PETROLEUM (REGULATIONS) ACTS 1928 AND 1936

The Chief Public Health Inspector is appointed by the Council as authorised officer for the purposes of these Acts.

157 premises are licensed for the storage of some 700,000 gallons of petroleum spirit and petroleum mixtures. Two licences were granted for the storage of 1,224 lbs. of carbide of calcium.

For several years I have commented in my Annual Report on the inadequacy of the present legislation. Few industries have expanded more during the last 30 - 40 years than the petroleum industry yet safety is wholly dependent upon the conditions a local authority imposes on a licence and there are many low flash-point spirit solvents that can be kept without a licence.

The Council were notified that three filling stations in the Borough would be equipped for the self-service of petrol and a number of new conditions imposing additional safety measures were adopted by the Council.

During the year 200 inspections were made of licensed premises and 30 old and 7 new underground tanks were tested.

#### 20. SWIMMING BATHS

There is one enclosed public swimming bath in Watford, together with a learners' pool, and open air swimming baths at three schools. Bacteriological samples taken from these pools were satisfactory, with one exception. On the first day of term after the summer holidays a bad sample from the learners' pool was attributed to lack of opportunity for instructing newcomers in "pool hygiene".



21. NOISE ABATEMENT ACT 1960

Investigations have been made into five complaints concerning noise nuisance. Three of these were considered to be justified and informal action was taken to secure an improvement.

The Borough Engineer requires contractors who are engaged on road works to use pneumatic drills which are muffled, but it is road traffic on all the main thoroughfares that is the greatest cause of noise.

22. RAG FLOCK AND OTHER FILLING MATERIALS ACT 1951

Six premises in Watford are registered for upholstery work under the Act. It has not been necessary to report any infringement of the Act to the Council during the year.

23. PET ANIMALS ACT 1951

The Public Health Inspectors are appointed officers under Section 4 of the Act. Twelve persons are licensed to keep pet shops within the Borough and these have been conducted satisfactorily.

24. ANIMAL BOARDING ESTABLISHMENTS ACT 1963

This Act provides for the licensing of boarding establishments for animals and inspection of the establishments by the Borough Council. Three establishments have been licensed; no offences have been reported.

25. PREVENTION OF DAMAGE BY PESTS ACT 1949

The Council continue to provide a free service for the destruction of rats and mice on domestic premises. Rodents on commercial and industrial premises and wasps nests on occupied premises are dealt with on payment of a fee which for wasps nests is 10/-.

A commercial undertaking laid "1081" (Sodium Fluoroacetamide) poison baits in those sewers which have been found in the past to be rat-infested. The remaining sewers have been tested on a three-year cycle for many years without evidence of infestation. The practice was, therefore, discontinued this year.

Table XVIII sets out details of rats and mice infestations treated during the year. 93 wasp nests were destroyed.

26. FABRICS (MISDESCRIPTION) ACT 1913 AND CONSUMER PROTECTION ACT 1961

Visits were made and three samples purchased in connection with the Children's Nightdresses Regulations 1964. All were satisfactory.

Standards for Carrycots (Safety) Regulations, 1966 were made, dealing with the dimensions and stability of such stands. They will come into force in 1967.



# APPENDIX

## RECORDS OF VISITS AND INSPECTIONS 1966

Table 1

<u>Houses</u>		
Public Health Act (disrepair)	.....	482
Housing Act	.....	765
Overcrowding	.....	279
Improvement Grants	.....	400
Movable dwellings	.....	83
<u>Places of Work</u>		
Power Factories	.....	73
Non-power factories	.....	15
Building sites, etc.	.....	8
Outworkers	.....	5
Shop Act, 1950	.....	701
<u>Offices, Shops and Railway Premises Act, 1963</u>		
(a) General Inspections :		
1. Offices	.....	197
2. Retail Shops	.....	245
3. Wholesale shops, Warehouses	.....	23
4. Catering establishments and Canteens....		11
(b) Other Inspection visits	.....	311
<u>Food</u>		
Food Inspection	.....	236
Slaughterhouses	.....	542
Food factories	.....	66
Dairies	.....	4
Ice-cream premises	.....	26
Restaurants, canteens, public houses	.....	238
Retail food shops	.....	277
Public Market	.....	46
Mobile shops, stalls	.....	25
Other food premises	.....	17
Food (adulteration) samples	.....	145
Food (bacteriological) samples	.....	103

<u>Air</u>		
D. S. I. R. Instruments	.....	172
Industrial smoke control	.....	257
Smoke control areas	.....	724
<u>Public Health Act</u>		
Drainage	.....	597
Refuse	.....	154
Insect pests	.....	56
Conveniences	.....	25
Nuisances	.....	549
Infectious disease	.....	161
Schools	.....	47
Swimming pools	.....	4
<u>Other Acts</u>		
Home Counties (Music and Dancing) Act		12
Pests Act	.....	125
Pet Animals Act	.....	18
Petroleum Acts	.....	200
Rag Flock, etc. Act	.....	4
<u>Miscellaneous</u>		
Interviews	.....	323
Attendance at Court	.....	25
Lectures	.....	9
Unclassified visits	.....	364
Water samples	.....	6
		<hr/>
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		<hr/>



## HOUSING

Table II

The Borough Engineer and Borough Treasurer have kindly supplied the following information :-

(a)	Number of new dwellings erected by the Council during 1966	485
(b)	Number of new houses erected by private enterprise 1966	181
(c)	Total number of dwellings built by the Council since 1945	4,669
(d)	Total number of houses built by private enterprise since 1945	2,859
(e)	Number of Council houses occupied on 31st December 1966	6,348
	Plus 36 Prefabricated bungalows.	

### HOUSES IN CLEARANCE AREAS AND OTHER UNFIT HOUSES

Table III

	Houses Demolished	Displaced during year	
		Persons	Families
<u>HOUSES DEMOLISHED IN CLEARANCE AREAS</u>	Nil	Nil	Nil
<u>HOUSES DEMOLISHED NOT IN CLEARANCE AREAS</u>			
As a result of formal procedure under Section 17(1) of the Housing Act 1957	4	10	3
Local Authority owned houses certified unfit by the Medical Officer of Health	1	2	1
<u>UNFIT HOUSES CLOSED</u>			
Under Section 17(1) of the Housing Act 1957	1	Nil	Nil
Parts of buildings closed under Section 18 of the Housing Act 1957	Nil	Nil	Nil

	By Owner	By Local Authority
<u>UNFIT HOUSES MADE FIT AND HOUSES IN WHICH DEFECTS WERE REMEDIED</u>		
After informal action by Local Authority	66	Nil
After formal Notice under :		
(a) Public Health Acts	11	Nil
(b) Sections 9 and 16, Housing Act 1957	5	5

**COMPULSORY IMPROVEMENT OF DWELLINGS TO PROVIDE  
STANDARD AMENITIES**

Table IV

1. Area Improvement	Areas declared	1
	Containing : total dwellings	312
	Improvable dwellings (owner/occupier & tenanted)	195
	Tenanted improvable dwellings	97
	Preliminary Notices served proposing improvement to :	
	full standard	94
	reduced standard	Nil
	Undertakings given	8
	Improvement Notices Served: Immediate	47
	Suspended	29
	Final	6
	Appeals under Section 27	Nil
	Notices withdrawn : Immediate	3
2. Improvement of dwellings outside Improvement Areas	Suspended	Nil
	Final	1
	Improvement works completed	2
3. Improvement of dwellings in tenement blocks	Preliminary Notices served	6
	Undertakings given	Nil
	Improvement notices served	2
	Improvement works completed	Nil
4. Enforcement		
5. Purchase		



## FOOD

Types of Food premises within the Borough at 31st December 1966.

TABLE V

Retail Food Shops	...	390
Hotels and Public Houses	...	56
Cafes and Restaurants	...	65
Industrial and Commercial Canteens	...	73
School Canteens	...	34
Clubs	...	14
Bakehouses	...	11
Wholesale Food Merchants	...	16
Food Factories	...	8
Public Market	...	1
Slaughterhouse	...	1
Dairy	...	1

All these premises comply with Regulation 16 and 19 of the Food Hygiene (General) Regulations, where applicable.

### Food Premises Registered by the Council

#### 1. Under Section 16, Food and Drugs Act 1955

Ice Cream Manufacturers	...	3
Ice Cream Dealers	...	159
Preserved Food Manufacturers	...	42

#### 2. Article 8 of the Milk & Dairies (General) Regulations 1959

Dairies	...	1
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### Milk (Special Designation) Regulations 1963/65

The Council has granted one dealer's licence to pasteurise milk and one dealer's licence to sterilise milk at a dairy. Licences for the sale of milk under the above Regulations were held as follows :-

Designated Milk	Dealers Licence
Untreated Milk	13
Pasteurised Milk	47
Sterilised Milk	31
Ultra Heat Treated Milk	20

MEAT AND OFFAL REJECTED AT THE SLAUGHTERHOUSE AS  
UNFIT FOR HUMAN CONSUMPTION DURING 1966

TABLE VI

	lbs.
Beef (including 11 carcasses)	5,379
Lamb (including 22 carcasses)	1,814
Pork (including 217 carcasses)	27,646
Veal (including 282 carcasses)	9,742
<u>Offal from bovines</u>	
118 heads	3,072
124 tongues	645
1,375 lungs	13,750
256 hearts	1,280
3,186 livers and 1,045 part livers	52,177
88 spleens	176
98 skirts	146
10 tails	20
<u>Offal from pigs</u>	
5,119 plucks	25,705
8,304 livers	16,608
27,495 lungs (including hearts)	54,934
544 heads	6,344
<u>Offal from sheep</u>	
443 plucks	1,772
2,477 livers	4,819
2,261 lungs	4,292
13 heads	66
29 other organs	29
<u>Offal from calves</u>	
270 heads	1,620
318 plucks	1,280
156 other organs	153

Total weight rejected as unfit for human consumption : 104 tons 4 cwt.



INCIDENCE OF DISEASE IN ANIMALS SLAUGHTERED IN WATFORD DURING 1966

TABLE VII

	Cattle excluding Cows	Cows	Calves	Sheep and Lambs	Pigs
Number killed and inspected	9,734	794	26,892	24,065	88,203
<u>All diseases except tuberculosis</u>					
Whole carcasses condemned	1	11	282	22	217
Carcasses of which some part or organ was condemned	4,460	448	216	5,131	36,874
Percentage of the number inspected affected with diseases other than tuberculosis	45.8	57.9	1.9	21.4	42.1
<u>Tuberculosis only</u>					
Whole carcasses condemned	-	-	-	-	-
Carcasses of which some part or organ was condemned	7	-	1	-	161
Percentage of the number inspected affected with tuberculosis	0.07	-	0.004	-	0.18
<u>Cystercosis</u>					
Carcasses in which cysticercosis was found	122	7	-	-	-
Carcasses of which some part or organ was condemned	122	7	-	-	-
Carcasses submitted to treatment by refrigeration	118	6	-	-	-
Generalised and totally condemned	-	-	-	-	-

For comparison purposes, the percentage of the animals found to be diseased during the past ten years are set out below :-

TABLE VIII

	Cattle Excluding Cows	Cows	Calves	Sheep and Lambs	Pigs
Percentage of the number inspected affected with diseases other than tuberculosis :					
1957	32.9	27.7	2.5	2.5	8.9
1958	29.4	33.9	2.0	9.5	9.7
1959	42.9	37.3	1.1	20.0	8.7
1960	36.4	33.4	1.8	3.7	10.7
1961	28.1	35.2	1.3	2.7	9.4
1962	29.4	38.1	1.5	5.5	13.3
1963	22.9	30.2	0.8	7.4	19.8
1964	21.3	22.3	0.9	9.3	15.7
1965	43.0	52.2	2.0	16.1	24.1
1966	45.8	57.9	1.9	21.4	42.1
Percentage of the number inspected affected with tuberculoses :					
1957	4.5	14.6	-	-	1.2
1958	4.9	13.6	-	-	1.0
1959	3.0	8.1	-	-	0.9
1960	0.9	0.5	0.3	-	0.8
1961	0.5	3.4	-	-	0.2
1962	0.3	0.4	-	-	0.2
1963	0.09	-	-	-	0.3
1964	0.06	-	-	-	0.05
1965	0.08	-	-	-	0.08
1966	0.07	-	0.004	-	0.18



# LOCATION AND NATURE OF CYSTICERCUS BOVIS INFECTIONS

TABLE IX

129 cases of cysticercus bovis were discovered in the 10,528 cattle slaughtered in Watford. This gives an incidence rate of 1.27. The location of the cysts are as follows :-

	Head	Heart	Skirt
Viable cysts	17	12	-
Degenerate cysts	21	102	2

The cysts in 29 cases (22.5%) were viable indicating that the infections were of recent origin.

BACTERIOLOGICAL SAMPLES OF MILK - TABLE X

Pasteurised	41	Sterilised	6
One sample reported slightly under pasteurised			

ICE CREAM SAMPLES - TABLE XI

Bacteriological Samples

Satisfactory	Grades 1 and 2	38
Unsatisfactory	Grades 3 and 4	8
83% of the samples were satisfactory.		

Chemical Samples

The statutory minimum content for ice-cream is 5 per cent fat. Artificial sweeteners are prohibited.

Sample Number	Fat Content	Milk Solids
1	11.1	11.1
2	11.7	11.2
3	11.6	10.7
4	9.8	9.9
5	8.8	11.8
6	8.1	11.5



FOOD AND DRUGS ACT 1955

LEGAL PROCEEDINGS IN RESPECT OF THE PREPARATION OR SALE OF FOOD

TABLE XII

No.	Section	Alleged Offence	Result	Fines	Costs payable by Defendant	Remarks
1	13	Restaurant - 18 offences against Food Hygiene Regulations	Conviction	£87	£8. 8. 0d.	
2	2	Sale of mouldy sausages	Conviction	£6	£2. 5. 0d.	)Three partners )charges with )these offences.
3	2	Sale of mouldy cakes	Conviction	£30		
4	2	Sale of mouldy pork pie	Conviction	£15	£9. 5. 6d.	
5	2	Sale of mouldy meat pie	Conviction	£20	£3. 3. 0d.	
6	2	Sale of stinking chicken	Conviction	£20	£3. 3. 0d.	)Same )Defendant )
7	8	Possession for sale of unfit duck	Conviction	£25	£3. 3. 0d.	
8	2	Sale of bread containing foreign matter.	Conviction	£10		
9	2	Sale of bread not complying with Bread and Flour Regulations.	Conviction	£20	£10. 4. 0d.	

# FOOD POISONING

TABLE XIII

	No.	Number of cases		Organism Responsible	Food Suspected
		Notified	Otherwise Ascertained		
Family outbreaks	1	2	Nil	Salmonella Typhi-murium	Unknown
Other outbreaks	1	3	Nil	Salmonella Typhi-murium	Unknown
Single cases	1	1	Nil	Salmonella Montivideo	Unknown
	4	4	Nil	Salmonella Typhi-murium	Unknown
	1	1	Nil	Not identified	Unknown



OFFICE, SHOPS AND RAILWAY PREMISES ACT 1963

TABLE XIV

Infringements of Act in 476 premises inspected during 1966

Uncleanly condition of premises or furnishings	7
Overcrowding	2
Inadequate provision for maintaining reasonable temperature	13
No thermometer	104
Inadequate light or ventilation	49
Insufficient sanitary conveniences or washing facilities	15
Unsatisfactory sanitary conveniences or washing facilities	46
Inadequate hot water, clean towels, etc. for hand washing	45
Inadequate supply of drinking water	3
Inadequate provision for accommodating clothing	3
Defective condition of floors or stairs	46
Inadequate fencing of dangerous parts of machinery	27
Suitable or sufficient sitting facilities not provided	7
Inadequate facilities for eating meals	4
Inadequate first aid equipment	120
Names of persons trained in first aid was not displayed	3
Failure to display prescribed abstract of the Act	177
Other matters	36
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	707
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TABLE XV

Analysis of Causes of Accidents notified during 1966

Machinery	2
Falls of persons	11
Stepping on or striking against object or person	6
Handling goods	7
Struck by falling object	3
Fires and explosions	1
Use of Hand tools	6
Not otherwise specified	8
	<hr/>
	44
	<hr/>

# FACTORIES ACTS 1937 TO 1961

TABLE XVII(i)

	Number on Register	Number of Inspections	Written Notices	Occupiers Prosecuted
Factories in which Sections 1, 2, 3, 4 & 6 are enforced by Local Authorities	31	15	-	-
Factories not included above in which Section 7 is enforced by the Local Authority	379	73	3	-
Other premises in which Section 7 is enforced by the Local Authority	34	8	-	-
TOTAL	444	96	3	-



TABLE XVII(ii)

	Number of cases in which defects were found	
	Found	Remedied
Want of cleanliness (s.1)	-	-
Overcrowding (S.2)	-	-
Unreasonable temperature (S.3)	-	-
Inadequate ventilation (S.4)	-	-
Ineffective drainage of floors (S.6)	-	-
Sanitary conveniences (S.7) :-		
(a) Insufficient	-	-
(b) Unsuitable or defective	1	-
(c) Not separate for sexes	2	-
Other offences against the Act (not including offences relating to Outwork)	-	-
	3	-
There were no prosecutions		

OUTWORK (SECTIONS 133 & 134)TABLE XVII(iii)

Nature of Work	No. of outworkers in August list notified to Local Authority
Wearing apparel (making alteration, etc.)	14
Brush Making	1
Carding of buttons, belts, etc.	21
Cosaques, Christmas stockings, etc.	2
Handbags	1
<b>TOTAL</b>	<b>39</b>
There were no cases of default in sending lists of outworkers as required by Section 133 (i)(c)	

PREVENTION OF DAMAGE BY PESTS ACT 1949TABLE XVIII

1.	Number of properties in district	29,441
2.	(a) Total number of properties (including nearby premises) inspected following notification	861
	(b) Number infested by :- (i) Rats	481
	(ii) Mice	33
3.	(a) Total number of properties inspected for rats and/or mice for reasons other than notification	14
	(b) Number infested by :- (i) Rats	6
	(ii) Mice	0



The graph displays the monthly variation in an air pollution index for five different areas. The Y-axis represents the index value, ranging from 0 to 250 in increments of 50. The X-axis represents the months of the year, from January to December. The areas are represented by different line styles: High Density Residential (Judge Street) is a solid line, Industrial Area (Lower High Street) is a dashed line, Commercial Area (Town Centre) is a dotted line, Low Density Residential (Langley Road) is a long-dashed line, and Smoke Control Area (Meriden Estate) is a thick solid line. All areas show a similar seasonal pattern, with higher pollution levels in winter and lower levels in summer. The High Density Residential area generally has the highest index values, while the Smoke Control Area has the lowest.

Area	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
High Density Residential Area (Judge Street)	180	190	200	210	220	230	240	250	240	230	220	210
Industrial Area (Lower High Street)	120	130	140	150	160	170	180	190	180	170	160	150
Commercial Area (Town Centre)	80	90	100	110	120	130	140	150	140	130	120	110
Low Density Residential Area (Langley Road)	60	70	80	90	100	110	120	130	120	110	100	90
Smoke Control Area (Meriden Estate)	40	50	60	70	80	90	100	110	100	90	80	70

200.

150

100

50.

Smoke Control Area  
(Meriden Estate)

○

Feb

Mar

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Mdv

Time

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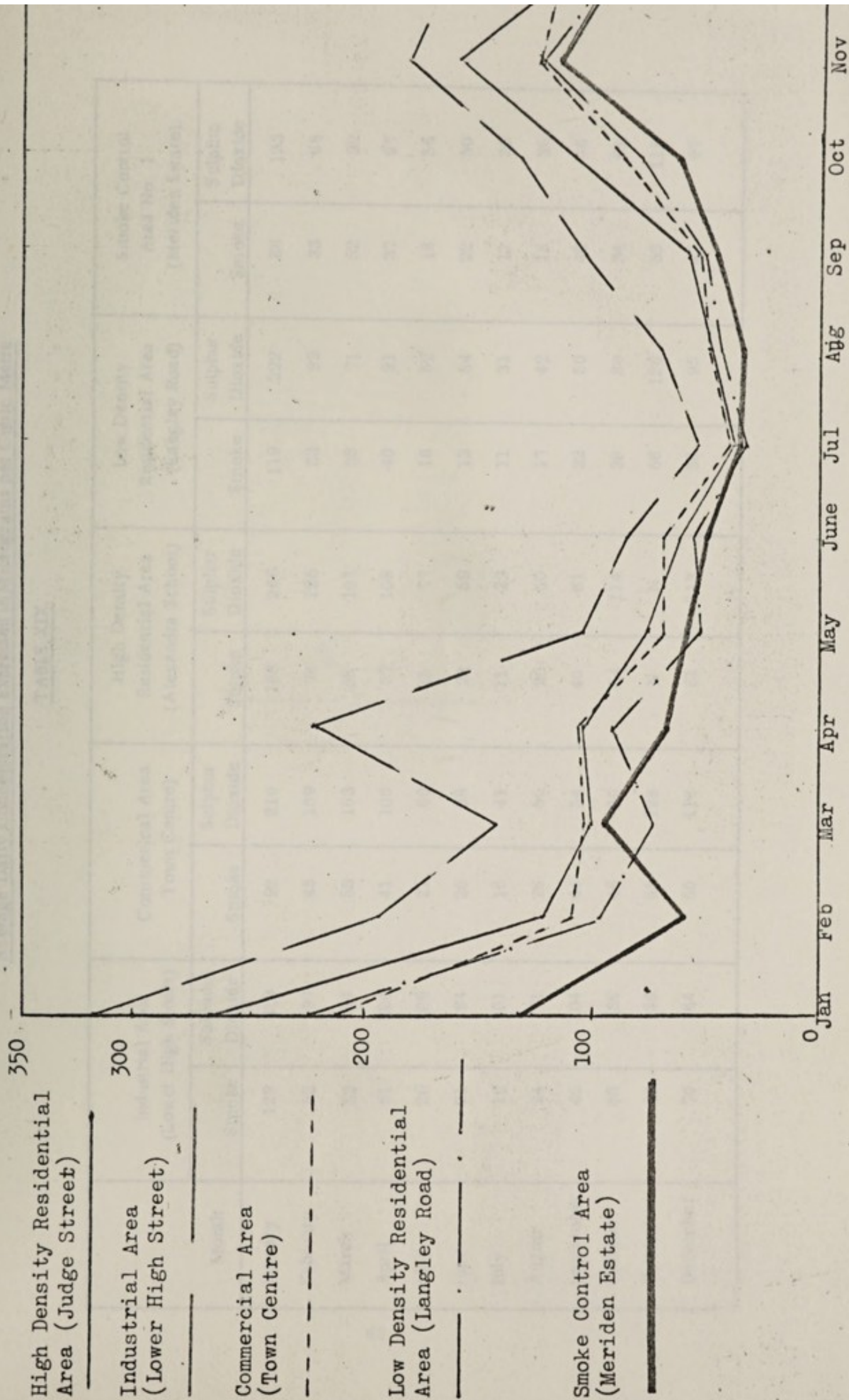
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# ATMOSPHERIC SULPHUR DIOXIDE CONCENTRATION 1966 (IN MICROGRAMME PER CUBIC METRE)







VOLUMETRIC CONCENTRATION OF SMOKE AND SULPHUR DIOXIDE IN THE ATMOSPHERE 1966

Average Daily Concentration Expressed in Micrograms per Cubic Metre

TABLE XIX

Month	Industrial Area (Lower High Street)		Commerical Area Town Centre)		High Density Residential Area (Alexandra School)		Low Density Residential Area (Langley Road)		Smoke Control Area No. 1 (Meriden Estate)	
	Smoke	Sulphur Dioxide	Smoke	Sulphur Dioxide	Smoke	Sulphur Dioxide	Smoke	Sulphur Dioxide	Smoke	Sulphur Dioxide
January	122	319	92	210	168	266	119	222	88	133
February	52	197	45	109	74	125	33	99	33	68
March	52	144	53	103	68	101	38	71	52	92
April	51	224	41	106	57	108	40	91	37	67
May	26	106	21	66	25	77	16	52	18	56
June	21	84	20	68	22	59	13	54	22	50
July	12	61	16	41	11	39	11	31	11	36
August	24	71	26	50	20	50	17	42	18	36
September	45	104	44	54	40	61	32	50	42	46
October	53	136	46	89	54	114	38	80	34	61
November	90	186	65	128	N	N	66	126	53	115
December	70	164	60	118	61	113	56	95	47	97













