

[Report 1970] / Medical Officer of Health, Staffordshire County Council.

Contributors

Staffordshire (England). County Council.

Publication/Creation

1970

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STAFFORDSHIRE COUNTY COUNCIL

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

G. RAMAGE, M.A. (Admin.) M.D.

For the Year 1970





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STAFFORDSHIRE COUNTY COUNCIL

Annual Report of Medical Officer of Health

FOREWORD

The most obvious vital statistic amongst the year's figures is the increase in the population of the County by nearly 10,000; indeed this order of increase has occurred so regularly that it is accepted by many as a normal expectation. Without discussing the general problem of over-population, it is important to note that this increase would require 0.4 medical officers, 2 health visitors and 1.8 district nurses measured by the accepted standards of the year in question. The nursing figures would be higher on the standards at the time of writing.

The actual staffing situation was that in each of these categories except the district nurses fewer staff were available at the end of the year than at the beginning. Under these circumstances expansion of the service became impossible and the maintenance of the service at its former level an achievement.

It is therefore to be expected that the number of visits paid by the health visitors during the year was reduced and the work achieved by the district nurses practically stationary. Progress of another kind was made in the nursing sections by the arranging of attachments in further areas of the County; notably in Chase Terrace and Tamworth. The latter represented a milestone for the Health Department because it was the request for closer working with the County staff by the general practitioners nine years ago which led to the suggestion by the Health Department that a Health Centre was needed. It required seven years to put the Centre into operation and nine years later the original objective was achieved. Here is an illustration of the long term nature of many health projects and also is testimony to the patience and conviction of the general practitioners concerned.

There was a slight drop in both the death rate and the birth rate, which were not significant. The main causes of death table on page 21 shows, as in previous years, a preponderance of deaths due to defects of the heart and circulation. In the absence of other illnesses the cause of death is, of course, always a failure of circulation, but it can be deduced from the tables on pages 23 to 25 that one in two men and one in eight women dying from ischaemic heart diseases did so before the age of 65. This loss of life at a period of activity and long experience is a premature loss to the community as well as a personal loss to a family and is a tangible way of illustrating the importance of reducing this loss.

The provision of treatment and of an increasing number of cardiac resuscitation centres is no more complete an answer than is the surgical treatment of a cancer which is causing symptoms. Both conditions should be detected as early as possible. A number of major factors tending to produce these two 'big killers' have been defined and made known to the public and, if acted upon, would have a much bigger impact.

It is therefore disappointing that the effects of the health education have not yet succeeded in changing people's habits in this direction. For example, at the time of writing it is known that cigarette sales are only 2% down compared with one year ago. The reluctance of women to attend for a cervical smear is mentioned in the appropriate section of the report. It is by the changing of people's habits that real reduction in unnecessary deaths will be achieved.

An increased number of illegitimate births to girls of 15 and 16 years old was recorded by the Lichfield Diocesan Association for Family Care. Every aspect of these births is lamentable and a challenge to organisations outside the County Council's services as well as those within. The teaching staff of the Education Department are fully aware of this problem and there is the fullest co-ordination of effort between them and the Health Education Section. This is evidence in other fields also and the course in Health Education for student teachers described on page 60 of the report is an important step in the attempt to improve the habits of the growing population.

There were a number of areas of the work of the Department during the year under consideration where pleasing progress was made. One can cite the opening of a new Health Centre at Penkridge and a great deal of preliminary planning work was carried out towards the construction of ten new Health Centres, the inauguration of a joint appointment with the Regional Hospital Board of a Medical Officer, the introduction of vaccination against German Measles in young girls and the increased work done in medical assessments for employment and driving, following the introduction of the Heavy Goods Vehicles (Drivers' Licences) Regulations, 1970.

Also during the year improvements were made in the organisation and work of the chiropody service by the adoption of an Area Scheme which is expected to lead to more productive use of chiropodists' time and should encourage recruitment. There was an increase in the numbers of treatments provided, particularly in the old people's homes. A further important advance was the setting up of a laboratory for the making of appliances, but the full value of this addition was not realised during the year because authority was not obtained to the appointment of a technician.

There were improvements made in the Mental Health Services; although no new establishments were opened during the year the number of trainees accommodated increased. This was largely due to the full use of the five new centres opened in the previous year.

The success of the 'unstaffed' hostels at Leek and Newcastle was such that a second house was proposed to be opened at Leek as well as further houses at Burntwood and Lichfield. The administration of the Mental Health Services has left the Health Department at the time of

writing this foreword and it is an appropriate moment to draw attention, with gratitude, to the very generous gifts and action by the voluntary committees recorded in this report.

The work of the Department and indeed the writing of this report is shared by all the staff. They have earned the thanks of the public for the way in which they have provided the many personal services of the Department and this is evidenced by the numerous letters of appreciation received. A great help and encouragement has been the attitude of the Health Committee, and the willing assistance of the other Departments concerned with the work is gratefully acknowledged.

G. RAMAGE,
County Medical Officer of Health.



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SECTION I

COMMITTEES

STAFF

COMMITTEES

The Committee of the County Council concerned with local health services is the Health Committee.

The County Medical Officer also acts as medical adviser to all Committees of the County Council including the Education Committee, Welfare Services Committee and Children's Committee.

HEALTH COMMITTEE

as at 31st December, 1970

Chairman — COUNCILLOR MISS G. JOULES

Vice-Chairman — COUNCILLOR R. F. WRIGHT, Esq.

Ex-Officio Members—

Alderman F. J. OXFORD	<i>Chairman of the County Council</i>
„ H. J. HALL	<i>Vice-Chairman of the County Council</i>
Councillor A. L. GARRATT	<i>Chairman of the Finance Committee</i>
„ G. H. HARRIS	<i>Vice-Chairman of the Finance Committee</i>

Alderman Mrs. H. M. GARDNER	Councillor B. A. GARMAN, T.D.
„ G. McEVOY	„ MRS. J. K. HANCOCK
„ A. NEEDHAM	„ G. H. HARRIS
„ F. N. SALMON	„ T. HINE
„ W. F. TRACY	„ W. NEWBURY
	„ J. R. PAUL, M.B.E., M.C.
	„ G. A. POOLE
Councillor J. J. BEECH	„ L. POOLE
„ E. H. BEET	„ A. E. RICHARDSON
„ G. CORK	„ K. V. RUSHTON
„ H. DEAKIN	„ Mrs. M. J. STUBBS
„ L. M. DENT	„ A. WALKER-HALL
„ S. EVANS	„ Mrs. S. H. WILLIAMS
„ I. J. C. FRIEND	„ A. G. WYATT

HEALTH DEPARTMENT STAFF

(A) MEDICAL

County Medical Officer of Health

G. RAMAGE, M.A. (Admin.), M.D., CH.B., B.SC., M.R.C.S., L.R.C.P., D.P.H.
Health Department, County Buildings, Stafford.

Deputy County Medical Officer of Health

H. H. JOHN, M.A., M.B., B.CHIR., M.R.C.S., L.R.C.P., D.P.H., D.C.H., D.OBST.,
R.C.O.G.

Principal Medical Officer for Maternity and Child Welfare
MAIRIDH A. M. N. GILLATT, M.B., CH.B., D.P.H., D.R.C.O.G.

Principal Medical Officer for Mental Health

W. JOHNSON, M.R.C.S., L.R.C.P.

Medical Officers to Area Health Committees

SHEILA M. DURKIN, M.B., CH.B., D.P.H.
C. E. JAMISON, M.B., B.CH., B.A.O., D.P.H.
W. D. H. MCFARLAND, M.B., B.CH., B.A.O., D.P.H.
J. TOLLAND, L.R.C.P., L.R.C.S., L.R.F.P.S., D.P.H.
E. H. TOMLIN, M.D., CH.B., D.P.H. (left 23-9-70)
R. WEBSTER, M.B., CH.B., D.T.M. & H., D.P.H.

(B) OTHER MEDICAL

A. BLENCH, L.R.C.P., L.R.C.S., L.R.F.P.S., D.P.H.
Senior Administrative Medical Officer for Schools

H. E. WILSON, M.B., CH.B., D.O., D.P.H.
Senior Medical Officer

ISOBEL B. CRAIGHEAD, M.B., CH.B., D.P.H. (commenced 9-3-70)
Joint Appointment Regional Hospital Board & Staffordshire County Council

Medical Officers holding joint M. & C.W. appointments

M. L. BURR, M.B., B.S., D.OBST., R.C.O.G., D.P.H. (left 6-12-70)
C. M. DAVID, M.B., CH.B., D.P.H.
A. G. THOMSON, M.B., CH.B., D.P.H.
J. TOLLAND, L.R.C.P., L.R.C.S., L.R.F.P.S., D.P.H.
E. E. H. TOMLIN, M.D., CH.B., D.P.H. (left 23-9-70)

Senior Clinical Medical Officers (Whole-time)

AGNES W. E. BLACK, M.B., B.CH., B.A.O., D.P.H.
BESSIE W. GOODWILL, M.B., CH.B., M.R.C.S., L.R.C.P.
HAZEL R. MEACOCK, M.B., CH.B., D.C.H., D.P.H.
R. WHARTON, M.B., CH.B.
HENRIETTA WILSON, B.A., M.B., B.CHIR.

Whole-time Medical Officers

CYNTHIA J. BLADON, M.B., CH.B., D.P.H.
PEARL I. BLENCH, L.R.C.P., L.R.C.S., L.R.F.P.S.
NORAH M. CLARKE, M.B., CH.B. (left 31-8-70)

Part-time Medical Officers

M. ALLAN, M.B., CH.B., D.P.H.
MARGARET BAMBER, M.B., B.CH., B.A.O., D.P.H.
PATRICIA BASS, L.R.C.P., L.R.C.S., D.OBST., R.C.O.G.

ANNIE A. GAMBLE, M.B., B.CH., B.A.O., D.P.H.
 GERTRUDE M. LANGTON, L.R.C.P., M.R.C.S., M.B.B.S.
 ROSE MACAULIFFE, M.B., B.CH., B.A.O.
 HELEN MOSS, M.B., CH.B.
 MARGARET OSBORNE, M.B., CH.B.
 ELEANOR PRENDIVILLE, L.R.C.P.I., L.R.C.S.I., L.M., D.P.H.
 ZOE RICHARDSON, M.B., B.CH., B.A.O.
 E. SMITH, M.B., CH.B.
 PATRICIA TYLER, M.B., B.CH.
 LUCY WILKIN, M.B., B.CH., B.A.O.
 JOAN WRIGHT, M.R.C.S., L.R.C.P. (left 29-7-70)
 CHRISTINE WILLCOCK, M.B., B.S., M.R.C.S., L.R.C.P.

General Practitioners (Part-Time Sessional)

ROSEMARY BAILY, M.B., B.S.
 B. J. BARTLEY, M.B., B.S., M.R.C.S., L.R.C.P.
 R. BROWN, M.B., CH.B.
 A. H. CHESHIRE, M.B., B.S.L., M.R.C.S., L.R.C.P.
 DOROTHY A. FOSTER, M.B., B.CH., B.A.O.
 MARY KENDALL, M.B., CH.B.
 A. M. MACKAY, M.B., CH.B.
 T. R. O'DEMPSEY, M.B., B.CH.
 M. RABY, M.B., CH.B., D.OBST., R.C.O.G.
 MYRTLE E. SUMMERLEY, M.B., B.CH., D.C.H., CH.B. (left 30-12-70)
 K. WATWOOD, M.B., CH.B., L.R.C.P., L.R.C.S.

B.C.G.

A. LEEDHAM, M.R.C.S., L.R.C.P.

(C) OTHER PROFESSIONAL

County Dental Officer

W. MCKAY, L.D.S., R.C.S.(EDIN.)

County Analyst

R. S. HATFULL, F.R.I.C., F.R.S.H.

County Health Inspector

H. PREST, M.I.P.H.E., M.A.P.H.I.

(D) SENIOR ADMINISTRATIVE STAFF

Chief Administrative Assistant

N. F. GREENWOOD

Chief Clerk

E. D. ROWLEY, A.C.I.S., D.M.A.

(E) OTHER STAFF

County Ambulance Officer

R. G. YATES, F.I.A.O., F.I.C.A.P.

Chief Chiropodist

M. E. ABLOTT, M.CH.S., S.R.CH.

Health Education Officer

A. WARD, S.R.N., B.T.A., DIP.H.ED. (left 30-6-70)

SECTION II

STATISTICAL AND GENERAL INFORMATION

**STATISTICS RELATING TO ADMINISTRATIVE
COUNTY**

EXTRACT FROM VITAL STATISTICS FOR 1970

AREA AND POPULATION

STATISTICS RELATING TO:—

CANCER

TUBERCULOSIS

CHIEF CAUSES OF DEATH

BIRTHS

DEATHS

GENERAL TABLES

STATISTICS

Area of Administrative County (1966)	(acres)	657,200
Estimated Home Population of Area 1970 (primarily for Calculation of Birth- and Death-rates or incidence of Notifiable Diseases)	.. ..	731,710
Rateable Value at 1st April, 1970 (General County Purposes)	.. ..	£26,181,429
Estimated net product of penny rate, 1970-71	.. ..	£107,446

EXTRACT FROM VITAL STATISTICS FOR 1970

Live Births:

Number	.. ..	13,314
Rate per 1,000 population	.. ..	18.2
Illegitimate Live Births (per cent of total live births)		5

Stillbirths:

Number	.. ..	210
Rate per 1,000 total live and still births	.. ..	16

Total Live and Still Births 13,524

Infant Deaths (deaths under one year) 225

Infant Mortality Rates:

Total infant deaths per 1,000 total live births	..	17
Legitimate infant deaths per 1,000 legitimate live births	.. ..	17
Illegitimate infant deaths per 1,000 illegitimate live births	.. ..	22

Neo-natal Mortality Rate (deaths under four weeks per 1,000 total live births) 11

Early Neo-natal Mortality Rate (deaths under one week per 1,000 total live births) 10

Perinatal Mortality Rate (still births and deaths under one week combined per 1,000 total live and still births) .. 25

Maternal Mortality (including abortion):

Number of deaths	.. ..	1
Rate per 1,000 total live and still births	.. ..	0.07

OTHER EXTRACTS FROM VITAL STATISTICS OF THE YEAR

Deaths (all ages)	.. ..	6,998
Death Rate	.. ..	9.6
Deaths from Cancer (all ages) (excluding leukaemia)	..	1,291

For comparison purposes, similar statistics are given for England and Wales in the following table:

VITAL STATISTICS — 1970

ENGLAND AND WALES — PERSONS

Estimated Mid-Year Home Population 48,987,700

(provisional data)

	Number	Rate	
Live Births	784,482	16.0	per 1,000 population
Stillbirths	10,341	13.0	per 1,000 total births
Deaths	575,208	11.7	per 1,000 population
Infant Mortality (deaths under 1 yr. of age)	14,269	18.0	per 1,000 live births
Neonatal Mortality (deaths under 4 wks. of age)	9,663	12.0	per 1,000 live births
Early Neonatal Mortality (deaths under 1 wk. of age)	8,328	11.0	per 1,000 live births
Perinatal Mortality (stillbirths and deaths under 1 wk. of age)	18,669	23.0	per 1,000 total births

AREA AND POPULATION

The administrative county of Staffordshire covers an area of 657,200 acres (266,000 hectares) and contains within its 22 local authorities a population of 731,710 (1970). The population of these authorities are:

Municipal Boroughs:

Lichfield	23,190
Newcastle-under-Lyme	76,590
Stafford	54,740
Tamworth	39,090

Urban Districts:

Aldridge—Brownhills	88,070
Biddulph	17,120
Cannock	55,000
Kidsgrove	22,890
Leek	19,150
Rugeley	20,680
Stone	10,880
Uttoxeter	9,010

Rural Districts:

Cannock	43,550
Cheadle	40,730
Leek	13,500
Lichfield	55,900
Newcastle-under-Lyme	20,790
Seisdon	39,470
Stafford	23,650
Stone	20,750
Tutbury	25,230
Uttoxeter	11,730

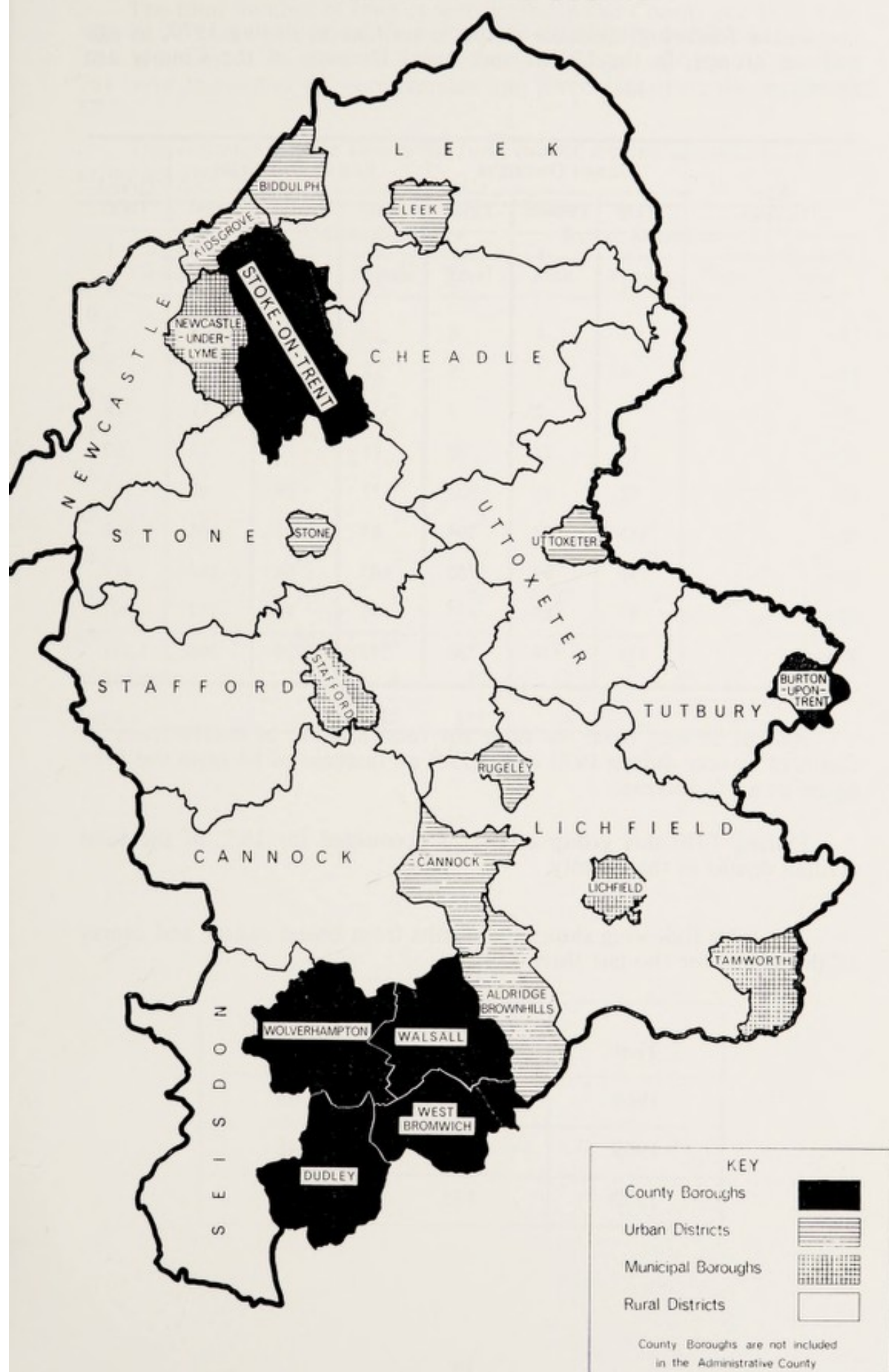
Staffordshire embraces a wide variety of physical and economic features all of which combine to give the County its diverse nature. The topography of the County extends from the high millstone grit, sandstone and limestone areas in the north-east across the low-lying valleys of the Trent and its tributaries, and gently rises again to the south-west. Economically and physically the County can be split into four major areas.

1. The north-eastern uplands. This district contains the highest areas of Staffordshire. Its agricultural economy is dictated by the physical features of the area and extensive stock-breeding is the major type of farming. Leek is the major centre of the area, acting as its market town and providing other employment in its textile industry.
2. North and North-West Staffordshire. This area, surrounding the Potteries conurbation, is intimately related with the North Staffordshire Coalfield and the Pottery Industry. The area consists for the most part of nineteenth century industrial towns and villages, some of which combined in 1910 to form what is now the City of Stoke-on-Trent. Despite redevelopment and new industries the area still retains much of its early industrial atmosphere.
3. The plain of the Trent and the lower valleys of its tributaries. These areas are composed of low-lying agricultural land, over-looked by Cannock Chase, a high sandy area which is extensively forested. A group of old market towns, Stafford, Rugeley, Lichfield, and Tamworth form a north-west—south-east line across the area. These towns, together with Uttoxeter have undergone considerable industrial expansion in this century and are important employment centres.
4. The Conurbation fringes. These include part of the South Staffordshire coalfield and a number of rural areas. Despite the decline of coalmining the mining villages and towns have expanded with an influx of new industries and new population, many of whom commute to the Conurbation. In particular Aldridge-Brownhills, Cannock and Wombourne have grown as new industrial and commuter settlements.

In the following table the final census population of the Administrative County for 1966 and the estimated home population for mid-1970 are set out.

	<i>Census 1966</i>	<i>Estimated Population Mid-1970</i>
Urban 	407,740	436,410
Rural 	261,920	295,300
Totals 	669,660	731,710

THE ADMINISTRATIVE COUNTY



CANCER

In the following table the deaths from Cancer during 1970, in age and sex groups, in the Urban and Rural Districts of the County are shown:—

Age Groups	URBAN DISTRICTS			RURAL DISTRICTS			Grand Total
	Male	Female	Total	Male	Female	Total	
0—	—	1	1	—	—	—	1
1—	3	—	3	1	—	1	4
5—	2	1	3	—	—	—	3
15—	4	1	5	2	—	2	7
25—	5	2	7	6	5	11	18
35—	13	22	35	11	14	25	60
45—	52	49	101	32	29	61	162
55—	135	73	208	64	40	104	312
65—	151	99	250	103	64	167	417
75—	89	86	175	56	76	132	307
TOTALS	454	334	788	275	228	503	1,291

As can be seen from the table the total number of deaths from all forms of cancer during 1970 was 1,291, an increase of 84 from the 1969 figure or a 7% increase.

During 1970 this group of deaths accounted for 18% of the total civilian deaths in the County.

The table following shows the deaths from breast cancer and cancer of the uterus for the last three years:—

<i>Year</i>	<i>Breast Cancer</i>	<i>Cancer of Uterus</i>
1968	115	68
1969	94	46
1970	135	52

LUNG CANCER

The total number of lung cancer deaths in the County for 1970 was 309, or 24% of the total number of deaths from all forms of this disease. This represents a decrease of 7 from the 1969 figure. Of the 309 deaths, 261 were males and 48 were females, the percentage male deaths being 87%.

The following table shows the lung cancer deaths according to age grouping and sex.

Age Groups	URBAN DISTRICTS			RURAL DISTRICTS			Grand Total
	Male	Female	Total	Male	Female	Total	
0—	—	—	—	—	—	—	—
1—	—	—	—	—	—	—	—
5—	—	—	—	—	—	—	—
15—	—	—	—	—	—	—	—
25—	—	—	—	1	—	1	1
35—	2	1	3	3	2	5	8
45—	26	3	29	10	2	12	41
55—	70	8	78	27	9	36	114
65—	56	12	68	45	3	48	116
75 and over ..	11	4	15	10	4	14	29
TOTALS	165	28	193	96	20	116	309

TUBERCULOSIS

The following table shows new cases of tuberculosis notified during 1970 within the County Districts, and deaths from the disease, classified according to age and sex:—

1970				NEW CASES				DEATHS			
AGE PERIODS				Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
				M.	F.	M.	F.	M.	F.	M.	F.
0—	..	..	..	—	—	1	—	—	—	—	—
1—	..	..	..	—	—	—	—	—	—	—	—
2—	..	..	..	—	1	—	—	—	—	—	—
5—	..	..	..	—	1	1	—	—	—	—	—
10—	..	..	..	1	—	—	1	—	—	—	—
15—	..	..	..	2	1	1	—	—	—	—	—
20—	..	..	..	2	4	—	1	—	1	—	—
25—	..	..	..	3	3	2	2	—	—	—	—
35—	..	..	..	3	5	1	—	1	1	—	—
45—	..	..	..	7	6	—	—	—	—	1	1
55—	..	..	..	10	3	—	—	3	1	3	1
65—	..	..	..	5	2	—	—	10	—	—	—
75 and upwards	..	..	..	1	1	—	—	4	—	1	—
Age unknown	..	..	..	1	1	—	—	—	—	—	—
TOTALS				35	28	6	4	18	3	5	2

During 1970, 21 deaths occurred from pulmonary tuberculosis and 7 from other forms of this disease, the death-rate being 0.04.

REGISTERS OF DISTRICT MEDICAL OFFICERS OF HEALTH

At the end of the year the following cases were included in the registers of the Medical Officers for the County:—

TOTAL CASES	PULMONARY			NON-PULMONARY		
	M.	F.	Total	M.	F.	Total
2,731	1,242	984	2,226	242	263	505

The figures given above indicate that in 1970 there was one case of tuberculosis in every 268 persons, or 3.7 per 1,000 of the population.

The following table gives particulars of primary notifications of tuberculosis notified in the Administrative County each year since 1919, together with the case-rates per 1,000 of the estimated population. Only from 1946 is it possible to divide these figures to show numbers of respiratory and non-respiratory notifications, and the appropriate case-rates are given:—

Year	PRIMARY NOTIFICATIONS			CASE RATE PER 1,000 OF THE POPULATION		
	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Tuberculosis (all forms)	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Tuberculosis (all forms)
1919			699			1.04
1920			642			0.92
1921			929			1.29
1922			971			1.37
1923			1,029			1.45
1924			974			1.36
1925			1,232			1.71
1926			1,400			1.93
1927			1,106			1.55
1928			1,194			1.68
1929			1,017			1.43
1930			1,021			1.44
1931			1,129			1.59
1932			1,074			1.50
1933			1,011			1.41
1934			929			1.29
1935			825			1.14
1936			831			1.14
1937			858			1.16
1938			789			1.05
1939			726			0.95
1940			669			0.88
1941			788			1.01
1942			830			1.07
1943			841			1.09
1944			798			1.03
1945			769			1.00
1946	636	139	775	0.80	0.17	0.97
1947	681	132	813	0.84	0.16	1.00
1948	728	124	852	0.88	0.15	1.03
1949	713	124	837	0.85	0.15	1.00
1950	706	101	807	0.83	0.12	0.95
1951	778	123	901	0.91	0.14	1.05
1952	712	93	805	0.83	0.11	0.94
1953	864	94	958	1.00	0.11	1.10
1954	709	99	808	0.81	0.11	0.92
1955	620	76	696	0.70	0.09	0.78
1956	568	55	623	0.63	0.06	0.69
1957	527	53	580	0.57	0.06	0.63
1958	469	54	533	0.56	0.06	0.62
1959	417	38	455	0.44	0.04	0.48
1960	378	37	415	0.39	0.04	0.43
1961	341	42	383	0.34	0.04	0.39
1962	283	59	342	0.28	0.06	0.34
1963	276	45	321	0.27	0.04	0.31
1964	263	48	311	0.25	0.05	0.30
1965	230	43	273	0.21	0.04	0.25
*1966	117	16	133	0.17	0.02	0.20
1967	74	20	94	0.08	0.02	0.10
1968	67	9	76	0.09	0.01	0.10
1969	63	11	74	0.09	0.02	0.10
1970	63	10	73	0.09	0.01	0.10

* reduced County came into operation.

The table below shows the death-rates from tuberculosis in the Urban and Rural Districts of the County from 1940:—

YEAR	DEATH RATE PER 1,000 OF THE POPULATION			
	Pulmonary Tuberculosis		Other forms of Tuberculosis	
	Urban	Rural	Urban	Rural
1940	0.51	0.29	0.11	0.06
1941	0.57	0.33	0.16	0.14
1942	0.52	0.34	0.13	0.10
1943	0.55	0.29	0.11	0.07
1944	0.52	0.25	0.10	0.07
1945	0.56	0.22	0.11	0.09
1946	0.49	0.28	0.08	0.06
1947	0.47	0.28	0.09	0.07
1948	0.51	0.33	0.07	0.05
1949	0.45	0.22	0.06	0.03
1950	0.39	0.20	0.06	0.06
1951	0.37	0.12	0.05	0.04
1952	0.27	0.07	0.04	0.04
1953	0.19	0.10	0.04	0.00
1954	0.18	0.13	0.04	0.03
1955	0.10	0.04	0.01	0.01
1956	0.13	0.07	0.01	0.00
1957	0.10	0.01	0.01	0.01
1958	0.09	0.05	0.01	0.01
1959	0.09	0.06	0.01	0.01
1960	0.07	0.04	0.01	0.01
1961	0.05	0.05	0.01	0.00
1962	0.06	0.03	0.00	0.01
1963	0.05	0.04	0.01	0.01
1964	0.03	0.01	0.00	0.01
1965	0.03	0.03	0.00	0.00
*1966	0.05	0.02	0.00	0.00
1967	0.01	0.00	0.00	0.00
1968	0.00	0.00	0.00	0.00
1969	0.04	0.01	0.01	0.01
1970	0.03	0.02	0.01	0.01

* reduced County came into operation.

TABLE SHOWING CHIEF CAUSES OF DEATH

<i>Condition</i>	<i>Number of Deaths</i>
Heart Disease	2,159
Cancer (all forms)	1,368
Cerebrovascular Disease	976
Pneumonia	526
Bronchitis and Emphysema	326
Other forms of Circulatory Disease	285
Hypertensive Disease	117
Accidents (General)	124
Motor Vehicle Accidents	93
Other diseases of Respiratory System	84
Congenital Anomalies	81
Other diseases of Digestive System	56
TOTAL	6,195
Total number of deaths from <i>all</i> causes	6,998
The numbers of deaths listed above represent 89 per cent of the total deaths.	

BIRTHS

The number of births in the Administrative County amounted to 13,314, the number in the Urban Districts being 7,831 and in the Rural Districts 5,483.

LIVE BIRTH-RATE PER 1,000 OF POPULATION													
DISTRICTS	5 yrs. 1914- 1918	5 yrs. 1919- 1923	5 yrs. 1924- 1928	5 yrs. 1929- 1933	5 yrs. 1934- 1938	5 yrs. 1939- 1943	5 yrs. 1944- 1948	5 yrs. 1949- 1953	5 yrs. 1954- 1958	5 yrs. 1959- 1963	5 yrs. 1964- 1968	1969	1970
{ Combined Urban and Rural .. Urban .. Rural .. Staffordshire	24.0	24.1	20.2	17.6	17.1	18.3	19.9	16.2	16.2	18.2	19.9	19.4	18.2
	25.0	25.0	20.7	18.1	17.5	18.9	20.4	16.4	16.3	18.2	19.7	19.2	17.9
	21.6	22.0	19.0	16.6	15.7	16.7	18.5	15.6	15.9	17.9	20.1	19.7	18.6
England and Wales	20.4	21.3	17.8	15.6	14.9	15.2	18.2	15.8	15.7	17.4	17.5	16.3	16.0

DEATHS

The number of deaths in the Administrative County amounted to 6,998, the number in the Urban Districts being 4,176 and in the Rural Districts 2,822.

DEATH-RATE PER 1,000 OF POPULATION													
DISTRICTS	5 yrs. 1914- 1918	5 yrs. 1919- 1923	5 yrs. 1924- 1928	5 yrs. 1929- 1933	5 yrs. 1934- 1938	5 yrs. 1939- 1943	5 yrs. 1944- 1948	5 yrs. 1949- 1953	5 yrs. 1954- 1958	5 yrs. 1959- 1963	5 yrs. 1964- 1968	1969	1970
Staffordshire { Combined Urban and Rural .. Urban .. Rural ..	15.0	12.3	11.4	11.6	11.3	11.2	10.4	10.5	10.5	10.0	9.7	9.8	9.6
	15.5	12.6	11.5	11.8	11.3	11.2	10.4	10.7	10.5	10.0	9.8	10.0	9.6
	13.8	11.6	11.2	11.2	11.2	11.0	10.4	10.0	10.3	9.9	9.6	9.5	9.6
England and Wales ..	15.2	12.5	12.0	12.3	11.9	12.6	11.5	11.7	11.6	11.8	11.6	11.9	11.7

CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE DURING 1970 IN THE
ADMINISTRATIVE COUNTY OF STAFFORDSHIRE.

Aggregate of Urban Districts.

CAUSE OF DEATH	Sex	All Ages	Under 4 weeks	AGE IN YEARS									
				4 weeks and under 1 year	1- 4	5- 14	15- 24	25- 34	35- 44	45- 54	55- 64	65- 74	75 and over
Late effects of Respiratory	M	3	-	-	-	-	-	-	-	1	2	-	-
T.B.	F	1	-	-	-	-	-	-	-	1	-	-	-
Enteritis and other Diarrhoeal	M	4	1	3	-	-	-	-	-	-	-	-	-
Diseases	F	-	-	-	-	-	-	-	-	-	-	-	-
Tuberculosis of Respiratory	M	13	-	-	-	-	-	-	1	-	2	6	4
System	F	2	-	-	-	-	-	-	1	-	1	-	-
Whooping Cough	M	-	-	-	-	-	-	-	-	-	-	-	-
	F	1	-	1	-	-	-	-	-	-	-	-	-
Syphilis and its Sequelae	M	-	-	-	-	-	-	-	-	-	-	-	-
	F	1	-	-	-	-	-	-	-	-	-	1	-
Other Infective and Parasitic	M	3	-	1	-	-	-	-	-	-	2	-	-
Diseases	F	6	1	1	-	-	-	-	1	-	2	1	-
Malignant Neoplasm, Buccal	M	5	-	-	-	-	-	1	-	-	2	1	1
Cavity, etc.	F	8	-	-	-	-	-	-	-	1	-	4	3
Malignant Neoplasm,	M	9	-	-	-	-	-	-	1	2	1	3	2
Oesophagus	F	6	-	-	-	-	-	1	1	1	-	2	1
Malignant Neoplasm,	M	76	-	-	-	-	-	-	2	9	24	25	16
Stomach	F	42	-	-	-	-	-	-	2	5	8	11	16
Malignant Neoplasm,	M	65	-	-	-	-	-	1	2	3	13	20	26
Intestine	F	50	-	-	-	-	-	-	-	6	9	13	22
Malignant Neoplasm, Larynx	M	7	-	-	-	-	-	-	-	1	2	1	3
	F	2	-	-	-	-	-	-	-	-	1	-	1
Malignant Neoplasm, Lung,	M	165	-	-	-	-	-	-	2	26	70	56	11
Bronchus	F	28	-	-	-	-	-	-	1	3	8	12	4
Malignant Neoplasm, Breast	M	1	-	-	-	-	-	-	-	-	1	-	-
	F	83	-	-	-	-	-	1	9	12	24	20	17
Malignant Neoplasm, Uterus	F	33	-	-	-	-	-	-	1	12	6	9	5
Malignant Neoplasm, Prostate	M	16	-	-	-	-	-	-	-	-	1	6	9
Leukaemia	M	16	-	-	-	-	1	-	1	4	2	5	3
	F	13	-	1	1	-	2	-	-	1	2	4	2
Other Malignant Neoplasms	M	110	-	1	3	2	4	3	6	11	21	39	21
	F	82	-	1	-	1	1	8	9	17	17	28	17
Benign and Unspecified	M	8	-	-	-	-	1	1	1	1	3	1	-
Neoplasms	F	7	-	-	-	-	-	-	-	-	2	1	4
Diabetes Mellitus	M	10	-	-	-	1	-	-	-	1	5	-	3
	F	16	-	-	-	-	-	-	-	-	2	7	7
Meningococcal Infection	M	-	-	-	-	-	-	-	-	-	-	-	-
	F	1	-	1	-	-	-	-	-	-	-	-	-
Other Endocrine etc. Diseases	M	4	-	-	-	-	1	-	-	-	-	-	3
	F	9	-	1	-	-	-	1	-	-	-	5	2
Anaemias	M	4	-	-	-	-	-	-	-	-	-	2	2
	F	11	-	-	-	-	-	-	-	-	1	5	5
Other Diseases of Blood, etc.	M	-	-	-	-	-	-	-	-	-	-	-	-
	F	1	-	-	-	-	-	-	-	-	1	-	-
Mental Disorders	M	1	-	-	-	-	-	-	-	-	-	-	1
	F	2	-	-	-	-	-	-	-	-	-	1	1
Meningitis	M	2	-	1	1	-	-	-	-	-	-	-	-
	F	2	-	1	-	-	-	-	-	1	-	-	-
Other Diseases of Nervous	M	18	-	1	-	-	1	2	-	3	2	5	4
System, etc.	F	11	-	-	-	-	-	-	1	1	2	4	3
Chronic Rheumatic Heart	M	20	-	-	-	-	-	-	3	3	9	2	3
Disease	F	41	-	-	-	-	-	-	4	7	7	12	11
Hypertensive Disease	M	28	-	-	-	-	-	-	-	2	12	8	6
	F	42	-	-	-	-	-	-	1	1	3	14	23
Ischaemic Heart Disease	M	602	-	-	-	-	-	5	25	74	150	176	172
	F	395	-	-	-	-	-	-	2	8	41	123	221
Other forms of Heart Disease	M	75	-	-	-	-	1	1	-	2	9	16	46
	F	131	-	-	1	-	1	-	1	2	10	21	95
Cerebrovascular Disease	M	212	-	-	-	-	1	5	3	10	32	63	98
	F	362	-	-	-	-	1	-	5	12	28	94	222
Other Diseases of Circulatory	M	73	-	-	-	-	-	-	1	1	8	18	45
System	F	88	-	-	-	-	1	-	4	2	4	20	57
Influenza	M	43	-	-	-	-	-	2	2	1	6	22	10
	F	28	-	2	-	-	1	-	1	3	5	11	5
Pneumonia	M	158	4	6	1	1	-	1	5	2	16	51	71
	F	164	3	5	-	-	1	1	1	1	7	33	112
Bronchitis and Emphysema	M	176	-	-	1	-	-	-	2	11	30	75	57
	F	45	-	-	-	-	-	1	-	2	8	11	23
Asthma	M	3	-	-	-	-	2	-	1	-	-	-	-
	F	7	-	-	-	3	1	-	1	-	-	2	-
Other Diseases of Respiratory	M	35	-	-	-	-	-	-	-	4	10	8	13
System	F	18	-	1	-	-	-	1	-	1	1	7	7
Peptic Ulcer	M	20	-	-	-	-	-	-	1	2	4	10	3
	F	7	-	-	-	-	-	-	-	1	-	1	5
Appendicitis	M	1	-	-	-	-	-	-	-	1	-	-	-
	F	1	-	-	-	-	-	-	-	-	-	1	-
Multiple Sclerosis	M	2	-	-	-	-	-	-	-	1	-	1	-
	F	4	-	-	-	-	-	-	-	3	-	1	-

Aggregate of Urban Districts continued.

CAUSE OF DEATH	Sex	All Ages	Under 4 weeks	4 weeks and under 1 year	AGE IN YEARS									
					1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 and over	
Measles	F	1	-	-	-	1	-	-	-	-	-	-	-	
Intestinal Obstruction and Hernia	M	9	-	-	1	-	-	-	-	2	2	3	1	
Cirrhosis of Liver	F	11	1	-	-	-	-	-	-	-	1	1	8	
Other Diseases of Digestive System	M	2	-	-	-	-	-	-	-	1	-	1	-	
Nephritis and Nephrosis	F	4	-	-	-	-	-	-	1	-	-	1	2	
Hyperplasia of Prostate	M	11	1	-	-	-	1	-	1	1	5	2	-	
Other Diseases, Genito-Urinary System	F	21	-	-	2	-	-	-	1	1	2	5	10	
Active Rheumatic Fever	M	12	-	-	-	-	1	2	-	2	5	1	1	
Diseases of Skin, Subcutaneous Tissue	F	11	-	-	-	2	-	-	1	3	3	2	-	
Diseases of Musculo-Skeletal System	M	18	-	-	-	-	-	-	-	-	1	5	12	
Congenital Anomalies	M	10	-	-	-	-	1	-	-	1	1	4	3	
Birth Injury, Difficult Labour, etc.	F	11	-	-	-	-	-	1	-	-	1	4	5	
Other Causes of Perinatal Mortality	M	1	-	-	-	-	-	-	-	-	-	-	-	
Symptoms and Ill-defined Conditions	F	3	-	-	-	1	-	-	-	-	-	1	1	
Motor Vehicle Accidents	M	2	-	-	-	-	-	-	-	-	-	1	1	
All other Accidents	F	6	-	-	-	-	-	-	-	-	-	1	7	
Suicide and Self-inflicted Injuries	M	14	-	-	-	-	1	1	-	-	3	2	-	
All other External Causes	F	20	6	7	2	1	2	-	-	-	1	1	-	
TOTAL - ALL CAUSES	M	22	12	6	2	1	-	-	-	-	1	-	-	
	F	19	12	-	-	-	-	-	-	-	-	-	-	
	M	13	13	-	-	-	-	-	-	-	-	-	-	
	F	15	15	-	-	-	-	-	-	-	-	-	-	
	M	13	-	1	-	-	1	-	-	-	-	-	11	
	F	44	-	1	-	-	-	-	-	-	-	1	42	
	M	29	-	-	2	1	10	-	3	3	6	3	1	
	F	10	-	-	-	1	2	1	-	1	1	3	1	
	M	38	-	2	1	1	3	3	3	10	5	2	8	
	F	31	2	1	1	-	1	-	-	-	2	7	16	
	M	10	-	-	-	-	-	-	1	3	1	2	3	
	F	9	-	-	-	-	1	-	1	1	2	4	-	
	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	5	-	-	-	-	1	2	1	-	-	-	1	
TOTAL - ALL CAUSES	M	2,201	44	22	12	7	31	27	68	201	468	646	675	
	F	1,975	46	23	7	10	15	12	50	102	216	510	984	

CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE DURING 1970 IN THE ADMINISTRATIVE COUNTY OF STAFFORDSHIRE.

Aggregate of Rural Districts.

CAUSE OF DEATH	Sex	All Ages	Under 4 weeks	4 weeks and under 1 year	AGE IN YEARS									
					1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 and over	
Tuberculosis of Respiratory System	M	5	-	-	-	-	-	-	-	-	1	4	-	
	F	1	-	-	-	-	1	-	-	-	-	-	-	
Late effects of Respiratory T.B.	M	2	-	-	-	-	-	-	-	-	1	-	1	
	F	1	-	-	-	-	-	-	-	-	1	-	-	
Other Tuberculosis,	M	2	-	-	-	-	-	-	-	1	-	-	1	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Avitaminoses, etc.	M	1	-	-	-	-	-	-	-	-	-	1	-	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Other Infective and Parasitic Diseases	M	2	-	-	1	-	-	-	-	-	1	-	-	
	F	4	1	1	-	-	1	-	1	-	-	-	-	
Malignant Neoplasm, Buccal Cavity, etc.	M	2	-	-	-	-	-	-	1	-	-	1	-	
	F	3	-	-	-	-	-	-	-	-	-	2	1	
Malignant Neoplasm, Oesophagus	M	7	-	-	-	-	-	-	1	2	1	1	2	
	F	10	-	-	-	-	-	-	-	1	2	3	4	
Malignant Neoplasm, Stomach	M	50	-	-	-	-	1	1	2	8	12	19	7	
	F	25	-	-	-	-	-	-	-	1	3	8	13	
Malignant Neoplasm, Intestine	M	33	-	-	-	-	1	2	1	2	3	14	10	
	F	39	-	-	-	-	-	-	1	1	5	14	18	
Malignant Neoplasm, Larynx	M	1	-	-	-	-	-	-	-	-	-	-	1	
	F	-	-	-	-	-	-	-	-	-	-	-	-	
Malignant Neoplasm, Lung, Bronchus	M	96	-	-	-	-	-	1	3	10	27	45	10	
	F	20	-	-	-	-	-	-	2	2	9	3	4	
Malignant Neoplasm, Breast	M	-	-	-	-	-	-	-	-	-	-	-	-	
	F	52	-	-	-	-	-	3	6	8	11	14	10	
Malignant Neoplasm, Uterus	F	19	-	-	-	-	-	-	2	4	3	5	5	
Malignant Neoplasm, Prostate	M	19	-	-	-	-	-	-	-	-	3	4	12	
Leukaemia	M	13	-	-	-	2	1	-	1	1	3	4	1	
	F	8	-	1	-	2	-	1	1	1	1	-	-	

Aggregate of Rural District continued

CAUSE OF DEATH	Sex	All Ages	Under 4 weeks	4 weeks and under 1 year	AGE IN YEARS								
					1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 and over
Other Malignant Neoplasms	M	67	-	-	1	-	-	2	3	10	18	19	14
	F	60	-	-	-	-	-	2	3	12	7	15	21
Benign and Unspecified Neoplasms	M	4	-	-	-	-	1	1	-	1	1	-	-
	F	8	-	-	1	-	-	1	-	1	2	1	2
Diabetes Mellitus	M	13	-	-	-	-	-	1	1	-	1	2	8
	F	16	-	-	-	-	-	-	-	-	3	7	6
Other Endocrine etc. Diseases	M	2	-	-	-	-	-	-	-	-	-	-	2
	F	4	-	-	-	1	-	-	-	-	-	2	1
Anaemias	M	3	-	-	-	-	-	-	-	-	1	-	2
	F	5	-	-	-	-	-	-	-	-	-	2	3
Multiple Sclerosis	M	2	-	-	-	-	-	-	-	2	-	-	-
	F	1	-	-	-	-	-	-	-	1	-	-	-
Mental Disorders	M	4	-	-	-	-	-	-	-	-	-	1	3
	F	6	-	-	-	-	-	-	1	-	-	1	4
Meningitis	M	2	-	1	1	-	-	-	-	-	-	-	-
	F	1	-	-	1	-	-	-	-	-	-	-	-
Other Diseases of Nervous System, etc.	M	7	-	-	-	-	1	1	1	-	-	3	1
	F	11	-	-	-	-	-	-	-	3	2	3	3
Chronic Rheumatic Heart Disease	M	19	-	-	-	-	-	1	1	4	8	3	2
	F	18	-	-	-	-	-	-	1	3	4	4	6
Hypertensive Disease	M	19	-	-	-	-	-	-	1	1	9	4	4
	F	28	-	-	-	-	-	-	1	1	3	7	16
Ischaemic Heart Disease	M	394	-	-	-	-	-	4	12	41	104	117	116
	F	276	-	-	-	-	-	-	3	5	20	89	159
Other forms of Heart Disease	M	82	-	1	1	-	-	2	-	2	4	24	48
	F	106	-	-	-	-	-	-	-	-	4	17	85
Cerebrovascular Disease	M	188	-	-	-	-	-	-	5	5	27	64	87
	F	214	-	-	-	-	-	1	4	4	24	53	128
Other Diseases of Circulatory System	M	53	-	-	-	-	-	-	-	2	6	15	30
	F	71	-	-	-	-	-	-	-	2	5	13	51
Influenza	M	42	-	-	-	-	1	-	3	-	15	10	13
	F	17	-	-	-	-	-	-	-	2	3	5	7
Pneumonia	M	99	-	2	-	2	2	1	2	5	13	32	40
	F	105	-	6	1	2	1	-	2	3	4	16	70
Bronchitis and Emphysema ..	M	74	-	-	-	-	-	-	-	5	16	24	29
	F	31	-	-	-	-	-	-	-	-	5	9	17
Asthma	M	6	-	-	1	-	-	-	-	1	2	2	-
	F	2	-	-	-	-	-	-	1	-	-	1	-
Other Diseases of Respiratory System	M	16	-	1	4	-	2	-	-	-	1	4	4
	F	15	-	2	-	1	-	-	1	2	1	2	6
Peptic Ulcer	M	6	-	-	-	-	-	-	-	1	3	1	1
	F	5	-	-	-	-	-	-	-	-	-	2	3
Appendicitis	M	1	-	-	-	-	-	-	-	1	-	-	-
	F	3	-	-	-	-	1	-	-	-	-	-	2
Intestinal Obstruction and Hernia	M	7	1	1	-	-	-	-	-	1	-	1	3
	F	1	-	-	-	-	-	-	-	-	-	-	1
Cirrhosis of Liver	M	2	-	-	-	-	-	-	-	-	2	-	-
	F	1	-	-	-	-	-	-	-	-	-	1	-
Other Diseases of Digestive System	M	12	-	-	-	-	-	-	-	1	4	2	5
	F	12	-	-	-	-	-	-	1	1	3	2	5
Nephritis and Nephrosis	M	5	-	-	-	-	-	-	-	1	-	1	3
	F	7	-	-	-	-	-	1	-	1	-	1	4
Hyperplasia of Prostate	M	8	-	-	-	-	-	-	-	-	-	-	8
Other Diseases, Genito-Urinary System	M	5	-	-	-	-	-	-	-	-	1	2	2
	F	6	-	-	-	-	-	-	2	-	1	1	2
Diseases of Musculo-Skeletal System	M	3	-	-	-	-	-	-	-	-	-	3	-
	F	9	-	-	-	-	-	1	-	-	1	3	4
Congenital Anomalies	M	20	9	7	1	-	-	1	-	1	1	-	-
	F	19	14	3	-	1	-	-	-	-	-	1	-
Birth Injury, Difficult Labour, etc.	M	14	14	-	-	-	-	-	-	-	-	-	-
	F	6	6	-	-	-	-	-	-	-	-	-	-
Other Causes of Perinatal Mortality	M	9	9	-	-	-	-	-	-	-	-	-	-
	F	6	6	-	-	-	-	-	-	-	-	-	-
Symptoms and Ill-defined Conditions	M	13	-	-	-	-	-	-	-	-	-	3	10
	F	9	-	-	-	-	-	-	-	-	-	-	9
Motor Vehicle Accidents	M	41	-	-	3	2	16	2	3	3	8	4	-
	F	13	-	-	-	1	4	-	1	3	1	2	1
All other Accidents	M	23	-	3	2	-	1	-	-	2	5	3	7
	F	32	-	1	1	-	1	-	1	-	4	4	20
Suicide and Self-inflicted Injuries	M	13	-	-	-	-	1	1	1	3	2	3	2
	F	3	-	-	-	-	-	-	-	2	1	-	-
All other External Causes	M	2	-	-	-	-	-	-	1	-	1	-	-
	F	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL - ALL CAUSES	M	1,513	33	16	15	6	28	21	43	117	305	440	489
	F	1,309	27	14	4	8	9	10	35	64	133	313	692

Table showing Population, Number of Persons per acre, Birth and Death-rates as well as the Death-rates at all ages and among Children under 1 year, and Death rates from certain causes.

URBAN

DISTRICT	Population at all ages		Number of persons per acre	Crude Live Birth-rate per 1,000 of Population	Adjusted Live Birth-rate by comparability factor	Still-births, Rate per 1,000 total births	Crude death-rate per 1,000 of Population	Adjusted death-rate by comparability factor	Infant Mortality Rate (Deaths under 1 year per 1,000 live births)	Neonatal Mortality Rate (Deaths under 4 weeks per 1,000 live births)	Early Neonatal Mortality Rate (Deaths under 1 week per 1,000 total live births)	Perinatal Mortality Rate (Still-births and deaths under 1 week combined per 1,000 total births)	Death Rate per 1,000 Population						
	Census 1966	Estimated 1970											Ischaemic Heart Disease	Malignant Neoplasm	Bronchitis and Emphysema	Pneumonia	Other Diseases of Respiratory System	Nephritis and Nephrosis	Congenital Anomalies
Aldridge-Brownhills	82,780	88,070	6.7	17.0	12.8	16.0	6.9	11.8	15	11	11	26	1.62	1.61	0.39	0.52	0.12	0.05	0.05
Biddulph	16,100	17,120	2.6	19.3	17.8	12.0	9.6	13.6	18	3	3	15	1.99	1.99	0.70	0.23	0.18	0.12	0.12
Cannock	51,980	55,000	5.0	17.9	17.4	19.0	10.3	11.8	24	16	14	33	2.20	1.71	0.56	1.20	0.16	0.05	0.11
Kidsgrove	21,440	22,890	5.5	18.7	16.8	14.0	8.6	13.0	26	16	16	30	2.05	1.57	0.31	0.66	0.13	0.09	0.26
Leek	19,230	19,150	4.4	15.2	16.7	14.0	13.9	11.0	10	10	10	24	2.77	2.61	0.84	1.04	0.05	0.05	0.05
Lichfield	19,690	23,190	6.5	20.7	18.6	20.0	9.2	9.3	6	2	2	22	1.94	1.47	0.26	0.60	0.17	—	—
Newcastle	75,790	76,590	8.7	15.7	14.9	17.0	11.7	14.5	21	11	11	28	2.89	2.31	0.71	0.87	0.17	0.05	0.16
Rugeley	17,240	20,680	7.2	27.3	24.6	9.0	6.7	11.3	16	9	4	12	1.50	1.35	0.44	0.29	—	—	0.05
Stafford	51,480	54,740	10.8	16.8	16.5	14.0	10.3	10.0	14	12	9	23	2.58	1.85	0.40	1.10	0.07	0.09	0.13
Stone	10,210	10,880	5.6	16.7	17.0	32.0	9.6	8.6	11	11	11	43	2.11	0.83	0.64	0.64	0.09	—	0.09
Tamworth	32,910	39,090	5.1	20.6	19.2	18.0	9.3	11.1	19	16	14	32	2.56	1.79	0.54	0.38	0.13	—	0.05
Uttoxeter	8,890	9,010	2.6	16.2	15.9	20.0	10.9	11.6	7	7	7	27	4.22	1.66	0.22	0.33	—	0.11	—
Totals and Averages	407,740	436,410	6.0	17.9	16.3	16.0	9.6	11.7	17	11	10	26	2.28	1.81	0.51	0.74	0.12	0.05	0.10

RURAL

DISTRICT	Population at all ages		Mean area per person in acres	Crude Live Birth-rate per 1,000 of Population	Adjusted Live Birth-rate by comparability factor	Still-births, Rate per 1,000 total births	Crude death-rate per 1,000 of Population	Adjusted death-rate by comparability factor	Infant Mortality Rate (Deaths under 1 year per 1,000 live births)	Neonatal Mortality Rate (Deaths under 4 weeks per 1,000 live births)	Early Neonatal Mortality Rate (Deaths under 1 week per 1,000 total live births)	Perinatal Mortality Rate (Still-births and deaths under 1 week combined per 1,000 total births)	Death Rate per 1,000 Population						
	Census 1966	Estimated 1970											Heart Disease	Malignant Neoplasm	Bronchitis and Emphysema	Pneumonia	Other Diseases of Respiratory System	Nephritis and Nephrosis	Congenital Anomalies
Cannock	36,900	43,550	1.3	24.3	20.4	10.0	7.5	11.3	17	12	9	20	1.91	1.63	0.30	0.37	0.21	0.07	0.21
Cheadle	34,670	40,730	1.5	17.5	17.5	19.0	11.3	10.5	13	7	7	26	2.31	1.99	0.52	0.74	0.17	0.02	0.12
Leek	13,160	13,500	5.3	14.4	14.7	5.0	11.2	13.3	15	15	15	21	2.52	1.70	0.15	0.59	0.07	—	0.07
Lichfield	49,900	55,900	1.5	23.5	22.6	14.0	11.1	11.4	20	13	11	26	2.49	1.72	0.39	1.41	0.04	0.04	0.13
Newcastle	18,260	20,790	1.9	13.0	11.2	11.0	10.2	11.6	22	19	15	26	2.65	1.68	0.34	0.58	0.19	—	0.14
Seisdon	36,540	39,470	1.1	14.9	11.8	23.0	8.7	12.9	17	15	10	33	2.23	1.75	0.43	0.30	0.08	0.05	0.15
Stafford	19,290	23,650	3.4	19.3	20.1	15.0	7.6	10.0	7	4	2	17	1.95	1.52	0.34	0.51	0.04	0.04	0.08
Stone	20,630	20,750	2.9	13.8	13.1	14.0	9.8	11.4	14	3	3	17	2.12	1.73	0.19	0.82	0.05	0.05	0.14
Tutbury	21,550	25,230	1.3	18.1	19.5	15.0	8.3	11.0	11	9	9	24	1.98	1.63	0.40	0.44	0.04	0.04	—
Uttoxeter	11,020	11,730	4.8	12.6	16.0	—	9.8	13.4	41	7	7	7	3.15	1.28	0.09	0.51	0.17	0.09	0.26
Totals and Averages	261,920	295,300	2.0	18.6	17.5	14.0	9.6	11.5	16	11	9	23	2.27	1.70	0.36	0.69	0.11	0.04	0.13

Deaths occurring during the year 1970 classified according to Diseases and Localities,
together with Births occurring during the year.

URBAN

DISTRICT	Live Births	Still Births	Deaths from all causes	Deaths of Infants			Enteritis and other Diarrhoeal Diseases	Tuberculosis of Respiratory System	Late Effects of Respiratory T.B.	Whooping Cough	Meningococcal Infection	Measles	Syphilis and its sequelae	Other Infective and Parasitic Diseases	Malignant Neoplasm								
				Under one year of age	Under four weeks of age	Under one week of age									Buccal Cavity, etc.	Oesophagus	Stomach	Intestine	Larynx	Lung Bronchus	Breast	Uterus	Prostate
Aldridge-Brownhills	1,499	24	607	23	17	16	—	3	—	—	—	—	—	3	—	2	17	18	2	37	13	4	5
Biddulph ..	331	4	165	6	1	1	—	3	2	—	—	—	—	—	1	2	4	3	—	12	2	—	1
Cannock ..	985	19	564	24	16	14	1	—	2	—	—	—	—	1	—	4	12	13	2	20	10	4	1
Kidsgrove ..	427	6	196	11	7	7	—	—	—	—	—	—	—	—	1	2	5	6	—	7	5	1	—
Leek ..	292	4	266	3	3	3	—	1	—	—	—	—	—	1	—	—	8	12	—	11	6	2	—
Lichfield ..	480	10	214	3	1	1	—	—	—	—	—	—	—	1	—	1	7	3	1	9	3	2	2
Newcastle ..	1,202	21	894	25	13	13	1	5	—	1	—	1	—	—	5	2	35	20	1	48	18	8	4
Rugeley ..	564	5	139	9	5	2	1	—	—	—	1	—	—	1	—	—	2	9	—	5	4	—	1
Stafford ..	918	13	565	13	11	8	1	3	—	—	—	—	1	1	4	2	16	19	1	20	14	3	—
Stone ..	182	6	104	2	2	2	—	—	—	—	—	—	—	—	—	—	1	2	—	3	1	1	—
Tamworth ..	805	15	364	15	13	11	—	—	—	—	—	—	—	1	2	—	10	5	1	18	8	7	2
Uttoxeter ..	146	3	98	1	1	1	—	—	—	—	—	—	—	—	—	—	1	5	1	3	—	1	—
TOTALS ..	7,831	130	4,176	135	90	79	4	15	4	1	1	1	1	9	13	15	118	115	9	193	84	33	16

Deaths occurring during the year 1970 classified according to Disease and Localities together with Births occurring during the year.

URBAN

DISTRICT	Leukaemia	Other Malignant Neoplasms	Benign and Unspecified Neoplasms	Diabetes Mellitus	Other Endocrine etc. Diseases	Anaemias	Other Diseases of the Blood, etc.	Mental Disorders	Meningitis	Multiple Sclerosis	Other Diseases of Nervous System, etc.	Active Rheumatic Fever	Chronic Rheumatic Heart Disease	Hypertensive Disease	Ischaemic Heart Disease	Other forms of Heart Disease	Cerebrovascular Disease	Other Diseases of Circulatory System	Influenza	Pneumonia	Bronchitis and Emphysema	Asthma
Aldridge-Brownhills ..	4	44	2	3	3	2	1	-	2	-	3	-	5	9	143	26	60	22	12	45	34	2
Biddulph ..	1	9	-	-	2	-	-	-	-	-	1	-	2	6	34	14	20	9	1	4	12	1
Cannock ..	4	28	6	2	1	1	-	-	-	2	2	-	14	11	121	34	63	20	12	66	31	1
Kidsgrove ..	3	9	-	4	1	1	-	-	-	-	-	-	4	3	47	2	26	11	6	15	7	-
Leek ..	1	11	-	1	2	2	-	-	-	-	4	-	5	6	53	19	38	3	6	20	16	-
Lichfield ..	1	6	-	4	1	1	-	-	-	-	4	-	2	3	45	9	20	19	1	14	6	-
Newcastle ..	5	36	4	2	1	5	-	3	1	1	8	1	11	9	221	37	140	32	12	67	54	3
Rugeley ..	2	7	-	1	1	-	-	-	1	-	-	-	1	2	31	7	28	6	1	6	9	-
Stafford ..	4	20	2	7	1	-	-	-	-	1	4	-	6	10	141	26	93	14	10	60	22	1
Stone ..	-	1	-	-	-	-	-	-	-	1	-	-	3	2	23	14	18	5	3	7	7	-
Tamworth ..	4	17	1	2	-	2	-	-	-	-	3	-	5	8	100	13	57	17	2	15	21	2
Uttoxeter ..	-	4	-	-	-	1	-	-	-	1	-	-	3	1	38	5	11	3	5	3	2	-
TOTALS ..	29	192	15	26	13	15	1	3	4	6	29	1	61	70	997	206	574	161	71	322	221	10

Deaths occurring during the year 1970 classified according to Disease and Localities together with Births occurring during the year.

URBAN

DISTRICT	Other Diseases of Respiratory System	Peptic Ulcer	Appendicitis	Intestinal Obstruction and Hernia	Cirrhosis of Liver	Other Diseases of Digestive System	Nephritis and Nephrosis	Hyperplasia of Prostate	Other Diseases, Genito-Urinary System	Diseases of Skin, Subcutaneous Tissue	Diseases of Musculo-Skeletal System	Congenital Anomalies	Birth Injury, Difficult Labour, etc.	Other Causes of Perinatal Mortality	Symptoms and Ill-defined Conditions	Motor Vehicle Accidents	All other Accidents	Suicide and Self-inflicted Injuries	All other External Causes
Aldridge-Brownhills ..	10	5	-	6	-	3	5	3	5	1	2	4	9	6	4	3	10	5	-
Biddulph ..	3	1	1	-	-	-	2	2	2	-	-	2	-	1	1	2	2	-	-
Cannock ..	9	5	-	4	1	9	3	3	3	4	1	6	7	4	1	6	7	2	-
Kidsgrove ..	3	2	-	-	-	-	2	1	1	-	1	6	3	1	2	3	3	2	-
Leek ..	1	2	-	1	1	1	1	1	3	-	2	1	-	1	13	2	6	2	-
Lichfield ..	4	1	-	2	-	-	-	-	2	-	3	-	1	-	24	6	5	1	-
Newcastle ..	13	2	-	2	1	7	4	3	1	-	6	12	3	5	4	7	17	3	2
Rugeley ..	-	2	-	2	1	1	-	-	1	-	-	1	1	1	-	-	2	-	-
Stafford ..	4	4	1	2	1	6	5	2	1	-	3	7	3	1	4	3	9	1	1
Stone ..	1	-	-	-	1	2	-	-	2	-	-	1	-	2	-	1	1	-	1
Tamworth ..	5	2	-	1	-	2	-	2	-	-	1	2	4	5	4	6	5	2	-
Uttoxeter ..	-	1	-	-	-	1	1	1	-	-	1	-	-	1	-	-	2	1	1
TOTALS ..	53	27	2	20	6	32	23	18	21	5	20	42	31	28	57	39	69	19	5

RURAL

DISTRICT	Live Births	Still Births	Deaths from all causes	Deaths of Infants			Tuberculosis of Respiratory System	Late effects of Respiratory T.B.	Other Tuberculosis	Other Infective and Parasitic Diseases	Malignant Neoplasm								
				Under one year of age	Under four weeks of age	Under one week of age					Buccal Cavity, etc.	Oesophagus	Stomach	Intestine	Larynx	Lung, Bronchus	Breast	Uterus	Prostate
Cannock	1,060	11	328	18	13	10	1	-	-	1	1	2	12	5	-	19	9	6	2
Cheadle	712	14	459	9	5	5	3	-	-	1	1	2	10	19	-	15	6	2	3
Leek	194	1	151	3	3	3	-	-	1	-	-	1	2	4	1	5	4	-	2
Lichfield	1,312	19	620	26	17	15	1	1	-	-	-	1	11	14	-	26	13	2	5
Newcastle	270	3	212	6	5	4	-	-	-	2	1	-	6	8	-	3	4	1	1
Seisdon	588	14	345	10	9	6	1	1	-	1	-	4	12	6	-	15	7	3	2
Stafford	457	7	180	3	2	1	-	-	-	-	1	4	6	5	-	8	4	-	1
Stone	286	4	203	4	1	1	-	-	1	-	1	-	8	5	-	7	2	3	-
Tutbury	456	7	209	5	4	4	-	1	-	1	-	3	6	2	-	15	2	2	1
Uttoxeter	148	-	115	6	1	1	-	-	-	-	-	-	2	4	-	3	1	-	2
TOTALS	5,483	80	2,822	90	60	50	6	3	2	6	5	17	75	72	1	116	52	19	19

RURAL

DISTRICT	Leukaemia	Other Malignant Neoplasms	Benign and Unspecified Neoplasms	Diabetes Mellitus	Avitaminoses, etc.	Other Endocrine etc. Diseases	Anaemias	Mental Disorders	Meningitis	Multiple Sclerosis	Other Diseases of Nervous System, etc.	Chronic Rheumatic Heart Disease	Hypertensive Disease	Ischaemic Heart Disease	Other Forms of Heart Disease	Cerebrovascular Disease	Other Diseases of Circulatory System	Influenza	Pneumonia	Bronchitis and Emphysema
Cannock	3	15	1	1	-	1	1	1	-	-	2	2	11	83	13	35	8	6	16	13
Cheadle	2	23	2	5	-	-	-	2	-	-	4	7	5	94	49	71	24	16	30	21
Leek	1	4	1	1	-	1	-	-	-	-	2	4	3	34	10	23	8	6	8	2
Lichfield	2	24	1	10	1	2	4	3	2	1	2	7	9	139	38	84	28	12	79	22
Newcastle	3	11	1	3	-	1	-	-	-	-	-	7	2	55	9	34	15	1	12	7
Seisdon	4	20	-	5	-	1	1	3	-	-	2	7	4	88	20	51	7	5	13	17
Stafford	1	7	1	2	-	-	1	-	-	1	1	-	4	46	12	23	11	2	12	8
Stone	1	10	1	-	-	-	-	1	1	-	3	-	3	44	8	37	8	7	17	4
Tutbury	3	10	3	-	-	-	-	-	-	-	2	2	5	50	20	27	8	2	11	10
Uttoxeter	1	3	1	2	-	-	1	-	-	1	-	1	1	37	9	17	7	2	6	1
TOTALS	21	127	12	29	1	6	8	10	3	3	18	37	47	670	188	402	124	59	204	105

RURAL

DISTRICT	Asthma	Other Diseases of Respiratory System	Peptic Ulcer	Appendicitis	Intestinal Obstruction and Hernia	Cirrhosis of Liver	Other Diseases of Digestive System	Nephritis and Nephrosis	Hyperplasia of Prostate	Other Diseases, Genito-Urinary System	Diseases of Musculo-Skeletal System	Congenital Anomalies	Birth Injury, Difficult Labour, etc.	Other causes of Perinatal Mortality	Symptoms and Ill-defined Conditions	Motor Vehicle Accidents	All other Accidents	Suicide and Self-inflicted Injuries	All other External Causes
Cannock	..	9	-	2	1	1	5	3	-	-	-	9	4	2	2	8	10	1	1
Cheadle	..	7	-	-	1	-	-	1	-	3	2	5	2	1	5	4	8	2	-
Leek ..	..	1	1	-	-	-	1	-	-	1	3	1	1	1	4	1	6	2	-
Lichfield	..	2	3	-	3	-	2	2	5	2	4	7	8	5	8	11	8	3	1
Newcastle	..	4	2	-	-	-	2	-	1	-	1	3	1	-	-	4	6	-	-
Seisdon	..	3	3	1	-	-	5	2	-	-	1	6	1	2	2	9	8	2	-
Stafford	..	1	-	1	1	1	2	1	2	2	-	2	-	1	-	2	1	2	-
Stone ..	..	1	1	-	-	1	6	1	-	2	-	3	1	-	-	6	4	3	-
Tutbury	..	1	1	-	2	-	1	1	-	-	1	-	1	3	1	5	3	1	-
Uttoxeter	..	2	-	-	-	-	-	1	-	1	-	3	1	-	-	4	1	-	-
TOTALS	..	31	11	4	8	3	24	12	8	11	12	39	20	15	22	54	55	16	2

Table showing the number of cases of certain Infectious Diseases notified in each sanitary area during the year ended 31st December, 1970, and the Attack-Rates per 1,000 of the population.

URBAN

DISTRICT	Estimated Population 1970 for calculating rates	Food Poisoning		Typhoid		Scarlet Fever		Whooping Cough		Dysentery		Acute Meningitis		Measles		Ophthalmia Neonatorum		Infective Jaundice		Infective		Ac. Encephalitis	
		C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R
Aldridge- Brownhills	88,070	5	.06	1	.01	49	.56	130	1.48	6	.07	2	.02	1106	12.56	—	—	19	.22	—	—	—	—
Biddulph	17,120	—	—	—	—	7	.41	2	.12	—	—	—	—	131	7.65	—	—	2	.12	—	—	—	—
Cannock	55,000	7	.13	—	—	21	.38	46	.84	5	.09	—	—	133	2.42	2	.04	27	.49	—	—	—	—
Kids Grove	22,890	3	.13	—	—	4	.17	3	.13	5	.22	—	—	267	11.66	—	—	2	.09	—	—	—	—
Leek ..	19,150	1	.05	—	—	12	.63	4	.21	—	—	—	—	62	3.24	—	—	3	.16	1	.05	—	—
Lichfield	23,190	1	.04	—	—	36	1.55	11	.47	—	—	1	.04	22	.95	—	—	9	.39	—	—	—	—
Newcastle	76,590	127	1.66	—	—	42	.55	14	.18	227	2.96	1	.01	631	8.24	—	—	4	.05	—	—	1	.01
Rugeley ..	20,680	4	.19	—	—	—	—	32	1.55	1	.05	2	.10	94	4.55	—	—	—	—	—	—	—	—
Stafford ..	54,740	—	—	—	—	7	.13	32	.58	2	.04	—	—	321	5.86	—	—	—	—	—	—	—	—
Stone ..	10,880	—	—	—	—	—	—	—	—	—	—	—	—	97	8.92	—	—	—	—	—	—	—	—
Tamworth	39,090	—	—	—	—	4	.10	7	.18	3	.08	—	—	107	2.74	—	—	2	.05	—	—	—	—
Uttoxeter	9,010	—	—	—	—	—	—	—	—	—	—	—	—	95	10.54	—	—	—	—	—	—	—	—

RURAL

DISTRICT	Estimated Population 1970 for calculating rates	Food Poisoning		Scarlet Fever		Whooping Cough		Dysentery		Acute Meningitis		Measles		Infective Jaundice		Infective		Ac. Encephalitis	
		C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R
Cannock	43,550	1	.02	1	.02	33	.76	—	—	—	—	278	6.38	19	.44	—	—	—	—
Cheadle	40,730	7	.17	28	.69	32	.79	—	—	1	.02	361	8.86	1	.02	—	—	—	—
Leek	13,500	—	—	1	.07	1	.07	3	.22	1	.07	118	8.74	—	—	—	—	1	.07
Lichfield	55,900	5	.09	2	.04	2	.04	—	—	3	.05	473	8.46	17	.30	—	—	—	—
Newcastle	20,790	20	.96	2	.10	24	1.15	30	1.44	—	—	162	7.79	1	.05	—	—	—	—
Seisdon	39,470	5	.13	8	.20	8	.20	—	—	—	—	182	4.61	20	.51	—	—	—	—
Stafford	23,650	2	.08	2	.08	5	.21	5	.21	—	—	32	1.35	—	—	—	—	—	—
Stone	20,750	7	.34	1	.05	7	.34	4	.19	3	.14	243	11.71	3	.14	—	—	—	—
Tutbury	25,230	—	—	4	.16	13	.52	1	.04	2	.08	150	5.95	4	.16	—	—	—	—
Uttroter	11,730	1	.09	1	.09	10	.85	5	.43	—	—	46	3.92	1	.09	—	—	—	—

SECTION III

LOCAL HEALTH SERVICES

ADAPTATIONS OF HOMES FOR INSTALLATION OF ARTIFICIAL KIDNEY MACHINES

Following receipt of Ministry of Health Circular 2/68, the Authority quickly established a scheme for the provision of artificial kidney machines in patients' homes for the treatment of chronic renal failure. These machines, which cleanse the blood, had hitherto only been available at hospitals where the patient was required to attend on two or three occasions weekly for treatment.

Visits to the hospital are both inconvenient to the patient and, where appropriate, his family and also costly to the Ambulance Service. Home dialysis enables suitable patients to treat themselves at home following certain adaptations to the property to accommodate the machine, which is the function of the local health authority.

Hospital Authorities provide and maintain the intermittent haemodialysis (artificial kidney) equipment and provide the relevant medical services. They also pay for the extra cost of electricity and for the installation and rental of a telephone where this is necessary. Hospital Authorities do not, however, have powers to make adaptations to the home.

A patient being treated at home needs a room with space for a single bed and the dialysis equipment and a sink with a good supply of water; the walls and ceiling of the room have to be made crack-free and washable. Special storage space for one month's supply of sterile dressing and of containers of concentrated fluids is needed and the premises also require special electrical wiring, plumbing to the sink and waterproof floor covering.

The estimated average cost of the installation of a machine at home is in the region of £300 although the cost depends on the facilities existing at the patient's home. In appropriate cases, a proportion of the cost may be recovered from the patient, depending upon the person's financial circumstances.

At the end of 1970 six cases were benefiting from installation at home.

At the time of writing this report (mid 1971) the Authority had provided a sectional building ('Portakabin') in the garden of a patient's household, it not being possible to suitably adapt a room in the house. The kidney machine is installed in the 'Portakabin'. Full details of this type of provision will be reported in the 1971 Annual Report.

ADMISSION OF CHRONIC SICK TO HOSPITAL

During the year the number of cases referred by general practitioners was 877, the object being to achieve the best means of using the beds available for the treatment of the chronic sick, and also arranging adequate domiciliary care.

The figures for 1970 are probably not a true reflection of the movement of chronic sick cases since, following the appointment of Geriatrician Consultants by the Hospital Management Committees, a number of cases are referred by the general practitioners direct to the Consultants. No doubt this practice will increase in the future.

In addition, family doctors in the fringe areas of the County arrange for their patients to be admitted to chronic sick hospital accommodation outside the County, and the cases are not notified to the Area Medical Officers.

The following are the general (known) statistics relating to chronic sick cases.

1. Of the total referrals, the following action was taken:—

(a) Admitted to Chronic Sick Hospital accommodation	..	417
(b) Mental Hospitals	.. .. .	7
(c) Part III Accommodation	.. .. .	19
(d) General Hospitals	.. .. .	26
(e) Died prior to admission	.. .. .	77
(f) Application Cancelled	.. .. .	8
(g) Temporary stays	.. .. .	20
(h) Private Nursing Home	.. .. .	2
(i) Patient refused admission	.. .. .	10
(j) Referred to Bucknall Hospital	.. .. .	4
(k) Day Hospital	.. .. .	2
2. Of the above figures, in 310 cases the County Council Services were of some assistance prior to the various courses of action being taken.
3. Of the total referrals, 239 cases were cared for at home and assistance was given in accordance with the following:—

(a) Nursing	.. .. .	86
(b) Domestic Help	.. .. .	57
(c) Social Welfare	.. .. .	46
(d) Nursing and Domestic Help	.. .. .	33
(e) Nursing and Social Welfare	.. .. .	5
(f) Domestic Help and Social Welfare	.. .. .	4
(g) Nursing Domestic Help and Social Welfare	.. .. .	8

The care of the chronic sick is hampered by insufficient hospital beds being available throughout the County. This is accentuated during periods when wards or parts of wards have to be closed for repairs and maintenance. Quite often the bed scarcity results in even the most urgent cases having to wait for a vacancy.

AMBULANCE SERVICE

The Ambulance Stations are situated as follows:—

<i>24-hour Stations</i>	<i>16-hour Stations</i>
Aldridge	Biddulph
Cannock	Kids Grove
Cheadle	Rugeley
Leek	Stone
Lichfield	Tamworth
Newcastle	
Uttoxeter	
*Stafford	

*The 24-hour operational Station at Stafford is co-ordinated within the County Ambulance Headquarters, which houses the County Ambulance Control, the Training School and Administrative Offices of the Service.

The year has seen a steady development of the Service although this was disrupted for a short spell by industrial action of the Ambulance Crews during the strike appertaining to the Manual Workers Pay Claim. This resulted in a reduction of patients being conveyed to and from Hospitals and Centres for out-patient treatment, hence a slight reduction in the number of patients carried this year. However, the Service to the seriously ill and injured through accident or illness was maintained at all times.

There has been an increase in Staff and vehicles to meet the additional demand upon the Service by the opening of Day Hospitals at Tamworth.

In accordance with County policy of replacing vehicles every five years, seventeen vehicles were replaced during the year. The vehicle maintenance being carried out at the maintenance depots situated at Newcastle, Stafford & Lichfield.

MILEAGE, PATIENTS CARRIED, VEHICLES, ETC.

The table below gives the mileage and number of patients carried by ambulance station during 1970, together with the establishment of each personnel and vehicles as at the 31st December, 1970.

STATION	Hours Open	Personnel	VEHICLES		AMBULANCES		SITTING CARS	
			Amb.	Cars	Mileage	Patients	Mileage	Patients
Aldridge	24	25	4	5	68,411	9,172	84,721	14,390
Biddulph	16	6	1	2	25,601	3,182	33,605	6,519
Cannock	24	28	4	6	101,735	10,621	139,379	15,529
Cheadle	24	22	4	4	66,981	7,527	77,728	12,499
Kidsgrove	16	6	2	1	29,125	5,992	18,658	4,481
Leek	24	25	4	4	64,188	6,512	79,159	11,423
Lichfield	24	26	5	5	93,388	13,391	68,120	10,975
Newcastle	24	29	5	6	83,886	13,943	83,836	17,428
Rugeley	16	7	2	1	70,456	7,680	29,706	3,651
Stafford	24	29	6	4	103,998	11,264	77,310	9,535
Stone	16	6	1	2	35,988	4,193	46,755	6,041
Tamworth	17	15	3	2	54,153	8,226	53,486	6,170
Utttoxeter	24	24	3	4	69,164	6,256	96,462	10,037
County Control ..	24	24	—	—	—	—	—	—
TOTAL	—	272	44†	46*	867,074	107,959	888,925	128,678

* Includes 4 retained for training purposes.

† 1 major incident vehicle.

The analysis of the types of patients carried is given below:—

Maternity	..	4,167
Illness	..	224,936
Accidents	..	6,988
Infectious	..	196
Mental	..	350

The following is a comparison of the number of Stations, personnel, vehicles, patients carried and mileage at the 31st December, 1970 with the number at 31st December, 1969:

	31/12/69	31/12/70
24 hour Stations	8	8
Sub-Stations	5	5
Ambulances	41	44
Sitting Cars	47	46
Personnel	268	272
Patients carried	241,054	236,637
Mileage	1,745,493	1,755,999
Average miles per patient carried	7.24	7.41

AGENCY SERVICE

The following table shows the mileage run and patients carried by the Hospital Car Service in the Stafford and Lichfield Areas:

<i>Month</i>	<i>Stafford</i>		<i>Lichfield</i>	
	<i>Mileage</i>	<i>Patients carried</i>	<i>Mileage</i>	<i>Patients carried</i>
January	2,374	60	1,056	34
February	3,406	80	794	20
March	3,753	90	879	26
April	5,043	92	1,461	44
May	3,504	104	1,077	26
June	3,287	90	2,031	68
July	5,327	105		
August	3,744	64	1,176	22
September	2,788	56	864	24
October	3,902	84	1,187	26
November	3,506	60	1,447	40
December	2,535	68	1,295	28
	43,169	953	13,267	358

ATTENDANCES AT CLINICS

CHILD HEALTH CLINICS

At the end of the year there were 101 Welfare Centres in operation of which 27 are purpose-built, 10 adapted, 3 in General Practitioner Surgeries, and 61 occupied on a sessional basis.

The following are particulars of the number of sessions and attendances made during the year:—

No. of sessions	5,136
No. of children who attended during the year and who were born in:—	
1970	10,708
1969	6,539
1965-68	6,365
Total	23,612
No. of attendances during the year made by children who at the date of attending were:—	
Under 1 year	87,739
1 but under 2	77,428
2 but under 5	55,878
Total	221,045

ANTE-NATAL AND POST-NATAL CLINICS

1,485 sessions were held during the year as follows:—

Medical Officers	207
Midwives	1,171
General Practitioners employed on a sessional basis	55
Hospital Medical Staff	52

The following are the numbers of expectant mothers and attendances made by them during the year at the Ante-Natal Clinics:—

No. of expectant mothers attending	4,381
Total number of attendances	11,627

72 persons attended the Post-Natal Clinics.

Where treatment is required, the patient is referred, other than for unsatisfactory dental conditions, to her own doctor. Dental treatment can be given under the County Council Scheme and the patients are offered the facilities locally available.

MOTHERCRAFT AND RELAXATION CLASSES

Number of women who attended during the year	(a) Institutional booked	2,349
	(b) Domiciliary booked	605
	(c) Total	2,954
Total number of attendances during the year ..		9,995

TODDLERS CLINICS

Number of clinics held during the year	174
Number of children who attended	1,416

HEARING TESTS FOR YOUNG CHILDREN

(a) Number of children screen tested	6,549
(i) at clinic	4,861
(ii) at home	1,688
(b) Number of children who failed	114

All children who fail the test are re-tested at a later date. Those who still do not pass the test are referred for appropriate treatment to their General Practitioner or to Specialists.

CHILDREN AT RISK

The Health Department is notified of all children who are considered to be 'At Risk' at birth and also any children who are normal at birth but due to circumstances, such as poor environment or inadequate care, fail to progress satisfactorily. Children are placed on the 'At Risk' Register for reasons which range from a relatively minor cause, such as a low birthweight, to the most serious, for example a physical or mental abnormality. Each child is visited regularly by the Health Visitor who submits reports on the child's progress and development, the relevant information being transferred to the record on the 'At Risk' Register held in the central office. During the year 1970, 1,556 new cases were added to the Register and 675 cases were removed having been found to be progressing satisfactorily. In 1970, 115 children were notified as suffering from some form of congenital abnormality and these cases were reported to the Registrar General who records all congenital abnormalities throughout the country, keeping a check on the incidence of the various malformations. Details of cases notified to the Registrar General include information on the age of parents, drugs taken during pregnancy and number of previous live or still births. The School Health and Mental Health Sections are notified of children with certain defects at the age of two years and of their progress at their six monthly reviews or when information is received from a Consultant. This enables provision to be made for their long-term care.

WELFARE OF BLIND AND PARTIALLY SIGHTED PERSONS

The County Welfare Officer of this Authority has kindly provided the following information with regard to the welfare of blind and partially sighted persons in the administrative County.

The number of registered blind people living in the County has increased by 43 from the 1969 figure.

BLIND AND PARTIALLY SIGHTED REGISTER

Numbers Registered as Blind at 31st	Male ..	425
December, 1970.. .. .	Female ..	648
	Total ..	1,073
Numbers Registered as Partially Sighted	Male ..	116
at 31st December, 1970	Female ..	164
	Total ..	280

Number on Partially Sighted Register	Male	..	21
(under 16 years of age)	Female	..	12
	Total	..	<u>33</u>

AGE PERIODS OF REGISTERED BLIND

<i>Age</i>					<i>Numbers</i>
Below 1	..	..	..	..	0
1	..	..	..	..	0
2	..	..	..	..	3
3	..	..	..	..	3
4	..	..	..	..	1
5-10	..	..	..	..	18
11-15	..	..	..	..	13
16-20	..	..	..	..	11
21-29	..	..	..	..	24
30-39	..	..	..	..	38
40-49	..	..	..	..	65
50-59	..	..	..	..	95
60-64	..	..	..	..	85
65-69	..	..	..	..	103
70-74	..	..	..	..	113
75-79	..	..	..	..	141
80-84	..	..	..	..	152
85-89	..	..	..	..	128
90 and over	..	..	..	..	80
					<u>1,073</u>

Employed in Workshops .. 23 Employed Otherwise .. 81

In approved Home Workers' Schemes .. 12

Under Training 3 Children under 16 .. 38

Unemployable	..	..	904
Not available	..	..	124
Not capable	..	..	88
Over 65	..	..	692

FOLLOW-UP OF REGISTERED BLIND AND PARTIALLY SIGHTED
PERSONS

	CAUSE OF DISABILITY			
	Cataract	Glaucoma	Retrolental Fibroplasia	Others
(i) Number of cases registered during the year in respect of which Section F of Forms B.D.8 recommends:—	42	24	—	112
(a) No Treatment	11	7	—	61
(b) Treatment	31	17	—	51
(ii) Number of cases at (i) (b) above which on follow-up action have received treatment	17	11	—	43

Blind and Partially Sighted persons included in the "Others" column.

Aphakia	1
Optic Atrophy	12
Retinopathy	12
Macular Degeneration	33
Retinal Degeneration	10
Retinitis Pigmentosa	5
Ablatio Retinae	1
Arteritis	1
Micro Cornea	1
Sclerosis of Lens	1
Myopic Degeneration of Choroid	3
Maculopathy	3
Iritis	2
Angoid Streak	1
Corneal Nebulae	1
Myopia	8
Kerato Conus	1
Nystagmus	2
Choroidal Sclerosis	2
Corneal Dystrophy	1
Diabetic Retinitis	1
Hemianopia	3
Keratitis	1
Thrombosis	1
Macular Dystrophy	3
Central Retinal Occlusion	2
TOTAL	112

PARTICULARS OF REGISTERED BLIND AND PARTIALLY SIGHTED
PERSONS WHO WERE RECOMMENDED TREATMENT DURING 1970
BUT DID NOT RECEIVE SUCH TREATMENT

AGE	CAUSE OF DISABILITY			
	Cataract	Glaucoma	Retrolental Fibroplasia	Others
0 - 5	—	—	—	—
5 - 15	—	—	—	—
16 - 20	—	—	—	—
20 - 29	—	—	—	—
30 - 39	—	—	—	1
40 - 49	—	—	—	1
50 - 59	—	—	—	—
60 - 69	2	2	—	2
70 - 79	4	2	—	1
80 - 89	4	1	—	2
90 and over	4	1	—	1

The County Welfare Department of this Authority is responsible for the welfare of blind persons. Where the department does not provide services, direct arrangements exist with registered voluntary organisations for the provision of these services.

A wide range of welfare services is provided for blind persons including social activities, instruction in handicrafts and in methods of overcoming their disability, holidays, outings and teaching to read embossed literature.

Where possible, attempts are made to assist in placing registered blind persons in open employment or in sheltered workshops or as home workers. In addition, instruction is provided in pastime occupations in the homes of blind people and in social and handicraft centres.

All registered blind and partially sighted people are visited regularly by the Home Teachers of the County Welfare Department to see what help can be given and to ensure they obtain all assistance to which they are entitled from the Social Services.

BUILDING PROGRAMME FOR HEALTH CENTRES AND CHILD HEALTH CLINICS

The Penkridge Health Centre, which includes accommodation for three General Practitioners, opened in February, 1970. This is the third Health Centre opened by the Council Council.

FUTURE PROGRAMME

A very comprehensive three year forward planning programme comprising ten Health Centres and fourteen Child Health Clinics has been approved by the County Council. This excludes Health Centres at Lichfield North, Kidsgrove, Glascote, Leek, Barton-under-Needwood, and extensions to the existing Rugeley Health Centre, all of which are in the previously approved programme and it is hoped that building will commence on these projects this financial year.

HIRED PREMISES.

During the year members of the staff continued the policy of seeking suitable accommodation for hiring on a sessional basis for clinic functions. Some premises are not altogether suitable for the purpose, but are preferable to having no facilities for a particular locality.

Where premises are not favourable, continued efforts are made to persuade the landlords to carry out improvements.

Requests for clinics to be established in certain parts of the County continue to be received and these were investigated and action taken in accordance with the merits of each request.

No further hired premises were opened during the year for child health clinics and the clinic held in the Bobbington Village Hall was closed on account of lack of attendance.

The total number of premises (all types) in which sessions are held (101) shows a decrease of one compared with 1969.

CARE OF UNMARRIED MOTHERS AND THEIR CHILDREN

This service is provided throughout the Administrative County and surrounding authorities by the Lichfield Diocesan Association for Family Care and during the financial year 1970-71 the County Council's grant to the Association was £6,108.

The following is an extract from the report of the Organising Secretary on the care of illegitimate children for the year 1970 in the Administrative County.

"217 cases in which illegitimate births occurred in 1970 have been dealt with by the caseworkers of the Association and these are reported on below. In addition 77 cases in which births occurred prior to 1970 have been dealt with according to their various needs, including the placing of babies for adoption, taking Affiliation proceedings, finding accommodation etc. 38 expectant mothers whose babies were due to be born in 1971 had the necessary arrangements made for their confinements. This makes a total of 332 cases under care in 1970.

58 mothers were accommodated in Diocesan Homes, 147 went into hospital for their confinements, 2 remained in their own homes and 10 were accommodated in Homes outside the Diocese. 24 of the cases concerned married women – 5 were divorced, 6 were living apart from their husbands, 6 were legally separated and 7 were reconciled to their husbands after their babies had been placed for adoption.

Efforts were made as far as possible to trace the putative fathers with the result that 16 Affiliation Orders were made, 15 Agreements were signed, and in 6 instances grants were made by voluntary societies.

12 girls have married the putative fathers.

The ages of the mothers ranged from 14 to 40 and are listed below. The age of 1 was not known.

aged 14—2; aged 15—17; aged 16—27; aged 17—33; aged 18—27; aged 19—25; aged 20—14; aged 21—15; aged 22/27—43; aged 28/34—8; aged 35/40—5.

The ages of the putative fathers ranged between 15 and over 40.

The babies placed were as follows:

- 108 with mother at home
- 14 with parents married
- 1 with parents co-habiting
- 6 with foster parents
- 1 in local Authority Homes
- 1 in Voluntary Children's Homes
- 68 Adopted through Association
- 1 Adopted through alternative Society
- 6 Adopted privately
- 2 Transferred to another Caseworker
- 1 Died
- 5 Stillborn
- 3 Miscarriages

1,064 visits and interviews have been paid in connection with the 332 cases under care. In addition the homes of 139 prospective adopters have been visited and reported on and 90 babies visited after they have been placed for adoption, girls conveyed to Homes and accompanied when they have had to appear in Court or to have their signature witnessed when consenting to an Adoption Order being made."

CERVICAL CYTOLOGY

The County Council's Cervical Cytology Service commenced in May, 1966 and the number of women who had been examined by the end of 1970 was approximately 20,000. The general procedure for recalling patients as detailed in last year's report has continued but, despite the reminder, some women do not accept their invitations to attend for a retest and in quite a number of cases where patients have changed their address they do not notify this Department. It will be appreciated that because of the postal strike early in the year several clinic sessions had to be cancelled due to the problem of appointment letters not being able to be delivered. Advertising literature continues to be distributed throughout the County and sessions are also advertised in the local press as and when necessary.

During the year a clinic was opened at Penkridge and sessions were also held at Keele to enable local people to take advantage of the service. The fifteen clinics listed in the report last year continued throughout 1970 and the domiciliary service has been used to a small extent but it is hoped will develop more widely as the service is expanded.

CHIROPODY SERVICE.

The Section commenced the year quietly with a steady assimilation of new patients to the Register from the waiting list which had accumulated as a result of earlier staffing difficulties. The continuing problem in providing an adequate level of service is the small number of Chiropodists who are prepared to take up full-time posts in local health authority work. Where part-time staff are used to replace full-time staff the correspondingly higher costs involved restricts the Service as the expenditure is a fixed sum.

Fortunately, the staffing situation during the year remained fairly stable and the appointment of one full-time and two part-time staff brought the establishment up to the financial limits of the Service. The allocation of staff in post throughout the whole County was as follows:—

			<i>Whole-time</i>		<i>Part-time</i>
Administrative County	..	..	5	..	15
Newcastle Borough		..	1	..	—
Aldridge/Brownhills	..	..	—	..	5

ELDERLY PATIENTS.

It is anticipated that the steadily increasing demand for chiropody for the elderly will continue to exceed the Service capacity in the short term. The Chiropodists continually assess the needs of patients and give preference to priority cases, and although this causes discontent among the less needy cases, overall the system works satisfactorily. In the long term the increasing use of appliances will reduce the frequency of attention.

SCHOOL WORK.

The present incidence of plantar wart (*verruca pedis*) among school-children is in itself sufficient to utilise the whole of the time available to Chiropodists for school work, but adequate attention must be given to many minor foot deformities which if not treated result in permanent structural deformity in adult life. Although the level of service provided during the year for the children is below that which is desired some progress is being made by developing closer links with the School Medical Officers and other medical services. This coupled with a more

intensive foot health education programme and the improved co-operation of schools and parents is helping to lay the foundations of an improved Service in the future.

TREATMENT.

The number of treatments carried out during 1970 was as follows:—

	<i>Clinic</i>	<i>Domiciliary</i>
Elderly Patients		
(including handicapped patients) . .	21,089	13,482
Residential Homes	935	
School-children	12,531	

During the year 882 elderly patients were admitted to the Register.

APPLIANCE SERVICE.

As part of the Health Committee's plan to provide a comprehensive chiropody service an appliance laboratory has been established at Stafford. The laboratory is only just beginning to function and the restricted availability of staff for laboratory work has limited the work, done to high priority cases only. It is, however, intended to equip the laboratory to a high standard and use the most recently developed techniques in appliance making. A good start has been made and early successes indicate a sound investment for the future.

CO-ORDINATION AND CO-OPERATION OF HEALTH DEPARTMENT DOMICILIARY STAFF WITH THE HOSPITAL AND FAMILY DOCTOR SERVICE

The attachment of nursing staff to General Practitioners has continued, and has now taken place in Tamworth and Chase Terrace. In addition to the attachments previously arranged, it has also been completed in the delegated area of Aldridge/Brownhills.

Discussions have continued with other groups of practitioners and further attachments will be made shortly. In addition, Health Visitors are attending various hospital outpatient departments to act as liaison officers between their colleagues in the field and the consultants.

The appointment of a Medical Officer to the newly created post of Senior Clinic Medical Officer to the County Council and Medical Officer to the Hospital Management Committee has proved most satisfactory, resulting in much closer co-operation between this department and the paediatric department of the hospital concerned.

Dr. W. D. H. McFarland, Area Medical Officer for Stafford, continues his duties as an Honorary Member of the Staff of the Staffordshire General Infirmary and acts as liaison officer between the hospital and domiciliary services.

CO-ORDINATING COMMITTEES – FAMILY WELFARE TO PREVENT CHILD NEGLECT OR ILL-TREATMENT

The Medical Officers to Area Health Committees act as Co-ordinating Officers on behalf of the County Medical Officer. The County Children's Officer also shares the responsibility of Co-ordinating Committees in providing secretarial service.

The periodic meetings in all parts of the County are attended by social workers employed by the Authority, health visitors, representatives of the Probation Service, Housing Department, the Department of Health and Social Security, N.S.P.C.C. and other Voluntary Organisations. In addition, student social workers attend the meetings and this provides them with valuable contact with other social workers and a sound insight into the wide field of social work. At the Co-ordinating Committee meetings, selective cases are discussed by representatives of the various Departments and Agencies present with a view to ascertaining the needs of the family and how these needs can be met, with a view to the case being referred to and dealt with by the most suitable Department or Agency.

In many instances intense casework is involved and this is shared between the local authority departments concerned with social work and also the N.S.P.C.C. Quite often families with acute problems tend to approach several agencies for help and this can lead to overlapping, but efforts are being made to overcome this difficulty. There is a great deal of co-operation from various Departments of the District Councils and also the Department of Health and Social Security who inevitably become involved with families in need.

The use of small informal meetings of officers to discuss specific families has been considerably extended, this type of meeting proving invaluable particularly in respect of families requiring intensive casework and in times of emergency, as quarterly Co-ordinating Committees tend to be too large and formal for discussion in depth of the most intractable problems.

The Neighbourhood Project, commenced in 1968, continues to function and its terms of reference are to be considerably extended in the near future with a view to promoting active community participation and interest in the area concerned.

During the year, 168 families were considered, 71 new cases being added and 10 cases restored to the register and 114 cases were removed from the register, a very small proportion of these having removed from

the County and the remainder either being satisfactorily concluded or cases for whom little more could be achieved by discussion.

Every effort is made to observe strict confidentiality when discussions take place.

DAY NURSERIES

The County Council operate two Day Nurseries, at Stafford and Newcastle-under-Lyme, as follows:—

STAFFORD DAY NURSERY — RIVERSIDE, STAFFORD

The Stafford Nursery is administered from day to day by the Medical Officer to the Stafford Area Health Committee, and the following report has been provided by the Medical Officer:—

“The Riverside Day Nursery provides accommodation for 50 children ages ranging from 6 weeks to 5 years and continues to operate a strict system of priorities for children whose mothers are in full-time employment, because for various reasons they are self supporting.

Since the opening of the new day nursery in September 1969 the demand for places has increased considerably and the percentage of non priority cases remains very small, in fact, during 1970 there were occasions when the number of priorities attending was 100%, and they include:—

Unmarried mothers
Separated parents
Divorced parents
Widows and widowers
Confinement cases
Hospital cases

THE UNSUPPORTED MOTHER WHO NEEDS TO WORK.

This is by far the largest category of children attending. Not all unsupported mothers need to work solely for financial reasons, some can manage with social security benefits, with the help from parents, relatives or by maintenance payments. However, even with adequate financial resources, many unsupported mothers find it necessary to work if they are to maintain reasonable social links with the community.

FAMILY GROUPING.

The children and staff find the system of family groups very satisfactory. i.e., each member of staff is responsible for a family comprising about 9 children ages ranging from 18 months to 5 years. This new and changed routine from ‘tweenies and toddlers’ has proved beyond doubt to be of great benefit, particularly, it is noted, where children with an insecure background regard their nurse as someone to be relied upon.

The nursery was closed for one week commencing July 6th. The closure did not appear to inconvenience mothers; those not working in industry arranged their own holiday period at that time. The staff take part of their annual leave during the week when the nursery is closed, which does help to relieve the staggered holiday arrangements for the remainder of the year.

VISITS.

Regular visits from Health Visitors who are attending an 'in service' training course continue.

Student Health Visitors attending Keele University continue their observations in developmental screening.

STUDENTS TRAINING.

The nursery is a training school, a two year course for the Certificate of the National Nursery Examination Board. This certificate is not a qualification for neither the teaching profession nor the nursing profession. Alternate weeks are spent at the nursery and Newcastle College of Further Education.

Girls of not less than 16 years of age who are considering training of this nature are selected not only on ability to pass a qualifying examination, but on aptitude for work with children where qualities of sympathy and understanding are important.

PRACTICAL TRAINING ESTABLISHMENTS.

The employing authorities are Staffordshire Health Authority, Staffordshire Education Authority, Staffordshire Children's Department, Newcastle Education Authority and Newcastle Health Authority.

The training establishments administered by these authorities are nursery and infant schools in Stafford, Newcastle, Talke, Barlaston and Tamworth, day nurseries in Stafford and Newcastle, and a residential nursery in Stafford.

In 1970 all students at Riverside day nursery were successful in gaining the N.N.E.B. Certificate and now have a variety of posts open to them. These include:—

Staff nurse in a day or residential nursery.

Warden in a day or residential nursery

Assistant house mother in a residential children's home

Staff nurse in a residential school for physically handicapped children.

Qualified welfare assistant in an infant school

Assistant to the nursing staff in a maternity hospital

Nursery nurse in a children's hospital or children's ward of an orthopaedic hospital

Children's nurse in a private family at home or abroad."

NEWCASTLE DAY NURSERY (LIVERPOOL ROAD, CROSS HEATH)

The Nursery is administered by the Medical Officer to the Borough of Newcastle-under-Lyme (Delegated Authority) and the following report has been provided by the Medical Officer:—

"The Nursery within the Borough at Liverpool Road, Cross Heath, provides forty places. It is staffed by a Matron, Deputy Matron, three nursery nurses, a warden, six students and domestic staff of three.

As is usual there is a long waiting list of children awaiting admission and this at the 31st December, 1970 numbered 101. No priority case was awaiting admission.

Total attendances during the year numbered 6,826 and the daily average attendance was 31.0 (9.1 in the 0-2 year group and 20.9 in the 2-5 year group).

The annual medical inspection of children attending took place during February when 31 children were seen. No child required to be referred to a Consultant.

The Nursery was closed from the 1st to 20th April owing to an outbreak of sonnei dysentery. Attendances during April, May and June were affected also by a measles epidemic.

Following complaints that the revised method of charging for children attending the nursery which was introduced in September, 1969 was causing hardship, particularly in the case of parents enjoying extended holidays, the system was revised from the 5th January, 1970. The fee chargeable during a child's absence while a parent is at home is now 50% of the standard or assessed charge. This reduction is subject to a maximum time of eight complete weeks in any one year. The system of payment in advance is now accepted quite readily.

Only absolutely essential repairs were carried out to the building during the year as it was hoped to move into the new nursery during September.

Unfortunately the building was delayed and it was not possible to take possession during the year. It is now hoped that the new nursery will be operational in April, 1971. The new nursery will provide an extra ten places."

The following are some general statistics relating to Day Nurseries:—

	<i>No. of approved places</i>	<i>Average Daily Attendance</i>	<i>No. of children on register at end of year</i>	<i>No. of priority children on waiting list at end of year</i>
Stafford ..	50	42.3	50	Nil
Newcastle..	40	31.0	40	Nil

COUNTY DAY NURSERIES—STANDARD CHARGE

The standard charge for the Day Nursery accommodation is reviewed annually.

Ministry of Health Circular 23/52 authorises local authorities to make charges for the accommodation of children in Day Nurseries provided that the charges to be made should be determined as follows:—

- (a) The standard (maximum) charge per day should be fixed; this charge not to exceed the actual cost per place day of the Day Nursery service, including a fair apportionment of central administrative costs, and
- (b) the charge actually to be made in each case within the limits of the standard charge should be determined having regard to the means of the person concerned.

The standard charge for the service is fixed from time to time by the County Council having regard to the recommendations of the Health Committee. Assessment Scale "B" is used to determine in each case the actual charge to be made, although special consideration is given to assessments which would involve hardship to the person concerned so that appropriate reductions can be made in these cases. All non-priority cases now pay the standard charge in accordance with the County Council decision at their meeting on 26th July, 1969.

During the year 1969-70 (financial), 181 children were accommodated in the County Council's two Day Nurseries. Of these, 72 cases were assessed to pay the standard charge, 60 paid a reduced charge and 49 were accommodated free.

Details are given below of the net maintenance expenditure at the two Nurseries for 1969-70 and the total expenditure after adding 10% of the net expenditure to cover the cost of central and area administration. This total expenditure is then expressed as a cost per place day.

		<i>Newcastle Nursery</i>	<i>Stafford Nursery</i>
		£	£
Net Maintenance Expenditure .. ..	.. ..	10,726	16,240
Central and Area Administration .. ..	.. ..	1,072	1,624
Total Expenditure .. ..	.. ..	<u>£11,798</u>	<u>£17,864</u>
No. of places .. ..	.. ..	40	50
No. of days upon which open .. ..	.. ..	242	243
No. of Place Days .. ..	.. ..	9,680	12,150
Cost per Place Day, 1969-70 .. ..	.. ..	24s. 4d.	29s. 5d.
Average Cost per Place Day .. ..	.. ..	27s. 2d.	

On this basis the average daily cost per place available in the Day Nurseries during the 1969-70 period was 27s. 2d. compared with 22s. 2d. for the previous financial year.

The standard charge during 1970 for the service was 14/- per full day and 6s. 0d. per half day plus 2/- for lunch. These figures were approved in November, 1969 and took effect from 5th January, 1970.

Having regard to the above details of expenditure during the year 1969-70, the Health Committee at their autumn meeting 1970 decided that the standard charge be increased to 16/- per day (i.e. 7/- per half-day and 2/- for lunch) with effect from the 4th January, 1971.

NURSERIES AND CHILD MINDERS REGULATION ACT, 1948
as amended by the Health Services and Public Health Act,
1968

At the 31st December the following registrations applied:—

CHILD MINDERS

251 persons caring for 831 children as follows:—

Part-time care	48 persons	347 children
Full-time care	203 persons	484 children
	251 persons	831 children

DAY NURSERIES (PRE-SCHOOL PLAY GROUPS)

There are 137 registered day nurseries caring for 2,938 children of which 4 establishments offer full day care for some 85 children.

At the 31st December, 1970, there were 388 registered child minders and day nurseries caring for some 3,769 children.

This shows that during the year under review there was a general increase of 138 groups caring for 1,646 children.

In accordance with the regulations all applicants and helpers completed the medical formalities required, which included a chest x-ray undertaken at Mass Miniature Radiography Units.

DENTAL CARE

The table below summarises the work of the Dental Service for Expectant and nursing mothers and children under five years.

Part A. Attendances and Treatment (the figures in brackets are those for 1969).

	<i>Children 0-4 (incl.)</i>	<i>Expectant & Nursing Mothers</i>
No. of visits for treatment during year		
First Visit	570 (1,097)	89 (126)
Subsequent Visits	347 (779)	132 (252)
Total Visits	917 (1,876)	221 (378)
No. of additional courses of treatment other than the first course com- menced during year	25 (27)	6 (3)
Treatment provided during the year—		
No. of Fillings	620 (1,311)	131 (215)
Teeth filled	533 (1,167)	118 (165)
Teeth extracted	981 (1,657)	138 (319)
General anaesthetics given	352 (614)	17 (36)
Emergency visits by patients	151 (345)	9 (23)
Patients X-rayed	2 (5)	4 (7)

	<i>Children 0-4 (inc.)</i>		<i>Expectant & Nursing Mothers</i>	
Patients treated by scaling and/or removal of stains from the teeth (prophylaxis)	82	(158)	26	(40)
Teeth otherwise conserved	63	(279)	—	(—)
Teeth root filled	—	—	—	(1)
Inlays	—	—	—	(—)
Crowns	—	—	2	(—)
No. of courses of treatment completed during the year	488	(965)	69	(75)

Part B—Prosthetics:

Patients supplied with F.U. or F.L. (first time)	5	(12)
Patients supplied with other Dentures	15	(20)
Number of Dentures supplied	25	(42)

Part C—Anaesthetics:

General Anaesthetics administered by Dental Officers	54	(174)
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Part D—Inspections:

Number of patients given first inspections during year	1,261	(1,826)	66	(147)
Number of patients in A and D above who required treatment	582	(1,028)	61	(133)
Number of patients in B and E above who were offered treatment	565	(1,015)	61	(133)

Part E—Sessions:

No. of Dental Officer Sessions (<i>i.e.</i> .. equivalent complete half days) devoted to M. & C.W. patients	For Treatment	217	(219)
	For Health Edcn.	10	(29)

DENTAL LABORATORY.

A summary of work completed during the period 1st January, 1970–31st August, 1970 is shown below:—

(a) Dentures	99
(b) Repairs	17
(c) Orthodontic Appliances	154
(d) Study Models	345
(e) Special Trays	16
(f) Crowns	13
(g) Splints	1

The remaining dental technician left on 31st August, 1970 in favour of an appointment in a Teaching Hospital. Advertisements nationally and locally have been unsuccessful.

The arrangement already existing for sending out some work to dental trade laboratories was extended and now all work is dealt with in this way; five dental laboratories being involved. The system works well enough but it is not a true substitute for a central laboratory.

With the integration of the health services proposed in 1974, it is unlikely that dental technicians possessing the qualifications required under Whitley Council conditions would now wish to join the local authority dental service. It is in competition with dental trade laboratories where much higher incomes are earned and with the hospital service in which, although Whitley Council conditions apply, the size of the organisation allows a much more attractive career structure.

Probably the long term solution would be to have provision made on the hospital development or health centre development programme.

WELFARE FOODS

The welfare foods scheme is designed to provide supplies of both the national products (national dried milk, cod liver oil, vitamins and orange juice) and certain commercial products at distribution points throughout the County. These are mainly clinics, but in view of the large areas of the County which are very rural in nature, distribution points also includes sales from a mobile vehicle and certain shops in villages which do not have easy access to clinic facilities.

The list of commercial products authorised for sale contains only those products which it is felt are most beneficial. The list is constantly reviewed and cost comparisons taken into account. A noteworthy feature during 1970/71 has been the constant rise in prices of these products, in keeping with the national trend.

At the time of writing, the revision in the national scheme of welfare foods had been implemented. This involved the discontinuance of welfare foods at cheap rates and the substitution of a new type of liquid vitamin drops for cod liver oil and orange juice.

DOMESTIC HELP SERVICE

This service is a vital aspect of community care and plays an important part in helping persons to remain at home in family surroundings for longer than would otherwise be the case if no such service existed. By forestalling institutional care, a saving in expenditure is achieved as care in an old people's Home, or chronic sick hospital is more costly than care provided in the home.

Domestic helps are available for assistance in the home in cases where, due to age, infirmity, sickness, absence of wife or mother in hospital or some similar reason, this leaves no suitable person in the home to care for the patient or the family.

Because of the shortage of chronic sick hospital accommodation throughout the County, the pressure upon the domestic help service continues to be high. This means that a larger number of elderly persons have to be cared for at home for considerable periods of time when they ought really to be in hospital. The provision of more chronic sick hospital accommodation would relieve the pressure but, as mentioned above, would be more costly to the taxpayer.

Recruitment of an adequate number of domestic helps of the right calibre continues to be difficult in certain rural areas of the County. To improve the position the County Council agreed to the payment of car allowances at the casual users' rate to a limited number of home helps who are prepared to travel to outlying districts. This has proved successful and has improved the position to a certain extent. Consideration is being given to increasing the number of allowances.

In general, domestic helps are recruited from married women who in quite a number of cases, have children of their own to care for. This somewhat limits the flexibility of the service insofar as these home helps have to fit their hours of work in with their domestic commitments. Additionally, married women's holidays are taken to coincide with their husbands' holidays, which are usually during the peak holiday period. This results in a period arising during the year when it is very difficult to meet the demand for the service because of the shortage of staff.

In certain parts of the County the recruitment of a sufficient number of capable home helps is further hampered by the keen competition for female labour, particularly in the areas where new industries are operating. Generally, women prepared to go out to work are anxious to obtain a good income to make their effort worth while and to achieve this they prefer to work full-time or for a substantial number of hours each week. This does not suit the requirements of the service where the need is for a large number of women each working a few hours daily so that all households can receive attention early in the day.

During 1970 little change took place with regard to the general administration of the service when compared with 1969. Because of the high cost of the service (net expenditure in 1970-71 £350,000), an extremely close watch is kept on the allocation of hours of assistance. Each application is vetted carefully and all circumstances taken into account before the assessment of need is finally made. In view of the limited resources, hours of assistance have to be continually reviewed. Although inevitably there are persons who complain that the assistance provided is not adequate, it is accurate to say that no real hardship was experienced by any household involved. A successful policy is the reduction of hours of assistance during the summer months with a consequent increase in winter when demand is at its highest.

The domestic help service provides great benefit to those who receive assistance and this is borne out by the many letters of thanks that are continually received.

The following are some general statistics relating to the service during 1970:—

Total cases assisted during the year	..	..	5,843
(i) aged 65 and over	..	..	5,006
(ii) under 65—chronic and tuberculous	..	..	349
(iii) under 65—mentally disordered	..	..	42
(iv) maternity cases	..	..	141
(v) others	..	..	305

At the 31st December, 1970, the Authority were employing approximately 880 domestic helps.

The statistics for 1970 show an increase of approximately 3% in the total cases assisted during the year.

HEALTH EDUCATION

The main function of health education is to convince people that there is a need to care about maintaining good standards of health. Much of the section's work is based upon group teaching techniques with the person-to-person contact being made by other Health Department staff e.g. medical and nursing staff.

SCHOOL WORK.

Programmes of health education continue to be organised in 172 schools throughout the county. Bearing in mind that large comprehensive schools often have a ten-form intake one can appreciate the enormity of the school commitment. School work accounts for the vast majority of the time of the four assistant health education officers.

One of the main advantages of such a school programme is that a complete cross section of population is present in a controlled situation, thereby overcoming the difficulty of reaching a similar range of adults who are not always members of community groups.

Furthermore it is extremely important to persuade young people in matters of healthy living whilst they are still very much open to logical discussion.

MADELEY COLLEGE OF EDUCATION

A new course in health education (followed by a written examination) was organised during the year. The 350 1st year students each received 6 lectures of one hour duration on various aspects of health education. Due to the number of students involved, this necessitated the course being repeated several times.

The main aims of the course were:—

1. To illustrate the scope of our subject to the students.
2. To provide them with information for their own use.
3. To explain the work of our section and facilities available.
4. To encourage them to take part in health education activities in their future role as teachers.

The latter is of utmost importance as eventually much of the responsibility for health education in schools must be accepted by the teaching profession. Sheer numbers make it virtually impossible for any outside body to organise a comprehensive programme in all educational establishments.

EXHIBITIONS AND SPECIAL PROJECTS.

The County Show Exhibition, held on 27th/28th May, proved an outstanding success, judged by the public's response. Depicting the theme 'County Health Services', the various display panels highlighted many of the health services provided by Staffordshire County Health Department. Credit must be given to all staff who contributed towards the success of this project.

A small display was arranged by the section as part of a Public Health Exhibition held at Tamworth from 10th-12th June. Parties of local school children visited the exhibition, as did many members of the general public.

Assistance was given to Leek Adult Training Centre in arranging a display at Leek Show on the theme 'Mental Health' with special reference to the services provided by the Centre.

A mobile exhibition unit from the Health Education Council visited Staffordshire from 27th July-6th August dealing with the subject of Cancer Education. The Unit, fully equipped with closed circuit television, was initially employed for in-service training with lectures being given by staff of the Council. During the remainder of its visit, the unit was taken to several public sites around the county in addition to visiting local industrial organisations. Many hundred people viewed the exhibition and learned a great deal more about this particular subject.

Health Weeks were organised at two senior schools in the Aldridge area. The aim of such ventures is to focus attention for a short specific period on the need for optimum standards of personal and community health. Due to the success of these projects, provisional plans have been drawn up to repeat the exercise next year.

LECTURES.

This approach to health education necessitates working with many community groups in existence.

Two new Mothers Clubs were formed during 1970 bringing the total number functioning to 12. This continues to be a priority group for health education and therefore receives a high proportion of visits by members of the section.

There was an increase in the number of talks given to Parent-Teacher Associations. It continues to be policy to address such meetings whenever a school programme is introduced for the first time. Publicity in the mass media regarding sex education brought many requests for discussion of our work in this field from such Associations and other clubs/groups.

Youth organisations are now making increasing use of the health education section in dealing informally with particular health problems relevant to their members' needs and interests. Once again, this is considered to be a high priority channel for health education. Evening work undertaken by Health Education section staff amounted to 192 sessions during the year.

The technical representative gave 96 film showings to supplement the activities of many members of the County Health Department.

<i>Lecture Details</i>	<i>No. of Lectures</i>	<i>Attendance</i>
Senior Schools—163 programmes ..	976 ..	4,533
Primary Schools—114 programmes ..	654 ..	4,614
Cervical Cytology	6 ..	180
Child Development	8 ..	189
County Health Services	5 ..	140
Dental Health	9 ..	186
Diabetes	1 ..	12
Drug Dependence	19 ..	733
Foot Care	8 ..	229
Health Education Officer (Role of) ..	2 ..	50
Home Safety	20 ..	592
Mental Health	2 ..	45
Nutrition	9 ..	334
Parentcraft	35 ..	615
Personal Hygiene	10 ..	379
Personal Relationships	62 ..	2,811
Resuscitation	13 ..	341
Smoking	12 ..	437
V.D.	11 ..	537

Special

Parent-Teacher Associations	17 ..	898
Student Teachers	20 ..	905
Youth Leaders	2 ..	38
Technician	96 ..	2,516

In addition to the above details, a considerable number of talks concerning health education were given by other members of the County Health Dept., staff. Due acknowledgement must be given to the efforts of these members.

HEALTH VISITING

At the 30th September, 1970, the number of health visitors in full-time employment was 121, with 8 in part-time employment. Four district nurse/midwife/health visitors were also employed in rural areas. The staff establishment for which financial provision had been made was 148. Fifteen full-time and 10 part-time school clinic nurses were employed against vacancies in the health visitor establishment.

During the year ended the 30th September, 1970, 7 student health visitors successfully completed the training course at Keele University, 2 at Birmingham, 1 at Leicester and 1 at Oxford. All are now working within the County.

Seven students are attending the health visitor training course at Keele University and 1 at the Birmingham Polytechnic for the year 1970-71.

The Keele course has greatly improved the staffing position in the north of the County but a shortage of places on the Birmingham course has meant that many would-be students could not be accepted for training from the south of the County.

The scope of the work of the health visitor is increasing within the community as her specialized skills become more widely known through attachment to the family doctor team and closer liaison with hospitals.

For some years health visitors have undertaken the screening of young children for hearing defects. An increasing number of health visitors are now undertaking screening of pre-school children to ascertain developmental progress.

The following are the statistics relating to the Health Visiting Service during 1970:—

Visits to Expectant Mothers:

First visits	..	..	..	..	2,353
Total visits	..	..	..	..	3,234

Visits to Infants under one year:

First visits	..	..	..	..	15,467
Total visits	..	..	..	..	45,065
Total visits to children aged 1 year and under 2 years	..	..	..	..	41,321
Total visits to children aged 2 years and under 5 years	..	..	..	..	62,999

Cases visited by Health Visitors					No. of Cases	No. of Visits
1	Total number of cases	..	..	..	65,680	—
2	Children born in 1970	..	..	..	13,997	—
3	Children born in 1969	..	..	..	13,716	—
4	Children born in 1965-68	..	..	..	27,598	—
5	Total number of children in lines 2-4	..	..	..	55,311	—
6	Persons aged 65 or over	..	..	..	4,174	15,720
7	Number included in line 6 who were visited at the special request of a General Practitioner or hospital	..	..	..	1,385	—
8	Mentally disordered persons	..	..	..	130	464
9	Number included in line 8 who were visited at the special request of a General Practitioner or hospital	..	..	..	97	—
10	Persons excluding maternity cases discharged from hospital (other than Mental Hospitals)	..	..	..	395	598
11	Number included in line 10 who were visited at the special request of a General Practitioner or hospital	..	..	..	337	—
12	Number of tuberculous households visited	..	..	..	115	161
13	Number of households visited on account of other infectious diseases	..	..	..	312	370
14	Other cases	..	..	..	3,347	4,912
15	Number of tuberculous households visited by Tuberculosis Visitors	..	..	..	766	766

HOME NURSING SERVICE

At the 30th September, 1970, there were 78 whole-time general nursing sisters and 5 part-time, also 6 whole-time male nurses. There were also 41 full-time and 5 part-time district nurse/midwives and 4 district nurse/midwife/health visitors employed in rural areas.

Four staff received specialist training for district work and 10 attended refresher courses.

As the period spent in hospital by patients becomes less, so the workload of the general nursing sisters is increased and the work is becoming more varied.

The services of male nurses are increasingly requested but these members of staff are less easy to recruit than the female members.

The following tables show some of the general statistics relating to the Home Nursing Service:—

Analysis of New Cases Nursed during the Year

Condition	Total new cases	Age 0-4	Age 5-15	Age 16-64	65 and over
Tuberculosis	54	—	1	45	8
Other infectious diseases	148	75	48	11	14
Diseases of the blood	752	2	6	288	456
Diseases of the heart	486	2	—	71	413
Cerebral Haemorrhage and thrombosis	767	1	—	110	656
Other circulatory diseases	193	2	1	56	134
Respiratory diseases other than tuberculosis	740	93	20	214	413
Diseases of ear, nose and throat	236	31	22	130	53
Eye conditions	44	5	2	16	21
Dental conditions	7	—	—	4	3
Gynaecological conditions	241	—	2	100	139
Genito-urinary	281	7	2	63	209
Diseases of bones, joints and muscles	556	1	13	217	325
Diseases of digestive system	557	40	27	219	271
Diabetes	209	—	3	67	139
Parasitic conditions (worms, lice, etc.)	22	1	6	8	7
New growths	733	—	5	331	397
Senility	608	—	—	7	601
Diseases of skin and subcutaneous tissues	563	13	9	196	345
Mental and nervous conditions	233	2	2	113	116
Injuries	503	32	67	214	190
Burns and scalds	199	42	17	65	75
Sepsis	166	12	10	86	58
Post operative	1,467	47	117	931	372
Complication of pregnancy or puerperium	251	4	4	234	9
Other conditions	365	22	13	186	144
TOTALS	10,381	434	397	3,982	5,568

Number of Treatments

Type of Case	Total number of treatments given in all cases — old and new — during the year ended 31st December, 1970
General Nursing	109,832
Dressings	80,483
Observation of Patient	22,511
Enemas	4,389
Changing of Pessaries	988
Washouts, douches and catheterisation ..	9,697
Preparation for diagnostic investigations ..	427
Injections—antibiotics	7,379
Other injections	67,645
Other treatments	10,475

Visits

- (a) Total number of visits made 266,714
- (b) Number of patients who would have required admission to hospital if a Home Nursing Service had not been available:
 - i Acute 1,734
 - ii Chronic 1,746

SUPPLY OF INCONTINENCE EQUIPMENT

In 1961 a pilot scheme was introduced to assess the value of incontinence pads for certain patients under the care of the Domiciliary Nurses. This indicated that these pads were of great value in enabling difficult cases to be nursed at home and in 1962 arrangements were made for them to be supplied to any case under the care of the Home Nurse.

Ministry of Health Circular 14/63 desired local authorities to make this service available to patients other than those cared for by the Home Nurse. Arrangements were, therefore, made for the Area Medical Officers to supply incontinence pads to such cases, providing that they were satisfied that the need was genuine and that there would be no excessive or abnormal use of the pads.

Methods of disposal vary in different parts of the County. In some cases the District Council makes special collections for incineration, while in others they are collected with ordinary refuse. In both cases they are placed in wet-strength paper sacks before being offered for disposal.

During 1970, 159,000 pads were supplied to cases of all types within the Administrative County.

In Circular 14/66 the Ministry of Health pointed out that some people who are incontinent by day but are not confined to bed need protective clothing in the form of waterproof pants or knickers with disposable linings. As for the supply of incontinence pads, the Ministry recommends that it is not necessary to restrict the provision of waterproof pants and interliners to persons already receiving home nursing and suggested that all local health authorities do provide such nursing aids to people who would benefit from them. This provision has been complied with in those cases where this was considered to be necessary.

Because of the high cost of protective clothing, a register of persons authorised to be issued with these items is maintained. Each application is carefully considered and priority is given to cases whereby the child is enabled to attend school or the person enabled to attend work through provision of this clothing. During the year the total supplies amounted to 360 pants and 81,000 interliners.

MATERNAL MORTALITY

During the year only one death was reported under the heading of Other Complications of Pregnancy and this occurred in hospital.

The results of confidential enquiries into maternal mortality over the years have undoubtedly helped considerably to reduce not only the numbers of deaths but have also contributed to measures aimed at increasing safety in pregnancy and childbirth.

The following table gives similar information since 1951:—

Year	No. of Deaths	Deaths Occurred	
		In Hospital	At Home
1951 ..	9	8	1
1952 ..	13	10	3
1953 ..	15	13	2
1954 ..	8	8	—
1955 ..	7	6	1
1956 ..	16	15	1
1957 ..	8	7	1
1958 ..	8	7	1
1959 ..	7	5	2
1960 ..	8	7	1
1961 ..	4	4	—
1962 ..	11	9	2
1963 ..	7	4	3
1964 ..	6	4	2
1965 ..	2	1	1
1966 ..	5	5	—
1967 ..	4	2	2
1968 ..	5	5	—
1969 ..	1	1	—

MEDICAL ASSESSMENTS AND REPORTS

This branch of the work of the Department deals with:—

1. Medical assessments of candidates appointed to the Council's service and their fitness for admission to the appropriate superannuation and sickness pay schemes;
2. medical reports on staff at the request of employing committees;
3. driving licence referrals on medical grounds;
4. medical examinations of entrants to training colleges for teachers and the teaching profession;
5. medical examination of applicants for Heavy Goods Vehicle Driving Licences.

The requirement that all prospective employees are required, in the first instance, to complete a medical questionnaire or short form freedom from infection certificate, continues to work most satisfactorily. This procedure obviates the need for full medical examinations, which are arranged only if the information given in preliminary screening requires this. Out of a total of 3,266 candidates screened for employment, 409 underwent full medical examinations.

ENTRANTS TO TEACHER TRAINING COLLEGES AND THE TEACHING PROFESSION

585 candidates were medically examined for entrance to Teacher Training College, including chest x-ray examinations and 29 entrants to the teaching profession underwent the same screening.

MEDICAL ENQUIRIES FOR EXISTING STAFF AND DRIVING LICENCE APPLICANTS

As medical adviser to the Authority, reports are provided for other County Council Departments with regard to existing employees and the following are the statistics, relevant to 1970, in the various categories:—

(a)	Absence of roadworkers for period in excess of six weeks ..	117
(b)	Absence of all other staff, varying periods	33
(c)	Enquiries with regard to premature retirement on the grounds of ill-health	45
(d)	Driving licence enquiries	91

NON-INSURED PERSONS

It is a general requirement of the County Council that the payment of sick pay beyond three days is conditional upon production of appropriate medical certificates as evidence of the sickness of the employee concerned. Difficulty has been experienced in the past in this connection with non-insured persons because certain Doctors refused to issue private medical certificates to non-insured patients, even on payment. Consequently, the employees concerned could not be paid sickness allowance. In fairness to these employees a scheme has been devised to meet this contingency whereby a form of medical questionnaire was completed by the person concerned and if the answers were satisfactory from my point of view, sick pay would then be paid for a limited period based on my recommendation.

HEAVY GOODS VEHICLE DRIVERS' LICENCES

During 1970 a scheme was devised for the routine medical examinations of County Council employees who are required to hold a Heavy Goods Vehicle Licence. This requirement in accordance with the revised Regulation commenced in February, 1970, and 124 examinations were carried out during the year.

NURSING OFFICERS

The Nursing Service is supervised by a Chief Nursing Officer and a Deputy Chief Nursing Officer. Miss S. M. Savage, the County's first Chief Nursing Officer, resigned her position on 31st December, 1970. Miss M. S. Newman is the Deputy Chief Nursing Officer.

The areas covered by the Area Nursing Officers are as follows:—

<i>Area</i>	<i>Area Nursing Officer</i>	<i>Deputy Area Nursing Officer</i>
-------------	-----------------------------	------------------------------------

Area No. 1

Biddulph U.D.	.. Miss D. Austin	.. Miss E. Alcock
Leek U.D.		
Leek R.D.		
Cheadle R.D.		
Kids Grove U.D.		
Newcastle M.B.		
Newcastle R.D.		

Area No. 2

Stafford M.B.	.. Miss D. Chadwick	.. Miss M. Crowley
Stafford R.D.		
Stone U.D.		
Stone R.D.		
Cannock U.D.		
Cannock R.D.		
Seisdon R.D.		

Area No. 3

Lichfield City	.. Mrs. M. E. Overend	.. Miss J. P. Elsmore
Lichfield R.D.		
Rugeley U.D.		
Tamworth M.B.		
Uttoxeter U.D.		
Uttoxeter R.D.		
Tutbury R.D.		
Aldridge—		
Brownhills U.D.		

MENTAL HEALTH SERVICE

ADMINISTRATION

On 29th May, 1970, the Local Authority Social Services Act, 1970, received Royal Assent. The effect of this Act is that the majority of the functions of the County Council relating to the Mental Health Service which formerly stood referred to the Health Committee will in future stand referred to the Social Services Committee.

The new Social Services Committee came into being on 1st January, 1971, but until the Social Services Department becomes operative the day-to-day operation of the Mental Health Service remains with the Health Department until 31st March, 1971.

The Education (Handicapped Children) Act, 1970, received the Royal Assent on 23rd July, 1970. This Act provides that from 31st March, 1971, no further use will be made of Section 57 of the Education Act, 1944, and

that the provision of training centres for mentally handicapped made under Section 12 of the Health Services and Public Health Act, 1968 shall be transferred to the Local Education Authority.

Thus, this is the last occasion on which a report on the Mental Health Service will appear in the Report of the Medical Officer of Health. The Child Guidance Service referred to later in this report will continue as part of the School Health Service.

The Mental Health Section of the County Health Department administered both the mental health and child guidance services under the medical direction of the Principal Medical Officer for Mental Health (qualifications M.R.C.S. (Eng.), L.R.C.P. (Lond.)). The senior administrative assistant was the County Mental Welfare Officer (qualifications D.P.A. (Lond.)).

The Section was responsible for the provision of a social work service, training centres, residential establishments and other specialised services for the mentally disordered, the promotion of new projects included in an extensive building programme, and maintenance and improvement of existing services.

Responsibility for the day-to-day supervision of social work for both the mental health and child guidance services was vested in the Senior Casework Supervisors at the Mental Health Centres. There was one such Centre in each of the three areas into which the County was divided, these being coterminous with the reception areas of the three Hospitals for the Mentally Ill which serve the County.

The Senior Casework Supervisors were qualified psychiatric social workers and their deputies (Casework Supervisors) must be either qualified psychiatric social workers or certificated social workers with at least three years' experience as mental welfare officers. These officers supervised the social work service, carried a small case-load themselves and were responsible for the promotion and integration of the mental health and child guidance work within their areas.

Details of the field staff working from the Mental Health Centres as at 31st December, 1970, are given below:—

- (a) *Casework Supervisors*: Two Senior Casework Supervisors and three Casework Supervisors in post. There was one vacancy for a Senior Casework Supervisor.
- (b) *Mental Health*: Four Senior Mental Welfare Officers (all qualified by length of service) and eleven Mental Welfare Officers (two holding Certificate in Social Work).
- (c) *Child Guidance*: Two full-time Social Workers (both qualified) and four part-time (sixteen sessions per week qualified and six sessions per week unqualified). One full-time Social Worker having left on 30th September, 1970.

TRAINING CENTRES

(a) *Children and Adults receiving training*

The extent of training facilities for the mentally handicapped is shown below. Section (A) indicates the numbers on roll at Staffordshire Training Centres and the numbers who receive home tuition from teachers employed by the Education Committee and by Home Teachers appointed by

the Health Committee. Section (B) shows the use made of Training Centres administered by neighbouring local authorities for children and adults who are resident in Staffordshire.

	Col. 1 Adults	Col. 2 Juniors
(A) FACILITIES PROVIDED IN STAFFORDSHIRE		
<i>Training Centre:</i>		
Cannock Junior	—	74
Leek Junior	—	39
Lichfield Junior	—	72
Newcastle Junior	—	67
Stafford Junior	—	41
Wombourne Junior	—	38
Leek Adult	57	—
Newcastle Adult	83	—
Stafford Adult	81	—
Lichfield Adult	75	—
Cannock Adult	52	—
Newcastle Special Care Unit	7	17
Home Teachers	—	3
TOTALS	355	351
(B) FACILITIES PROVIDED OUTSIDE STAFFORDSHIRE		
<i>Training Centre:</i>		
Shepwell Green Adult (Walsall C.B.)	4	—
Brewer Street Adult (Walsall C.B.)	3	—
Oxley Adult and Baby Unit (Wolverhampton C.B.)	5	—
Anglesey Road (Burton-on-Trent C.B.)	4	3
Audnam Adult (Dudley C.B.)	5	—
Blythe Junior (Warwickshire C.B.)	—	9
Longmoor Junior (Sutton Coldfield C.B.)	—	13
Totals	21	25

The figures in the above table total 376 adults and 376 juniors and show an increase of 48 over the previous year.

An increase of 20 adults attending training centres occurred during 1970. This was largely due to extended facilities at the Lichfield Adult Training Centre, to an extent made possible by the generous gift of a horticultural greenhouse provided from the Mayor of Lichfield's Appeal Fund 1968-70. The greenhouse was officially handed over to the centre on the 10th April.

The increase of 28 juniors was, to an extent, due to the continuation of the build up at Wombourne and slight increases at other centres.

At the end of the year there were 12 children and 12 adults on waiting lists for training.

(b) Training Centre Staff

The staffing of training centres as at the end of the year is set out below:—

- (i) Supervisors: 10 (all qualified or holding the Letter of Recognition).
- (ii) Instructors: (at Adult Centres) 33 including deputies (12 qualified or holding the Letter of Recognition).
- (iii) Assistant Supervisors (at Junior Centres): 31 including deputies. (18 qualified or holding the Letter of Recognition).

TAN-Y-BRYN

(a) *Summer Season*

One week's summer holiday was provided for 553 children and adults attending Staffordshire Training Centres at the Staffordshire County Council's Home, Tan-y-Bryn, at Colwyn Bay. They were accompanied by 89 members of staff who worked with the staff of the Home to give their charges an enjoyable holiday. Fifteen students from Nelson Hall Training College gave voluntary help to the staff during the season. Unaccompanied mentally handicapped adults occupied the Home for three separate weeks, during which time 54 adults and 33 children accompanied by parents were in residence. One party of 28 children attending child guidance clinics for treatment, and one party from a Home for the Elderly comprising a total of 21 people were also accommodated. Four members of staff accompanied the elderly people, while assistance with the child guidance party was given by nine members of the International Voluntary Service.

(b) *Winter Season*

From the beginning of January to the end of March and from the end of October until Christmas, the number of persons given temporary care was 573. These periods are usually of a fortnight's duration, this being extended if there are special circumstances.

Suitable activities were provided during the winter programme in order to make the residents' period of care as beneficial as possible.

VOLUNTARY WORK

The growing participation of the volunteer in the mental health service continued during the year. The breaking-down of old psychological barriers to the acceptance of the mentally ill and subnormal by the general public continues. Some volunteers offer their services as individuals whilst others serve as members of organisations such as the local voluntary committees of the Staffordshire Association for Mental Welfare. An example of the former are college students who give voluntary service at training centres and hostels during their vacations.

Apart from the giving of personal services, additional amenities were provided by voluntary bodies during the year, notable amongst these being the provision of a new mini-bus by the Leighfields Voluntary Committee. Social events at the various establishments have added to the enjoyment of trainees and residents. The regular social evenings at the Stafford Adult Hostel and Training Centre, organised by the Leighfields Social Committee, and a very full programme of Christmas entertainment by local organisations at the Tan-y-Bryn Holiday Home being especially commendable examples. Other voluntary committees have made special efforts by holding public meetings with speakers and films on mental health topics, to interest and inform the public on this subject.

The 'unstaffed houses' venture outlined in the 1969 report has continued as a most successful venture. No financial call was made on County funds.

During 1970 an approach was made to the County to provide help with similar schemes in the Lichfield and Burntwood areas and also for a second house in the Leek area.

TRAINING

(a) *Full-time Courses commenced by staff during 1970*

Eleven staff from Training Centres commenced one-year or two-year Diploma Courses of the Training Council for Teachers of the Mentally Handicapped, 5 on Courses for junior centre staff and 6 on Courses for the staff of adult centres. All were seconded on full salary and received grants in accordance with the post-entry training financial assistance scheme.

(b) *County Training Schemes for Training Centre Staff*

There were 12 supernumerary student teachers at the end of the year.

(c) *Annual Refresher Course*

One hundred and seventy students attended the 4-day residential refresher course at the Nelson Hall Annexe of the Madeley College of Education from 23rd to 26th March. The hospitality extended to the students by the College Principal, Miss Malloch, and other members of the College staff is gratefully acknowledged.

DEVELOPMENT OF THE SERVICE DURING 1970

No new establishments were opened during the year but development work proceeded on a new Junior Training Centre at Beacon Way, Aldridge.

WORK UNDERTAKEN IN THE COMMUNITY

(a) *New Cases*

Particulars of new cases reported to the Local Health Authority during 1970 are given below:—

Referred by	Mentally Ill		Psycho-pathic		Mentally Handicapped		Severely Mentally Handicapped		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	
(A) General Practitioners:									
(1) Under 16 years of age ...	3	3	—	—	—	—	2	—	504
(2) Aged 16 years and over ...	174	309	6	3	3	1	—	—	
(B) Hospitals (after in-patient treatment):									
(1) Under 16 years of age ...	—	2	—	—	1	—	—	—	397
(2) Aged 16 years and over ...	143	241	4	2	2	2	—	—	
(C) Hospitals (after or during out-patient or day treatment):									
(1) Under 16 years of age ...	—	2	1	—	1	—	—	—	327
(2) Aged 16 years and over ...	96	223	—	—	4	—	—	—	
(D) Local Education Authority:									
(1) Under 16 years of age ...	—	—	—	—	14	16	4	3	76
(2) Aged 16 years and over ...	1	2	—	—	23	13	—	—	
(E) Police and Courts:									
(1) Under 16 years of age ...	—	—	—	—	1	—	—	—	84
(2) Aged 16 years and over ...	38	38	4	—	2	—	1	—	
(F) Other Sources:									
(1) Under 16 years of age ...	2	4	—	—	19	13	14	23	518
(2) Aged 16 years and over ...	158	222	1	1	33	23	4	1	
TOTAL ...									1,910

COMMUNITY CARE

In addition to those receiving training or on waiting lists for training, many other mentally disturbed or mentally handicapped persons living within the community are visited by Mental Welfare staff. The following table shows the numbers receiving care at the end of the year.

	Mentally Ill		Elderly Mentally Infirm		Psycho-pathic		Mentally Handi-capped		Severely Mentally Handi-capped		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
(A) Receiving training in Training Centre:											
(1) Under 16 years of age ..	—	—	—	—	—	—	8	9	204	153	
(2) Aged 16 years and over...	3	5	—	—	—	—	44	25	168	126	745
(B) Awaiting entry thereto:											
(1) Under 16 years of age ..	—	—	—	—	—	—	2	2	4	4	
(2) Aged 16 years and over...	—	—	—	—	—	—	1	1	8	2	24
(C) Receiving Home Training:											
(1) Under 16 years of age ..	—	—	—	—	—	—	1	—	1	1	
(2) Aged 16 years and over...	—	—	—	—	—	—	—	—	—	—	3
(D) Awaiting Home Training:											
(1) Under 16 years of age ..	—	—	—	—	—	—	—	—	—	—	
(2) Aged 16 years and over...	—	—	—	—	—	—	—	—	—	—	—
(E) Resident in L.A. Home/Hostel:											
(1) Under 16 years of age ..	—	—	—	—	—	—	4	2	30	28	
(2) Aged 16 years and over...	13	13	17	42	—	—	14	14	22	18	217
(F) Awaiting residence therein:											
(1) Under 16 years of age ..	—	—	—	—	—	—	—	—	1	3	
(2) Aged 16 years and over...	—	—	2	3	—	—	7	4	17	12	49
(G) Resident at L.A. Expense in other Homes/Hostels:											
(1) Under 16 years of age ..	—	—	—	—	—	—	—	—	—	1	
(2) Aged 16 years and over...	—	—	—	—	—	—	—	1	1	1	4
(H) Resident at L.A. Expense in private household:											
(1) Under 16 years of age ..	—	—	—	—	—	—	—	—	—	—	
(2) Aged 16 years and over...	—	—	—	—	—	—	—	—	—	—	—
(I) Attending Day Hospitals:											
(1) Under 16 years of age ..	—	—	—	—	—	—	—	—	4	1	
(2) Aged 16 years and over...	2	1	—	—	—	—	—	—	1	1	10
(J) Receiving home visits and not included in (A) to (H) above:											
(1) Under 16 years of age ..	1	2	—	—	15	—	3	4	27	29	
(2) Aged 16 years and over...	252	393	—	—	3	1	89	79	70	97	1,065
(K) Totals:											
(1) Under 16 years of age ...	1	2	—	—	15	—	14	16	243	193	
(2) Aged 16 years and over...	270	408	19	45	3	1	143	118	260	237	1,988

NOTE.—In Sections (A) to (J) the figures relate to *categories only* and a person may appear under more than one category. The totals in Section (K) relate to *persons in care*, each person being counted once only. The totals are therefore not necessarily a direct addition of the figures above.

The majority of mentally subnormal children and adults received regular visits by the Mental Health staff experienced in the work, who can advise wisely when difficulties arise. Those admitted to Training Centres gain benefit and happiness from the friendly school or workshop atmosphere, and most of them can remain living in their own homes.

The Hostels which have been opened in conjunction with Training Centres are all full to capacity during term-time. The residents are mainly mentally subnormal persons who have no homes, come from unsuitable home backgrounds, or whose parents need some relief from their care.

Some are able to go home for weekends and during the Centre holidays. The vacant beds so created provide temporary accommodation for those who usually live at home, whilst their parents and relatives take a holiday.

Other mentally handicapped persons living in the community are able to work and ready assistance is given to the social workers by officers of the Department of Employment and Productivity in placing them in suitable employment. The Department of Health and Social Security provides financial aid to those who are unemployable.

Guardianship

At 31st December, 1970, there were 2 male adults and one girl under 16 years of age who were under statutory guardianship of the local health authority. All received regular visits from a social worker. Both adults are in regular employment and the girl attends a junior training centre.

Hospital Care

The table below indicates the extent of temporary residential care provided during the year and the state of the hospital waiting list by the end of the year.

	Mentally Ill		Elderly Mentally Infirm		Psycho-pathic		Mentally Handicapped		Severely Mentally Handicapped		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Number of persons in L.H.A. area awaiting admission to hospital at 31/12/70:											
(A) In urgent need of hospital care:											
(1) Under 16 years of age ...	-	-	-	-	-	-	-	-	1	2	} 7
(2) Aged 16 years and over ...	-	-	-	-	-	-	-	-	3	1	
(B) Not in urgent need of hospital care:											
(1) Under 16 years of age ...	-	-	-	-	-	-	-	-	4	5	} 21
(2) Aged 16 years and over ...	-	-	-	-	-	-	-	-	4	8	
Number of admissions for temporary residential care during 1970:											
(A) to N.H.S. Hospitals:											
(1) Under 16 years of age ...	-	-	-	-	-	-	-	-	3	3	} 10
(2) Aged 16 years and over ...	-	-	-	-	-	-	-	1	3	-	
(B) to L.H.A. residential accommodation:											
(1) Under 16 years of age ...	18	12	-	-	-	-	4	3	66	62	} 320
(2) Aged 16 years and over ...	12	40	6	10	-	-	5	4	43	35	
(C) Elsewhere:											
(1) Under 16 years of age ...	-	-	-	-	-	-	-	-	-	-	} —
(2) Aged 16 years and over ...	-	-	-	-	-	-	-	-	-	-	

THE WORK OF THE MENTAL HEALTH CENTRES

These Centres provided a focal point for all aspects of mental health for each area. As the experience of staff widened and more qualified personnel became available, so the Centres became increasingly recognised as agencies willing to offer skilled help and advice on the emotional problems of living.

Subnormality clinics held in collaboration with the staff of the Regional Hospital Board continue. These are diagnostic and advisory clinics for mentally subnormal children, adults and their families. Regular clinics are held at Stafford and are served by Stallington Hospital staff and clinics are held at Tamworth, Lichfield and Cannock as required with staff from St. Margaret's Hospital.

MIDWIVES' SERVICE

The following are particulars of the midwives practising at the end of 1970:—

Number of midwives employed by the Authority	..	132
Number of midwives in private practice (including midwives employed in Nursing Homes):		
Domiciliary	.. .. .	1
Number of midwives employed by Hospital Management Committees	.. .. .	55

The following table shows the number of cases dealt with by the midwives in the area of the Local Supervising Authority during the year:—

Deliveries attended by Domiciliary Midwives during the year:—

Number of domiciliary confinements attended by midwives under N.H.S. arrangements					Number of cases delivered in hospitals and other institutions but discharged and attended by domiciliary midwives before 10th day (6)
Doctor not booked		Doctor booked		Total (5)	
*Doctor present at delivery (1)	Doctor not present at delivery (2)	Doctor present *at delivery (either the booked Doctor or another) (3)	Doctor not present at delivery (4)		
4	72	218	2,416	2,710	9,523

* Doctor to be regarded as present if he is present during the first, second or third stages of labour—he need not have been present at the actual delivery.

Particulars of deliveries by Midwives for the last 30 years are given in the table below:—

Year	*No. of deliveries by Midwives	Medical Aid Notices	Still-births	Death of Mother	Contact with Infection	Laying out the Dead	Artificial Feeding
1941	9,101	3,966	220	8	151	38	280
1942	9,325	3,811	214	7	118	28	331
1943	9,190	3,546	172	3	125	17	374
1944	9,136	3,482	143	8	108	21	484
1945	8,159	3,259	133	8	113	14	460
1946	8,526	3,248	164	5	94	22	474
1947	9,375	3,358	167	4	125	18	568
1948	8,071	3,375	199	5	87	20	728
1949	6,520	1,767	146	5	82	21	616
1950	6,586	1,376	172	2	85	16	655
1951	5,909	1,467	161	1	85	20	709
1952	5,252	1,375	160	4	86	19	728
1953	5,895	1,290	148	5	60	21	764
1954	5,722	1,225	146	1	51	17	744
1955	5,693	1,118	168	1	67	14	815
1956	6,044	1,162	159	2	38	13	743
1957	6,102	1,113	157	—	60	17	840
1958	6,381	1,323	158	2	60	17	882
1959	6,273	1,274	132	1	57	7	1,022
1960	7,804	1,640	130	1	50	20	584†
1961	7,349	1,485	105	—	46	6	—
1962	7,416	1,294	113	1	39	4	—
1963	8,166	1,185	104	—	43	10	—
1964	8,093	1,102	84	—	38	3	—
1965	7,570	1,094	93	—	43	5	—
a1966	5,393	691	24	—	15	9	—
1967	4,041	509	25	3	6	—	—
1968	3,593	492	42	1	8	2	—
1969	3,215	420	24	1	6	—	—
1970	2,710	379	26	—	6	—	—

* Including midwifery cases in private maternity homes.

† To 30.6.60. Not required after 1.7.60.

a Boundary change.

The percentage of doctors' calls to the number of births attended by midwives was 8.2.

The number of home confinements within the County continues to fall, but the number of mothers returning home a few days after delivery is rising. The scheme whereby domiciliary midwives deliver mothers in the Victoria Hospital, Lichfield, and attend the same women in their homes after discharge from hospital, continues to be most successful. Discussions have been held to extend this service to other areas.

Twenty-seven pupil midwives have received Part II midwifery training with teacher midwives in the County.

In accordance with the rules of the Central Midwives Board, twenty-six midwives attended refresher courses arranged by the Royal College of Midwives. Two nursing officers attended the special refresher course for Statutory Supervisors of Midwives. One midwife has attended, at her own expense and in her own time, the first course in Advanced Midwifery to be held at the Sorrento Hospital and was awarded a diploma.

The courses of instruction on Parentcraft and Relaxation held by midwives continue to be very well attended.

During 1970 fourteen midwives have been trained to take smears for cervical cytology. They have worked alongside doctors in clinic sessions and taken a small number of smears in patients' own homes, where clinic attendance was not possible.

Midwives have also been involved in a further advance in the detection of early Phenylketonuria in babies. The Phenistix test formerly undertaken by health visitors at two weeks and six weeks of age has been replaced by the Guthrie test in which a blood sample is taken by the midwife on the sixth day. This has been found to be a more accurate test.

MOTHERS' CLUBS

In June, 1966, the Health Committee approved a scheme for the establishment of mothers' clubs throughout the Administrative County.

The basic idea underlying the formation of these clubs is to bring mothers of children together at regular meetings. The clubs serve two main purposes:—

- (a) They enable mothers with a common interest to meet and provide a break from the home and children;
- (b) they provide a receptive group for topics of Health Education which have a beneficial effect on the health of the mothers and their families.

In return for accepting a programme of Health Education, the County Council make available premises for meetings, either by allowing the use of clinics, where it does not conflict with County Council functions, or by paying for the hiring of accommodation where necessary.

A constitution for the clubs has been laid down, as set out below:—

- (1) The Club shall be open to all mothers of children up to the age of 10 years.
- (2)
 - (i) Clubs should elect a Chairman and Committee annually from amongst its own members, together with a Secretary/Treasurer. A quorum of three members of the Committee (excluding the Secretary/Treasurer) is necessary before business can be conducted.
 - (ii) The Health Visitor or District Nurse of the Child Welfare Centre must be a member of the Committee.
- (3) *Club Activities*
 - (i) At the discretion to the Committee.
 - (ii) Fifty per cent of the programme should be given over to health education.
 - (iii) County Health Staff are available to help with health education and suggested programmes are available on request. Free loan of equipment is provided.

(4) *Finance*

The County Council will pay for the hire of the premises subject to the hiring charges being approved by the appropriate Committee following consultation with the County Valuation Officer.

(5) The Mothers' Clubs will be responsible for the repair or replacement of any damage occasioned during their occupation of the premises.

(6) *Subscription*

Subscription fees must not exceed 2s. 6d. per person per meeting.

(7) *Annual Programme of Clubs' Activities*

The yearly programme of the proposed club activities, together with any suggestions, speakers, etc., is required to be sent to the County Medical Officer of Health by the 30th November each year in respect of the following year.

The programmes of activities received from the mothers' clubs indicate that a wide variety of topics, discussions and lectures are provided.

For clubs that have been operating for three or more years (those that existed before the County Council scheme) practically all aspects of Health Education will have been covered. Care has to be taken therefore with regard to the amount of Health Education lectures provided to avoid duplication.

The following assisted Mothers' Clubs were operating successfully at the end of 1970:—

Ashley
Barton-under-Needwood
Cannock
Denstone
Glascote
Kidsgrove
Rocester
Rugeley
Stonnall
Two-Gates, Tamworth
Tutbury
Uttoxeter

There is no doubt the scheme has proved beneficial to mothers who participate and attempts will be made to encourage and assist persons who are thinking of forming such a club in their locality.

NEIGHBOURLY HELP SERVICE

This service, which is an integral part of the Domestic Help Scheme, is one in which arrangements are made for neighbours to look after old or sick people living alone, and for the helpers to receive a daily fee for the work they undertake, *i.e.* lighting fires, undertaking shopping, collecting pensions, helping the old people when they are getting up or going to bed, etc. The importance and justification for the scheme is

that it has helped old people to remain in their homes in familiar surroundings and that generally it results in obviating, or at least delaying, admissions to residential and hospital accommodation, thus bringing about a considerable saving in public money. It is known that persons employed very often do a lot more work for the cases than they are paid for. This is because of their genuine concern for the patient which means far more to them than financial reward.

During the year under review, 27 neighbourly helps were provided.

NIGHT HELPS

The scheme for employing Night Helps (or Night Sitters or Watchers) is designed to provide help in cases of serious chronic and terminal illnesses to relieve the heavy strain on relatives by enabling them to have periods of undisturbed sleep during certain nights of the week. The scheme is also intended to give families opportunities of taking annual holidays in cases where there are aged parents who need constant attention and who cannot be temporarily removed to a hospital or other similar institution.

Whilst there is not a great amount of actual work involved in Night Help duties the task can be quite demanding as the Help sits with the patient usually from between 10-12 hours per night. Periods of Night Help duty are not usually long periods of duty. The Help attends the case continually until assistance is no longer required, and this normally is for a period of between 1 and 4 weeks.

Quite often persons employed as Domestic Helps with the Authority agree to undertake Night Help duty also, as it is not always possible to recruit outside persons.

It is generally found that the Night Help Service is called upon by General Practitioners as a last resort in cases of patients living alone and where there is some delay in removing the patient to hospital.

During the year 51 persons were engaged as Night Helps.

NURSING COMFORTS

The County Council continues to have an arrangement with the British Red Cross Society and the St. John Ambulance Brigade for the provision of nursing aids throughout the Administrative County, such as commodes, wheelchairs, bedpans, hoists and various other items of equipment.

This service is maintained to a high standard by both organisations and is invaluable to the County Council in maintaining as much home nursing as possible thus relieving pressure on hospital services. As in previous years the County Council has made financial contributions and for the financial year ending 31st March, 1971, the following grants will have been made:—

British Red Cross Society — £5,006

St. John Ambulance Brigade — £891

The equipment is loaned to the general public from the following centres:—

British Red Cross

Aldridge	Chasetown	Kings Bromley	Streetly
Alrewas	Cheadle	Kingsley	Tamworth
Alton (Cheadle)	Chorley	Kinver	Tutbury rural
Armitage	Codsall	Leek	Wall
Barton-under-Needwood	Eccleshall	Lichfield	Weeford
Biddulph	Gayton	Mayfield	Weston-under-Lizard
Blythe Bridge	Great Wyrley	Newcastle	Wheaton Aston
Brewood	Fradswell	Pelsall	Whittington
Brocton	Gnosall	Penkridge	Wombourne
Burntwood	Hammerwich	Rugeley	Yoxall
Burston	Haughton	Rushall	
Calton	Heath Hayes	Shenstone	
Cannock	Hednesford	Stafford	
	Ipstones	Stone	

St. John Ambulance

Audley	Hednesford	Cheadle	Uttoxeter
Aldridge	Stafford	Kids Grove	Cheddleton
Chesterton	Brownhills	Leek	Great Wyrley

PREMATURITY

The following table gives particulars of the number of premature infants who were born during 1970:—

(1) Number of Premature Live Births notified—

(a) In hospital	..	..	..	..	..	756
(b) At home or a Nursing Home	..	..	..	..	71	
						827

(2) Number of Premature Stillbirths notified—

(a) In hospital	..	..	..	..	..	126
(b) At home or a Nursing Home	..	..	..	..	5	
Total	..	..	..	..	131	

PREMATURE LIVE BIRTHS														PREMATURE STILLBIRTHS	
Weight at birth	Born in hospital				Born at home or in a nursing home				Transferred to hospital on or before 28th day				Born		
	Total births (1)	Died			Total births (5)	Died			Total births (9)	Died					
		within 24 hours of birth (2)	in 1 and under 7 days (3)	in 7 and under 28 days (4)		within 24 hours of birth (6)	in 1 and under 7 days (7)	in 7 and under 28 days (8)		within 24 hours of birth (10)	in 1 and under 7 days (11)	in 7 and under 28 days (12)			
		1	2 lb. 3 oz. or less ..	33		14	6	3		-	-	-	1	1	-
2	Over 2 lb. 3 oz. up to and including 3 lb. 4 oz. ..	43	17	6	1	5	4	-	-	1	1	-	-	36	2
3	Over 3 lb. 4 oz. up to and including 4 lb. 6 oz. ..	144	5	8	1	3	-	-	-	5	-	-	1	29	1
4	Over 4 lb. 6 oz. up to and including 4 lb. 15 oz. ..	193	8	4	1	11	-	-	1	-	-	-	-	17	-
5	Over 4 lb. 15 oz. up to and including 5 lb. 8 oz. ..	343	5	2	1	42	2	-	-	3	-	-	-	21	1
6	Total ..	756	49	26	7	61	6	-	1	10	2	-	1	126	5

VACCINATION AND IMMUNISATION

Circular CMO.9/68 gave information concerning the adoption of a single schedule of vaccination and immunisation procedures in place of those previously used.

It was decided to implement the revised schedule which was prepared by the Joint Committee on Vaccination/Immunisation and accepted by the Standing Medical Advisory Committee of the Central Health Services Council and the Department of Health.

The schedule was introduced in November, 1968, and is as follows:—

Age	Antigen	Minimum Intervals	Comments
6 months ...	First Triple Antigen (Diphtheria, Pertussis, Tetanus) and one dose of oral Poliomyelitis Vaccine.		
8 months ...	Second Triple Antigen and one dose of oral Poliomyelitis Vaccine.	6-8 weeks	
12-14 months ...	Third Triple Antigen and one dose of oral Poliomyelitis Vaccine.	4-6 months	
During 2nd year ... (13-15 months)	Measles Vaccine.	4 weeks	
During 2nd year ... (14-16 months)	Smallpox Vaccine.	4 weeks	May be given in first year in special circumstances.
Five years or school entry	Diphtheria, Tetanus Toxoid and oral Poliomyelitis Vaccine		May be given on entry to Nursery School. If no immunisation, or an incomplete basic course of immunisation has been given before school entry the full basic course of diphtheria, tetanus, pertussis and poliomyelitis immunisation should be given at school entry, but primary vaccination against smallpox should not be undertaken unless a need arises.
	Smallpox Vaccine.	4 weeks	Above antigens may be followed by re-vaccination against smallpox.
10 years and upwards	B.C.G. Vaccine.		For tuberculin negative children.
13 year old girls ...	Rubella Vaccine.		
About 15 years, prior to leaving school	Tetanus Toxoid, Oral Poliomyelitis Vaccine.		
	Smallpox Lymph.	4 weeks	Above antigens may be followed by re-vaccination against Smallpox

In the statistical tables below details are given of the number of persons under the age of 16 years who received protection during 1970:—

VACCINATION OF PERSONS UNDER AGE 16 COMPLETED DURING 1970

Table 1.—Completed Primary Courses—Number of persons under age 16.

Type of vaccine or dose	Year of Birth					Others under age 16	Total
	1970	1969	1968	1967	1963-1966		
1. Quadruple DTPP ..	—	—	—	—	—	—	—
2. Triple DTP	979	6,111	1,796	292	216	24	9,418
3. Diphtheria/Pertussis ..	—	—	—	—	—	—	—
4. Diphtheria/Tetanus ..	58	481	261	77	472	167	1,516
5. Diphtheria	—	3	—	—	6	3	12
6. Pertussis	—	—	—	1	2	—	3
7. Tetanus	2	19	41	41	38	423	564
8. Salk	—	5	6	—	—	—	11
9. Sabin	1,030	6,667	2,249	336	761	676	11,719
10. Measles	110	2,323	1,978	1,056	1,385	93	6,945
11. Rubella	—	—	—	—	—	341	341
12. Lines 1+2+3+4+5 (Diphtheria)	1,037	6,595	2,057	369	694	194	10,946
13. Lines 1+2+3+6 (Whooping Cough) ..	979	6,111	1,796	293	218	24	9,421
14. Lines 1+2+4+7 (Tetanus)	1,039	6,611	2,098	410	726	614	11,498
15. Lines 1+8+9 (Polio) ..	1,030	6,672	2,255	336	761	676	11,730

Table 2.—Reinforcing Doses—Number of persons under age 16.

Type of vaccine or dose	Year of Birth					Others under age 16	Total
	1970	1969	1968	1967	1963-1966		
1. Quadruple DTPP ..	—	—	—	—	—	—	—
2. Triple DTP	9	426	1,645	495	1,059	127	3,761
3. Diphtheria/Pertussis ..	—	—	—	—	—	—	—
4. Diphtheria/Tetanus ..	60	269	302	166	6,368	1,416	8,581
5. Diphtheria	—	—	—	2	50	30	82
6. Pertussis	—	—	—	—	—	—	—
7. Tetanus	—	8	8	17	151	1,352	1,536
8. Salk	—	—	—	—	—	—	—
9. Sabin	23	856	1,197	542	6,708	5,194	14,520
10. Measles	—	—	—	—	—	—	—
11. Lines 1+2+3+4+5 (Diphtheria)	69	695	1,947	663	7,477	1,573	12,424
12. Lines 1+2+3+6 (Whooping Cough) ..	9	426	1,645	495	1,059	127	3,761
13. Lines 1+2+4+7 (Tetanus)	69	703	1,955	678	7,578	2,895	13,878
14. Lines 1+8+9 (Polio) ..	23	856	1,197	542	6,708	5,194	14,520

SMALLPOX VACCINATION—PERSONS AGED UNDER 16

Age at date of vaccination	Number of Persons Vaccinated (or revaccinated during period)	
	Number vaccinated	Number revaccinated
0 – 3 months	37	—
3 – 6 months	32	—
6 – 9 months	43	—
9 – 12 months	103	—
1	2,454	2
2 – 4	2,188	71
5 – 15	425	609
TOTAL	5,282	682

The number of completed primary courses shows an increase of over 3,000 on the 1969 figures. This is related to the introduction of the revised schedules of vaccination/immunisation which led to the com-

pletion of more primary courses during 1970 than 1969. The decline in the number of reinforcing doses by over 4,000 is accounted for by the introduction in 1970 of an alternative scheme for the administration of the various injections, namely the nursing staff undertaking more vaccination/immunisations. This, unfortunately, did not prove successful and the former system was re-introduced in the latter part of the year.

From statistics forwarded annually to the Department of Health and Social Security (formerly Ministry of Health) on vaccination/immunisation, the following table is prepared and, as can be seen, Staffordshire's record compares favourably with the average percentage for England.

The following table shows the percentages vaccinated for Staffordshire together with the equivalent national figures:—

	<i>Children born in 1968 and vaccinated by 31-12-70</i>			<i>Smallpox (Children under 2) (4)</i>
	<i>Whooping Cough (1)</i>	<i>Diph- theria (2)</i>	<i>Polio myelitis (3)</i>	
England	79	81	79	35
Local Authority ..	78	84	86	19

SMALLPOX VACCINE DISTRIBUTION

From the 12th June, 1967, in accordance with Ministry of Health Circular 6/67, the distribution of smallpox vaccine to hospitals and general practitioners became the responsibility of local health authorities and authorities exercising delegated health functions. The distribution was previously carried out by the Public Health Laboratory Service.

RUBELLA VACCINATION (GERMAN MEASLES)

Department of Health Circular No. 11/70 requested local health authorities to make arrangements to offer vaccination against rubella to certain girls as soon as possible.

The Circular recommended that vaccination should be offered to all girls between their 11th and 14th birthdays but that, initially, priority should be given to older girls, i.e. those in their 14th year (13 years of age).

The purpose of the recommendation is to ensure that as many girls as possible are offered protection against rubella by vaccination before reaching child-bearing age, because of the known association of certain foetal abnormalities with rubella infection in pregnancy.

The scheme was approved by the Authority for immediate implementation in order that vaccination could commence as soon as possible. It is felt that vaccination will appeal to the parents of the children and that the acceptance rate will be good.

At the end of 1970 341 girls had been vaccinated.

B.C.G. VACCINATION, 1970

Routine tuberculin testing followed by B.C.G. vaccination if necessary continued to be offered under the Authority's arrangements for school children, as well as for those in approved schools and students at technical and other establishments for further education.

The following table summarises the results of B.C.G. vaccination programmes completed at schools during 1970 and the previous 3 years.

	1970	1969	1968	1967
Number of children eligible.. ..	11,325	12,869	12,611	12,566
Number of acceptances	8,990	9,668	9,112	9,180
Acceptance Rate	79%	75%	72%	73%
Number tuberculin tested	8,704	9,129	8,880	8,932
Number vaccinated (neg. reactors)	8,389	8,868	8,529	8,569
Positive reactors (no previous B.C.G.)	315	261	352	363
Percentage positive	3.6%	2.8%	3.9%	4.0%
Strongly positive reactors referred for x-ray.. ..	17	12	50	89

EXAMINATION OF STRONGLY POSITIVE REACTORS.

There were no cases of active tuberculosis discovered through routine chest x-ray examinations, but investigation of as many contacts as possible of the positive reactors amongst school children was continued, the main purposes being to discover the source of infection responsible for the tuberculin reaction in the child and to offer protective measures to other members of the family if necessary.

Investigations were undertaken at 3 primary schools where children had been in contact with a known case of tuberculosis. All negative reactors (190) were pupils under 10 years of age and, therefore, too young for vaccination. There were no positive reactors. All teaching and ancillary staff were x-rayed with negative results.

CONTACT SCHEME.

B.C.G. vaccination against tuberculosis can be given to infants and other young contacts of tuberculin patients and to those who are at special risk by reason of their occupation.

During 1970, a total of 375 persons received vaccination at the Chest Clinic, the greater number of whom were child contacts of tuberculous relatives. The number of persons skin tested was 467, the number found positive 122.

SECTION IV

OTHER SERVICES

FAMILY PLANNING SERVICE

During 1970 the Authority continued its policy of supporting the Family Planning Association, who provide the service throughout the Administrative County, by making grants and allowing clinics and equipment to be used free of charge.

The number of clinic sessions remained constant throughout the year. No new clinics opened, due to the usual problem of securing doctors' services to undertake the sessions.

The Secretary of the West Midlands Branch of the Family Planning Association, which serves parts of the Administrative County, reports that a Vasectomy Clinic was opened in January, 1970. The clinic attracted a good deal of publicity and the demand for this form of family planning, at the cost applied by the Family Planning Association, £15, was very heavy. At one point during 1970 there were several thousands on the waiting list.

The domiciliary family planning service made good progress throughout the year and is serving the need of providing facilities for those persons who cannot or will not attend clinics.

Family planning continues to receive a good deal of national publicity and requests for expansion of the service are continually being received. At the time of writing it is known that during the next two years there are to be radical changes in the service as far as this Authority is concerned. These will be reported more fully in the 1971 Report.

The following clinics were serving County residents as at 31st December, 1970:—

ALDRIDGE, Leighswood Road Child Health Clinic

Monday 10.00—11.30 a.m. and 7.00—8.30 p.m.

BENTILEE, Ubberley Health Centre, Bargrave Street, Bentilee, Bucknall, Stoke-on-Trent, Staffs.

Mondays 6.30—8.30 p.m.

BURTON-UPON-TRENT, The Clinic, Cross Street, Burton-upon-Trent

Monday weekly 1.45—3.45 p.m. and 6.00—8.00 p.m.

CANNOCK, County Health Clinic, Beecroft Road, Cannock, Staffs.

Tuesday 7.00—9.00 p.m.

Wednesday 7.00—9.00 p.m.

Thursday 2.00—4.00 p.m.

LEEK, Haregate Clinic, Leek, Staffs.

Wednesday weekly 7.00—9.00 p.m.

LICHFIELD, The Clinic, Sandford Street, Lichfield

Tuesday 10.00 a.m. to 12 noon and 1.30—3.30 p.m.

Wednesday 2.00—4.00 p.m. and 7.00—9.00 p.m.

NEWCASTLE, The Clinic, King Street, Newcastle-under-Lyme
Thursday 2.00—4.00 p.m.

PHEASEY, Beacon Road, Pheasey, Great Barr.
Tuesday 7.15—8.30 p.m.
Thursdays 7.15—8.30 p.m.

RUGELEY, New Health Centre, Rugeley
Wednesdays 10.30 a.m. to 12.30 p.m. and 2.00—4.00 p.m.

STAFFORD, Child Health Clinic, North Walls, Stafford
Mondays 6.00—8.00 p.m.
Thursdays 10.00 a.m.—8.00 p.m.

S.A.F.E. (Clinic for the Unmarried) Child Health Clinic, North Walls, Stafford
Tuesdays 7.00—9.00 p.m.

STOKE-ON-TRENT, 12 Wellesley Street, Shelton, Stoke-on-Trent, Staffs.
Tuesdays and Wednesdays 2.00—4.00 p.m., 6.00—7.30 p.m.
Thursdays 10.00 to 12 noon

TAMWORTH, Health Centre, Hospital Street, Tamworth
Fridays 10.00—11.30 a.m.

UTTOXETER, Heath House Clinic, Cheadle Road, Uttoxeter
Wednesdays 2.00—3.00 p.m.

MASS RADIOGRAPHY

I am grateful to the Consultant Chest Physician of the Stoke-on-Trent Chest Radiology Centre for providing a report of his work during 1970 from which the following information has been extracted:—

“NUMBERS X-RAYED

The static unit at the Central Out-Patients' Department dealt with almost 25,000 X-rays (not including follow-up films), an increase of 2,000 compared with the previous year, and due to the increased referral rate by General Practitioners during the aftermath of the influenza epidemic of 1969-70.

The mobile unit on the other hand X-rayed 10,000 persons less than in 1969 and a considerable part of its working capacity was allotted to General Practitioners' referrals, preventive X-rays, contacts, Prisons and Mental Hospitals. Demands for surveys by manufacturers and Trade Unionists remained numerous and pressing but could be met only in

exceptional circumstances. The number of persons X-rayed in Stoke-on-Trent by the mobile unit fell from 19,000 in 1969 to only 5,000 in 1970. It is hoped that in future years the pottery industry, rather neglected in 1970 because of previously made commitments elsewhere will regain its fair share of surveys. The lack of a comprehensive industrial medical service for the British pottery industry persists and for some time at least – as for the past 19 years – the chest radiology service will have to provide biological monitoring in close co-operation with the Factory Inspectorate and the British Ceramic Research Association who do the work in the field of dust counts and technical monitoring.

TUBERCULOSIS

97 cases of clinically significant tuberculosis were detected in 1970, of whom more than 70 produced a positive sputum, a considerable increase on the previous year. (73 and 58 respectively).

The large majority of cases were referred by General Practitioners and 42% of them were found during the first three months of the year, i.e. during or immediately after the influenza epidemic which hit Staffordshire at Xmas 1969. This does not mean that the epidemic caused or re-activated tuberculosis. The increase of respiratory symptoms and the significant proportion of bacterial complications made family doctors use the service to a greater extent.

The case-finding rates in Mantoux positive children and contacts were artificially high in view of the small numbers involved, but nevertheless they prove the value of the service for these groups. It is pleasant to record that the case-finding rates amongst Asian immigrants – although still high – were only half of those in 1969.

The chest radiology service contributed 52% of all new notifications of respiratory tuberculosis from clinics and hospitals of the North Staffordshire Hospital Centre.

BRONCHOGENIC CARCINOMA

The dismal trend continued. The number of cases found was the highest ever – 159 cases – and proportionally the increase was more pronounced in women than in men. Contrary to somewhat premature speculations in previous reports there was no further change in the age distribution at the time of diagnosis, too often followed by an early death.

PNEUMOCONIOSIS

The number of “newly detected” cases – to be distinguished from “newly arisen” cases has now for some years settled around the 250 mark. This is, of course, a considerable improvement compared with the 1950s but also shows how much there is still to be done in the field of industrial hygiene.

PNEUMONIA, PNEUMONITIS, PLEURISY

More than 1,000 cases were diagnosed in 1970, almost half of them between January and March. Most patients were followed up until complete clearing of the lesions, but a considerable number amounting to 7% had to be referred to clinics and hospitals because of suspected underlying pathology. It seems worth mentioning that follow-up X-rays always included lateral views on 10 × 10 cms. films, the technical excellence of which was quite surprising.

FUTURE POLICY

No changes are envisaged with regard to the static unit. By necessity and intent industrial surveys will be further curtailed with the exception of "high risk" groups and populations."

INFECTIOUS DISEASES

The following statistical table relates to the notifiable infectious diseases and the deaths from the diseases among the home population during 1970.

Diseases	Notifications		Deaths	
	Urban	Rural	Urban	Rural
Measles (excluding Rubella)	3,066	2,045	1	—
Dysentery	249	48	—	—
Scarlet Fever	182	50	—	—
Diphtheria	—	—	—	—
Acute Meningitis	6	10	4	3
Ac. Poliomyelitis — Paralytic	—	—	—	—
— Non-Paralytic	—	—	—	—
Smallpox	—	—	—	—
Ophthalmia Neonatorum	2	2	—	—
Anthrax	—	—	—	—
Yellow Fever	—	—	—	—
Ac. Encephalitis — Infective	1	—	—	—
— Post-Infectious	1	1	—	—
Lepto-spirosis	—	—	—	—
Paratyphoid Fever	—	—	—	—
Typhoid Fever	1	—	—	—
Food Poisoning	148	48	—	—
Whooping Cough	281	135	1	—
Tetanus	—	—	—	—
Infective Jaundice	68	66	—	—
Tuberculosis — Respiratory	47	18	15	6
— Meninges and C.N.S. ...	3	—	—	—
— Other	3	5	4	5
— Cases of T.B. not notified before death	2	1	—	—

VENEREAL DISEASES

During the year there were 1,401 new cases in Staffordshire compared with 1,459 in 1969.

TREATMENT CENTRE	Syphilis	Gonorrhoea	Other Venereal Conditions	Total New Cases
Birmingham General Hospital	—	59	151	210
Burton-on-Trent General Hospital	—	5	23	28
Dudley Guest Hospital	—	—	13	13
Stafford (Staffordshire General Infirmary)	6	31	112	149
Stoke-on-Trent (Wellesley Street)	3	56	316	375
Walsall (Manor Hospital)	—	87	306	393
Wolverhampton Royal Hospital	—	54	179	233
TOTALS	9	292	1,100	1,401

For comparative purposes the totals of the cases included in the foregoing table for the last thirty-five years have been extracted and are given below:—

Year	Syphilis	Soft Chancre	Gonorrhoea	Total Cases	Other Venereal
1936	137	6	294	437	341
1937	116	5	320	441	326
1938	133	3	302	438	344
1939	116	5	283	404	310
1940	126	1	244	371	348
1941	111	1	267	379	359
1942	134	2	266	402	512
1943	163	2	271	436	783
1944	171	2	273	446	791
1945	186	—	355	541	867
1946	275	2	451	728	1,180
1947	147	2	254	403	682
1948	177	4	219	400	904
1949	148	—	234	382	842
1950	85	—	178	263	824
1951	67	—	163	230	760
1952	54	—	136	190	666
1953	64	—	158	222	698
1954	51	—	109	160	707
1955	39	—	105	144	562
1956	46	—	117	163	531
1957	43	—	163	206	700
1958	43	—	148	191	650
1959	37	—	142	179	797
1960	28	—	121	149	960
1961	32	—	155	187	920
1962	29	—	194	223	978
1963	43	—	213	256	981
1964	34	—	227	261	1,042
1965	29	—	322	351	1,183
1966	28	—	261	289	1,113
1967	22	—	238	260	1,042
1968	19	—	220	239	1,113
1969	13	—	281	294	1,165
1970	9	—	292	301	1,100

CONTROL OF VENEREAL DISEASE

Nursing staff of the appropriate sex is available for the tracing of contacts referred to the department by Physicians working in the Venereal Disease Clinics.

The Health Education Section has continued its policy of giving high priority to education in all aspects of this behavioural problem. With over 4,500 school children receiving Health Education Courses in 78 senior schools annually, it proves possible to reach many of those who will be at risk and a recent survey revealed considerable interest in the subject.

Closer liaison with the Madeley College of Education (Teacher Training College) and County Youth Organisations have further contributed to the development of a comprehensive educational programme aimed at combating the present serious situation regarding Venereal Diseases.

STAFFORDSHIRE COUNTY COUNCIL

HEALTH COMMITTEE

Annual Report of the County Analyst for the year 1970

INTRODUCTION

The total number of samples, from all sources, was 7,078, of which 4,679 or 66.2% were from County Council sources, 1,758 or 24.8% were from the four other Autonomous Authorities, for which your Analyst is also appointed as Public Analyst, and 641, or 9.0% were from other sources, including 18 of the 19 other Borough or District Councils within the borders of the Administrative County of Stafford.

In order to facilitate reference to these samples in this Report, they are grouped under Sections, as follows:—

- Section I* Number of samples and their origin
- Section II* Food and Drugs Act, 1955
- Section III* Fertiliser and Feeding Stuffs Act, 1926
- Section IV* Consumer Protection Act, 1961
- Section V* Pharmacy and Poisons Act, 1933
- Section VI* Trade Descriptions Act, 1968
- Section VII* Other samples

LEGISLATION AND ALLIED MATTERS

During 1970 there were indications of a change of policy in high places and it is anticipated that the flow of new legislation, relevant to the work of the County Laboratory, may become somewhat abated.

This is a change which, to some extent, is welcomed since the earlier policy of attempting to apply specific legislation for every article of food has proved to be impracticable and had resulted in a situation whereby certain manufacturers, and indeed some Public Analysts, were becoming of the opinion that any food, which did not happen to be the subject of specific legislation, need not comply with any standard of composition. The effect of the general provisions of the Food and Drugs Act, 1955, whereby under Section 2 a person who sells a food or drug which is not of the nature, or not of the substance, or not of the quality demanded is guilty of an offence, was in danger of being obscured by a cloud of Statutory Instruments. There are occasions, also, when action under the Trade Descriptions Act would seem to be appropriate, but this is not possible when the commodity is the subject of a Statutory Instrument under the Food and Drugs Act.

The Food and Drugs Act makes it a clear duty upon, and indeed the right of, a Public Analyst to place before a Court an opinion concerning a Standard for any food or drug, which is not the subject of specific legislation. This is fundamental to the work of Public Analysts in protecting the consumer and indeed the protection of the honest manufacturer from unfair competition.

Hamburgers may be taken as an example of what has tended to happen. Although not specifically mentioned in The Sausage and Other Meat Product Regulations, it is commonly agreed that they come within the definition in the Regulations of "Meat with Cereal", i.e. any meat product which has a vegetable content of less than 25% and of which the principal ingredient by weight, other than meat, is cereal, and must, therefore, contain not less than 80% of meat. One manufacturer claimed, however, that his product did not have to comply with this standard since his major ingredient, other than meat, was water and not cereal – an argument which is quite indefensible since the Act clearly states, in Section 135, that water is not a food. Another loophole schemer loaded his product with dehydrated onions, but in this case the question of a standard became irrelevant since the 'hamburger' tasted so strongly of onion as to be unpalatable. The answer to such arguments is, simply, a stated opinion that "Hamburgers should contain and usually do contain not less than 80% of meat" – which means, in effect, that a hamburger type product which contains less than 80% of meat may not be described as a hamburger.

STATUTORY INSTRUMENTS

Because of the time interval between the issuing of new Statutory Instruments and the date of coming into effect, there is still much in the pipeline, and during the period under review five Statutory Instruments come into effect – all of which were 'tidying-up' or amending Regulations:

The Artificial Sweeteners in Food Regulations, 1969 (1st January, 1970)

The Soft Drinks (Amendment) Regulations, 1969 (1st January, 1970)

The Cheese Regulations, 1970 (31st January, 1970)

The Cream Regulations, 1970 (1st June, 1970)

The Emulsifiers and Stabilisers in Food (Amendment) Regulations, 1970 (1st September, 1970)

4 other Statutory Instruments were issued, but will not come into operation until after 1970:—

The Labelling of Food Regulations, 1970 (1st January, 1973)

The Colouring Matter in Food (Amendment) Regulations, 1970 (1st January, 1971)

The Soft Drinks (Amendment) Regulations, 1970 (1st January, 1972)

The Food Hygiene (General) Regulations, 1970 (1st March, 1971)

The Artificial Sweeteners in Food Regulations, 1969

The Soft Drinks (Amendment) Regulations, 1969

The Soft Drinks (Amendment) Regulations, 1970

The first two Regulations gave effect to the decision by the Government to ban the use of Cyclamates in foods and were discussed in the Annual Report for 1969.

The third Regulation further amended the Soft Drinks Regulations by extending the period during which the words "permitted artificial sweetener" may appear in place of the word 'Saccharin', until 31st December, 1971.

The Cheese Regulations, 1970

These Regulations replace those originally issued in 1965, and amended in 1966. The main effect is to further postpone until 1973 certain labelling requirements that had, already, been postponed until 1970 – and then in a somewhat ‘watered-down’ form. This practice of amending and postponing legislation before it comes into effect must be deprecated and such alterations seem to indicate that the Ministry is unduly susceptible to pressure or that someone has ‘not done his homework’.

The Cream Regulations, 1970

These Regulations replace and revoke The Food Standards (Cream) Order, 1951, and although apparently straightforward, have proved to be most extraordinarily complicated – not helped by a Ministry Press Notice (No. 224) dated May 21, 1970) which stated:—

“ The new Regulations will come into operation on June 1st, 1970, except that the requirements relating to products at present covered by the Food Standards (Cream) Order, 1951, and sterilised half cream with not less than 18% milk fat will not take effect until March 1st 1972.”

This statement is not only misleading, but actually incorrect, since although the 1951 Order has been completely revoked by the Regulations it is in effect perpetuated by numerous ‘saving’ clauses in the new Regulations. Most of the labelling requirements do not become operative until 1973. The statement referring to “sterilised half cream with not less than 18% fat is a flat contradiction of the definition of sterilised half cream in the Regulations.

It is noted that the opportunity has been taken to define “Sterilised Cream” in such a way as to include such products as ‘Top-of-the-milk’ which have been made with a fat content of 18% instead of the 23% required for Sterilised Cream. An unfortunate consequence of this, however, is that the standard for Sterilised Cream has been lowered from 23% to 18% until 1st March, 1972.

From 1st March, 1972, all cream other than clotted cream (which is prepared by a heating process) must be marked “pasteurised”, “U.H.T.” or “untreated” as appropriate.

The Emulsifiers and Stabilisers in Food (Amendment) Regulations, 1970

Brominated edible vegetable oils have been used as emulsifiers in some cloudy soft drinks to increase the density of the essential oils and thus prevent them from rising in the liquid and forming a ring mark in the neck of the bottle.

Doubts about the safety of this additive have been raised and they were banned from 1st September, 1970.

The Labelling of Food Regulations, 1970

These Regulations replace the ill-fated 1967 Regulations, which never came into force, and have the immediate effect of perpetuating the now very inadequate and out-dated 1953 Regulations for a further three years.

The many changes include a welcome reduction in the number of foods exempt from certain labelling requirements and also that Trade Marks will no longer be accepted as an alternative to stating the name of the packer, or person upon whose behalf the food was packed.

Specific requirements are laid down for certain foods such as chocolate confectionery containing intoxicating liquids, dried fruit, intoxicating liquor, tenderised meat and processed peas.

It is somewhat gratifying to note that the standard of 1.5% of Proof Spirit in Shandy, which has been applied for some time by Public Analysts, will have Statutory force from 1st January, 1973.

Some progress appears to have been made to improve the labelling of so-called slimming foods, in that it will be compulsory to declare the calorie content of the food – which, in some cases, has been found to be of the same order as similar foods for which no claims are made! It will be necessary, also, to incorporate the required statement that “the food cannot aid slimming unless it forms part of a calorie controlled diet” in the statement which claims that the food is an aid to slimming. This would appear to go some way to meeting criticism of existing legislation which merely requires that this qualifying statement must be “clear, legible and conspicuous” which in law means only that if it can be seen, then it is clear and if it can be found, it is conspicuous, and if it can be read, then it is legible!

Restrictions are placed upon claims for Tonic, restorative and medicinal properties of foods, but it is considered that these do not go far enough.

No controlled trials have demonstrated true tonic properties for any food and the Food Standards Committee of the Ministry of Agriculture, Fisheries and Food, in a Report on Claims and Misleading Descriptions published in 1966, was of the opinion that there was no scientific justification for such claims.

The complexity of present food legislation is such, however, that after these Regulations were made it was deemed necessary to include an amendment to them in the Cream Regulations which were made only two months later.

A curious provision is that from 31st March, 1970, the provision of the 1953 Order, which remains in force until 1st January, 1973, shall *not* apply if the requirements of the new Regulations are satisfied – notwithstanding that the new Regulations are unenforceable *until* 1st January, 1973.

The Colouring Matter in Food (Amendment) Regulations, 1970

By this amendment the coal-tar colour Ponceau MX was removed from the list of permitted colours as from 1st January, 1971.

The total number of the so-called coal-tar colours permitted is thus reduced to 24.

The Food Hygiene (General) Regulations, 1970

Coming into force on 1st March, 1971, these Regulations are administered by Borough and District Councils and might not, at first sight, appear to concern Public Analysts. Certain provisions are relevant, however:—

Regulation 8 prohibits the employment of 'out-workers' except for peeling shrimps or prawns. It is hoped that this will discourage the activities of a certain manufacturer whose jam production has been 'put out' to a variety of 'little old ladies' and whose jams have been the subject of adverse reports.

Regulation 17 requires that food premises be supplied by a water supply that is 'clean and wholesome'. In most cases where a public water supply is utilised this presents no problems, but it would appear that where the water is from a private source an obligation, in addition to that of the Water Act, 1945, is placed upon the local authority to ensure that the supply is satisfactory and that the Regulation is being observed.

The Therapeutic Substances (Supply of Zinc Bacitracin for Agricultural Purposes) Regulations, 1970

By these Regulations the antibiotic substance Zinc Bacitracin is, as regards its use in animal feeding stuffs, removed from control under The Therapeutic Substances Act, 1956.

Zinc Bacitracin may generally be added to animal feeding stuffs at a rate up to 1,050,000 international units per ton of feed or up to 5,250,000 units per ton in the creep-feeding of young pigs. Food supplements may contain not more than 2,100,000 units per pound of feed.

There are specific requirements as to labelling.

How these Regulations are to be administered and enforced is not stated since there is no provision in the present Fertiliser and Feeding Stuffs Regulations. It was anticipated that provision would be made for the control of this, and other additives, when the Agriculture Act of 1970 came into force, but the latest information seems to indicate that this control will be transferred to the Medicines Act. Such a course may be convenient at Ministry level, but would mean more 'paper work' for the Analyst.

ACTS OF PARLIAMENT

There were two Acts, the Agriculture Act, 1970, and The Food and Drugs (Milk) Act, 1970, both of which had been preceded by Bills during the previous year. The former was the subject of special comment in the 1969 Annual Report.

The Agriculture Act, 1970

Part 4 of the Act, that concerned with Fertilisers and Feeding Stuffs and under which I will hold an appointment as "Agricultural Analyst" as distinct from "Official Agricultural Analyst" under the 1926 Act, has not yet been brought into operation and the necessary new Regulations are still awaited.

This part of the new Act, which updates legislation relating to Fertilisers and Feeding Stuffs, is of some importance to Staffordshire as an agricultural County, because of the Consumer Protection Services which it provides to farmers. It is for this reason, particularly pleasing to report, that in my capacity as Official Agricultural Analyst, I am one of a number of Scientists who has been asked to advise the Minister on scientific matters. I serve, also, in an advisory capacity on Committees

of the Society for Analytical Chemistry, set up at the request of the Ministry, to advise on methods of analysis for incorporation in Regulations for Prophylactic Substances, Antibiotics and other substances in feeding stuffs.

The Food and Drugs (Milk) Act, 1970

This Act is of historic importance since it modifies the time-honoured law which placed an absolute prohibition upon the addition of water to milk.

Under this Act it is now permitted to subject milk to heat treatment by application of steam – with the provision that the milk after treatment shall have the same composition as before – by the removal of an amount of water equal to that added in the form of steam. The Act was necessary because it is clearly impossible to remove *the same* actual water as was added!

Other provisions are concerned with the quality of the water used to provide the steam and it would seem that an enforcing Authority may be obliged, not only to sample the milk before treatment, but also afterwards. Also to sample the water and the actual steam.

PROPOSED LEGISLATION.

No firm proposals for new legislation were issued, but certain Reports have given some indications:—

Food Standard Committee.

Report on the pre-1955 Compositional Orders.

This Report reviews Orders made prior to the Foods and Drugs Act 1955 and covers Baking Powder and Golden Raising Powder, Edible Gelatine, Mustard, Curry Powder, Tomato Ketchup, Fish Cakes and Suet.

The Committee makes sweeping recommendations that includes revoking all but the last three in the above list. The three Orders to be continued would, however, be in modified form.

These Orders owed their origin to the circumstances operating at the end of the last war when many foods were in short supply and when dishonest traders sought to take advantages of these shortages – for example carpenter's glue was sold as gelatine and spices of very low quality contained non-spice ingredients. These circumstances no longer apply and the Committee observes that adequate protection exists under the general provisions of the Food and Drugs Act (to which reference has been made earlier in this Report) and that there would be, also, the additional protection of the Trades Descriptions Act – at the present any food which is sold under a description used under the Food and Drugs Act, or in Regulations made under the Act, is excluded from the provisions of the Trade Descriptions Act.

The recommendations of *Tomato Ketchup* include a welcome new definition that would include a number of products, sold under trade names, but which so closely resembled Tomato Ketchup, or Sauce, as to be distinguishable only by their inferior tomato content.

It is recommended that the 35% fish content for Fish Cakes should be raised to 40%, together with a definition that should prevent evasion by inventing exotic names for fish cakes. Even 40% of fish does not, however, seem over generous and it is wondered if the public realise that, at present, a fishcake may include 65% of other ingredients, such as potato, and would under the general provisions of the Food and Drugs Act have to be called a "Potato and Fish Cake", if it were not for the existence of the Fish Cakes Order.

Representations made by Public Analysts concerning the composition of Fish Fingers, have evidently been noted by the Committee, which recommends that further consideration should be given to the formulation of a standard for these and similar products.

The provisions concerning Suet are to be continued with little change except that the inclusion of antioxidants will be permitted.

Food Additives and Contaminants Committee.

Review of the Emulsifier and Stabiliser in Food Regulations 1962.

These substances are placed into four groups. The majority of those in the first two groups are substances in current usage, but it is recommended that the use of some should be restricted. Substances in the second group will be subject to review as to whether they should remain in the permitted list.

All other substances should be excluded on the grounds of toxicity or inadequate knowledge – action on one such substance, Brominated Vegetable Oil, has, in fact, been taken.

Report on the Leaching of Substances from Packaging Materials into Food.

Now that most foods are sold in a packed form, it is clearly important that the packing material should have no adverse effect upon the food.

It is recommended that this problem should be approached in three ways.

- (a) Containers such as metal cans, glass and ceramic bottles and jars and paper products should be required to comply with Specifications which would be laid down.
- (b) A permitted list of substances and ingredients that could be used for, or to make, containers.
- (c) A total migration limit for packaging materials entering into the food.

This Report can be stated to have only bared the surface of the problem and a great amount of work remains to be done.

OTHER REPORTS.

Advisory Committee on Pesticides and Other Toxic Chemicals.

Part 3 of the study on Pesticide Residues in the total diet in England and Wales 1966/67 dealt with work done in the Ministry's laboratories and continued fundamental work which is aimed at the derivation of limits for such substances in foods.

It is much regretted that the Report of the Second part of the National Survey carried out by Public Analysts in conjunction with the Local Authority Associations, which ended in July 1968, and referred to in my Annual Report for 1969, has been further delayed and publication is not now expected until mid 1971.

During 1970 the Ministry deemed it to be necessary to remind farmers on three occasions of the danger to wild life by using Aldrin, Dieldrin and Heptachlor on seed for Spring sowing. In view of the known build up of some persistent pesticides in soil it is curious that the Ministry still appears not to favour an actual ban on these substances.

Milk and Milk Products Technical Advisory Committee.

The Annual Report for 1969-70 is but a shadow of former reports, more than half of the 15 pages being taken up only by lists of Committee Members. It was with little surprise, therefore, that the recently published White Paper (Cmnd 4564), which announced the Government's intention to abolish the County Agricultural Executive Committees, also brought the axe down on the Milk and Milk Products Technical Advisory Committee.

Work which the Committee had in hand included important developments in the detection of antibiotics in milk by use of a dye-marker. This had reached the stage where field trials were planned, and the future of this work is not known.

Consumers Committee – The Agricultural Marketing Act, 1968.

This Report is concerned, in the main, with prices and distribution, but contains much of particular interest to a Public Analyst.

Some details are given of the quality incentive scheme whereby a milk with at least 12.00% but less than 12.10% total solids obtains the basic price, whilst that below involves a penalty and that above a premium – there are, in fact, no less than 29 payment clauses.

At first sight it would appear that the Scheme has totally failed since the Report shows that the simple average of the composition of ordinary milk has remained almost unchanged at $12.43\% \pm 0.02$ over the seven years reviewed and this is confirmed by an examination of the records of the County Laboratory. The County Laboratory records show also that the *average* amount of total solids has risen only 0.1% since 1946. Examination of the distribution of the results in the Committees Report, however, shows how misleading such simple averages can be:—

Milk in England and Wales.

<i>Annual Average % Total Solids</i>			<i>Distribution, % of Total</i>	
			1966	1969
12.50%—12.70%	..	..	17.5	20.3
12.40%—12.50%	..	..	13.9	15.2
12.20%—12.40%	..	..	30.1	28.7

These figures show that while the *average* composition has remained static, more consumers are enjoying an increase in quality – simply because production of better milk has increased and lower quality has decreased.

It would seem that the traditional reporting of simple averages of milk composition has somewhat questionable value and could in fact, lead to erroneous conclusions.

Another factor is that milk examined by a Public Analyst is unlikely to be truly representative of the supply, unless sampling is carefully planned in relation to consumption. Any such plan is immediately upset when it becomes necessary to sample any individual producer or distributor at increased frequency, as when the supply comes under suspicion.

For these reasons I have decided to discontinue the practice of reporting Quarterly and Annual Averages.

On other aspects of quality, the Committee reports the improvement in hygienic quality and a reduction in the incidence of antibiotics in milk following the introduction of price penalties. It is noted also that the Committee is of the opinion that similar penalties should apply to contamination by blood, even in minute quantities, and it is hoped that this will take account, also, of the question of Leucocytes in milk, to which I have made further reference in this Report (See Section I) and in previous Reports.

The labelling of milk is criticized by the Committee and it regrets that the original recommendations for bottle tops:—

Pasteurised	..	..	..	..	Aluminium
Homogenised	..	..	..	..	Red
Channel Island and South Devon	..				Gold

has not yet met with universal acceptance.

The Committee's view is that legislation is necessary to ensure that the consumer may not be deceived, and there are indications that this may be introduced in the near future.

HEAVY METALS IN FOODS.

Following a report from the U.S.A., upon the incidence of Mercury in tuna fish, a few days before Christmas, 1970, the public became very apprehensive about eating canned tuna fish. It is to be hoped that such Reports are not going to be a regular feature of the festive season, following this and the Cyclamate panic at Christmas, 1969.

The County Laboratory was able to reassure several Staffordshire housewives – including one that had just prepared a large number of tuna sandwiches for a children's party – that there was no hazard to consumers in this Country. A view that was confirmed subsequently by a Ministry statement.

Soon after this scare the Ministry announced that they would be instituting a monitoring scheme for heavy metals in foods and although the Ministry stated that the scheme would "be supplemented by further tests undertaken through offers of co-operation from local authority analysts" it seemed that the Ministry had temporarily forgotten that Public Analysts have been doing such work for a great many years.

It is tempting to think that the Ministry Laboratories, faced with a cut-back in other work, are exploring other fields, regardless of duplication of effort, by disregarding the fundamental importance of the

public confidence that results from the local taking of samples and the examination of such samples by the Public Analyst for the locality.

LABORATORY ORGANISATION AND EQUIPMENT.

The major item of equipment purchased during 1970 was additional Gas Chromatographic equipment, which has proved to be of great benefit to the efficiency of the Laboratory.

Planned developments for the future includes an ultraviolet spectrophotometer with recording facilities to supplement the existing instrument.

The possibility of automated analysis – which is of considerable value where many similar determinations have to be made – is being actively explored.

The planned conversion of the old water laboratory to an instrument room has presented many difficulties and administrative problems and a somewhat hesitant start to the work was not made by the contractors until early in 1971.

STAFFING.

The much hoped for stability in the staffing of the County Laboratory seemed as far off in the early part of 1970 as ever. During the year two Graduate Assistants and two Trainees left the Council's service.

In such specialised work, such losses are serious since essential development work is delayed and time has to be found for the instruction and training of replacement staff.

Dedication has always characterised Public Analysts and their staffs, but to the rising generation of Scientists the richer monetary rewards of Industry, the glamour of 'Research' and 'fringe benefits' are temptations. It became very difficult to secure replacement staff of the necessary calibre, difficulties which may continue until the man-in-the-street has a better appreciation of the value and necessity of expenditure on Public Services.

The full effect of changes in the grading structure of the County Laboratory, introduced early in 1971, have yet to be seen, but at the time of writing this Report there are indications of a much needed stability.

The loyalty of the staff is shown by the manner in which they have coped with the pressure of extra work, in the face of disappointments and doubts about the effect of re-organisation, which latter it is hoped, will be resolved when the full plans for Local Government in Staffordshire are made known.

My particular thanks are due to my Deputy, Mr. H. M. Bee, B.Sc., M.Chem, A., F.R.I.C., for his continued support.

RONALD S. HATFULL,
County Analyst.

County Laboratory,
Martin Street,
Stafford.

SECTION I

*Number of samples submitted under the various Acts, etc.,
and their origin.*

FOOD & DRUGS ACT, 1955.

	Milk			Drugs & Other Foods	Complaint Samples	Totals
	Compo- sition	Anti- biotics	Hypo- chlorites			
<i>County Council</i>						
W. & M. Dept. Inspectors ..	1,337	—	—	1,368	16	2,721
Health Dept. Inspectors ..	892	271	431	—	—	1,594
Private Purchasers ..	—	—	—	—	5	5
Local Authorities ..	—	—	—	—	59	59
	<u>2,229</u>	<u>271</u>	<u>431</u>	<u>1,368</u>	<u>80</u>	<u>4,379</u>
<i>Stoke-on-Trent</i>						
Inspectors ..	110	—	—	776	25	911
Private Purchasers ..	—	—	—	—	6	6
	<u>110</u>	<u>—</u>	<u>—</u>	<u>776</u>	<u>31</u>	<u>917</u>
<i>Newcastle B.C.</i>						
Inspectors ..	55	—	—	95	4	154
Private Purchasers ..	—	—	—	—	—	—
	<u>55</u>	<u>—</u>	<u>—</u>	<u>95</u>	<u>4</u>	<u>154</u>
<i>Stafford B.C.</i>						
Inspectors ..	74	—	—	113	17	204
Private Purchasers ..	—	—	—	—	8	8
	<u>74</u>	<u>—</u>	<u>—</u>	<u>113</u>	<u>25</u>	<u>212</u>
<i>Cannock U.D.C.</i>						
Inspectors ..	9	—	—	69	2	80
Private Purchasers ..	—	—	—	—	—	—
	<u>9</u>	<u>—</u>	<u>—</u>	<u>69</u>	<u>2</u>	<u>80</u>
	<u>2,477</u>	<u>271</u>	<u>431</u>	<u>2,421</u>	<u>142</u>	<u>5,742</u>

The above table does not include samples submitted by producers or manufacturers, such samples are listed under 'Miscellaneous Samples'.

FERTILISER & FEEDING STUFFS ACT, 1926

	Fertilisers	Feeding Stuffs	Total
County Council ..	44	59	103
Stoke-on-Trent ..	13	6	19
Private Purchasers ..	1	2	3
	<u>58</u>	<u>67</u>	<u>125</u>

CONSUMER PROTECTION ACT, 1961

The Toys (Safety) Regulations, 1967

County Council ..	24
Stoke-on-Trent ..	2
Newcastle Borough ..	4
	<u>30</u>

THE PHARMACY AND POISONS ACT, 1933

County Council 5

THE TRADE DESCRIPTIONS ACT, 1968

County Council 8

Stoke-on-Trent 1

Borough of Stafford 1

—
10
—

OTHER SAMPLES

ATMOSPHERIC POLLUTION

	Lead Peroxide Cylinders	Raingauges	Total
Aldridge-Brownhills U.D.C. ..	24	24	48
Cannock U.D.C.	—	36	36
Cheadle R.D.C.	—	24	24
Newcastle B.C.	—	11	11
Newcastle R.D.C.	12	12	24
Rugeley U.D.C.	12	12	24
Stone R.D.C.	48	96	144
	96	215	311

WATERS AND EFFLUENTS

	Drinking Water	Sewage		Swimming Baths	Others	Total
		Routine Domestic	Trade Wastes			
County Council ..	12	187	—	9	5	213
Stoke-on-Trent ..	2	—	—	90	6	98
Newcastle B.C. ..	4	—	—	65	2	71
Stafford B.C. ..	13	—	—	1	142	156
Cannock U.D.C. ..	1	—	—	—	3	4
Other Authorities ..	50	19	—	36	12	117
Private ..	3	—	—	—	9	12
	85	206	—	201	179	671

THE ROAD SAFETY ACT, 1967

Private 40

MISCELLANEOUS

	Special Investigations	Toxicology	Totals
County Council	8	—	8
Stoke-on-Trent	2	—	2
Newcastle Borough	—	—	—
Stafford Borough	4	—	4
Cannock U.D.C.	—	—	—
Other Authorities	13	1	14
Private	11	3	114
	138	4	142

Total, all samples, 7,076.

SECTION II

FOOD & DRUGS ACT, 1955

'E' - Examined

'U' - Unsatisfactory

	County Council		Stoke-on-Trent		Newcastle B.C.		Stafford B.C.		Cannock U.D.C.	
	E	U	E	U	E	U	E	U	E	U
<i>Dairy Products:</i>										
Milk Ordinary	2,085	61	88	1	42	-	56	-	7	-
Milk Channel Island	144	17	22	1	13	-	18	-	2	-
Milk Antibiotics	271	-	-	-	-	-	-	-	-	-
Milk Hypochlorites	431	-	-	-	-	-	-	-	-	-
Milk Complaints	12	11	-	-	-	-	5	3	-	-
Milk Condensed	3	-	10	-	-	-	1	-	-	-
Milk Dried	17	1	-	-	-	-	-	-	-	-
Cream	17	3	26	-	7	-	3	1	4	-
Butter	41	-	11	-	3	-	5	-	8	-
Margarine	24	2	-	-	1	-	2	-	3	-
Cheese	53	1	-	-	3	-	3	3	-	-
Ice Cream	22	-	27	-	4	-	-	-	5	-
Milk Puddings	20	-	12	-	1	-	6	-	-	-
Fermented Milk	7	5	-	-	-	-	-	-	-	-
<i>Cereal Products:</i>										
Flour & Flour Mixes	23	-	5	-	3	-	1	-	-	-
Bread	36	15	1	1	-	-	1	1	-	-
Flour Confectionery	67	7	2	1	3	1	6	-	-	-
Pasta	5	-	-	-	-	-	1	-	-	-
Starch Products	10	-	-	-	1	1	4	-	-	-
Breakfast Cereals	10	1	-	-	-	-	2	-	-	-
Other Cereals	4	-	-	-	1	-	-	-	-	-
Other Products	3	-	-	-	-	-	-	-	-	-
<i>Meat & Meat Products:</i>										
Meat, Raw or Cooked	8	-	3	-	-	-	-	-	-	-
Meat, Cured or Corned	30	4	26	3	-	-	2	-	-	-
Sausages	100	9	242	16	11	2	1	1	13	-
Prepared Meat	127	8	88	6	6	2	23	2	4	-
Meat in Pastry	44	9	37	1	9	1	3	1	5	-
Spreads	9	-	3	-	-	-	1	-	-	-
Extracts	15	-	-	-	-	-	-	-	-	-
<i>Poultry & Poultry Products:</i>										
Poultry, Raw or Cooked	2	-	-	-	-	-	-	-	-	-
Prepared Poultry	11	-	15	2	2	-	4	-	-	-
Poultry in Pastry	-	-	-	-	-	-	-	-	-	-
Spreads	2	-	1	-	-	-	1	-	-	-
Eggs & Egg Products	-	-	-	-	-	-	-	-	-	-
<i>Fish and Fish Products:</i>										
Fish, Raw or Cooked	8	-	1	-	-	-	2	-	4	-
Prepared Fish	14	4	1	-	1	1	1	-	1	-
Cured Fish	-	-	-	-	-	-	-	-	-	-
Spreads	5	1	1	-	-	-	1	-	2	-
<i>Fruit & Fruit Products:</i>										
Fresh	-	-	-	-	-	-	-	-	3	-
Dried	31	1	35	-	2	-	2	-	-	-
Preserves	36	3	68	1	2	-	7	-	-	-
Canned or Bottled	59	-	11	4	3	1	2	-	2	-
Other Products	27	-	19	-	-	-	8	-	-	-
<i>Vegetables & Vegetable Products:</i>										
Fresh	2	-	3	3	-	-	4	2	-	-
Dried	13	-	-	-	-	-	-	-	-	-
Canned or Bottled	48	-	5	4	-	-	4	1	-	-
Other Products	45	13	4	-	2	-	1	-	-	-
<i>Nuts & Nut Products:</i>										
Nuts	12	-	17	-	-	-	1	-	-	-
Nut Products	11	-	12	-	1	-	2	-	-	-
<i>Sugar & Sugar Products:</i>										
Sugar	12	1	1	-	1	-	2	1	-	-
Sugar Confectionery	48	3	-	-	1	-	1	1	-	-
Other Products	9	1	1	-	2	-	2	-	-	-
Substitutes	2	1	-	-	-	-	-	-	-	-
<i>Oils & Fats:</i>										
Animal	26	-	5	-	4	1	1	-	1	-
Vegetable	12	1	1	-	1	-	3	-	-	-
<i>Baby & Infant Foods:</i>										
Milk Basis	3	-	-	-	1	-	-	-	-	-
Cereal Basis	1	-	-	-	1	-	-	-	-	-
Fruit/Vegetable Basis	3	-	-	-	1	-	-	-	-	-
Meat Basis	-	-	-	-	-	-	-	-	-	-

FOOD & DRUGS ACT, 1955

'E' - Examined

'U' - Unsatisfactory

	County Council		Stoke-on-Trent		Newcastle B.C.		Stafford B.C.		Cannock U.D.C.	
	E	U	E	U	E	U	E	U	E	U
<i>Beverages:</i>										
Tea	16	1	-	-	1	-	-	-	-	-
Coffee	15	1	-	-	2	-	2	1	-	-
Cocoa	8	-	-	-	-	-	-	-	-	-
Cereal	3	-	-	-	1	-	-	-	-	-
<i>Fermentation Products:</i>										
Beers	21	5	1	1	-	-	1	-	3	2
Wines	6	-	-	-	-	-	-	-	-	-
Spirits	-	-	-	-	-	-	1	-	1	-
Vinegar, Pickles, etc. ..	46	-	54	2	2	-	3	-	1	-
Other Products	6	-	-	-	-	-	-	-	-	-
<i>Soft Drinks:</i>										
Mineral Waters	29	5	1	-	4	-	5	1	5	-
Squashes, Cordials	40	1	20	-	4	-	6	-	5	-
Others	5	-	-	-	-	-	-	-	-	-
<i>Spices, Flavourings, etc.</i>										
Herbs & Spices	36	2	10	-	-	-	-	-	-	-
Flavours & Essences	3	-	-	-	-	-	-	-	-	-
Colours	1	-	-	-	-	-	1	1	-	-
Mineral Adjuncts	4	1	6	-	-	-	-	-	-	-
<i>Remedial Foods:</i>										
Slimming Foods	12	-	-	-	-	-	1	-	-	-
Vitamin Foods	5	1	1	1	-	-	-	-	-	-
Special Diets	-	-	-	-	-	-	-	-	-	-
Diabetic Foods	3	-	-	-	-	-	-	-	-	-
<i>Drugs:</i>										
Analgesics & Antipyretics ..	5	-	3	-	1	-	-	-	-	-
Antiseptics & Disinfectants ..	3	1	-	-	1	-	-	-	-	-
Digestive Aids	4	-	4	-	2	-	-	-	-	-
Emollients & Drugs of Local Action ..	6	1	-	-	-	-	-	-	-	-
Respiratory System	6	2	7	-	1	-	-	-	-	-
Vitamins & Mineral Preparations ..	7	1	1	-	-	-	-	-	-	-
Laxatives & Purgatives	7	-	5	2	2	-	-	-	-	-
Stimulants & Tonics	1	-	-	-	-	-	-	-	-	-
Carbohydrate Nutrients	1	-	-	-	-	-	-	-	-	-
Warfarin Tablets	-	-	-	-	-	-	-	-	1	-
	4,379	205	917	50	154	10	212	20	80	2

UNSATISFACTORY FOOD AND DRUGS SAMPLES—STATISTICS

The numbers of samples listed in the previous table, that were the subject of adverse reports, is given as totals and as percentages of the numbers submitted, in the following table.

	Milk			Drugs & Other Foods	Complaint Samples	Total
	Composition	Antibiotics	Hypochlorites			
County Council	78 (3.5%)	0	0	61 (4.5%)	66 (83%)	205 (4.7%)
Stoke-on-Trent	2 (1.8%)	0	0	31 (4.0%)	17 (55%)	50 (5.5%)
Newcastle B.C.	0	0	0	8 (8.4%)	2 (50%)	10 (6.5%)
Stafford B.C.	0	0	0	4 (3.5%)	16 (64%)	20 (9.4%)
Cannock U.D.C.	0	0	0	1 (1.5%)	1 (50%)	2 (2.5%)

UNSATISFACTORY MILK SAMPLES

Details of the 80 official samples of Liquid Milk reported as of unsatisfactory composition are as follows:—

Source	Mark	Type	Observations	Source	Mark	Type	Observations
County Council W. & M. Dept.	42 C/C	U	6.2% added water	County Council W. & M. Dept.	.. *H.2525	U	25% def. in fat
..	43 C/C	U	3.7% added water	..	.. †27 C/D	U	11.7% def. in fat
..	44 C/C	U	6.5% added water	..	.. †28 C/D	U	13.3% def. in fat
..	45 C/C	U	6.5% added water	..	.. 37 C/D	U	14.3% added water
..	46 C/C	U	3.2% added water	..	.. 38 C/D	U	11% added water
..	51 C/C U (CI)		11.3% def. in fat	..	.. *†43 C/D	U	15% def. in fat
..	.. *53 C/C	U	6.7% def. in fat	..	.. *†44 C/D	U	16.7% def. in fat
..	.. H.2074	U	0.5% added water	..	.. †54 C/D U (CI)		13.7% def. in fat
..	.. H.2130	U	16.7% def. in fat	..	.. †55 C/D U (CI)		13.7% def. in fat
..	.. 60 C/C	P	0.5% added water	..	.. †56 C/D U (CI)		2.5% def. in fat
..	.. †65 C/C	U	11.7% def. in fat	..	.. H.2665	U	25% def. in fat
..	.. †66 C/C	U	8.3% def. in fat	..	.. 64 C/D	U	41.7% def. in fat
..	.. †67 C/C	U	6.7% def. in fat	..	.. H.2719	U	3.2% added water
..	.. H.2165	U	20.8% added water	..	.. 69 C/D	U	18.3% def. in fat
..	.. H.2202	U	1.2% added water	..	.. 67 A/A	C.I.	5.3% added water
..	.. 84 C/C	P	2.2% added water	..	.. 68 A/A	C.I.	4.6% added water
..	.. 85 C/C	P	1.2% added water	..	.. 69 A/A	C.I.	8.8% added water
..	.. 86 C/C	P	0.8% added water	..	.. 70 A/A	C.I.	7.8% added water
..	.. 87 C/C	P	0.8% added water	..	.. 71 A/A	C.I.	7.8% added water
..	.. 89 C/C	U	3.0% added water	..	.. 72 A/A	C.I.	15% def. in fat and 27% added water
..	.. 93 C/C	U	1.3% added water	..	..		
..	.. H.2311	U	3.0% added water	..	.. 95 C/D	U	1.7% def. in fat
..	.. *†3 C/D	U	15.0% def. in fat	..	.. 98 C/D	U	10% def. in fat
..	.. *†4 C/D	U	8.3% def. in fat	..	.. 100 C/D	U	5.0% def. in fat
..	.. *†5 C/D	U	6.7% def. in fat	..	.. 6 C/E	U	8.3% def. in fat
..	.. *†6 C/D	U	6.7% def. in fat	..	.. H.2919	U	0.5% added water
..	.. 13 C/D	U	8.2% added water	..	.. 10 C/E U (CI)		3.7% added water
..	.. 16 C/D	U	2.7% added water	..	.. *20 C/E	U	5.0% def. in fat
..	.. *18 C/D U (CI)		6.3% def. in fat	..	.. 21 C/E	U	3.8% added water
..	.. †H.2495	U	11.7% def. in fat				
County Council Health Dept.	.. XD.143P(CI)		2.5% def. in fat	County Council Health Dept.	.. *XF.557	U	6.7% def. in fat
..	.. F.117	P	0.5% added water	..	.. *XF.653 U (CI)		6.3% def. in fat
..	.. F.119	P	0.3% added water	..	.. F.805	U (CI)	7.5% def. in fat
..	.. F.128	P	2.3% added water	..	.. D.253	U(CI)	15% def. in fat
..	.. F.129	P	0.8% added water	..	.. F.301	P	3% added water
..	.. F.169	P	1.3% added water	..	.. *F.357	U	3.3% def. in fat
..	.. F.318	P	1.0% added water	..	.. *D.500	U	10% def. in fat
..	.. F.448	U	4.7% added water	..	.. XD.621	U	1.7% def. in fat
..	.. *F.449	U	10% def. in fat	..	.. *XD.684	U	3.3% def. in fat
..	.. F.502	U(CI)	17.5% def. in fat	..	.. *XD.689	U	6.7% def. in fat
Stoke-on-Trent	5	P	1.0% added water	Stoke-on-Trent	.. 125	P (CI)	4.3% added water

15 samples that were reported as deficient in fat were subsequently shown to be genuine by Appeal-to-Cow samples, these samples are marked † in the above table. 17 samples that were deficient in both fat and solids-not-fat were found to be free from added water by the Freezing Point Test (Hortvet), these samples are marked * in the above table.

Of the samples that were reported as genuine, 150 were deficient in solids-not-fat but were free from added water by the Freezing Point Test (Hortvet.)

ANTIBIOTIC TEST.

Antibiotics are used to treat mastitis and the consumption of milk from such cows could constitute a health hazard, particularly to those persons who are sensitive to antibiotics.

All 271 samples examined were satisfactory.

HYPOCHLORITE TEST.

Solutions of hypochlorites are permitted for the sterilisation of dairy equipment, but none should gain access to the milk.

All 431 samples examined were free from hypochlorites.

OTHER FOODS AND DRUGS AND COMPLAINT SAMPLES

DAIRY PRODUCTS.

Milk.

Contamination of milk by the use of a dirty bottle is a problem that will continue until the dairy industry is successful in developing a suitable non-returnable container. Some success has been achieved with waxed cardboard, but there is still some sales resistance by the public – mainly because the lack of rigidity of the larger container, when opened, and the impossibility of “putting the lid back.”

Matters will undoubtedly come to a head when metric measures replace the present ‘pinta’ and plastic bottles may be considered to be the obvious choice. Imagination boggles, however, at the problem to Local Authorities in disposing of millions of empty plastic bottles each week, adding to the tide of indestructable plastic rubbish that now threatens the environment.

The Annual Report for 1969 made reference to the presence of Leucocytes (pus cells) in milk and three further instances occurred in 1970. Two bottles of Sterilised Milk, one submitted privately, FC. 70/12P and one by Stafford R.D.C. FC. 70/36 and one of Pasteurised Milk, Stafford Borough FC.70/138, were submitted following complaints of ‘sediment’. All were found to contain excessive numbers of these cells.

The dairy industry has long been aware that leucocytes may be present in milk, due to udder infections such as mastitis, and it was usual for milk to be “cleaned” by centrifuging or filtering. It would seem however, that this “cleaning” process is either omitted or is less effective – but it would be preferable for it to be unnecessary.

It has been the practice of the County Laboratory to examine such milk samples by the Sedimentation Test – a test for general “dirt” with a

standard of a maximum of 20 p.p.m. (A standard which is now considered to be far too lenient). One sample had 700 p.p.m. of "dirt" consisting almost entirely of leucocytes.

A better assessment is by an actual cell count and which it is hoped to carry out in the future. The Public Analyst for the City of Leeds, Mr. R. A. Dalley, M.Chem. A., F.R.I.C., F.I.F.S.T., has reported finding up to 700,000 cells per ml. in bulk raw milk and between 100,000 and 200,000 cells per ml in pasteurised milk. A speaker at the 1969 Conference of the Society of Dairy Technology has given some meaning to these figures by stating that "any person drinking a pint of milk containing 1,000,000 cells per ml would be drinking a number of cells equivalent to those present in an abscess 1 cm in diameter."

Cement and Sand was found in two bottles, County FC. 70/101 and Stafford Borough FC.70/118 – a testimony to the sober habits of building workers even if they are careless with milk bottles.

A small rectangular piece of paper, printed in an irregular buff pattern, found in a bottle of school milk, County 16 C/A, FC.70/119, was identified as the material which now passes for 'cork' from a tipped cigarette, but there was no other evidence of the presence of a cigarette end and the piece of paper probably got left in the bottle through inadequate washing.

An intensely bitter taste in Sterilised Milk, Stafford Borough, FC.70/110, was attributed to bacterial contamination.

Other foreign matter included:—

Cladosporium mould, associated with denatured milk solids and miscellaneous debris, Cheadle R.D.C., FC.70/95 and Stone R.D.C., FC. 70/122. Mould of the Alternaria type associated with vegetable debris and insect eggs., Lichfield R.D.C., FC.70/100. The presence of a growth of algae (Pleurococcus) was consistent with the bottles not having been rinsed and returned promptly by a previous consumer, Lichfield R.D.C. FC.70/6.

Flakes of paint with rust and oily matter, Tamworth Borough FC. 70/123. Vegetable debris with textile fibres, Newcastle-under-Lyme B.C., FC.70/98. Sand, brick dust and fuel ash, Cheadle R.D.C. FC.70/66.

Apparent contamination of one bottle, Stafford Borough FC.70/114, was found to be a harmless manufacturing fault in the glass.

Milk packed in a waxed card container, Cheadle R.D.C., FC. 70/135, was alleged to be contaminated by the glue from the container, but no abnormality, or contamination, was found.

Pasteurised milk that was stated to 'look thin', Stafford Borough FC.70/73, was 60% deficient in fat.

Dried Milk

Dried Milk that was alleged to smell 'peculiar' and to have made a baby sick, County – FC.70/140, was of normal composition and free from deterioration or contamination.

Malted Milk submitted privately, FC.70/82P, with a complaint that it was 'gritty' was found to contain a small amount of finely divided iron.

Investigation showed that the factory, faced with a problem, of contamination by oil, has ceased to oil the machinery and were meeting the exaggerated wear by use of a magnetic separator. The separator had, however, broken down, resulting in finely ground bits of the machinery appearing in the product. A subsequent sample proved to be satisfactory.

Cream

The sauce in two samples described as Small Onions in Cream Sauce, County 78 B/Q, FD.70/270 and County 89 A/X, FD. 70/174, contained less than 1% of Cream and the manufacturers decided to change the description to "Small Onions in White Sauce."

Cream in Apple Turnovers, Stafford Borough FC.70/48, was alleged to be sour. There was evidence of some souring both in the complaint sample and in others purchased at the same shop for comparison. Such commodities are very perishable and may even 'go off' while on display in a shop window if no precautions are taken to protect them from heat.

The contents of a can labelled "Pure Dairy Cream," Tamworth Borough FC.70/124, consisted of 99.4% water and a fault in the seam of the can had evidently resulted in most of the cream being replaced by water during the sterilising process.

Butter

A can of imported Butter, Tamworth Borough, FC.70/109, was distended by gas pressure, mainly hydrogen, but the can was in good condition and the butter was free from moulds, acidity or rancidity.

Butter for canning is made from heat-treated cream since the butter itself cannot be subjected to heat treatment and a high standard of hygiene is essential to minimise spoilage by bacteria. Such spoilage, is, however, usually associated with the formation of carbon dioxide, not hydrogen.

Buttered Scones submitted privately, FC.70/43P, were found to be spread with genuine butter and not margarine as had been suspected.

Bread coated with a fatty substance, Stafford Borough FC.70/20, was submitted with a query as to whether the coating was Butter or Margarine – it proved to be margarine.

A complaint sample of butter, Aldridge-Brownhills UDC, FC.70/32, was of normal composition.

Margarine

Two samples of margarine, County 21 A/Z, FD.70/165 and 82 B/H, FD.70/236, contained a slight excess of water, 16.2% and 16.1% instead of the permitted maximum of 16.0%.

Cheese.

The difficulties in the labelling of Cheese appear to have been resolved and the only adverse reports of Cheese related to foreign matter and deterioration.

A common house-fly, *Musca domestica*, found in a cavity in a piece of cheese submitted privately, FC.70/11P, was thought to have been

trapped in the cheese during manufacture but a crack in the cheese indicated that it was more likely that the fly had crawled in at some time later.

Foreign matter in another sample of cheese, Stafford Borough FC.70/49, was identified as a flake of iron rust coated on one surface with a white paint based upon titanium dioxide.

A dark mark under the wrapping of prepacked cheese, Stafford Borough FC.70/61, was found to be a common wood louse.

Dutch Cheese, Rugeley UDC FC.70/133, had deteriorated through long storage and was rancid.

Fermented Milk Products.

The labelling of Yoghourt, or Yogurt, continues to be a problem now that it is usually compounded with other foods and usually made from skim milk. Genuine Yoghourt is made from whole milk, sometimes slightly concentrated or with the addition of extra milk solids and fermented by the addition of a culture containing *Lactobacillus Bulgaricus* and sometimes *Streptococcus thermophilus*.

Simple Yoghourt should, therefore, contain not less than 3% of fat and the equivalent of 8.5% of milk-solids-other-than-fat (some of the lactose is converted to actic acid).

A similar preparation is made from skim milk – and is an undoubtedly profitable outlet for surplus skim milk – but it is *not* Yoghourt, although the description 'Low Fat Yoghourt' appears to be understood by the Public, and no exception is taken, provided the words "Low Fat" are given with equal prominence to "Yoghourt" and that the words 'Low Fat' appear in conjunction with 'Yoghourt' wherever it appears on the label.

Two samples described as "Real Fruit Yogurt", County 20 B/X, FD. 70/649 and 27 B/X, FD.70/690, contained only 0.3% and 0.7% respectively of milk fat. The list of ingredients in both these samples and in two others, that were otherwise correctly labelled as 'Low Fat', County 29 A/C, FD.70/819 and 76 A/D, FD.70/1140, were incomplete in that they did not include the culture that must of necessity have been added to the skim milk etc., that had been used.

One manufacturer put forward the surprising, and erroneous view that the culture need not be declared, because such is not the case with cheese – forgetting, apparently, that cheese is specifically exempt by the Labelling of Food Order whereas no such exception exists for Yoghourt. There are indications however, that the Dairy Trade is in agreement that the culture should be declared – and it is certainly no disadvantage to the trade for this to be done.

One sample described as Real Fruit Raspberry Low Fat Yoghourt, County 77 A/D, FC.70/121, was contaminated by yeasts and was evidently old stock.

It is perhaps, an indictment on our times that the manufacturers felt that it was necessary to apply the phrase 'Real Fruit' to 'Raspberry' for fear that the public would assume that only artificial, raspberry-like, flavour would be present.

CEREAL PRODUCTS.

Bread

Competitive advertising and claims for this and that are generally accepted as part of modern living, but when this spreads to a food as basic as bread, credulity becomes strained. Does the man-in-the street buy a Bread Roll described as "Enriched", County 72A/D, FD.70/1136, in preference to an ordinary bread roll? Does he ever ask in what manner the bread has been "Enriched"? Perhaps he should. This sample contained soya bean flour and a little extra fat, which might not be quite what he expected.

The question of how much fruit there should be in bread sold as "Fruit Malt Loaf" etc., was investigated but no conclusions could be drawn except that there is a wide variation.

<i>Ref. No.</i>	<i>Description</i>	<i>Fruit</i>
FD. 70/348 ..	Fancy Fruit Malt ..	15.3 %
349 ..	Richly Malted Fruit Cake ..	9.7 %
350 ..	Malt Loaf ..	14.7 %
364 ..	Fruit Malt Loaf ..	19.6 %
366 ..	Fruit Malt Loaf ..	17.4 %
368 ..	Malted Fruit Cake ..	8.7 %

A new product, Part Baked Bread, Lichfield RDC. FC.70/57, ran into almost immediate trouble. This bread is only partly baked and it is intended that the housewife should complete the baking as soon as possible after purchase and thus recapture some of the almost forgotten pleasure of home-baked bread. Unfortunately it proved to be extremely perishable with a shelf-life of only one day and the sample in question had growths of three types of moulds, *Penicillium*, *Cladosporium* and *Geotrichum*.

Sliced wrapped bread is also prone to mould attack if kept for too long and the four complaints received during the year – all during the warmer months – Aldridge-Brownhills, FC. 70/53, FC. 70/65, Rugeley RDC. FC.70/67 and FC.70/105, produced *Penicillium*, *Aspergillus Niger*, *Cladosporium*, *Geotrichum Candidum* and *Rhizopus Nigricans* moulds.

It was estimated that some of this bread had been on the shelf for at least a week before being sold to an unsuspecting customer.

Twelve complaints of foreign matter in bread were received, and apart from one instance, Cannock RDC. FC.70/17, in which the 'foreign' matter was found to be an ordinary currant that had evidently wandered away from its home in a currant bun, they all resulted from some lack of care at the bakery.

A sliced loaf, Aldridge-Brownhills UDC. FC. 70/52, contained a piece of iron gauze measuring 4cm × 6cm × 6cm to which was attached two large 'blobs' of a Lead/Tin solder. It would appear that a rather crude attempt to repair a flour sieve had been unsuccessful.

Rodent excreta was found in a brown loaf. Stafford Borough FC. 70/28.

Two moths were firmly embedded in the crust of another brown loaf, Lichfield UDC. FC.70/29, and a large number of very small live insects, known as 'Springtails', *Collembola*, Sub-order *Anthropleona*, were found

to have crawled between the slices of a sliced white loaf, Rugeley UDC. FC.70/42.

The overzealous use of an oil-can sometimes results in a mixture of oil and iron exuding from machinery bearings and becoming mixed into the dough. Identification has usually depended upon the detection of metallic iron and mineral oil, but is now more difficult to confirm the source of contamination since it has become the practice to use saponifiable oils as lubricants for bakery machinery instead of mineral oils. Four samples, Aldridge-Brownhills UDC, FC.70/21 and FC.70/64, Leek UDC. FC.70/120 and Stoke-on-Trent FC.70/46, contained such iron but no mineral oil.

Other foreign matter found was – Twisted strands of soiled cotton fibres that were evidently in the baking tin before the dough was added, Sliced Brown Bread, Tutbury RDC. FC.70/37. Miscellaneous dirt containing various textile fibres and a human hair, White Sliced Loaf, County FC.70/55. Four pieces of a dark brown sheet plastic, White Sliced Loaf, Lichfield City FC.70/8.

Flour Confectionery.

There appears to be a lack of liaison between the departments of manufacturers responsible for the product and the design of the packages. A most curious example was a packet of Butter Crumble, County 99 B/O FD.70/359 and County 26 A/Z, FD.70/370, which had, originally, an illustration of the contents – biscuits. The Design Department, however, obscured this illustration by adding details of a "Special Offer" relating to the purchase of an entirely different commodity – butter. Since the word 'biscuits' did not appear anywhere on the package there was some confusion as to what the package actually contained – at least one purchaser thought that it was an after dinner sweet of the Apple Crumble type!

A piece of metal, found in Chocolate Biscuits, County 25 A/Z, FC.70/39, was a steel alloy containing Chromium, Nickel and traces of Copper and Manganese.

A live larva of the Brown House Moth, *Hofmannophila pseudospretella*, was found inside a portion of slab-cake, Stoke-on-Trent, FC.70/19.

Two 'window gnats' *Rhytidia fenestralis* and a small moth were found in a Sponge Flan case, Lichfield RDC. FC.70/31.

An iron nail, actually a 1½ in. panel pin, found in a Strawberry Tart County 65 B/W, FC.70/69, was similar to other nails being used on repair work in the bakery!

A Crumpet, Cannock RDC. FC.70/116 had embedded in the upper surface, two pieces of charred cotton twill fabric. The surfaces of all six crumpets in an unopened packet, Rugeley UDC. FC.70/103, were discoloured by a small amount of 'bakery Char' – not a serious matter, but indicating a need for more frequent cleaning of equipment.

A further packet of Crumpets, Rugeley UDC. FC.70/102, were seriously contaminated by growths of the moulds *Penicillium* and *Cladosporium*.

A Mince Tart, Lichfield City FC.70/9, contained an intact worker honey bee.

Not all complaints can be justified, however, Jam in a Sponge Roll, County 24B/T, FC.70/96, that was stated to have a 'burning taste' was quite normal and a box of jam tarts, Tamworth Borough FC.70/56, that showed extensive dark markings on the interior of the box, which looked very much like mould growths, were found to be caused by friction between the aluminium foil cases of the tarts and the box.

"Traditional Trifle", Newcastle Borough 349, FD.70/X863, was considered to be a description that was inappropriate for a trifle that included artificial cream and ingredients such as Adipic Acid, Sodium Phosphate, Emulsifiers and Saccharin. A dictionary definition of "Traditional" states "transmitted from age to age without writing" and one can but conjecture the reaction of our forbears to such a mixture.

Pasta.

Dark markings in Spaghetti, Stafford Borough, FC.70/111, were due to fragments of bran and unidentified vegetable matter, probably from weed seeds harvested with the wheat. A survey of many brands of Spaghetti showed that this defect was quite common and although possibly more evident in the sample it was not considered serious enough to warrant further action.

Starch Products

Seed Tapioca, Newcastle Borough, 282, FD.70/X348, contained a human hair, 26cm long.

Breakfast Cereals

Wheat Germ Flakes, Stoke-on-Trent, 2C, FC.70/22, contained a live larva of the Mediterranean Flour Moth, *Ephestia Elutella*.

An unusual 'scorched' flavour in a bran product submitted privately, FC.70/74P, was due to a manufacturing fault caused by over-toasting. The manufacturers had taken the sensible precaution of tasting their product, but were caught out on this occasion because the odd flavour was not noticeable until it was served with milk! It is understood that the manufacturers now supply their tasters with milk!

MEAT PRODUCTS.

Meat, Raw or Cooked.

Canned Minced Pork, Stoke-on-Trent, 60A, FD.70/X90, was found to be in a state of putrefaction, due to a puncture in the can which had admitted spoilage organisms.

Cans of Lambs tongues which came under suspicion, Stoke-on-Trent FC. 70/7, proved to be sound and the contents sterile.

Cured or Corned.

Cured.

Larvae found upon slices of uncooked bacon, Rugeley UDC FC. 70/83, were identified as those of the common blowfly, *Calliphora Erythrocephala*.

CORNEB BEEF.

Corned Beef.

Corned Beef, still is regarded with some suspicion by the public, and was the subject of four complaints. Part of a common blowfly was present in one sample, County 1 B/A, FC.70/34, and another sample, Stoke-on-Trent, FC.70/125, contained finely divided iron that had probably been introduced by machinery lubricant.

The other two samples, Rugeley UDC. FC. 70/30, and Aldridge-Brownhills FC.70/139 contained pieces of epidermal tissue, with attached hairs of bovine origin, due to careless trimming of the meat.

Unlike previous years there were no complaints about Corned Beef that appeared to be old stock – but a Ministry Press Notice relating to the theft from a Government Store of Corned Beef that had been processed in 1962 was coupled with an assurance that such meat was not offered for sale within the United Kingdom, but was exported. It would have been more reassuring if it could have been stated that it never came back again.

Chopped Meat.

Chopped Pork, Stoke-on-Trent, 459A, FD.70/X638, contained 87.5% of meat and was thus 2.8% deficient of the 90% minimum meat content required.

Sausages.

Of the 364 samples examined for composition 17 Pork Sausages, or 4.2%, were deficient in meat. All Beef and other sausages had a satisfactory meat content.

Pork Sausages Deficient in Meat

County	Source	Mark	Lab. Ref.	Meat Content	Deficiency
County		61 B/R	FD.70/215	62.2%	4.5%
"		91 B/Q	351	63.7%	2.0%
"		53 A/C	843	52.3%	19.5%
"		6 B/A	930	52.8%	18.8%
"		54 B/Q	1322	58.4%	10.1%
"		8 B/G	1346	56.1%	13.7%
Stoke		32A	X60	63.5%	2.3%
"		49A	X77	63.4%	2.5%
"	*	102A	X155	63.8%	1.9%
"		380A	X527	57.1%	12.2%
"		90	FD.71/X721	62.8%	3.4%
"		557A	X770	62.7%	3.5%
"		590A	X819	62.3%	4.2%
"		674A	X940	59.2%	8.9%
"		675A	X941	63.2%	2.8%
"		756A	X1049	63.2%	2.8%
Newcastle	*	218	X3	62.9%	3.4%

* Contained undeclared sulphite preservative

Under the Preservative Regulations the presence of Sulphur Dioxide Preservative in Sausage must be declared. 9 samples, including 2 that were deficient in meat, contained undeclared Sulphur Dioxide.

Sausages containing undeclared Sulphur Dioxide.

Source	Type	Mark	Lab. Ref.	Sulphur Dioxide
				ppm
County	Beef & Pork	4 A/Z	FD.70/147	180
Stoke *	Pork	102A	X155	310
„	Beef	237A	X302	105
„	Pork	253A	X328	150
„	Pork & Beef	255A	X330	250
„	Pork	395A	X563	125
„	Pork	653A	X913	150
Newcastle	Beef	217	X2	100
„ *	Pork	218	X3	170

* Deficient in meat

One sample of Pork Sausage, Stoke-on-Trent, 673A, FD.70/939, contained 520 ppm of Sulphur Dioxide which is in excess of the maximum of 450 ppm permitted by the Regulations.

Three samples of Sausages were submitted in relation to complaints:—
Penicillium mould was present in a packet of Sausages, Private FC.70/134P

A piece of stout, copper plated, iron wire embedded in a Polony Sausage, Lichfield RDC, FC.70/23, was identified as a hook, such as is used for attaching labels to a carcass.

A half inch No. 8 countersunk non-ferrous screw intended for use in wood was alleged to have been found in a sausage that formed part of a meal, and particles of meat embedded in the thread of the screw were consistent with the allegation, County 66B/W, FC.70/70.

Four samples of sausage submitted privately for compositional analysis, FC.70/88P – 91P, were satisfactory.

Prepared Meats.

Brawn.

Two samples, County 37A/A, FD.70/467 and County 100A/Z, FD.70/481, were deficient in meat, containing 52.9% and 51.7% respectively, instead of the required minimum of 60%.

Meat in Gravy.

Three samples of Stewed Steak in Gravy, Stoke-on-Trent, 72A, FD.70/X102; 620, FD.70/X877 and 714A, FD.70/X1015, were deficient in meat, containing 71.8%, 73.0% and 70.0% respectively instead of the minimum of 75%.

A complaint sample of Stewed Steak in Gravy, County 60B/X, FC.70/97, contained pieces of epithelial tissue characteristic of the interior of the cheek of a bovine animal, which by no stretch of the imagination could be regarded as steak.

Foreign matter from another can of meat, Stoke-on-Trent, FC.70/77, consisted of animal hide, of bovine origin, with attached hairs, loose hairs of bovine origin were also present.

Hamburgers

The 80% standard was originally based upon the 'meat with cereal' of the Sausage and Other Meat Product Regulations and which states in the definition of 'meat with cereal' that the principle ingredient, other than meat, is cereal.

Certain trade interests have sought to find a way to avoid compliance and it was seriously suggested by the trade that water, not cereal, was the second ingredient, and, therefore, that the standard did not apply – in apparent ignorance of the Food and Drugs Act, which categorically states that water is not a food, and hence water cannot be an ingredient within the meaning of the Regulations. One manufacturer tried adding more onion than cereal – and this would appear to be a loop-hole, but it is doubtful if anyone buying so strongly flavoured a "hamburger" would want to buy another!

I am of the opinion that if a product is described simply as "Hamburger" – "Beefburger" etc then a minimum meat content of 80% is required. An opinion which is based upon the analysis of many samples and which has shown that they usually do contain at least 80% of meat. The question as to the nature and quantity of the other ingredients is thus immaterial. If a manufacturer wants to add large amounts of other ingredients, such as onion, and reduce the meat content below 80% then he is perfectly entitled to do so – but he must not describe the product as "Hamburger" etc. or use any description that would lead the purchaser to think that it was a product which contained 80% of meat.

Only one sample, Stoke-on-Trent, 44A, FD.70/X72, containing 75.0% failed to reach the standard.

Hamburgers with Gravy

A number of canned products have appeared, variously described as "Hamburgers with Gravy and Onions" and "Hamburgers with Onion and Gravy" without realising the significance of the placing of the words "Gravy" and "Onion".

Canned meat with Gravy is required to have a minimum of 75% of meat, but the requirement drops to 50% if the product contains *more* than 12½% of onion.

Hence Canned Hamburgers with Gravy must contain not less than 60% of meat (75% of 80%) but if there is *more* than 12½% of onion, then the standard becomes 40% of meat (50% of 80%).

If there is *not* more than 12½% of onion, then matters are simple – the meat must be not less than 60%, as for "Hamburgers in Gravy", and the product should be described as "*Hamburgers with Gravy and Onions*".

But if the Onion content is more than 12½% then the description should be "Hamburgers in Onion and Gravy" if 60% of meat, (i.e. 75% of Hamburgers) is present as the Gravy would be less than 12½%. If however the Hamburger content falls to 50% (40% meat), as it may do with more than 12½% onion, then the amount of Gravy could exceed the amount of onion and the description would have to be Hamburgers with Gravy and Onion.

Which is "where we came in" except that there are now two products of very different composition with the same description – which is very unsatisfactory.

A sample described as Hamburgers with Gravy and Onion, Stafford Borough 1089, FD.70/X42 contained 56.5% instead of 60% of meat, but it was subsequently found to have more than 12½% of Onion and, therefore, satisfied the lower 40% standard – but it should have been labelled Hamburgers with Onion and Gravy, and with which the manufacturers agreed.

Another sample, not of the same Brand, described in this case as Hamburgers with Onions and Gravy, County 11 A/D, FD.70/1049, contained 53.5% of meat and more than 12½% of onion. But the list of ingredients stated "Beef, Cereal, Onions . . ." whereas it was apparent that the amount of onion exceeded that of cereal. It transpired that the manufacturers were adding an amount of *dried* onion which had been calculated to give the equivalent of 13% of fresh onion, but had erroneously assumed that fresh onions contained 20% of dry matter, whereas about 7% is the case, and was therefore using more than twice as much onion as intended.

Two other samples, both described as Hamburgers with Gravy and Onions, County 92 A/A, FD.70/1100 and County 93 A/A, FD.70/1101, contained 49.8% and 47.1% of meat respectively instead of the 60% required, as less than 12½% of onion was present in each case.

Steakettes

A similar standard of a minimum of 80% meat is applied to products described as Steakettes, although it could be argued that a higher standard might be applied if the description was such that it could be taken to imply that the product was all meat.

One sample, Stoke-on-Trent, 189A, FD.70/X237, contained only 73.7% of meat.

Luncheon Meat

A sample of Pork Luncheon Meat, Rugeley UDC. FC.70/71, contained several bristles, identified as Pig Bristles.

Irish Stew

Two further samples, Newcastle Borough 245, FD.70/X112, and 275, FD.70/X341, of the same Brand that was criticised in the 1969 Annual Report, had meat contents of 29.1% and 23.1% respectively, instead of the minimum of 35% required, because of a label that implied that meat was a major ingredient.

Later samples have, however, been labelled in a satisfactory manner.

A complaint sample, Rugeley UDC. FC.70/72, had evidently undergone fermentation, indicating a possible fault in a can seam, but the original can was not available for examination.

Hot-Pot

An unusual complaint concerned a Hot-Pot that had turned a rather unpleasant green colour, Lichfield RDC. FC.70/117.

The housewife had used, as an ingredient, black pudding, which was found to be coloured with a mixture of the permitted dyes, Green S, Red 10B and Tartrazine. Under the condition of cooking the Green colour had been extracted by the liquid and then absorbed by the potatoes etc.

Ready Meals

The confusion over "Ready Meals", which are included but not defined in Regulations, still continues.

One sample Stafford Borough, 1157, FD.70/X838, was in a can which had *two* descriptions.

- (a) "Beef with Vegetables and Gravy".
- (b) "Ready Prepared Meal - Beef with Vegetables and Gravy".

The Regulations are however precise upon one point - that the phrase is "Ready Meal". No reasonable person would take exception to slightly different wording, but by no stretch of the imagination could this product, with directions to "heat for 40-50 minutes" be termed a "Ready Meal".

Under the circumstances it was decided to apply the 35% meat standard, it actually had 34%.

The manufacturer agreed, but stated that the product had since been discontinued.

Two samples of Beef Curry, County 2 A/Z, FD.70/145 and County 3 A/Z, FD.70/146, contained 45% of meat and therefore complied with the Regulations as regards meat content. Comment was made, however, concerning the label of "Ready Meal" since the directions included "prepare rice or vegetables." The working housewife who rushes home with a canned "Ready Meal" only to find that she must wash, prepare and cook vegetables could be held to have been misled, if not actually prejudiced. A revised label was acceptable.

Meat in Pastry

The quality of meat pies, in so far as the 25% of meat standard of the Regulations is concerned, was satisfactory throughout the year and no sample was reported as deficient in meat. There has however been a tendency to turn from "Meat" to "Meat and Potato" with the lower standard of 12.5% meat and later to "Potato and Meat" for which there is no Statutory Standard.

Deterioration due to prolonged and/or unsuitable storage continued to be a problem however, and 6 samples were contaminated by moulds or bacterial growths.

Source	Description	Mark	Lab. Ref.	Organisms Present
Lichfield RDC	Pork Pie	—	FC.70/2	Penicillium
Stoke-on-Trent	Pork Pie	—	FC.70/38	Penicillium, Rhizopus Nigricans
Lichfield RDC	Pork Pie	—	FC.70/50	Bitter flavour due to bacterial contamination
County Newcastle Borough Private	Sausage Rolls	2B/T	FC.70/54	Penicillium
	Pork Pie	—	FC.70/75	Grey-blue discoloration due to bacillus subtilis
	Steak Pie	—	FC.70/80P	Purificative organisms present Vol. bases 47 mg/100g.
Rugeley UDC	Sausage Roll	—	FC.70/81	Cladosporium
Cannock RDC	Sausage Roll	—	FC.70/86	Penicillium, Mucor & Zygomycetes Murales.
Rugeley UDC	Pork Pie	—	FC.70/136	Rhizopus Nigricans, Penicillium & Cladosporium

Foreign matter found, included a piece of wood, 5.5 cm × 1.1 cm, in a Cornish Pasty, Leek UDC, FC.70/3; Bovine hide and hair in a Potato and Meat Pie, Leek UDC, FC.70/18, and an object in a Sausage Roll, County 2 A/C, FC.70/59 which bore a striking resemblance to the tail of a mouse, but which proved to be a piece of ligament.

Steak and Kidney Pudding, Stoke-on-Trent FC.70/41, that was thought to have caused food poisoning, was normal in all respects.

POULTRY PRODUCTS.

Poultry

A packet of Chicken Joints, County 61 A/Y, FC.70/5 was submitted as a result of an allegation that it was rabbit and not chicken.

No skin was present, which contributed to the very deceptive appearance of the joints, but a detailed examination showed that the sample was genuine.

Prepared Poultry

Chicken Breast in Jelly, Stoke-on-Trent, 686A, FD.70/X973 contained 76.8% of meat instead of the required minimum of 80%.

Of two cans of Boned Chicken, Stoke-on-Trent, 597A, FD.70/X826, one contained 76.7% of meat instead of 80%, but the other can offended the more seriously, in that it contained 4.5 grammes of lung tissue – a prohibited offal.

FISH PRODUCTS.

Fish Fingers

There appears, to be some doubt as to what is legally a "Fish Finger" and also on the meaning of the term "Fish content."

The present product is essentially a piece of fish, usually cod, coated in batter and bread-crumbs and fried in oil and should properly be described as "Fish Fingers in Breadcrumbs" or "Breadcrumbs and Fish Fingers" depending upon whether the fish content was greater or less

than 50%. In as much that fish fingers are sold in packets with an illustration of the contents, showing the presence of breadcrumbs, Public Analysts have never insisted upon a *description* that included "breadcrumbs"—in the light of events this somewhat gentlemanly approach would seem to have been a mistake. Nevertheless, it could still be held to be an offence under the general provisions of the Food and Drugs Act if a product described as a "Fish Finger" did, in fact, consist of less than 50% of fish, a view which is shared by the Food Standards Committee of the Ministry of Agriculture, Fisheries and Food, and stated in their Report reviewing The Food Standards (Fish Cakes) Order, 1950.

One manufacturer has produced "Battered Fish Fingers", — fish coated in "batter", not subjected to physical violence! and which has been accepted as a fair description.

In calculating the fish content following the analysis, the procedure in the Stafford Laboratory, is to calculate the lean fish from the Nitrogen content of the sample, after taking into account the Nitrogen contributed by the Breadcrumbs, using a Nitrogen factor of 2.85 (Analyst 1966, 91,540). To the figure for lean fish is added 1.0, which is a slightly over-generous allowance for the natural fat of the fish.

The practice elsewhere of calculating the fish content as the sum of the lean fish and the total fat is considered to be erroneous, and misleading, since most of the fat comes from the frying process and is not part of the fish.

That there is need for a standard is shown by the lowering of the fish content during recent years.

Prior to 1963 the amount of fish was usually 70%, or more, but a survey in 1963 showed that the average composition had dropped to 65%. Another survey in 1969 showed a further fall to an average of 62% and in 1970 the average was only 58%.

Where the actual weight of the contents of a packet is known to differ from the declared weight, the manufacturer is given the benefit of the doubt and an allowance is made in the calculation of the fish content on the assumption that the extra weight is due to an extra thick coating on the fish — which would, otherwise, have the effect of lowering the calculated fish content expressed as percentage of the whole. In spite of this, however, only one sample out of the seven examined in 1970 satisfied the Staffordshire Standard of 65% fish.

Fish Content of Fish Fingers 1970

Source	Mark	Lab. Ref.	Lean Fish	Total Fat	Total Fish (Lean + 1.0)	Total Fish adjusted for declared weight
County ..	93 A/Y	FD.7/136	62.5%	7.2%	63.5%	63.5%
" ..	94 A/Y	137	50.9%	7.9%	51.9%	52.4%
" ..	6 A/Z	149	55.2%	8.0%	56.2%	60.6%
" ..	7 A/Z	150	68.5%	7.5%	69.5%	75.4%
" ..	7 B/W	554	55.0%	8.2%	56.0%	*
" ..	38 A/B	729	56.6%	8.8%	57.6%	*
Newcastle Borough	359	X903	50.1%	9.3%	51.1%	51.1%

At one time manufacturers suggested a standard of 60% of fish, but it is clear that even this is not always being observed.

One manufacturer went so far as to state that a fish content of *less* than 65% "gave rise to a Fish Finger with a distinctive crispness and high level of customer appeal" – terms that could equally be applied to a slice of buttered toast or a packet of Potato Crisps. That the product is popular is not questioned, what is questioned, is whether it can still be described as a "Fish Finger".

Popularity must be judged in the light of freedom of choice and there does seem to be similarity in marketing research techniques to that of the manufacturer of an essential household article who made a gleeful announcement that the excellence of their product had been proved by a doubling of their sales – but they conveniently forgot to mention that immediately prior to this they began packing the product in two's, so that the housewife had no option, but to buy twice as much!

Fish Spreads

A sample of Salmon Spread, County 22 B/T, FC.70/62, was found to be in the early stages of bacterial decomposition and yielded 51.5 mg/100g of volatile bases.

FRUIT PRODUCTS

Dried Fruit

Stoned Dates, County 77 B/R, FD.70/231, contained two tufts of Cotton and Cellulose Acetate textile fibres, partly dyed blue.

Jams

Three samples of jam were deficient in Soluble Solids.

Stawberry Jam, County 14 B/Z, Lab Ref. FD.70/637, Soluble Solids 66.9%

Marmalade, County 35 A/C, Lab Ref. FD.70/825, Soluble Solids 65.3%

Plum Jam, Stoke 6A, Lab Ref. FD.70/X12, Soluble Solids 67.7%

None of these jams were sold in air-tight containers (for which the minimum standard is 65%) and should, therefore, have contained not less than 68.5% of soluble solids.

A sample of Raspberry Jam, County 100 B/P, FD.70/640, contained only 25% of fruit instead of minimum required by the Food Standards (Preserves) Order of not less than 30%.

Canned Fruit

Raspberries in Syrup, Stoke-on-Trent, H.257/8, FC.70/78 and 79, had been packed in lacquered cans but unfortunately the acid fruit juice had penetrated the lacquer, via scratches, and caused the film of lacquer to become detached.

A complaint was received that Canned Grapefruit, Biddulph UDC, FC.70/14, had "white spots." The "Spots" were found to be crystals of Naringin – the bitter substance in grapefruit that is responsible for the

characteristic bitter flavour of grapefruit. The substance tends to take a crystalline form in canned grapefruit if stored for a long time and is more likely to occur with fruit that was underripe when canned.

Canned Strawberries, Newcastle-under-Lyme, 270, FD.70/X336, were found to be seriously affected by the mould *Botrytis cinerea*.

This mould is a common pest of growing strawberries and it was evident that not only had insufficient care been used in preparing the fruit but that faulty processing had allowed its development inside the can.

Large catering packs of Bramley Apples, Stoke-on-Trent, FC.70/1, were stained a deep pink colour in the parts of the fruit nearest to the unlacquered sides of the can. The tin content of the apples varied from 36 ppm in the centre of the can to 255 ppm near the sides of the can.

The pink colour had the characteristics of a natural anthocyanin pigment and it was concluded that a reaction between the fruit and the metal of the can, possibly accentuated by incomplete exhaustion of air from the can, had provided conditions favourable for the development of the pink colour.

During the year it became apparent that the extent of internal corrosion of cans appeared to be on the increase and it may be that in the very competitive food industry some economy in the tin coating has been introduced.

Samples from a consignment of Apricots in Syrup, Stoke-on-Trent, gave the following results.

<i>Ref. No.</i>	<i>Lab. Ref.</i>	<i>Iron</i>	<i>Tin</i>
H.412	FC.70/126	6.5 ppm	125 ppm
H.413	127	5.5	90
H.414	128	9.4	85
H.415	129	5.0	74
H.416	130	9.4	79
H.417	131	7.8	90

These amounts could not, necessarily, be regarded as excessive (the limit for Tin is 250 ppm) but bearing in mind the part that canned food occupies in the modern diet, it may be necessary to apply a stricter standard if there is evidence that the total amount of tin ingested is increasing.

Two Cans of Rhubarb, Stoke-on-Trent, FC.70/27, did, however, have excessive amounts of tin, one contained 760 ppm and the other 1,200 ppm.

Further reference is made to this matter under Vegetables.

VEGETABLES AND VEGETABLE PRODUCTS

Raw Vegetables

Potatoes

An allotment holder, who had grown a considerable quantity of potatoes for his own use, was disappointed to find that they had a 'musty' flavour.

Examination of the potatoes, FC.70/141P and 142P, by gas chromatography showed that they contained B.H.C. – a pesticide which is well known to produce a musty taint in potatoes.

The grower had not used B.H.C., or any pesticide, other than time honoured soot, on the soil, but the soil was found to contain B.H.C., Aldrin and possible traces of other pesticides, which must have been used some years previously by a former holder of the allotment.

Examination of the soot showed the presence of a surprisingly large number of substances, several of which were detected in the soil, but not in the potatoes.

Chipped Potatoes

Raw peeled potatoes are permitted to contain up to 50 ppm of Sulphur Dioxide, to prevent browning, and it is customary to treat bulk supplies of chips, as supplied to fish fryers etc., in the same manner. If, however, the same concentration of preservative is used for chips, as for whole peeled potatoes, there is a possibility that the limit would be exceeded because of the larger surface area exposed.

Three samples of raw potato chips did, in fact, contain excess preservative.

<i>Source</i>	<i>Mark</i>	<i>Lab.Ref.</i>	<i>SO₂</i>
Stoke-on-Trent	676A	FD.70/X942	65 ppm
Private	–	FC.70/40P	140 ppm
Private	–	FC.70/87P	65 ppm

Watercress

A sample of watercress, Stoke-on-Trent, FC.70/44, thought to be implicated in a case of acute sickness, was free from metallic contamination and pesticide residues.

Watercress that is grown commercially is normally above suspicion but there are risks from the consumption of the wild watercress which is sometimes found growing in roadside ditches and which may be gathered and sold by itinerant traders. Such watercress may be contaminated by sewage and it has also been reported that cases of liver fluke in humans have been traced to the consumption of watercress from water to which infected cattle have had access—a small fresh-water snail being an intermediate host to the parasite.

Mushrooms

Very few varieties of fungi are actually poisonous, but those that are, may be so deadly that it is unwise to eat any “mushrooms” found growing wild, unless they can be identified with absolute certainty.

A sample submitted privately, FC.70/99P, for identification was found to be of the large horse-mushroom, *Agerious arvensis*, which is edible – though rather indigestible. The mushroom was however, heavily infested with insect larvae – which is usually the case with wild fungii and the question as to whether any wild fungii is edible, is, for this reason, usually only of academic interest.

CANNED AND BOTTLED VEGETABLES

Beetroot

A complaint sample of bottled Beetroot, Stoke-on-Trent, FC.70/107, was in a state of active fermentation. The liquid contained only 1.2% of Acetic Acid and no salt, although salt had been declared as an ingredient, and which would have permitted the growth of yeasts.

Baked Beans

Bacterial decomposition in a complaint sample, Lichfield City FC.70/60, was traced to a faulty seam in the can, which had permitted the entry of spoilage organisms.

Another complaint sample, Stoke-on-Trent, FC.70/10, submitted upon a slice of toast was stated to have a metallic taste. 110 ppm of Tin and 35 ppm of Iron were present, which is not excessive in relation to present standards, but did indicate that some corrosion of the can had taken place.

A dark brown substance in a further complaint sample, Seisdon RDC, FC.70/25, was composed of finely divided metallic iron and was probably caused by some malfunction of the canning plant.

Peas

Foreign matter in a can of peas, Stafford Borough FC.70/104, was identified as a moth, partly enclosed within a pupal case.

Another sample of Canned Peas was received with a complaint of a bitter taste, Stafford Borough FC.70/51. There was no evidence of metallic contamination and it was considered that the bitter taste had resulted from bacterial action. This could not be confirmed, however, since the peas had been cooked by the complainant – which would have killed the organisms responsible.

Tomatoes

Deterioration of the contents of a can of tomatoes, Stoke-on-Trent FC.70/84, was found to have resulted from a small hole in one end of the can, due to external corrosion. Apart from mould, the sample contained 3,600 ppm of Iron and 580 ppm of Tin.

Further cans from the same source were sound and contained the following amounts of Iron and Tin.

<i>Iron</i>	<i>Tin</i>
16 ppm	210 ppm
15 ppm	77 ppm
23 ppm	83 ppm

A further sample of the same Brand, received somewhat later, Stoke-on-Trent, FC.70/115, contained 600 ppm of Iron and 720 ppm of Tin.

As long ago as 1908, a Report to the Local Government Board suggested a limit for tin in foods of 2 grains per pound (285 ppm) and in 1953 the Food Standards Committee 'rounded' this off to a recommendation of 250 ppm, but this has never been given Statutory force.

While there is no evidence that canned foods have ever caused illness by reason of their tin content, a limit of 250 ppm does, in the light of advances in canning technology since the beginning of the century, seems to be excessively large.

When the original standard was suggested, canned foods played but a small part in the diet and the occasional can that reached the limit was of little consequence. In recent years there has been a rapid extension in the selling of canned foods and there is little doubt that there has been a significant increase in the ingestion of tin.

Few manufacturers appear to have taken note of this, and present day canned foods, all too often, show signs of internal corrosion. The lacquering of cans to protect against attack seems to be less frequent – possibly a casualty of cost-cutting to meet the “something-off” demand, although there are some manufacturers who have achieved a very high standard in lacquered cans.

The introduction of a Statutory Statement at a realistic level that would encourage good manufacturing practice is clearly desirable.

The Codex Alimentarius has under consideration, a suggestion that the limit for Tin should be 150 ppm.

OTHER VEGETABLE PRODUCTS.

Potato Crisps

The artificial colouring matter, Sunset Yellow F.C.F. was present in one sample, County 68 B/Q, FD.70/2, but was not declared in the list of ingredients. The manufacturers had made a mistake in their interpretation of The Labelling of Food Regulations and were under the impression that the colour was a ‘flavour.’

A packet of Crisps submitted privately, FC.70/15P, was found to be normal except that it contained only 13.3 grammes instead of the declared 24.8 grammes. The complainant was advised to place the matter in the hands of the Chief Inspector of Weights and Measures.

Tomato Soups

Cream of Tomato Soup, County 59 B/T, FD.70/1228, had a statement of ingredients that was ambiguous – apparently due to the misplacement of a comma.

Tomato Content of Tomato Soup

The examination of a number of dry Tomato Soup Mixes showed that the actual tomato content was often very little and it appeared that manufacturers were, possibly, being misled by a paragraph in the Food Standards Committee Report on Soups which seemed to imply that the dry mix should contain not less than 2% of tomato solids whereas the actual recommendation was that the *soup prepared from the mix* should contain not less than 2% of Tomato Solids.

The following results were obtained.

Source	Mark	Lab. Ref.	Tomato Solids	
			in dry mix	in prepared soup
County ..	33 A/Y	FD.70/5	6.9%	0.9%
..	34 A/Y	6	3.7%	0.4%
..	35 A/Y	7	10.3%	1.1%
..	96 B/P	361	6.6%	0.7%
..	97 B/P	362	4.0%	0.4%
..	98 B/P	363	5.4%	0.7%
..	35 B/Q	365	8.7%	1.1%
..	37 B/Q	367	5.0%	0.7%

A complicating factor is that tomato solids in a dry mix tends to undergo changes during storage and while a manufacturer might be adding sufficient, by the time the product reaches the consumer, the effective tomato content is much reduced.

Investigations are proceeding into this matter.

NUT PRODUCTS

Marzipan, after passing through a very difficult phase a few years ago, when products containing insufficient almonds, or in which all or part of the almonds was replaced by other nuts or even non-nut products, were not uncommon, now seems to have settled down. All samples examined complied with the recent L.A.J.A.C. Code of Practice of not less than 23.5% of dry almond substance and that 75% of the remainder should be solid carbohydrate sweetening matter.

A complaint sample of Marzipan, Stoke-on-Trent, FC.70/137, that was suspected of causing illness, was free from contamination.

SUGAR AND SUGAR PRODUCTS

Sugars

"Pure Acacia Honey", Stafford Borough 1113, FD.70/X250, contained no pollen which could be attributed to Acacia. This Honey was of Hungarian origin, which Country is not usually associated with true Acacia, but more with Robinia, or False Acacia, and it is suspected that both plants are "Acacia" to the honey trade.

Golden Syrup Jelly, County 57 A/C, FD.70/849, was affected by surface growths of mould of the *Pascilomyces* type.

Sugar Confectionery

Two samples of the same Brand of Crystallised Mimosa, 67B/X, FD.70/974 and 6 B/B, FD.70/1224, had a striking superficial resemblance to Mimosa but did, in fact, consist only of Rape seeds, *Brassica napus* L, covered with coloured sugar.

Strawberry Piping Jelly, County 70 B/X, FD.70/977, sold for decorating cakes, etc., was really a strawberry flavour syrup with the addition of 0.3% of Sodium Citrate. It was considered that the description 'buffer salt' in the list of ingredients was not an appropriate designation for the purpose of The Labelling of Food Order 1953.

A bar of chocolate submitted privately, FC.70/13P, was of normal composition, but there was some deterioration in flavour. The closing date of a 'special offer' on the wrapper indicated that it had been made over two years previously.

A piece of toffee, Cheadle R.D.C., FC.70/35, that was part of the contents of a 'Lucky Bag' as sold to children, was alleged to taste of soap. Fat isolated from the toffee was, in fact, very rancid and this accounted for the "off" flavour.

Sugar Substitutes

Low Calorie Sweetener, County 30 A/Z, FD.70/374, had the following composition.

Lactose	..	..	..	..	92.9%
Sodium Cyclamate	..	..	..	..	4.5%
Sodium Saccharin	..	..	..	..	2.6%

The use of Sodium Cyclamate was banned by The Artificial Sweeteners in Food Regulations 1969. The sample was, probably, old stock.

OILS AND FATS

Animal Origin

A complaint sample of Pork Dripping, Newcastle-under-Lyme FC.70/108, was showing some development of Peroxide Rancidity.

Vegetable Origin

Vegetable Oil Spray, County 82 B/T, FD.70/1281, sold in a pressurised aerosol can and intended to be sprayed onto frying pans, included "Propellant" in the list of ingredients. It was considered that this was not a sufficient declaration for the purpose of The Labelling of Food Order 1953. The manufacturers claimed that the propellant was not an actual ingredient of the food and that its proper names would not be understood by the purchasers – it seems difficult to believe that, in these days, a manufacturer could be apparently unaware of food legislation and of the existence of Public Analysts, and other Consumer Protection Officers, whose duty it is "to understand".

The purpose of a "propellant" may well be solely to eject the food from the can but if *any* amount, however, small, remains in the ejected food then it is also an "ingredient" and must be declared as such. The onus of proof that none remains must be the responsibility of the manufacturer.

BABY FOODS.

Cereal Basis

High Protein Baby Food, County 63 A/Y, FD.70/71, had a packet with conflicting descriptions in that in one place it claimed that it was made from "starch-reduced wheat flour", but the list of ingredients stated "wheat protein", which is not the same thing.

The manufacturers readily agreed to alter the wording but expressed surprise that nobody had noticed the mistake before, during the three years that the product had been on sale!

A Baby Food, Newcastle-under-Lyme, FC.70/68, that was suspected of having caused illness, contained an excessive amount of water, 7.5%, but was otherwise normal.

BEVERAGES.

Tea

Instant Lemon Tea, County 59 B/X FD.70/921, had the following composition:—

Sugar	..	..	..	..	93.8%
Citric Acid	..	..	..	..	2.7%
Soluble Solids of Tea	..	..	..	..	1.5%
Flavour and Colour etc.	..	..	..	..	2.0%

whereas the list of ingredients was given in a different order. The manufacturers agreed to revise the list, but wanted to include "Instant Tea Solids". The term "Instant" has, however, no real meaning in this context and the manufacturers were advised that this would not be accepted. If the ingredient is simply the soluble solids of tea, then there is no reason why it should not be declared as such, if however, other ingredients are included in the "Instant Tea" component, then they must also be declared.

Coffee

A complaint Tin of Coffee, Stafford Borough, FC.70/45, contained a damaged and dehydrated larva of the Brown House Moth, *Hofmanophila Pseudopretella* and a complaint sample of "Instant" Coffee, Lichfield RDC. FC.70/58, contained a recently dead house spider *Agelenidae*, genus *tiganaris*.

FERMENTATION PRODUCTS

Beers

A complaint sample of Bitter Beer, Cannock UDC, FC.70/94, submitted in an old gin bottle contained a considerable amount of insoluble matter consisting of yeasts of the *Candida* type. This yeast is not the type normally associated with the brewing of beer and it was suspected that the complainant had not used sufficient care to check that the bottle, which was habitually taken to the "jug and bottle department", was adequately cleaned each time.

Dark matter in Light Ale, Stoke-on-Trent, FC.70/132, consisted of growths of *Stemphylium* mould and yeasts of the *Candida* and *Saccharomyces* types.

A preparation for the home brewing for beer, County 72 B/T, Fd.70/1241, contained a packet for artificially hardening the water supply (entirely unnecessary in some parts of Staffordshire!) consisting of Calcium and Magnesium Sulphates, but was labelled only as "Brewing Salts" without any declaration of composition.

The standard of not less than 1.5 % of Proof Spirit in Shandy has now found wide acceptance and will become Statutory when the 1970 Labelling of Food Regulations come into force.

Nevertheless, five samples failed to meet this modest standard.

<i>Mark</i>	<i>Lab. Ref.</i>	<i>Source</i>	<i>Description</i>	<i>Alcohol as Proof Spirit</i>
75 B/S	FD.70/328	County	Export Shandy	0.7 %
83 A/Z	FD.70/452	"	Shandy Lemonade & Beer	1.2 %
2 B/Z	FD.70/625	"	Shandy	1.4 %
20 B/Z	FD.70/680	"	Shandy	0.8 %
68/70	FD.70/X795	Cannock UDC	Shandy Gaff	0.15 %

The manufacturers of the last sample, Shandy Gaff, expressed surprise that it contained as much as 0.15 % of Proof Spirit since he did not use any Beer in its preparation or add any alcohol!

The product was merely a flavoured mineral water and not withstanding his quoting from a recipe book dated 1894 and his "Chief Mixer of Drinks", who first saw the light of day in the same year, the manufacturer was advised to find a different name for his product to avoid prosecution under the general provisions of the Food and Drugs Act.

Spirits

The position concerning other bottled products described under names such as "Lime and Vodka" etc. is still somewhat confused and while, they must contain less than 2 % Proof Spirit if they are to be free from Excise Regulations, this represents very little actual vodka.

A more definite view can be taken, however, if the name of the spirit is quoted first and a sample of Vodka and Lime, Stafford Borough FC.70/24 which contained 18.0 % of Proof Spirit was considered to be reasonable.

Vinegar

Two samples of Malt Vinegar, Stoke-on-Trent, 74A, FD.70/X104, and Stoke-on-Trent, 685A, FD.70/X972 contained undeclared added Salt, 1.8 % and 1.1 % respectively.

Mineral Waters

Limeade, County 100 B/Z, FD.70/1289, contained 0.0145 % w/v of Saccharin (100 grains per 10 gallons) instead of the maximum of 0.0080 % w/v (56 grains per 10 gallons) permitted by the Soft Drink Regulations, 1964.

Two complaint samples of Lemonade, of different Brands, County 36 B/T, FC.70/106 and Kidsgrove UDC, FD.70/26, consisted only of water – all the necessary ingredients of Lemonade having been left out during manufacture. One of these samples actually caused the complainant to vomit – such was the power of suggestion of the unexpected taste, or rather lack of taste!

Of three other complaint samples of Soft Drinks, one, Stafford Borough FC.70/113, contained a deposit of yeast together with miscellaneous debris that included a rodent hair and a growth of *Alternaria*

mould, another, Tamworth Borough, FC.70/63, had a petrol/paraffin odour and contained 6 ppm of a volatile hydrocarbon oil, and the third, Aldridge-Brownhills UDC FC.70/16, contained a number of fragments of beetles, identified as the common wingless ground beetle, *Pterostechus Madicus*, also a larva of the lesser house-fly, *Fannia Canicularis*.

SQUASHES AND CORDIALS

Soft Drinks

A sample of Orange Squash, County 22 B/Z, FD.70/682, was found to contain 420ppm of sulphur dioxide, 70 ppm more than permitted by the Preservatives in Food Regulations, 1962.

A sample of Lemon and Lime Barley Water, Newcastle Borough, FC.70/92, that was suspected to have caused illness was of normal composition and free from contamination.

Other Soft Drinks

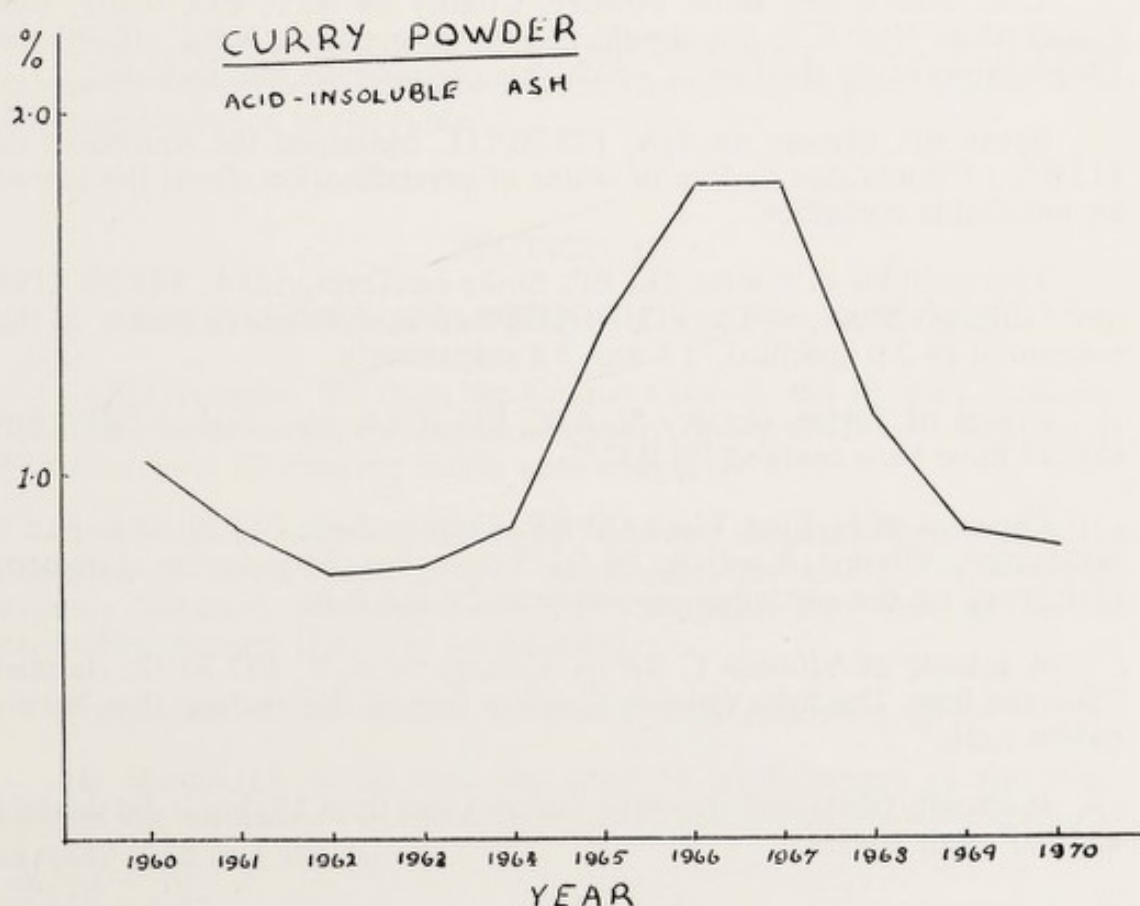
Three samples of Ice Lollies, Lee UDC, FC.70/47, Lichfield RDC, FC.70/93, and Lichfield RDC, FC.70/76, that were suspected of causing illness, were free from contamination. A greenish "metallic" colour that appeared in one sample, was found to be an effect caused by partial mixing of the several colours upon thawing.

SPICES, FLAVOURINGS, ETC.

Herbs and Spices

Curry Powder, County 43 A/Y, FD.70/15, contained 1.6% of sand and siliceous matter. The Laboratory Records showed that the usual amount of sand and siliceous matter was rarely higher than 0.7% and 1.0% was considered as a limit of such contamination.

The manufacturer agreed that an excess of sand and siliceous matter was undesirable and kindly supplied figures from their own control laboratory which illustrated that there had been a 'difficult' period and it was clear that the sample in question related to that period. These results are illustrated graphically below:—



A complaint sample of Sage and Onion Stuffing, Tamworth Borough FC.70/112, contained a live flour moth, *Ephestia Kuhnella*, together with insect webbing and frass and an empty pupal case.

Colours

Gravy Salt, Stafford Borough, 1184, FD.70/X1006, contained 85.5% salt, 8.9% Caramel and other organic matter, and 5.6% Water. The label purported to take advantage of the special provisions of the Colouring Matter in Food Regulations for the labelling of food colours – it being claimed that the product was solely a *gravy colouring* preparation, not withstanding that it contained ingredients, apart from salt, such as celery seeds, spices and yeast extract.

The label was not, however, in the prescribed form and it was considered that it should comply with current labelling legislation and declare the salt, not the colour, as the first ingredient.

Food labelling can be a complex subject, but it is surprising that large manufacturers, as in this case, with all their legal resources should make an elementary error – even when they quoted, in their observations, the 1967 Labelling of Food Regulations – apparently unaware that these regulations were revoked before they could come into effect.

Drugs

Chest and Lung Mixture, County 86 B/X, FD.70/1004, contained only 0.06% w/w of Chloroform instead of the 0.89% declared.

Camphorated Oil BP, County 94 B/S, FD.70/545, contained a slight excess of Camphor, 21.5% whereas the B.P. limits are 19-21%.

Zinc, Starch and Boric Powder, County 84 A/Y, FD.70/102, was described as “B.P.C.”, but should have been marked “B.P.C. 1963” the 1963 edition being the last in which this preparation was included.

Borax BP, County 59 A/X, FD.70/111, contained the equivalent of 113.0% of Borax due to loss of water of crystallisation, from the use of an unsuitable container.

Two samples of Castor Oil BP, Stoke-on-Trent, 129A, FD.70/X181 and Stoke-on-Trent, 400A, FD.70/X571 had acid values in excess of the maximum of 2.0 specified, 3.1 and 3.8 respectively.

Cream of Tarter, County 51 A/X, FD.70/64, was marked “BP” but should have been marked “B.P.C.”

Capsules of Halibut Liver Oil BP, County A/C, FD.70/1018, had a satisfactory Vitamin A activity of 5,115 units but there was no statement of activity on the container, as required by the B.P.

A sample of Vitamin C Syrup, County 64 A/Y, FD.70/72, claimed “Sucrose free. The first Vitamin C syrup free of the sucrose that harms babies teeth.”

It actually contained very little Sucrose, less than 2% but it did contain 42% of other sugars.

Issue was joined with the manufacturers on the grounds that there was no evidence that sucrose *as such* harmed the teeth, but that if it did then the presence of *any* sugars would be equally undesirable.

The manufacturers produced a quite extraordinary volume of 'evidence' but which was reduced to manageable proportions once their advertising literature was eliminated. The actual evidence was however very conflicting and might better be described as "Theories." One eminent authority, in condemning sucrose, spoke of the danger of Honey – under the entirely erroneous impression that honey consisted of Sucrose!

My opinion was, however, supported by a Professor of Oral Physiology, and a statement in 1967 by the then Ministry of Health that "No increased incidence of dental decay in young children has been found to be directly associated with the taking of vitamin supplements, including rose hip syrup", preparations which contain large amounts of sucrose.

The practice of putting syrups etc., in "comforters" and feeders is, of course, open to criticism, but that is an entirely different matter.

A Blackcurrant Health Drink, Stoke-on-Trent, FC.70/85, was stated to cause milk to "curdle and taste funny". An acid fruit juice might be expected to curdle milk and whether the result tasted "funny" would, presumably, depend upon one's taste for such mixtures. The Blackcurrant Drink was of normal composition and free from contamination.

Warfarin is usually associated with rat poisons, but has a medicinal use as an anticoagulant. A complaint sample of Warfarin Tablets, Cannock UDC, 2/70 and 3/70, FC.70/33A and B, were stated to have caused headaches and vomiting, whereas tablets from another source did not produce this reaction.

The suspect tablets were of normal composition, but disintegrated extremely rapidly and it was concluded that this may have been a factor affecting tolerance to the tablets.

SECTION III

FERTILISERS AND FEEDING STUFFS ACT, 1926

122 Samples, 103 from the County Council and 19 from Stoke-on-Trent, were submitted by Inspectors under the Act, of these samples 11 Fertilisers and 23 Feeding Stuffs were irregular.

The irregular samples, included 10 that had variations that were to the prejudice of the purchaser (8% of all samples) and also 2 that were sold without Statutory Statements or with Statements that were not in the prescribed manner (1.6% of all samples).

Particulars of the samples are given in the following tables:—

(It should be noted that the total of irregularities in the table exceeds the number of irregular samples as some samples were irregular in more than one aspect).

SAMPLES EXAMINED

	County Council				Stoke-on-Trent			
	Irregularities				Irregularities			
	No.	Excess	Deficient	Others	No.	Excess	Deficient	Others
<i>Fertilisers:</i>								
Ammonium Sulphate ..	2	—	—	—	—	—	—	—
Basic Slag ..	—	—	—	—	4	—	—	—
Bone Meal ..	2	2	1	—	1	—	—	—
Bone Meal Steamed ..	1	1	—	—	—	—	—	—
Compounds ..	24	6	3	—	7	1	—	—
Dried Blood ..	1	—	—	—	1	—	—	—
Hoof and Horn Meal ..	2	—	—	—	—	—	—	—
Nitrate of Potash ..	1	—	—	—	—	—	—	—
Nitrate of Soda ..	2	—	—	—	—	—	—	—
Nitro Chalk ..	1	—	—	—	—	—	—	—
Potassic Supers ..	1	—	—	—	—	—	—	—
Sulphate of Potash ..	3	—	—	—	—	—	—	—
Superphosphate of Lime ..	4	1	—	—	—	—	—	—
	44	10	4	—	13	1	—	—
<i>Feeding Stuffs</i>								
Cattle Food ..	26	11	6	—	—	—	—	—
Pig Food ..	17	2	1	1	1	—	—	—
Poultry Food ..	12	—	1	1	5	4	—	—
Sheep Food ..	1	—	—	—	—	—	—	—
Flake Maize ..	1	—	—	—	—	—	—	—
Millers Offal ..	1	—	—	—	—	—	—	—
Concentrate ..	1	—	—	—	—	—	—	—
	59	13	8	2	6	4	—	—

SAMPLES FROM OTHER SOURCES

In addition to the above, 3 samples, 1 of Fertiliser and 2 of Feeding Stuffs were submitted privately for compositional analysis.

IRREGULAR SAMPLES

In the following tables, the 'excesses' and 'deficiencies' are the actual variations from the amounts given in the Statutory Statements. Only those samples are included, in which the variations exceeded the permitted limits of variation.

FERTILISERS

Authority and Description		N	P ₂ O ₅ %				K ₂ O	Other	Irregularity
			Total	Soluble	Insoluble	Citric			
<i>County Council:</i>		%	%	%	%	%	%		
B.1200 All Purpose Fertiliser	S	6.0	—	4.0	2.5	—	7.5	—	Soluble Phos. Acid 0.9% deficient
B.75 Bonemeal	S	5.9	—	3.1	2.3	—	8.2	—	Phos. Acid Total 3.3% in excess
A.123 Concentrated Soluble Fertiliser	S	3.8	20.5	—	—	—	—	—	Soluble Phos Acid 1.0% excess
A.133 Steamed Bone Meal	F	4.1	23.8	—	—	—	—	—	Nitrogen 1.9% excess
B.1211 5-17-17 Fertiliser	S	1.0	29.0	—	—	—	—	—	Total Phos. Acid 4.8% deficient
	F	2.9	24.2	—	—	—	—	—	Sol. Phos. Acid 6.5% deficient
	S	5.0	—	16.0	1.0	—	17.0	—	Insol. Phos. Acid 2.3% excess
	F	5.4	—	9.5	3.3	—	16.4	—	Phos. Acid 3.2% excess
A.144 Steamed Bone Meal	S	1.0	29.0	—	—	—	—	—	Sol. Phos. Acid 5.9% excess
B.1224 Compound Fertiliser	F	0.6	32.2	—	—	—	—	—	Potash 5.6% excess
B.1226 Calcium Super phosphate	S	14.0	—	6.5	0.5	—	7.0	—	Sol. Phos. Acid 2.0% excess
	F	12.7	—	12.4	0.7	—	12.6	—	
	S	—	—	18.0	—	—	—	—	
	F	—	—	20.0	—	—	—	—	

FERTILISERS—continued.

Authority and Description	N	P ₂ O ₅ %				K ₂ O	Other	Irregularity
		Total	Sol- uble	Insol- uble	Cit- ric			
B.1227 Hoof & Horn Fertiliser	S F	13.0 14.6	— —	— —	— —	— —	— —	Nitrogen 1.6% excess
B.1229 All Purpose Fertiliser	S F	6.0 6.3	— —	4.0 3.1	2.5 3.3	— —	— —	Sol. Phos. Acid 0.9% deficient. Insol. Phos. Acid 0.8% excess
<i>Stoke-on-Trent:</i> 7F All Purpose Fertiliser	S F	4.4 4.6	— —	— —	8.0 9.5	— —	4.0 3.9	Insol Phos. Acid 1.5% excess

'S' — Statement

'F' — Found

In the above table, excesses are to the advantage and deficiencies are to the prejudice of the purchaser. It will be noted, however, that with sample B.1229 the deficiency of Soluble Phosphoric Acid is largely offset by an excess of Insoluble Phosphoric Acid and is not, therefore, actually prejudicial since reversion of the soluble to the insoluble form does not render the Phosphoric Acid less available to plant life.

FEEDING STUFFS.

Authority and Description		Oil	Pro- tein	Fibre	Others	Irregularity
		%	%	%		
<i>County Council:</i>						
A.116 Balanced Dairy Mixture	S F	3.0 2.7	19.0 21.3	8.0 5.6	— —	Protein 2.3% excess
B.74 Chick Starter Crumbs	S F	2.5 2.6	19.0 19.8	4.5 2.7	— —	No Statement of the names and amounts of the Coccidiostates present.
					Amprolium 53 ppm Sulphaquinoxaline 33 ppm Ethopabate 3.1 ppm	
A.134 Grazing	S F	3.0 4.0	13.0 13.7	6.0 4.7	— —	Oil 1.0% Excess
A.135 Intensive Layers	S F	3.0 2.3	17.0 14.5	3.5 2.0	— —	Protein 2.5% deficient
A.137 Cereal Nuts	S F	1.75 2.3	10.0 12.5	5.0 7.6	— —	Fibre 2.6% excess Protein 2.5% excess
A.138 High Protein Pellets	S F	3.0 3.0	34.0 30.3	5.5 7.7	— —	Protein 3.7% deficient
A.139 Summer Dairy Meal	S F	3.7 4.9	13.0 12.9	6.5 5.5	— —	Fibre 2.2% excess
A.141 Beef Concentrate	S F	6.0 9.0	34.0 36.3	8.0 6.5	— —	Oil 1.2% excess
A.151 Coarse Dairy Meal	S F	3.0 3.7	19.0 12.9	9.5 5.5	— —	Oil 3.0% excess
A.133 Calf Rearing Nuts	S F	4.5 5.8	21.0 21.8	6.5 6.0	— —	Protein 6.1% deficient
A.155 Milk Production Nuts	S F	4.0 5.0	20.0 19.1	6.5 6.8	— —	Oil 1.3% excess
A.162 Dairy Nuts	S F	2.5 2.3	16.0 12.2	8.0 4.8	— —	Oil 1.0% excess
					Protein equiv. of Urea 3.6 Nil	Protein 3.8% deficient
A.163 Dairy Meal	S	3.0	16.0	8.0	—	Protein equiv. of Urea 3.6% deficient
A.165 Rearing Cakettes	S F	2.8 3.0	14.2 16.0	4.6 7.0	— —	Protein 1.8% deficient
A.170 Cattle Nuts	S F	3.0 3.2	16.0 13.4	8.0 5.5	— —	Protein 2.6% deficient
A.171 Dairy Pencils	S F	2.5 3.5	16.0 17.1	8.0 4.6	— —	Oil 1.0% excess
B.1220 Pig Meal No. 2	S F	2.7 2.9	18.9 14.5	5.8 2.8	— —	Protein 2.9% excess
A.177 Sow Nuts	S F	3.0 3.2	14.0 15.5	4.5 6.5	— —	No Statutory Statement for Copper
A.178 Rearer Meal	S F	2.0 2.2	16.0 18.2	5.5 4.1	— —	Protein 2.0% excess
					Copper 166 ppm Copper 195 ppm 20 ppm	Protein 2.2% excess Copper 175 ppm deficient

FEEDING STUFFS—*continued.*

Authority and Description		Oil	Protein	Fibre	Others	Irregularity
		%	%	%		
<i>Stoke-on-Trent:</i>						
2F	Poultry Meal	S	3.0	17.5	5.0	Oil 2.9% excess
		F	5.9	18.0	4.5	
10F	Poultry Meal	S	3.0	17.5	5.0	Oil 1.9% excess
		F	4.9	16.2	5.1	
11F	Turkey Grower	S	3.0	18.6	3.0	Oil 3.3% excess
		F	6.3	17.7	3.3	
12F	Growers (Poultry)	S	4.0	17.0	6.0	Oil 1.3% excess
		F	5.3	16.0	5.7	

In general, with Feeding Stuffs, the excesses are to the advantage and the deficiencies are to the prejudice of the purchaser, in the case of Fibre (Sample A.137, A.138) the converse applies.

SECTION IV

CONSUMER PROTECTION ACT, 1961

The Toys (Safety) Regulations, 1967

The practical difficulties in the administration of these Regulations, commented upon in the Annual Report for 1969, still continue and a much needed revision of the Regulations appears to be beyond the wit of man.

A simple solution would be for all toy manufacturers to just stop using paint containing poisonous substances. Which would be no hardship to the manufacturers, with the wide range of alternative materials available, and would certainly be in the best interests of children.

Yet there are still the 'black sheep' in the toy trade who, for example put poisonous paint on the handles of cheap shoddy paint brushes and try to obtain exemption from the Regulations by claiming that they are "artists brushes" and not toys, with complete disregard for childrens safety. Fortunately for Staffordshire, the Public Analyst includes landscape painting amongst his hobbies and thus knows something about brushes!

The present restrictions applied to paints used on toys are:—

Total Lead	not more than 5000ppm in the dry paint film					
Total Arsenic	„	„	„	250ppm	„	„
Soluble Antimony	„	„	„	250ppm	„	„
„ Barium	„	„	„	250ppm	„	„
„ Cadmium	„	„	„	250ppm	„	„
„ Chromium	„	„	„	250ppm	„	„

Of the 30 samples examined, 9 failed to meet the requirements as regards poisonous metals – a 30% failure rate after the Regulations have been in force for over 3 years, must be considered as unsatisfactory.

Toy	Source	Mark	Lab. Ref.	Colour	Irregularity
Cowboy on Horse	Newcastle Borough	C.798	C.P.70/2	Brown	Lead 13,500 ppm
Trolley with Building Blocks	" "	C.766	CP.70/3	Green	Lead 19,000 ppm
Animal Orchestra Blocks	" "	C.789	CP.70/5	Orange	Lead 75,000 ppm
				Red A	Lead 40,000 ppm
				Red B	Lead 29,000 ppm
				Yellow A	Lead 53,000 ppm
				Yellow B	Lead 23,000 ppm
				Yellow C	Lead 12,000 ppm
Tractor (Wooden)	Stoke-on-Trent	—	CP.70/7	Orange	Lead 18,000 ppm
"Artists Brushes"	County	T.21 (A)	CP.70/14	Yellow	Sol Chromium*
		T.37 (A)	CP.70/30		25,000 ppm
Baby Trapeze	" "	T.25 (A)	CP.70/18	Red	Lead 19,000 ppm
				Yellow	Lead 50,000 ppm
				Green	Lead 50,000 ppm
Model Farm	" "	T.30 (A)	CP.70/23	Brown	Lead 13,500 ppm
Model Tank†	" "	T.34 (A)	CP.70/27	Total	Lead 25,000 ppm

* The pigment was identified as Zinc Chromate

† With this toy the paint was of many different colours and it was not possible to obtain sufficient of each colour for separate analysis.

The ban on the use of Cellulose Nitrate for toys, other than table tennis balls, has presented no difficulty and no Cellulose Nitrate was detected during the year.

SECTION V

THE PHARMACY AND POISONS ACT

HAIR COLOURING PREPARATION

County A12, A13, Lab. Ref. PP.70/1 and PP.70/2, consisted of two bottles, one of which was correctly labelled in accordance with Paragraph 4 of the Seventh Schedule to the Poisons Rules and contained, as stated, 2.5% of paraphenylenediamine. The second bottle was stated to contain 0.01% Toluenediamine but actually contained 2.5% of Hydrogen Peroxide and all tests for amines proved to be negative.

The seller, who was not registered, seemed to have little knowledge of what he stocked.

DISINFECTANT

County A14, Lab. Ref. PP.70/3, consisted of approximately 0.3% chlorinated phenols in a solvent consisting mainly of alcohol.

DESCALER

County A.15, Lab. Ref. PP.70/4, consisted entirely of Sulphamic Acid.

This acid, which was almost unknown a few years ago, is now manufactured on a large scale and is much used in industry – it combines the advantages of a 'strong' acid with being a crystalline solid, with consequent ease and safety of handling. It is not subject to control under the Act.

WEED KILLER

County WAG/BG, Lab. Ref. PP.70/5 was in the form of pellets containing 5.0% of Paraquat and, therefore, specifically exempt from the provisions of the Act and of the Poisons Rules.

SECTION VI

TRADE DESCRIPTIONS ACT, 1968

PET FOODS

These have continued to be examined on the basis of the principles stated in the Annual Report for 1969.

DOG FOOD

County 14 B/S, Lab. Ref. TD.70/1, had a meat content of 25% and was considered to be satisfactory as there was no specific claim relating to meat content.

ALL MEAT DOG FOOD

County B.22, Lab. Ref. TD.70/3, contained 76.7% of meat, but without any cereals etc. The implication that the food had been prepared solely from meat appeared to be reasonable.

CHICKEN AND MEAT DOG FOOD

County B.24, Lab. Ref. TD.70/6, had a meat content of only 31.0%, and added cereal. It was considered that at least 50% of meat should have been present.

COMPLETE CAT FOOD WITH MEAT, FISH AND LIVER

County B.26, Lab. Ref. TD.70/7, was a dried product, containing the equivalent of 30% of dehydrated meat and considered to be satisfactory.

BEEF HIDE DOG CHEW.

County 15 B/S, Lab Ref. TD. 70/2, did not claim to be an actual food, but consisted of a strip of dried rawhide. It was decided, however, to attempt an assessment of its nutritional value, if any. The nitrogen content was found to be equivalent to 88% of protein, half of which was extractable by hot water. Artificial digestion test using the enzyme, Papain, proved that the material was digestible.

SET OF PAINTS

A set of watercolour paints, County TB/B.23, Lab. Ref. TD.70/4, was alleged to have caused blisters on the skin of a child.

The paints consisted of a filler of Titanium Dioxide, which is noted for its inertness, coloured with dyes, in a base containing an anionic surface active agent.

Toxic metals were absent.

Applying the paints to the skin of volunteers from the Laboratory Staff, resulted in no ill effects.

PETROL/OIL MIXTURE

The mixture, Stafford Borough, Lab. Ref. TD.70/5, supplied for use in a two-stroke engine contained only 0.05% w/v of oil – a negligible amount.

IMPREGNATED CLEANING SPONGE

This sample, County TDA.1, Lab. Ref. TD.70/8, was submitted following a complaint that it was ineffective and short lived. It consisted of a plastic handle holding a block of foam plastic, inside the block was a tablet weighing 11.0 grammes and containing 66.2% of an anionic detergent and 6.6% of a non-ionic detergent.

Practical tests showed that the sponge was actually very effective in domestic cleaning and even for car washing.

It was observed, however, that little 'froth' was produced, a property associated with certain detergents – and it would appear that the erroneous belief that detergents must froth like soap to be effective, was probably a factor in the complaint.

ANTI-FREEZE

A sample of Anti-freeze, County TDA.B27, Lab. Ref. TD.70/9 was submitted following a complaint that it was under-strength.

It was found to be a mixture of 72.5% w/v ethylene glycol and 14.3% w/v methanol and satisfied the B.S.1 Test for freezing point.

It was suggested that difficulties experienced by the complainant might have arisen from the use of a Methanol containing preparation in a cooling system not suited to this type of anti-freeze. Many modern vehicles have cooling systems operating under pressure, designed to raise the boiling point of the coolant, but methanol has the opposite effect of lowering the boiling point.

BATH PREPARATION

A sample of a preparation for adding to one's bath, Stoke-on-Trent, Lab. Ref. TD.70/10, was stated to have caused skin irritation.

It was composed mainly of Sodium Bicarbonate and Sodium Carbonate together with a small amount of synthetic detergent and aromatic ingredients.

The alkaline nature of the product might be expected to cause skin irritation in susceptible persons, if used in amounts greatly in excess of those recommended. An additional factor would be that the alkalinity would be increased if the preparation was added directly to very hot water due to decomposition of the Sodium Bicarbonate. These points were envisaged in the instructions on the packet, but the user may not have appreciated their importance.

SECTION VII

OTHER SAMPLES

ATMOSPHERIC POLLUTION

96 Lead Peroxide Cylinders and the contents of 215 Rain Gauges were submitted for examination in 1970, as listed in Section 1.

The Lead Peroxide Cylinders are used to determine the amounts of sulphur gasses in the atmosphere—the Lead Peroxide reacts with and fixes the sulphur, which is then determined by analysis.

Rainwater is measured to determine the actual rainfall and is then examined for soluble and insoluble matter.

LEAD PEROXIDE CYLINDERS

(Sulphur Pollution as mg. SO₃ per 100 sq. cm. per day)

Authority	Site Name and Number	No. of Samples	Lowest Month	Highest Month	Average
Aldridge-Brownhills U.D.C.	Brownhills No. 2	12	0.8	2.9	1.9
	No. 3	12	0.3	3.4	1.1
Newcastle-under-Lyme R.D.C.	Keele No. 1	12	0.3	1.9	1.0
Rugeley U.D.C.	Site No. 9	12	0.3	1.0	0.6
Stone R.D.C.	Stone No. 9	12	0.3	1.3	0.7
" "	No. 12	12	0.4	2.6	1.3
" "	No. 13	12	0.3	1.7	0.9
" "	No. 14	12	0.4	2.2	1.0

RAINWATER GAUGES

Authority	Site Name and Number	No. of Samples	Average Rainfall (mm./day)	Average Solids Deposit (mg./sq. metre per day)		
				Undissolved	Dissolved	Total
Aldridge-Brownhills U.D.C.	Brownhills No. 2	12	1.9	98	74	172
	No. 3	12	2.1	159	74	233
Cannock U.D.C.	No. 1	12	2.0	111	67	178
" "	Cannock No. 9	12	1.8	71	82	153
" "	No. 11	12	1.7	123	91	214
Cheadle R.D.C.	Cheadle No. 1	12	2.8	171	219	390
" "	No. 2	12	2.8	101	201	302
Newcastle-under-Lyme B.C.	Newcastle No. 4	11	2.3	72	75	147
Newcastle-under-Lyme R.D.C.	Keele No. 1	12	1.9	44	56	100
Rugeley U.D.C.	Rugeley No. 9	12	2.2	133	81	214
Stone R.D.C.	Stone No. 27	12	2.1	88	52	140
" "	No. 29	12	1.8	43	75	118
" "	No. 30	12	1.9	131	53	184
" "	No. 35	12	2.2	74	94	168
" "	P.103	12	1.7	53	52	105
" "	P.104	12	1.9	58	67	125
" "	P.105	12	2.0	67	56	123
" "	P.106	12	1.8	48	53	101

ROAD SAFETY ACT, 1967

Persons who may be charged with an offence under the Act are provided, by the Police, with part of the sample of blood, or urine.

The County Laboratory provides a service whereby, such persons may, for a fee, fixed by the County Council, have such samples examined for alcohol content.

The right is reserved, however, to refuse such samples if they are excessively old, have been subjected to abuse, or if the seal has been broken.

During the year, the following results were obtained.

<i>Lab. Ref.</i>	<i>Blood Alcohol, mg./100 millilitres</i>
AP.70/1	183
2	197
3	108
4	43
6	133
7	43
9	36
10	279
11	198
12	72
13	148
16	22
17	73
18	12
19	47
20	79
21	169
22	301
23	78
24	171
26	140
27	29
28	130
29	265
30	245
31	116
32	149
33	97
34	170
35	100
36	24
37	130
38	128
39	119
40	168

The limits prescribed by the Act are 80mg/100 millilitres of blood and 107mg/100 millilitres of urine.

WATERS

DRINKING WATERS

Of the 82 samples of drinking water, none were condemned because of their sanitary quality, but some were criticised on other grounds.

District Councils are sometimes asked to advise on the suitability of private wells at country cottages by the recent purchaser, or before purchase, and this work has increased now that it is fashionable to live in a renovated cottage. Such wells may have been subject to long neglect and the water found to be unsuitable for use. Intended purchasers are advised to pay particular attention to the matter of the water supply

before committing themselves in any way. Three supplies from private wells were of doubtful quality and two others, also from private wells, had dangerous amounts of Lead.

NITRATES IN DRINKING WATER

Water containing more than 20 ppm of Nitrate Nitrogen should not be consumed by infants under 12 months of age, because of the formation of methaemoglobin in the blood.

Two such samples were received during the year.

<i>Lab. Ref.</i>		<i>Source</i>	<i>Nitrate N</i>
W.70/486	..	Moddershall (Stone RDC)	24.0
W.70/664	..	Penkridge (Cannock RDC)	26.2

METALLIC CONTAMINATION

All routine samples of Drinking Water have, for many years, been examined for Lead, Iron, Copper and Zinc and the results show that public supplies in Staffordshire are free from excessive amounts of metals.

Lead

Contamination by Lead is serious as it is a cumulative poison. The Standard of the World Health Organisation is only 0.05 ppm but there has been some discussion to modify this standard.

Two waters were condemned because of excessive Lead, both were private wells.

<i>Lab. Ref.</i>		<i>Source</i>	<i>Pb ppm</i>
W.70/599	..	Hilderstone (Stone RDC)	1.7
W.70/600	..	Norton Bridge (Stone RDC)	0.1

Iron

Traces of Iron are present in most waters and there is no evidence that such traces are harmful – it may even be beneficial. Amounts in excess of 0.3 ppm will, however, have an adverse effect upon palatability and may cause stains when used for washing clothes. When the amount rises to 0.5 ppm the water is, for these reasons, considered to be unfit for domestic use.

10 waters contained excessive Iron

<i>Lab. Ref.</i>		<i>Source</i>	<i>Iron ppm</i>
W.70/38	..	Stafford (Stafford Borough)	0.90
W.70/160	..	Eccleshall (Stone RDC)	0.75
W.70/386	..	Flash, Quarnford (County)	1.70
W.70/404	..	Kids Grove (Kids Grove UDC)	16.00
W.70/425	..	Essington (Cannock RDC)	5.00
W.70/529	..	Draycott-in-the-Clay (Tutbury RDC)	0.44
W.70/552	..	Stafford (County)	0.40
W.70/558	..	Endon (County)	3.00
W.70/599	..	Hilderstone (Stone RDC)	2.60
W.70/600	..	Norton Bridge (Stone RDC)	7.70

Copper

Copper is not considered to be hazardous in the amounts that usually occur in domestic water supplies. Natural waters rarely contain any copper, but the widespread use of copper plumbing has resulted in trace amounts being quite common in domestic supplies.

The World Health Organisations consider that up to 1.0 ppm of Copper is acceptable on health grounds, but it is the policy of the County Laboratory to draw attention to amounts in excess of 0.3 ppm because of the possibility of corrosion of galvanised tanks and fittings. Domestic aluminium cooking vessels are very susceptible to corrosion if significant amounts of Copper are present in the water – resulting in blackening and corrosion.

Of the 82 samples of drinking water 44 had measurable amounts of Copper:—

<i>Copper</i>		<i>No. of Samples</i>
Up to 0.1 ppm	.. ..	25
Over 0.1 – 0.3 ppm	.. ..	11
Over 0.3 ppm	.. ..	8

The samples with more than 0.3 ppm of Copper, were:

<i>Lab. Ref.</i>	<i>Source</i>	<i>Copper ppm</i>
W.70/46 ..	Penkridge (Cannock RDC)	.. 0.47
W.70/48 ..	Kinver (Seisdon RDC)	.. 1.02
W.70/458 ..	Burkitt Green (Seisdon RDC)	.. 0.60
W.70/531 ..	Burkitt Green (Seisdon RDC)	.. 0.94
W.70/558 ..	Endon (County)	.. 0.91
W.70/587 ..	Newcastle (Newcastle BC)	.. 0.64
W.70/588 ..	Longbridge Hayes (Newcastle BC)	.. 0.48
W.70/595 ..	Horton (Leek RDC)	.. 0.56

Zinc

Zinc is rarely present in natural waters, but traces may appear in domestic supplies from the use of galvanised equipment.

The World Health Organisations consider that 5.0 ppm of Zinc is the acceptable maximum. No sample exceeded this amount, the highest found being 3.1 ppm.

Of the 82 samples, 46 had measurable amounts of zinc.

<i>Zinc</i>		<i>No of Samples</i>
Up to 1.0 ppm	.. ..	39
Over 1.0 – 5.0 ppm	.. ..	7

Hardness

Routine samples of drinking waters are examined for hardness and are classified as follows:—

<i>Classification</i>	<i>Hardness (Total as CaCO₃)</i>	<i>Number of individual supplies</i>
Soft	0– 49 ppm	.. 2
Moderately Soft ..	50– 99 ppm	.. 7
Slightly Hard ..	100–149 ppm	.. 9
Moderately Hard ..	150–249 ppm	.. 21
Hard	250–349 ppm	.. 7
Excessively Hard ..	350 ppm or more	.. 8

Details of the 15 samples from 8 supplies that were reported as excessively hard are:—

Lab. Ref.	Source	Total	Hardness (as ppm CaCO ₃) Carbonate	Hardness (as ppm CaCO ₃) Non-Carbonate
W.70/38	Gnosall (Stafford BC)	400	248	152
W.70/44	" "	402	250	152
W.70/68	" "	396	248	148
W.70/99	" "	402	244	158
W.70/315	" "	398	240	158
W.70/375	" "	406	230	176
W.70/560	" "	400	248	152
W.70/451	Dunston Heath (Cannock RDC)	482	346	136
W.70/614	Dunston (Cannock RDC)	362	248	114
W.70/664	Penkridge	394	52	342
W.70/28	Aston (Stone RDC)	782	196	586
W.70/485	Moddershall Hill End (Stone RDC)	468	214	254
W.70/486	do.	478	210	268
W.70/530	Moddershall (Stone RDC)	362	242	120
W.70/600	Norton Bridge "	446	322	124

No exception can be taken to excessively hard waters on health grounds, but they are inconvenient for domestic use, causing wastage of soap in washing and can cause corrosion and scaling in hot water systems.

Fluoride

The accurate determination of Fluoride in water is of some complexity and is normally carried out only if specifically requested, but in order to gain information upon the presence of Fluoride in Staffordshire waters – other selected samples were examined as and when circumstances permitted:

Lab. Ref.	Source	Fluoride ppm
W.70/100	.. Shugborough (Stafford BC)	.. 0.07
W.70/571	.. " "	.. 0.04
W.70/68	.. Gnosall	.. 0.16
W.70/ 99	.. " "	.. 0.11
W.70/560	.. " "	.. 0.15
W.70/101	.. Milford	.. 0.06
W.70/570	.. " "	.. 0.08
W.70/47	.. Wolverhampton (Seisdon RDC)	.. 0.04
W.70/ 48	.. South Staffs	.. 0.06
W.70/ 72	.. Birmingham (Elan Valley) (Seisdon RDC)	.. 0.90
W.70/559	.. South Staffs (Uttoxeter UDC)	.. 0.51
W.70/665	.. Upper Hulme Springs (Leek UDC)	0.03
W.70/666	.. Poolend	.. Nil

SWIMMING BATH WATERS

The increased level of sampling of Swimming Bath Waters has been maintained and the results have more than confirmed the importance of this work.

Although a high proportion of the samples, 142 out of 201 were subject to some criticism, the purpose behind the criticism is to give advice and to suggest remedial action where appropriate.

That swimmers can visit any public swimming bath without having to give a thought to the purity of the water is, itself, a tribute to Bath Superintendents, and others, who are faced with the difficult and sometimes frustrating task of ensuring the purity of the water.

The results are summarised as follows:—

pH and Alkaline Reserve

The optimum pH is within the range 7.5–8.0. If lower, the free chlorine causes irritation and inflammation to the eyes and other sensitive areas. If higher (i.e. more alkaline) unpleasant “woolly” odours are produced.

<i>pH</i>				<i>Number of Samples</i>
below 6.5	..	..	..	2
6.5–6.9	..	..	..	1
7.0–7.4	..	..	..	54
7.5–8.0 (Optimum)	..	..	..	105
8.1–8.5	..	..	..	36
above 8.5	..	..	..	3

The alkaline reserve should not fall below 100 ppm as CaCO_3 and, preferably, should be in the region of 200 ppm. Low pH values are, always, associated with inadequate alkaline reserve.

Details of Waters with pH below 7.0 are:—

<i>Lab. Ref.</i>	<i>pH</i>	<i>Alkaline Reserve as CaCO_3</i>
W.70/544	.. 5.6	.. 6.0
W.70/84	.. 4.9	.. 8.0
W.70/647	.. 6.9	.. 49.0

Highest pH readings are usually, but not always, associated with excessive alkaline reserve:—

Details of waters over 8.5 are:—

<i>Lab Ref.</i>	<i>pH</i>	<i>Alkaline Reserve as CaCO_3</i>
W.70/637	.. 9.6	.. 504.0
W.70/662	.. 8.6	.. 100.0
W.70/269	.. 8.6	.. 608.0

RESIDUAL CHLORINE

Free Residual Chlorine

The amount of free residual chlorine usually recommended is 0.2–0.5 ppm, but an amount as low as 0.2 ppm would be considered satisfactory only at the point where the water leaves the bath. Water entering a bath with 0.2 ppm would, almost certainly, have little or no free chlorine before it left the bath.

Modern practice favours a level up to 2.0 ppm, which gives a greater safety margin and assists considerably in the purification of the water. Complaints of excessive odour and irritation of the eyes are rare, provided the pH is controlled at 7.5–8.0.

The results are summarised as follows:—

<i>Free Residual Chlorine</i>	<i>Number of Samples</i>
Less than 0.2 ppm	.. 23
0.2–0.4 ppm	.. 37
0.5–2.0 ppm	.. 97
Above 2.0 ppm	.. 44

The 23 samples with less than 0.2 ppm, which included 6 with no free Chlorine, were reported as unsatisfactory.

Of the 44 samples with more than 2.0 ppm Free Chlorine, and therefore the subject of adverse comment, 25 had 4.0 ppm or more, and 5 Baths had amounts so grossly in excess – varying from 18 ppm to 57 ppm that the baths were considered to be not fit for use.

Combined Residual Chlorine

In the presence of ammonia and other nitrogen containing substances such as are introduced by urine, chlorine enters into combination to form chloramine and other complex substances. The formation of such substances appears to be favoured by low pH and inadequate alkaline reserve.

Chloramines are now known to have much less bacterial action than free chlorine and their presence is now taken to be an indication of inadequate purification and the presence of organic matter.

With clean waters the ratio of Combined to Free Residual Chlorine is usually 1:1 or less. A ratio of more than 2:1 indicates some build up of organic matter and by the time that 3:1 is reached, fairly drastic action is necessary to produce a stable purified water – although such a water may be safe to use.

Of the 201 waters examined, 45 had a Combined to Free ratio of 3:1 or more. It is significant that of these, only 9 had 0.5 ppm or more Free Residual Chlorine only one had more than 1.0 ppm (actually 1.2 ppm) and 32 had 0.3 ppm or less.

EFFLUENTS

To judge from recent publications on the matter of effluent disposal in the 'semi-technical' press, there are many who are keen to criticise, but few who appreciate the size of the problem, or the considerable degree of success achieved by Local Authorities.

As an example of ignorance of the subject, a recent letter to a technical publication advocated the conveyance of *all* sewage, after treatment, directly to the sea by means of pipes – the writer apparently having little or no idea of the millions of gallons involved or of the complexity and cost of the civil engineering work that would be necessary to take the maze of pipes, from every part of the British Isles, over hill and dale to the coast.

Whilst the great majority of the samples examined were taken in connection with the operation of existing disposal works and in assessing the need for new works or the extension of old works, some samples were of particular interest.

The harmful effect on the efficiency of a works, of some trade wastes was again encountered at Leek, where Methyl Naphthalene was detected. In one case, W.70/53, the amount was only 1 ppm, but a second sample, W.70/54, contained 85 ppm.

A bright red colour in the effluent at Penkridge, W.70/411 and 412, was found to be a dye of synthetic origin. Complete identification was not possible, but it was strongly suspected that it included a dye that was no longer permitted in foods and that some person with stock that was now useless had dropped it down a convenient man-hole.

OTHER WATERS

The large increase in the number of samples in this category was the result of a survey carried out by Stafford Borough into the salinity of ground waters.

Severe subsidence in parts of the Borough was thought to be due to brine pumping at the local salt works and survey was made to provide evidence at a High Court hearing.

The results obtained were of considerable interest, several of the test bores produced very highly saline waters, some were even saturated salt solutions, some streams in the area had a salt content comparable to that of sea water.

A water from an ornamental lake – Stone RDC, W.70/467, was examined by the Went Pea Test for phytotoxic substances, but these were not detected. (In this test the material extracted from the sample is applied to germinating pea seed. Distorted growth results if phytotoxic substances are present).

Other samples included seepages into basements and cellars, boiler waters and investigations into pollution of ditches and streams.

MISCELLANEOUS SAMPLES

Special Investigations

COUNTY COUNCIL

County Chief Inspector of Weights and Measures

M.70/122 Glass Cups and Saucers

A long investigation into complaints of sudden and spontaneous, fracture of imported glass cups and saucers included studying the strain pattern by polarised light and practical tests, such as dropping onto a hard floor, before and after thermal shock treatment and after scratching

with a diamond. The cups and saucers proved to be remarkably tough and seldom fractured unless the height of fall exceeded about six feet.

As a final test, the cups and saucers were put into use for the morning and afternoon 'cuppa' and after six months of daily use, one cup did give up in a quite spectacular explosion – the cup containing hot tea, and quietly sitting in its saucer, suddenly disintegrated into small fragments, some of which had unpleasantly sharp edges.

County Architect

M.70/19 Metal Pipe from Heating System

Severe corrosion of iron piping in a heating system was being experienced and a section of pipe, and a sample of the water, was submitted for examination.

The water had a high dissolved solids content – 453 ppm which included 160 ppm of hardness and 104 ppm of Chloride. The pipe was found to be of welded metal steel plate with many slag inclusions instead of the more usual cast iron.

Mild steel is very prone to corrosion, when used with a water of high solids content, if dissolved oxygen is present as was probably the case in this instance.

As an instance of the care necessary in such investigations, blue spots on the inner surface of the pipe, and alleged to be copper, were found to be from the blue paint that is applied to a certain type and brand of hacksaw blade, that had been used to remove the pipe from the system.

County Surveyor

M.70/114 Antifreeze

The sample complies with BS.3151 type, i.e. Ethylene Glycol inhibited with Benzoate and Nitrite.

M.70/7 and M.70/8 Samples of Silt

Silt that was causing blockages of a ditch consisted almost entirely of sand and other silaceous matter and not gypsum as had been suspected.

M.70/42, M.70/43 and M.70/44 Samples of Mortar

The samples had the following composition:

				<i>M.70/42</i>	<i>M.70/43</i>	<i>M.70/44</i>
Loss at 800°C	..	..	..	4.5	5.6	8.0
Sand etc.	..	..	..	87.1	83.3	76.9
CaO	..	..	..	4.3	5.7	8.7
Al ₂ O ₃ + Fe ₂ O ₃	..	..	..	2.0	2.8	3.5
SO ₃	..	..	..	0.3	0.2	0.2
Sol. Silica (SiO ₂)	..	..	..	1.8	2.4	2.7
				100.0	100.0	100.0

Cement, by wt. %	..	..	..	6.7	8.9	13.5
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Probable Proportions:—

Dry Sand/Cement by wt.	..	13/1	9/1	6/1
by vol.	..	12/1	8/1	5/1

The opinion was expressed that while M.70/44 should have been satisfactory for a weak mortar for soft bricks, both M.70/42 and M.70/43 were very poor in cement.

Stoke-on-Trent

M.70/115 Cigarettes

A complaint was received that black material, present in the filter tips came through the cigarettes and caused black stains.

Examination showed that the filter material contained charcoal, presumably because of its absorbing properties.

A smoking machine was constructed to test the cigarettes – I frequently taste food of doubtful quality but draw the line at smoking – but the only stains produced were the malodorous yellow stains common to all cigarettes.

M.70/126 Beer Filtering Media

This was found to consist of 60% cotton fibres and 40% asbestos.

Doubts were expressed about the use of asbestos in view of the possibility of it entering the beer and the known carcinogenic nature of certain types of asbestos.

When this doubt was put to the manufacturers they appeared to pin their faith to an avoidance of the types of asbestos which are *known* to cause asbestosis and the fact that the filtering media had been in use for many years without any evidence that it had caused a hazard.

Because of the long term factor it is almost impossible to state that *any* substance could not cause cancer – but as life expectancy increases, substances formerly considered safe may be found to have a statistically significant effect.

In the absence of any direct evidence that this filtering media is harmful, there seems to be little that can be done but the manufacturers have been asked to explain why they use asbestos in preference to other filter media of proved safety.

Stafford Borough

Identification of Insects

Insects submitted for identification were:—

M.70/3 Cocoa Moth – *Ephestia Elutella*

M.70/64 Non-biting midges – Schader Nematocera, family Chromomidae.

M.70/105 Hedgehog fleas – *Archeopsylla Ernacei*

M.70/133 Hen fleas – *Ceratophyllus Gollinae*

OTHER AUTHORITIES

Aldridge-Brownhills U.D.C.

M.70/18, M.70/72, M.70/73, M.70/74 Atmospheric Pollution

It was suspected that material from a works was causing damage to the paint of parked cars.

Two samples of sludge from a wet-arrester, intended to trap dust was found to be strongly alkaline.

A polishing compound and a resin bonded moulding sand were neutral in reaction, but the latter gave off strongly alkaline gasses when heated.

Cannock RDC

M.70/6 Atmospheric Pollution

A black deposit thought to be carbon black (see M.70/2P, M.70/5P and also M.69/37P in the Annual Report for 1969) was found to be flue dust and therefore not connected with the earlier incident.

M.70/127 Atmospheric Pollution

A fine granular material from a warehouse consisted almost entirely of hydrated iron oxide i.e. rust.

M.70/128 Stained Wallpaper

The paper had been used to line shelves in a cupboard but had been found to become rapidly covered by a fine brown powder.

The powder was identified as the spores of the dry rot fungus – *Merulius lacrymans*. A finding which could only mean that the house was very seriously affected by this fungus.

M.70/139 Water Filter Elements

Blockage of the filters was found to be due to deposits of Calcium Carbonate.

The water was exceptionally hard and the method of pumping placed the water under reduced pressure – which would tend to remove dissolved carbon dioxide and cause deposition of part of the carbonate hardness.

Lichfield RDC

M.70/4 Deposit from Ditch

A yellow-brown deposit from a ditch was identified as organisms of the *Chlamydobacteria* group, commonly known as iron bacteria from their property of abstracting iron from the water.

Seisdon RDC

M.70/97 Deposit from Ditch

A white deposit was found to consist of aluminium hydroxide and the carbonates of calcium and magnesium together with Silica and a few rust particles. The origin of the material remains a mystery, but it was suggested that it was a residue from a works that purified water by alum coagulation.

Stafford RDC

M.70/1 Deposit from Ditch

An evil smelling black slimy substance consisted of masses of "sewage fungus" *Leptomitous Lacteus* and *Chlamydobacteria* together with various forms of Algae, Protozoa and Larval forms that are usually associated with polluted waters.

M.70/101 Clinker

A porous and very hard clinker that was intended for use in sewage treatment beds had the following characteristics, and was considered to be satisfactory.

Sulphide sulphur	..	0.25 %
Sulphates	.. ..	Nil
Copper	.. ..	24 ppm
Zinc	}	Not detected
Arsenic		
Chromium		
Lead		
Nickel		
Water soluble matter	..	0.16 %

Tamworth Borough

M.70/92 Vegetation

A deposit on vegetation was found to be of mineral and vegetable origin, but did include particles characteristic of a coal-fired furnace and fragments of glass-fibre which implicated a local works.

PRIVATE

The number of private samples examined was much larger than in 1969, and although still representing only a very small part of the work of the County Laboratory, it does provide a useful service to local industry, where there is no possibility of conflict with Statutory Duties, and a welcome contribution to the cost of running the Laboratory.

25 samples of Biscuits and Cakes, made in Staffordshire, were examined and certified as fit for use – a contribution to the Export Drive, since many foreign Countries will not permit the importation of food unless so certified by a British Public Analyst.

79 samples of milk were submitted by local Dairies and Farmers for advice and guidance.

M.70/2P and M.70/5P Atmospheric Pollution

Further samples relating to an accidental release of Carbon Black from a manufacturing plant – see M.69/73P in the Annual Report for 1969.

M.70/98P and M.70/99P Ghee (Canned)

These samples proved to be rather a mystery, since they consisted of butter fat blended with 15 % of water – Ghee is normally understood to be the rendered fat of butter with little or no water. The contents of both cans were very mouldy – *Cladosporium* and *Scopulariopsis* – which brought forth the surprising comment from the gentleman requiring the examination that the 'Ghee' was for export, and that the moulds were highly favoured in certain parts of the world!

M.70/91P Sludge from a Heating System

The sludge was found to consist almost entirely, apart from water, of black magnetic oxide of iron.

M.70/141P Potatoes (Peeled)

Packed prepared potatoes were found to contain 169 ppm of Sulphur Dioxide – which is in excess of the limit of 50 ppm.

M.70/120P and M.70/121P Soot and Soil

These samples were submitted with reference to taint in home grown potatoes – See Section II. The soot contained an extraordinarily large number of substances, similar in some respects to chlorinated pesticides, but nothing corresponding to the substances found in the potatoes.

The soil, on the other hand, contained significant amounts of BHC, Aldrin and traces of T.D.E. and breakdown products of D.D.T.

MILK SUPPLY

MILK SAMPLING

The work of the Department in endeavouring to ensure a clean, wholesome and disease-free milk supply throughout the County was maintained.

The year under review was the first full year to benefit from the rationalisation of the routine sampling programme introduced midway through 1969. It is felt that the hoped-for increase in the efficiency of the service was realised, with consequential savings in money.

The Department continued to undertake the sampling of "street" or retail milk throughout that part of the County area for which the County Council is the Food and Drugs Authority. These samples of milk are subject to appropriate statutory tests as follows :—

Untreated milks are examined bacteriologically for cleanliness (the Methylene Blue Test) and also biologically for the presence of tubercle bacilli and Brucella organisms.

Pasteurised milks are also subjected to the Methylene Blue Test and in addition are checked for the efficiency of the pasteurisation process (the Phosphatase Test).

Sterilised milks are examined for the efficiency of heat processing (the Turbidity Test).

Ultra Heat Treated milks must comply with the Colony Count Test.

There are indications nationally that Ultra Heat Treated milk, whilst still a comparative newcomer to the market, is becoming a commercial success and sales are on the increase. It is not yet, however, processed within the County.

Details of these samples appear in Table I.

LEGISLATION

The principal legislation relating to milk are The Milk and Dairies (General) Regulations, 1959, and The Milk (Special Designation) Regulations, 1963, and in accordance with the requirements of these statutes, the following licences were in force at the year end within the County:

MILK PASTEURISING AND STERILISING PLANTS

1 firm held a Dealer's (Pasteuriser's) and a Dealer's (Steriliser's) Licence;

2 firms held Dealers' (Pasteurisers') Licences.

All these plants were visited regularly and the premises and plant inspected. In addition to the collection of routine milk samples therefrom, samples of washed bottles were taken from two of the dairies, the third supplied milk only in churns and cartons.

MILK DEALERS' LICENCES

The number of licences in operation during the year was:—

Dealers' (Pre-packed Milk) Licences	..	1,310
Dealers' (Untreated Milk) Licences	..	5

BIOLOGICAL TESTING

The Department continued to undertake the collection of retail untreated milk samples for biological examination. Unsatisfactory sample results were notified to the District Councils concerned, for appropriate action.

Biological tests on these untreated supplies were conducted for the presence of tubercle bacilli and *Brucella* infection and although the former has now diminished to nil, *Brucella abortus* on the other hand continues to become more prominent in the public eye.

As a result of the Ministry of Health Circular 17/66 issued in late October of 1966, herd samples of all milk which is sold for retail consumption as 'Untreated Milk' continue to be taken at monthly intervals.

Details of samples submitted for the presence of *Brucella* organisms and tubercle bacilli are given in Table II.

INFORMAL FOOD AND DRUGS SAMPLING

The Department continued to undertake, as an administrative convenience, the routine sampling of milk from retail sources and from schools and school canteens, institutions, etc., for informal examination under the Food and Drugs Act. These samples were examined for the percentage of fat and solids-not-fat and for the presence of added water, the results being notified to the County Chief Inspector of Weights and Measures.

Details of these samples, from all sources, are as follows:—

Untreated	..	242	(8 unsatisfactory – 7 deficient in fat 1 contained added water)
Untreated (Channel Island)	..	42	(4 unsatisfactory – deficient in fat)
Pasteurised	..	520	(7 unsatisfactory – contained added water)
Pasteurised (Channel Island)	..	51	(1 unsatisfactory – deficient in fat)
Sterilised	.. ..	24	
Ultra Heat Treated		13	
Total	.. ..	892	(20 unsatisfactory)

These twenty unsatisfactory informal samples were followed-up by the County Chief Inspector of Weights and Measures, who reported as follows:—

<i>Designation</i>	<i>Results of Repeat Samples and action taken</i>
Untreated Milk (8)	 2 Genuine 2 Deficient in Fat – Repeat samples Genuine 3 Deficient in Fat – Proved by 'Appeal to Cow' samples to be naturally poor 1 sample not obtained – Supply to retailer discontinued by Derbyshire producer

TABLE I

Summary of Street or Retail Milk Samples Collected (i.e. excluding Samples from Schools, Institutions, &c.)

TYPE OF MILK	Total Samples Taken	Methylene Blue Test (for Cleanliness)			Phosphatase Test (for correct Pasteurisation)		Turbidity Test (Sterilised Milk)		Colony Count Test (U.H.T. Milk)	
		Samples Void	Samples Examined	Result	% 1970	% 1969	Samples Examined	Result	Samples Examined	Result
Untreated ..	1,090	49	1,041	Passed 969 Failed 72	93.1	89.6	—	—	—	—
Pasteurised .. *(Includes 69 for Phosphatase Test only).	1,439*	46	1,324	Passed 1,230 Failed 94	92.9		1,439 % Satis.	Passed 1,424 Failed 15 1970 98.9 1969 99.9	—	—
Sterilised ..	16	—	—	—	—	—	—	16 Passed	—	—
Ultra Heat Treated	12	—	—	—	—	—	—	—	12	Passed
TOTALS ..	2,557	95	2,365	Passed 2,199 Failed 166	93.0	93.6				

Unsatisfactory samples of Pasteurised milk processed at dairies licensed by the County Council are investigated by the County Health Inspectors for both Methylene Blue and Phosphatase test failures. Where the dairy is not licensed by the County Council, samples which fail the tests are reported to the Medical Officer of Health of the licensing authority concerned, for appropriate action.

TABLE II

Table of Biological Results

Brucella abortus

Untreated Milk	Total Samples Examined	Ring Test POSITIVE	Direct Culture POSITIVE	Biological Test POSITIVE
Street/Retail	1,132	112*	5	8
Schools	10	Nil	Nil	Nil
School Canteens	9	Nil	Nil	Nil
Private Schools and Colleges, and S.C.C. Premises	39	18	Nil	Nil
TOTALS	1,190	130	5	8

*Of the 112 Retail Milks reported Ring Test POSITIVE, 2 were from the herd of a Producer outside Staffs. C.C. area.

TUBERCLE BACILLI 97 samples were examined—all were Negative.

Untreated Channel Island Milk (4)	..	2	Genuine	2	Deficient in Fat – Proved by ‘Appeal to Cow’ samples to be naturally poor
Pasteurised (7)	.. ..	4	Genuine	1	contained added water – Repeat sample Genuine
				2	contained added water – Written caution by County Chief Inspector
Pasteurised Channel Island Milk (1)	..	1	Genuine		

HYPOCHLORITES IN MILK

Samples of milk continued to be examined for the presence of hypochlorites (chemical agents used in the sterilisation of bottles, churns, dairy plants, etc.).

Details are as follows:—

Untreated	.. ..	115
Untreated Channel Island	..	26
Pasteurised	.. ..	226
Pasteurised Channel Island	..	38
Sterilised	.. ..	24
Total	.. ..	429 (all satisfactory)

ANTIBIOTICS IN MILK

The routine sampling of milk supplies to determine the presence of antibiotics, commenced in late 1965, continued throughout the year. During 1970 there were 271 samples examined, none of which was reported as ‘positive’. This compares favourably with the previous year when there were 4 ‘positive’ instances reported out of a total of 189 samples examined.

MILK IN SCHOOLS SCHEME

All school milk supplies are subject to the approval of the County Medical Officer of Health. During the latter part of 1970 untreated supplies to the two remaining rural schools which were not hitherto receiving heat treated milk, were discontinued. In one case the school closed and in the other the former supplier did not seek renewal of the contract.

Supplies to the more remote rural schools continue to be a problem, since the ‘runs’ are often considered to be uneconomic for dairymen to consider daily deliveries, and the fortnightly delivering of ‘long life’ Ultra Heat Treated milk has proved to be the answer to this problem in the northern part of the County. This milk, with its slightly caramel flavour, has continued to enjoy popularity amongst the pupils who have, in the main, been brought up on ‘raw’ milk.

Details of school milk samples appear in Table III.

TABLE III
Summary of School Milk Samples
1st January — 31st December, 1970

TYPE OF MILK	Total Samples Taken	Methylene Blue Test (For Cleanliness)					Phosphate Test (For correct Pasteurisation)		Colony Count Test (U.H.T. Milk)	
		Samples Void	Samples Examined	Result	% 1970	% 1969	Samples Examined	Result	Samples Examined	Result
Untreated	10	1	9	Passed Failed Nil	100	92.3	—	—	—	—
Pasteurised *(Includes 19 for Phosphate Test only).	475*	13	443	Passed 427 Failed 16	96.4	97.9	475 % Satis.	Passed 475 Failed Nil 1970 100 1969 99.3	—	—
Ultra Heat Treated ..	8	—	—	—	—	—	—	—	8	Passed
TOTALS	493	14	452	Passed 436 Failed 16	96.5	97.8				

Unsatisfactory samples of Pasteurised milk processed at dairies licensed by the County Council are investigated by the County Health Inspectors for both Methylene Blue and Phosphate test failures. Where the dairy is not licensed by the County Council, samples which fail the tests are reported to the Medical Officer of Health of the licensing authority concerned, for appropriate action.

TABLE IV
Summary of Milk Samples from School Canteens, Hospitals, Homes, S.C.C. Premises,
Private Schools, Play Groups, etc.
1st January — 31st December, 1970

TYPE OF MILK	Total Samples Taken	Methylene Blue Test (for Cleanliness)				Phosphate Test (for correct Pasteurisation)	
		Samples Void	Samples Examined	Result	% 1970	% 1969	Samples Examined Result
Untreated	44	5	39	Passed 37 Failed 2	94.9	86.0	— —
Pasteurised	290	9	269	Passed 260 Failed 9	96.7	95.4	290 Passed 290 Failed Nil % Satis. 1970 100 1969 100
TOTALS	334	14	308	Passed 297 Failed 11	96.4	94.3	

Unsatisfactory samples of Pasteurised Milk processed at dairies licensed by the County Council are investigated by the County Health Inspectors for both Methylene Blue and Phosphate failures. Where the dairy is not licensed by the County Council, samples which fail the tests are reported to the Medical Officer of Health of the licensing authority concerned, for appropriate action.

SCHOOL MILK COMPLAINTS

During the year there were 2 incidents reported involving the discovery of glass inside bottles of school milk. Both complaints were investigated and pursued with the processing dairies concerned.

In addition there were 5 complaints received of 'foreign bodies' having been found in school milk bottles. These incidents were all investigated and taken up with the dairies as appropriate.

There were also 9 miscellaneous complaints involving school milk, which ranged from 'off' flavours and smells to leaking cartons.

No legal proceedings were instituted during the year.

Another subject of complaint which first became apparent in the autumn of 1970 was the regular discovery of individual one-third pint bottles from one particular dairy being broken upon delivery to schools. A pattern emerged in the shape of the fractures encountered and following observations made at the time of early morning deliveries, enquiries to the bottle manufacturers and visits to both the retail and processing dairies, the source of the trouble was attributed to a defect in the bottle washing machine.

There were 11 such complaints involving some dozen and a half bottles and unhappily, at the time of writing, this matter has not been resolved to the satisfaction of the Department since damaged bottles still manage to escape detection from time to time.

GENERAL

In addition to samples taken under the foregoing heads, samples of milk were also taken during the year from S.C.C. School Canteens, Hospitals, Children's Homes, Day Nurseries, Play Groups, and certain Private Schools and Colleges, and were subjected to the same tests as other supplies.

Details of these samples appear in Table IV.

SUMMARY

The following is a summary of routine samples collected by the Department during the year:—

Street/Retail Milks	2,557
Schools	493
School Canteens	35
Hospitals, Homes, etc.	299
"Food and Drugs" (Milk)	892
"Hypochlorites"	429
"Antibiotics"	271
Ring Test only	46*
Bottle Rinsings	312
Total	5,334

*This figure of 46 is included in the total of 1,190 in Table II.

REPORT OF THE COUNTY HEALTH INSPECTION SECTION

INTRODUCTION

This section of the County Health Department during the year under review continued to make its contribution towards the minimisation of the pollution of the Environment. Ecology, or the relationship of Man to his Environment, has become, comparatively recently, a subject of topical interest and is one which evokes the expression of widespread concern about the problems of pollution.

The past few years have brought about a gradual change of emphasis in the nature of the functions of this Section of the Department and it is for this reason that this particular point of the Report has been re-fashioned in order that it may put into better perspective the current duties undertaken.

WATER SUPPLY, SEWERAGE AND SEWAGE DISPOSAL

A major part of the work of the Section was concerned with the detailed consideration of schemes submitted by District Councils under the Rural Water Supplies and Sewerage Acts, 1944-1954, or the Local Government Act, 1958.

The general criteria by which these schemes are judged are:—

- (a) the broad basis of design
- (b) general sanitary and financial considerations
- (c) the desirability of co-ordination with adjoining areas
- (d) the possibility of effecting improvements and/or savings in cost

This specialised and highly technical work includes attendance at local Ministry Inquiries with the submission of evidence as may be necessary, as well as less formal discussions with Consulting Engineers and Local Authority Engineers and Surveyors.

Details of schemes considered during 1970 are as follows:—

Schemes of Water Supply, Sewerage and Sewage Disposal

For the financial year 1970-71 a sum of £282,984 made up of £219,098 under the Local Government Act, 1958, and £63,886 under the Rural Water Supplies and Sewerage Acts was contributed by the County Council to District Councils towards the cost of water supply, sewerage and sewage disposal schemes.

During the year, water supply schemes estimated to cost £149,451 and sewerage and sewage disposal schemes estimated to cost £1,311,996 were submitted to the County Council for grant purposes and were considered by the Health Committee.

Details of schemes of water supply, sewerage and sewage disposal considered during 1970 for grants under the Rural Water Supplies and Sewerage Acts, 1944-65, and/or Section 65 of the Local Government Act, 1958:—

Schemes of Water Supply

CANNOCK RURAL DISTRICT

Orslow, Great Chatwell and Brineton

This scheme, estimated to cost £13,250, was to provide a mains supply to 41 properties in the Orslow, Great Chatwell and Brineton villages in the Cannock Rural District. Properties at present are served by a mixture of private supplies, wells and boreholes, the quality of some being doubtful. The distribution systems are in some cases hopelessly inadequate and break-down of pumps causes difficulty from time to time.

At Great Chatwell the header tank has been reported by the local Public Health Authority as being contaminated.

The scheme was recommended for approval.

LEEK RURAL DISTRICT

Area East of Bagnall Village

This scheme, which was carried out at a cost of £24,368, was to improve the water supply to Bagnall Village and a number of properties east of the village, certain properties were included in the Cheadle Rural District.

The scheme was recommended for approval subject to an approach being made to the Cheadle Rural District Council for a contribution towards the cost and that the Leek Rural District Council should take steps to ensure a larger number of connections being made to the new mains than there were at present. (This particular scheme had been carried out before application was made to the County Council for a grant.)

LEEK RURAL DISTRICT

Cloudside and Brown Edge Areas

This scheme, estimated to cost £27,833, was to provide a mains water supply in the Cloudside/Brown Edge areas. A number of properties which will be served by the scheme are in the Biddulph Urban District area. There has been a long history of unsatisfactory water supplies in the area, both as regards quality and the inadequacy at certain times of year.

The scheme was recommended for approval.

Leekfrith Area

This scheme, estimated to cost £84,000, was to provide a water supply to the Leekfrith area of the Leek Rural District. The scheme can serve 47 properties, of which the owners of 40 had indicated they would be prepared to participate.

The scheme was recommended for approval with the suggestion that the branch main be further extended to afford easier connection facilities for certain properties and, further, that the Leek Rural District Council should take all steps to ensure connections being made to the main on account of the extremely high cost per property.

Schemes of Sewerage and Sewage Disposal.

TAMWORTH BOROUGH.

Area No. 10 Belgrave—Sub-Area No. 2.

This scheme, estimated to cost £13,750, was to provide main foul and surface water sewers to the above area. The scheme forms part of the Tamworth Town Expansion Scheme, the estimated number of properties to be served being 121. Since the whole of the area which will be served by the sewers is, in fact, for Council housing, it would appear that the cost of providing the sewers should fall upon the Tamworth Borough Housing Account and not their General Rate Fund. In such circumstances, the County Council would not normally make any contribution.

The scheme was therefore recommended for approval subject to the question of its being a possible charge on the Tamworth Housing Account and not on the General Rate Fund, being considered.

Area No. 10, Belgrave—Sub-Areas 13 and 14.

This scheme, estimated to cost £6,400, was to provide main foul and surface water sewers to the above area as part of the Tamworth Town Expansion. The estimated number of properties to be served being 156.

No objection was raised to the scheme from the technical point of view although this Department would hesitate to agree the Tamworth Borough's classification of the sewers as 'trunk' sewers. Since the whole of the area served by the sewers is, in fact, for Council housing it would again appear that the cost of providing the sewers should fall upon the Tamworth Borough Housing Account and not on their General Rate Fund.

The scheme was therefore recommended for approval subject to the question of its being a possible charge on the Tamworth Housing Account and not on the General Rate Fund, being considered.

Kettlebrook Diversion Scheme.

This scheme, the estimated capital cost of which is £85,000, was to widen and re-align a section of the Kettlebrook over a distance of 2,260 yards, together with the construction of three ponding areas. The need for this arises out of the very extensive development which is proceeding in the area and which will increase the run-off water into the brook from 170 cubic feet per second to 360 cubic feet per second. The existing brook is unable to take this increased flow without consequent flooding. In addition to providing for a run-off of storm water, the brook is being designed as an amenity feature in what is termed a 'linear park'. This is an unusual feature and the Department considers it a commendable enterprise. The scheme had, in fact, to all intents and purposes been completed in advance of housing development now taking place.

The scheme was recommended for approval.

- (a) *Riverside Development Sewers.*
- (b) *Coton Green Development Sewers.*

The Riverside Scheme, estimated to cost £23,350, was to provide (a) foul sewers connecting Tamworth Riverside Development, which is mainly in the form of tall flats, to the town's main trunk sewer and (b) surface water sewers discharging into the river. The scheme includes a small pumping station and rising main to deal with surface water. From the technical point of view there are no objections to the proposals but it was pointed out that the scheme is designed to deal only with Council housing.

The Coton Green Scheme is to provide foul and surface water sewers, together with a pumping station and rising main to deal with housing development in the Coton Green area of the Borough. The development comprises both Council and private housing and a school. Again from the technical point of view there are no objections to the proposals but the Department called attention to the fact that the private developer has paid the cost of the sewers which relate to that part of the site which is being developed privately. The net cost of the scheme, £23,250, relates to that part of the estate which is to be developed as a Council housing estate, including a school.

RUGELEY URBAN DISTRICT.

Slitting Mill Sewerage Scheme.

This scheme, estimated to cost £45,000, was to provide a sewerage scheme for the Slitting Mill area of the Rugeley Urban District. There is at present no main drainage in the area except for a small private development scheme. The area is at present served by cesspools and soakaways which are a cause of trouble. Included in the scheme is a small pumping station to deal with properties which cannot be drained direct to the main sewer. Provision is also made for increasing the pumping capacity and modification to pumping plant at two pumping stations.

The scheme was recommended for approval.

CANNOCK RURAL DISTRICT.

Bednall Sewerage Scheme.

This scheme, estimated to cost £19,801, was to provide for the sewerage of the village of Bednall and comprises some 3,180 yards of 6in. sewer with accompanying manholes and inspection chambers. There are no proper sewerage facilities in the village at the present time – a small septic tank system deals with a number of properties but is quite incapable of dealing satisfactorily with the flow reaching it. The proposed system of sewers will connect to the existing sewers at Acton Trussell and treatment will be at the recently extended Penkridge sewage disposal works.

The scheme was recommended for approval.

Calf Heath Sewerage Scheme.

This scheme, estimated to cost £79,215 was to provide a sewerage scheme for the villages of Calf Heath and Great Saredon. Included in the proposals were two pumping stations and some 2,966 yards of 6in. rising main to connect to the Rural District Council's Coven sewers for ultimate treatment at the Coven works. Attention was called to the possibility of a new sewage disposal works being built in the Four Ashes area by Cannock Urban District Council and the possible saving in sewers which could be obtained if suitable arrangements were made for the reception and treatment of the Calf Heath's sewage at the proposed new Urban District works.

The scheme was recommended for approval in principle subject to (a) any variations which may arise as a result of sewage being treated at the proposed new Cannock Urban District works at Four Ashes and (b) details of the estimated annual cost being made available.

Coven Sewerage and Sewage Disposal Scheme.

This scheme, estimated to cost £289,500, is to provide for extensions at the Coven sewage disposal works and to duplicate certain sewers. A new pumping station together with a rising main will also be provided. Allowing for, but not forming part of this application, is a proposal to extend the Four Ashes sewer to the Calf Heath and Great Saredon areas. This sewer extension, however, will pass within a very short distance of a site chosen by the Cannock Urban District Council for a future sewage disposal works. When it is finally settled that the Cannock Urban District Council will, in fact, build a works on this particular site, it may be better to deal with the sewage from the Calf Heath and Saredon areas at the Cannock Urban District works. If the Calf Heath and Saredon areas do fall to be dealt with at the Cannock Urban District Council site some reduction in the proposed Coven works extension units, as well as sewer sizes, could be made in the Rural District Council's proposed Coven scheme.

The scheme was recommended for approval subject to any amendments or adjustments which could follow the building of a new Cannock Urban District works in the Four Ashes area.

CHEADLE RURAL DISTRICT.

Ash Bank Sewerage and Sewage Disposal Scheme – Sewer Extension at Overmoor, Cellarhead.

This scheme, providing a minor sewer extension to serve some 6 properties at present having septic tanks or pail closets, was estimated to cost £2,000 and was recommended for approval.

LICHFIELD RURAL DISTRICT.

Alrewas Sewerage and Sewage Disposal Scheme.

This scheme, estimated to cost £267,000 was to provide for (a) extensions to the existing Alrewas disposal works to cater for increased population in Alrewas, (b) the treatment of sewage from the adjoining hamlet of Fradley and (c) sewers, rising mains and

pumping stations for the Fradley area. At the present time Fradley has no proper sewerage scheme. The existing Alrewas works have been unable to cope with the flow reaching them for some years.

Pollution of ditches in the Fradley area was taking place, and the scheme was recommended for approval.

NEWCASTLE RURAL DISTRICT COUNCIL.

Audley Sewerage and Sewage Disposal Scheme.

This scheme, estimated to cost £171,400 was to provide for certain extensions to the Audley sewage disposal works which are at present overloaded and incapable of dealing adequately with the flow received thereat.

The scheme includes provision for certain new storm water sewers to relieve existing foul sewers of surface water which is causing surcharging and flooding in times of rain. Also included in the scheme is a length of new foul sewer to relieve an overloaded section of an existing foul sewer.

There has been a long history of flooding in the Audley area due to overloaded sewers, and the Department notes that in 1967 it recommended consideration be given to the provision of new surface water sewers to relieve foul sewers of storm water.

The scheme was recommended for approval.

SEISDON RURAL DISTRICT.

Provision of foul sewer, the Straits, Lower Gornal.

This scheme, estimated to cost £1,200, was to provide a small sewer extension to enable six properties to be connected to the main sewer. The sewer would replace septic tanks which had been causing nuisance in a ditch adjoining the properties.

The scheme was recommended for approval subject to the District Council being asked to look again at their estimate of the present maintenance costs.

STAFFORD RURAL DISTRICT.

Hixon Sewage Disposal Works Extensions.

This scheme, estimated to cost £107,490, was to provide extensions to the existing Hixon sewage disposal works as well as improvements and extra capacity to pumping stations to deal with the increased flow. A sludge pressing plant was also included in the scheme.

The scheme was recommended for approval.

Extensions to Sewers at Little Haywood, Colwich and Bishton.

This scheme, the capital cost of which was £6,951, was to provide for sewer extensions in the Little Haywood area. The extensions were, in fact, completed some time ago and provided drainage facilities for 46 outlying properties not covered by the original scheme.

The scheme was recommended for approval.

Ranton Village Sewerage Scheme.

This scheme, estimated to cost £11,659, was to provide a sewerage scheme for Ranton. There is no public scheme serving the village but the Rural District Council have adopted a 6in. diameter sewer and pumping station with 2,100 yards of 3in. diameter rising main constructed by a private developer to serve 12 houses, discharging to the Council's Ladfordfields (Seighford) sewage disposal works. It is proposed to utilise this system as part of the overall scheme for the village. Two small disposal plants in the village will be eliminated and at the same time premises now served with septic tanks or pail closets will obtain the benefit of a main sewer.

Subject to improvements to the ventilation of the pumping station, the scheme was recommended for approval.

STONE RURAL DISTRICT.

Meaford Sewerage Scheme.

The scheme, estimated to cost £20,940, replaces an earlier scheme considered by the County Council in November, 1968. The present scheme deals with more properties than the original and the type of treatment plant to be used is different. The latest proposal being to use a package activated sludge type of plant which will be one of the first to be put forward by a District Council to the County Council for contribution purposes. There is no doubt a need for the scheme and the Department would look forward with interest to the operation of this type of plant.

The scheme was recommended for approval.

UTTOXETER RURAL DISTRICT.

Kingstone Sewerage and Sewage Disposal Scheme.

This scheme, estimated to cost £48,650, was to provide a sewerage scheme for the village of Kingstone, together with a pumping station to pump the sewage to the trunk sewer connecting Bramshall with the Uttoxeter Urban District Council's sewage disposal works. There is no proper sewerage scheme in the village and pollution of the stream going through the village is taking place. There was some difference between the forecasted population and a higher population figure used by the designers of the scheme; this Department called attention to the fact that actual population growth frequently overtook estimated growth and the scheme was recommended for approval on the design figure.

Parish of Leigh Sewerage and Sewage Disposal Scheme.

This scheme, estimated to cost £81,500, was to provide a sewerage scheme for the Upper and Lower Leigh, Church Leigh and Withington areas of the Uttoxeter Rural District. The scheme comprised 6in. gravity sewers, pumping stations and rising mains to deliver the sewage to the joint sewage disposal works at Deadman's Green for treatment. There is no doubt that pollution of ditches was taking place and the high level of sub-soil water at Lower Leigh and liability of flooding made septic tanks installations unsatisfactory.

the extension of mains supplies to more and more rural communities and, of course, the closure of some of the smaller and more remote schools for economic and educational reasons. In 1964 there were 15 schools which were supplied with non-mains water whereas in 1970 there were 6. The number of samples, both bacteriological and chemical, taken as precautionary checks against contamination and/or efficiency of sterilisation measures, was correspondingly reduced from a total of 73 in 1964 to 25 in 1970.

SCHOOL SWIMMING POOLS.

Another important responsibility of the Section is the supervision of the hygienic operation of school swimming pools. There has over recent years, been a steady increase in the number of pools, which has inevitably resulted in greater demands in time being devoted to this particular work. In 1967 there were 23 pools requiring 107 visits, whereas in 1970 there were 36 pools which necessitated a total of 141 inspections. All the pools were inspected at least once per term as a matter of routine and field tests conducted on site to check the chlorine and pH content of the water. Advice on the operation of pools was given to caretakers as and when necessary and special attention was given to new pools or in cases where difficulties were experienced. Happily, the standards maintained generally throughout the County pools are of the highest order and they reflect credit on the Caretakers who are responsible for their day to day operation.

Problems do arise from time to time, usually associated with mechanical defects to the filtration, sterilisation or circulation equipment, but in most cases these are remedied without undue delay, through the good offices of the County Architect's Department. Rarely are pools out of action for more than a few days at a time.

All but 2 of the school pools are heated and equipped with automatic chlorination equipment. In 1970 there were 12 open air pools and 19 enclosed pools. In addition, use was made of 3 private pools by special arrangement. As far as possible breakpoint chlorination is now practised in all pools with optimum levels of 1 p.p.m. to 1.5 p.p.m. free chlorine and a pH of 7.4 to 8.0 being maintained.

During the summer of 1970 a pool of new design known as the 'Water Level Deck' came into operation. Apart from its revolutionary design, it is unique within the County for its administrative organisation being a joint project between the County Council and the Stone Urban and Rural District Councils. The pool, under the control of a full-time Superintendent, is primarily provided for the use of a large Comprehensive School but is also made available to the general public in out of school hours and at week-ends. Apart from some minor initial problems the experiment looks to be successful and promises well for the future, for in this way a large capital item such as a swimming pool can be utilised for the maximum benefit of the community.

FLUORIDATION OF WATER SUPPLIES.

There has been no progress to report in the fluoridation of water supplies in the County. Only a very small number of properties in the Seisdon Area taking a supply from Birmingham have water so treated.

LIAISON FUNCTIONS.

The Section continued to play a role of ever-increasing significance in internal liaison with other Departments of the County Council.

There was particularly active co-operation during the year with the County Planning Department in the Public Health aspects of such environmental matters as sewerage and sewage disposal, schemes of water supply and the control of refuse disposal tips. The Section was also consulted about such matters as sites for gipsies and other itinerants, possible pollution of water sources, and housing development in proximity to sewage disposal works.

Liaison was also maintained with the County Architect's Department on such matters as the routine maintenance of County Council sewage disposal installations and the plant related to school swimming pools. Both of these aspects involved consultation at the design stage.

Co-operation with the County Education Department continued to be enjoyed in such matters as the investigation of complaints of a Public Health nature affecting school premises, and the periodic inspection of school camps and centres of other outdoor activities.

The School Meals Section of the Education Department was assisted in its responsibilities for the hygienic management of the School Meals Service. The inspection of meat, fish, milk, vegetables and other foods was undertaken from time to time at their request.

The County Health Education was supported during the Staffordshire County Agricultural Show by the manning of a selection of exhibits and photographs which were exhibited to demonstrate the work of the County Health Inspectorate as part of the County Health Department's Exhibition Stand.

Liaison was also maintained throughout the year with various Departments of the District Councils. Mutual co-operation continued to be enjoyed with Public Health colleagues, Engineers and Surveyors, etc. throughout the County.



