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STAFFORDSHIRE COUNTY COUNCIL

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

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

For the Year 1971

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STAFFORDSHIRE COUNTY COUNCIL

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MEDICAL OFFICER OF HEALTH

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

For the Year 1971

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STAFFORDSHIRE COUNTY COUNCIL

Annual Report of Medical Officer of Health

FOREWORD

As from April 1st of the year under review the Social Services Act took full effect. No reference is made in the body of the report to the work carried out by the sections transferred for the three months during which they were directed from the Health Department at the suggestion of the Department of Health and Social Security.

Even so such a notable change cannot be passed over without comment.

The services transferred to the Social Services Department were the day nurseries, the child minders, play groups and day centres, home helps, care of unmarried mothers and services for the adult mentally ill and mentally handicapped. Some of these services were administered by the Health Committee prior to the National Health Service Act 1946 and others were introduced by that Act but by April, 1971 they had been built up into large effective units. This was outstandingly the case in respect of the mentally handicapped and it is proper that this achievement should be recorded.

Each of the services transferred showed a mixture of the managerial element and the medical element. The latter was least evident in the daily minders and most evident in the mental health services. Theoretically no change in the maintenance of the services took place on April 1st because the managerial element continued to be provided by lay staff and the medical aspect by the staff of the health department, who are the medical advisers to all County departments. In spite of an approved scheme relating to the medical aspect of this work being adopted, little consultation has been noted so far. If when the new unified health service is in being a satisfactory working arrangement is not achieved nationally a division in the administration of medical and non medical social work will develop.

The junior training centres were transferred to the Education Committee and became part of the school system. Because of the long established relationship between the Health and Education Committees, close co-ordination between the teaching staff and the medical staff continues. It was a source of astonishment to many medical administrators that a similar relationship was not envisaged by Parliament in respect of the Social Services Act.

The bulk of the work in connection with home helps had been carried out in the six area health offices. The removal of this work, together with the increased centralisation of the Ambulance Service, caused the Health Committee to recommend the termination of the "area scheme" and this took place on the 31st July, 1971.

The value of this method of decentralisation and indeed the need for any decentralisation at all had been strongly debated since almost the beginning of the scheme in 1948. Unquestionably it was a most expensive form of administration; it is doubtful if it was as effective as central administration and certainly it was maintained largely on the argument that it was more democratic. The situation of the area committee system has relevance to the new proposals for the changed National Health Service. The experience of the County scheme would indicate that the proposal for the new service of large units each having its own clearly marked responsibilities stands a greater chance of success than small units with limited functions subject to the overall control of a larger body.

In eighteen months from the time of writing this foreword, the County Health Department will have ceased to exist and the wind of change is blowing in the health service world – as it is also in Local Government affairs. In a few months the writer will have ceased work in the County Health Department after 32 years.

There have been three county medical officers in Staffordshire and each has been appointed at a time of change. Dr. Reid was appointed in 1888 and as the first appointment itself was a change. His long service up to 1922 covered the period of public health devoted to sanitary circumstances. Indeed his services as a consultant in water and sewage provisions were in demand over the whole country.

Appointed in 1922 Dr. Carruthers guided the development of the personal medical services which legislation encouraged between the wars. The aim was to fill in the gap of medical need because of the patchiness of voluntary effort and the limitations of the insurance scheme. Very efficient and skilful services were built up over the country, including Staffordshire, involving the provision of general hospitals, tuberculosis treatment schemes, maternity services and so on.

So matters continued until 1948 when the National Health Service was brought in and hospitals were brought under separate control. The next period was one of expansion in the community provision of medical and social services which are due now to be rearranged and much of the social element has already departed.

My service with the County has covered this period, but also goes back to earlier times. Indeed detailed environmental work formed an important part of the work of the Health Department in the early '40s and continues today.

This reminiscence would perhaps be permissible only on the grounds of retiring from a long period of work, but it has more significance than that. The one theme running through the changing role of the medical officer has been the prevention of illness and promotion of health amongst the public. The most urgent need in the early years was to obtain healthy

environmental surroundings. This achieved, most of the environmental services passed into the hands of the health inspectors. The inter-war need for fill-in services has been taken over by the National Health Service – much of the social work has been transferred to the new Social Services Departments. What will be the County Medical Officer's next important effort?

There remains the need for doctors to press the paramount need of preventive medicine and the gaining of better health (positive health) by all. The greatest need is to press health education when so many factors in modern life tend to reduce healthy living – inactivity, unwise eating and cigarette smoking, etc. These factors take years to make their effect.

Then someone must ensure that the claims of curative medicine – which will always be limitless – do not reduce the effectiveness of the preventive services.

These – and related matters – will require all the skill and attention of the future Public Health doctor, who is now to be referred to as the Community Physician. It is much to be hoped that he will be allowed to work effectively, for in the new schemes now being discussed it appears that everything is to be decided by advisory and controlling committees composed of experts. Each one will be responsible for part of the service and no one responsible for mobilising the whole. It only requires a moment's reflection on past experience and the contemplation of an outbreak of, say, smallpox, to show that some one person must have the power to mobilise the services at least in an emergency. So far it is not clear who this person should be.

The work of a Medical Officer of Health is very varied and in touching so many facets of people and their lives, including working with many other disciplines, I leave the scene with regret but am grateful for the opportunity to have shared in the provision of some good services to the public and would not wish to retire without expressing gratitude and admiration to the staff of the County Health Department – present and past – for their joint work in the department in the interests of the public over many years. Deep felt thanks are due to the Chairmen and Health Committees – again past and present – for continuous support and enthusiasm. I hope their influence can be carried over into the new service.

Final thanks are expressed to my fellow officers without whom most of the progress would have been impossible.

In all a very satisfying reflection for years to come.

G. RAMAGE,
County Medical Officer of Health.

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.

HEALTH COMMITTEE

as at 31st December, 1971

Chairman — COUNCILLOR MISS G. JOULES

Vice-Chairman — COUNCILLOR H. DEAKIN, Esq.

Ex-Officio Members—

Alderman	F. J. OXFORD	*Chairman of the County Council*
,,	C. H. JONES	*Vice-Chairman of the County Council*
Councillor	A. L. GARRATT	*Chairman of the Finance Committee*
,,	G. H. HARRIS	*Vice-Chairman of the Finance Committee*

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

PRINCIPAL OFFICERS

County Medical Officer of Health

G. RAMAGE, M.A. (Admin.), M.D., C.H.B., B.SC., M.R.C.S., L.R.C.P., D.P.H.

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.

Senior Administrative Medical Officer for Schools

A. BLENCH, L.R.C.P., L.R.C.S., L.R.F.P.S., D.P.H.

Principal Medical Officer for Mental Health

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

Senior Medical Officer

H. E. WILSON, M.B., CH.B., D.O., D.P.H.

Administrative Medical Officers:

SHEILA M. DURKIN, M.B., CH.B., D.P.H., (left 31-5-71)
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.
R. WEBSTER, M.B., CH.B., D.T.M. & H., D.P.H.

County Analyst:	R. S. HATFULL, F.R.I.C., F.R.S.H.
County Dental Officer:	W. McKAY, L.D.S., R.C.S. (EDIN.)
County Health Inspector:	H. PREST, F.I.P.H.E., M.A.P.H.I.
County Ambulance Officer:	R. G. YATES, F.I.A.O., F.I.C.A.P.
County Nursing Officer:	MISS M. S. NEWMAN, S.R.N., S.C.M., M.T.D., H.V. CERT.
Chief Chiropodist:	M. E. ABLOTT, M.CH.S., S.R.CH.
Health Education Officer:	M. J. HEAD, CERT.ED., DIP.P.E. (appointed 27-4-71).

Chief Administrative Assistant

N. F. GREENWOOD

Chief Clerk

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

SECTION II

STATISTICAL AND GENERAL INFORMATION

STATISTICS RELATING TO ADMINISTRATIVE COUNTY

EXTRACT FROM VITAL STATISTICS FOR 1971

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 1971 (primarily for Calculation of Birth- and Death-rates or incidence of Notifiable Diseases)	741,340
Rateable Value at 1st April, 1971 (General County Purposes)	£27,190,373
Estimated net product of 1p Rate, 1971-72	£268,838

EXTRACT FROM VITAL STATISTICS FOR 1971

Live Births:	
Number	13,518
Rate per 1,000 population	18.2
Illegitimate Live Births (per cent of total live births)	5
Stillbirths:	
Number	187
Rate per 1,000 total live and still births	14
Total Live and Still Births	13,705
Infant Deaths (deaths under one year)	218
Infant Mortality Rates:	
Total infant deaths per 1,000 total live births ..	16
Legitimate infant deaths per 1,000 legitimate live births	15
Illegitimate infant deaths per 1,000 illegitimate live births	30
Neo-natal Mortality Rate (deaths under four weeks per 1,000 total live births)	12
Early Neo-natal Mortality Rate (deaths under one week per 1,000 total live births)	11
Perinatal Mortality Rate (still births and deaths under one week combined per 1,000 total live and still births) ..	24
Maternal Mortality (including abortion):	
Number of deaths	5
Rate per 1,000 total live and still births	0.36

OTHER EXTRACTS FROM VITAL STATISTICS OF THE YEAR

Deaths (all ages)	6,832
Death Rate	9.2
Deaths from Cancer (all ages) (excluding leukaemia) ..	1,266

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

VITAL STATISTICS — 1971

ENGLAND AND WALES — PERSONS

Estimated Mid-Year Home Population 48,815,000

(*provisional data*)

	Number	Rate	
Live Births	783,165	16.0	per 1,000 population
Stillbirths	9,898	12.0	per 1,000 total births
Deaths	567,345	11.6	per 1,000 population
Infant Mortality (deaths under 1 yr. of age)	13,726	18.0	per 1,000 live births
Neonatal Mortality (deaths under 4 wks. of age)	9,113	12.0	per 1,000 live births
Early Neonatal Mortality (deaths under 1 wk. of age)	7,750	10.0	per 1,000 live births
Perinatal Mortality (stillbirths and deaths under 1 wk. of age)	17,648	22.0	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 741,340 (1971). The population of these authorities are:

Municipal Boroughs:

Lichfield	22,920
Newcastle-under-Lyme	77,320
Stafford	54,120
Tamworth	40,940

Urban Districts:

Aldridge—Brownhills	88,200
Biddulph	17,380
Cannock	55,870
Kidsgrove	22,080
Leek	19,340
Rugeley	22,410
Stone	10,950
Uttoxeter	9,080

Rural Districts:

Cannock	43,880
Cheadle	40,170
Leek	13,260
Lichfield	59,290
Newcastle-under-Lyme	23,190
Seisdon	39,020
Stafford	23,900
Stone	21,500
Tutbury	24,660
Uttoxeter	11,860

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-1971 are set out.

	Census 1966	*Estimated Population Mid*-1971
Urban	407,740	440,610
Rural	261,920	300,730
Totals	669,660	741,340

LEEK
BIDDULPH
LEEK
KIDSGROVE
STOKE-ON-TRENT
NEWCASTLE-UNDER-LYME
NEWCASTLE
CHEADLE
STONE
STONE
UTTOXETER
UTTOXETER
STAFFORD
STAFFORD
TUTBURY
BURTON-UPON-TRENT
RUGELEY
LICHFIELD
CANNOCK
CANNOCK
LICHFIELD
TAMWORTH
ALDRIDGE BROWNHILLS
WOLVERHAMPTON
WALSALL
WEST BROMWICH
DUDLEY
SEISDON
KEY
County Boroughs
Urban Districts
Municipal Boroughs
Rural Districts
County Boroughs are not included in the Administrative County

CANCER

In the following table the deaths from Cancer, excluding those from Leukaemia (54) and Benign and Unspecified Neoplasms (11), during 1971 are shown according to age grouping and sex.

Age Groups	Urban Districts			Rural Districts			Grand Total
	Male	Female	Total	Male	Female	Total	
0—	—	—	—	—	—	—	—
1—	3	1	4	—	1	1	5
5—	2	1	3	—	—	—	3
15—	3	3	6	3	5	8	14
25—	6	3	9	5	5	10	19
35—	9	20	29	3	8	11	40
45—	67	50	117	29	29	58	175
55—	122	86	208	70	56	126	334
65—	149	95	244	90	61	151	395
75—	72	95	167	46	68	114	281
Totals	433	354	787	246	233	479	1,266

As can be seen from the table the total number of deaths from these forms of cancer during 1971 was 1,266, a decrease of 25 from the 1970 figure or a 2% decrease.

During 1971 this group of deaths accounted for 19% 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 four years:—

Year	*Breast Cancer*	*Cancer of Uterus*
1968	115	68
1969	94	46
1970	135	52
1971	145	49

Lung Cancer

The total number of lung cancer deaths in the County for 1971 was 281, or 21% of the total number of deaths from all forms of this disease. This represents a decrease of 28 from the 1970 figure. Of the 281 deaths, 238 were males and 43 were females, the percentage male deaths being 85%.

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—	–	–	–	–	1	1	1
25—	–	–	–	–	–	–	–
35—	3	3	6	–	1	1	7
45—	20	7	27	9	–	9	36
55—	49	9	58	32	3	35	93
65—	59	9	68	35	2	37	105
75 and over ..	21	6	27	10	2	12	39
Totals	152	34	186	86	9	95	281

TUBERCULOSIS

The following table shows new cases of tuberculosis notified during 1971 within the County Districts, and deaths from the disease, classified according to age and sex:—

1971 Age Periods	New Cases				Deaths			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0—	–	–	–	–	–	–	–	–
1—	–	–	–	–	–	–	–	–
2—	1	1	–	–	–	–	–	–
5—	3	1	–	–	–	–	–	–
10—	2	2	–	2	–	–	–	–
15—	–	1	–	–	–	–	–	–
20—	2	1	2	–	–	–	–	–
25—	5	8	1	2	–	–	–	–
35—	9	5	–	1	–	1	–	–
45—	9	4	1	1	2	1	1	–
55—	5	–	2	1	–	–	1	2
65—	6	3	1	1	7	–	–	–
75 and upwards	5	1	–	–	1	2	–	–
Age unknown	2	–	–	–	–	–	–	–
Totals	49	27	7	8	10	4	2	2

During 1971, 14 deaths occurred from pulmonary tuberculosis and 4 from other forms of this disease, the death-rate being 0.02.

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
2,151	996	813	1,809	157	185	342

The figures given above indicate that in 1971 there was one case of tuberculosis in every 345 persons, or 2.9 per 1,000 of the population.

The following table gives particulars of primary notifications of tuberculosis notified in the Administrative County each year since 1920, 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)
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
1971	76	15	91	0.10	0.02	0.12

* 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
1971	0.02	0.02	0.01	0.00

* reduced County came into operation.

TABLE SHOWING CHIEF CAUSES OF DEATH

Condition	*Number of Deaths*
Heart Disease	2,254
Cancer (all forms)	1,331
Cerebrovascular Disease	1,008
Pneumonia	451
Bronchitis and Emphysema	298
Other forms of Circulatory Disease	276
Hypertensive Disease	125
Accidents (General)	108
Motor Vehicle Accidents	91
Other diseases of Respiratory System ..	72
Congenital Anomalies	79
Other diseases of Digestive System	51
TOTAL	6,144
Total number of deaths from *all* causes ..	6,832

The numbers of deaths listed above represent 90 per cent of the total deaths.

Births

The number of births in the Administrative County amounted to 13,518, the number in the Urban Districts being 8,008 and in the Rural Districts 5,510.

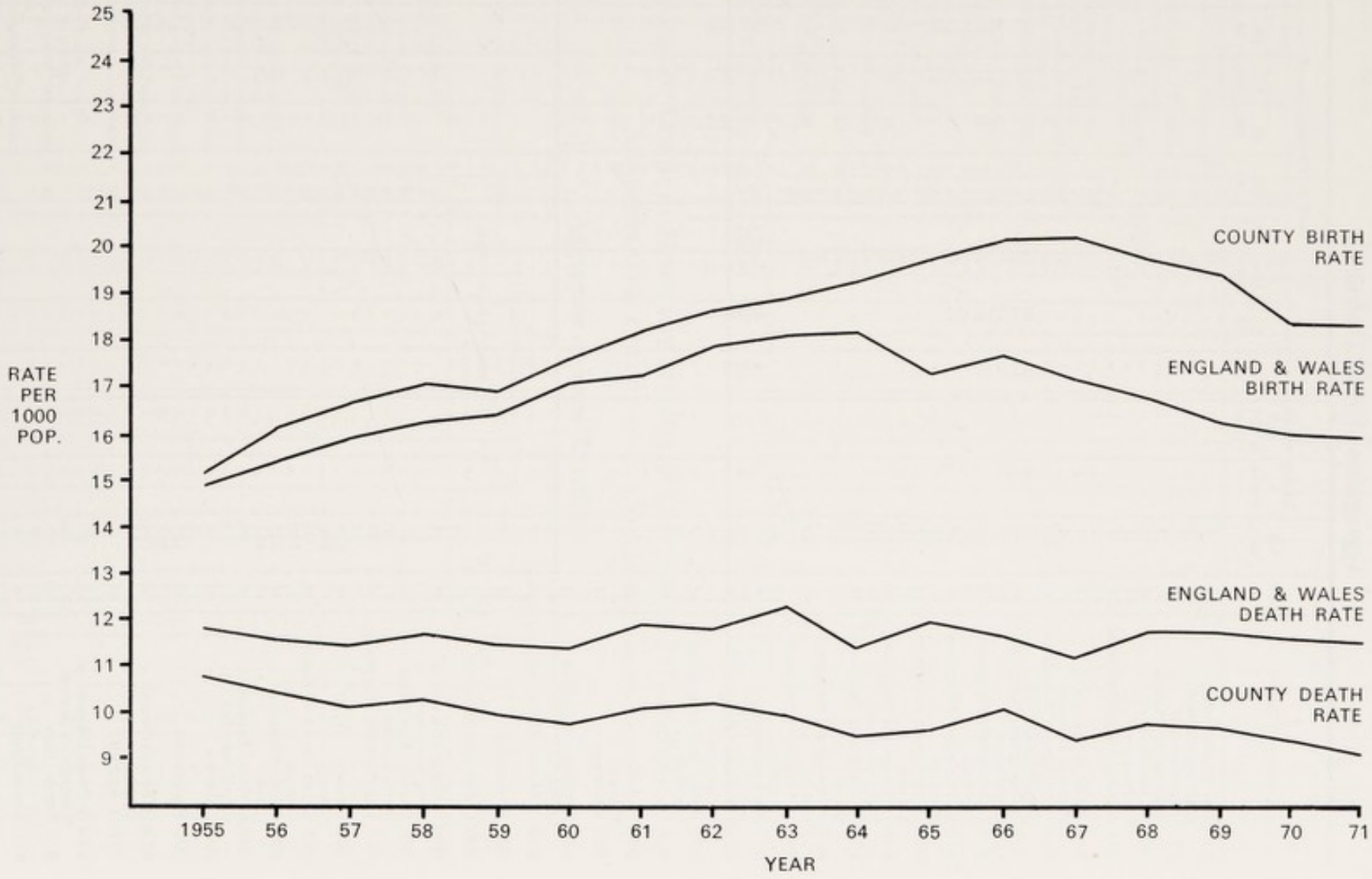
Districts		Live Birth-Rate per 1,000 of Population													
		5 yrs. 1914-1918	5 yrs. 1919-1923	5 yrs. 1924-1928	5 yrs. 1929-1933	5 yrs. 1934-1938	5 yrs. 1939-1943	5 yrs. 1944-1948	5 yrs. 1949-1953	5 yrs. 1954-1958	5 yrs. 1959-1963	5 yrs. 1964–1968	1969	1970	1971
Staffordshire	Combined Urban and Rural ..	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	18.2
	Urban	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	18.2
	Rural	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	18.3
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	16.0

Deaths

The number of deaths in the Administrative County amounted to 6,832, the number in the Urban Districts being 4,208 and in the Rural Districts 2,624.

Districts		Death-Rate per 1,000 of Population													
		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	1971
Staffordshire	Combined Urban and 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	9.2
	Urban	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	9.6
	Rural	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	8.7
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	11.6

COUNTY BIRTH & DEATH RATES COMPARED WITH ENGLAND & WALES
SHOWING NATURAL INCREASE IN POPULATION



Causes of Death at Different Periods of Life during 1971 in the Administrative County of Staffordshire.

Aggregate of Urban 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
B4 Enteritis and other	M	1	–	–	1	–	–	–	–	–	–	–	–
Diarrhoeal Diseases ..	F	5	–	–	–	–	–	–	–	1	1	–	3
B5 Tuberculosis of	M	5	–	–	–	–	–	–	–	–	–	5	–
Respiratory System ..	F	3	–	–	–	–	–	–	1	–	–	–	2
B6(1) Late effects of	M	1	–	–	–	–	–	–	–	–	1	–	–
Respiratory T.B. ..	F	2	–	–	–	–	–	–	–	–	2	–	–
B11 Meningococcal Infection	M	2	–	1	–	–	1	–	–	–	–	–	–
	F	1	–	1	–	–	–	–	–	–	–	–	–
B18 Other Infective and	M	1	1	–	–	–	–	–	–	–	–	–	–
Parasitic Diseases ..	F	4	–	–	1	–	–	–	–	2	–	–	1
B19(1) Malignant Neoplasm,	M	15	–	–	–	–	–	–	1	5	2	–	7
Buccal Cavity Etc ..	F	5	–	–	–	–	–	1	–	–	1	2	1
B19(2) Malignant Neoplasm,	M	8	–	–	–	–	–	–	–	1	2	3	2
Oesophagus	F	10	–	–	–	–	–	–	–	2	3	4	1
B19(3) Malignant Neoplasm,	M	66	–	–	–	–	–	–	2	10	21	27	6
Stomach	F	40	–	–	–	–	–	–	1	–	11	14	14
B19(4) Malignant Neoplasm,	M	48	–	–	–	–	–	–	–	8	16	14	10
Intestine	F	56	–	–	–	–	–	–	1	3	10	19	23
B19(5) Malignant Neoplasm,	M	3	–	–	–	–	–	–	–	1	1	1	–
Larynx	F	1	–	–	–	–	–	–	–	–	–	1	–
B19(6) Malignant Neoplasm,	M	152	–	–	–	–	–	–	3	20	49	59	21
Lung, Bronchus.. ..	F	34	–	–	–	–	–	–	3	7	9	9	6
B19(7) Malignant Neoplasm,	M	1	–	–	–	–	–	–	–	–	–	1	–
Breast	F	83	–	–	–	–	–	1	6	19	25	15	17
B19(8) Malignant Neoplasm, Uterus	F	23	–	–	–	–	1	–	2	6	4	5	5
B19(9) Malignant Neoplasm, Prostate	M	20	–	–	–	–	–	–	–	1	2	9	8
B19(10) Leukaemia	M	17	–	–	1	4	1	2	–	2	2	5	–
	F	20	–	–	1	2	1	–	1	2	2	4	7
B19(11) Other Malignant	M	120	–	–	3	2	3	6	3	21	29	35	18
Neoplasms	F	102	–	–	1	1	2	1	7	13	23	26	28
B20 Benign and unspecified	M	2	–	–	–	1	–	1	–	–	–	–	–
Neoplasms	F	4	–	1	–	–	–	–	–	–	2	1	–
B21 Diabetes Mellitus ..	M	12	–	–	–	–	–	–	1	–	5	4	2
	F	17	–	–	–	–	–	–	–	2	1	4	10
B46(1) Other Endocrine etc.,	M	5	–	–	–	–	–	1	1	–	3	–	–
Diseases	F	7	–	–	1	–	–	–	1	2	–	2	1
B23 Anaemias	M	2	–	–	–	–	–	–	–	–	–	1	1
	F	14	–	–	–	–	–	–	–	1	2	2	9
B46(2) Other Diseases of	M	1	–	–	–	–	1	–	–	–	–	–	–
Blood, etc.	F	3	–	–	–	–	–	–	–	–	–	2	1
B46(3) Mental Disorders ..	M	2	–	–	–	–	–	–	–	–	–	1	1
	F	2	–	–	–	–	–	–	–	–	–	1	1
B24 Meningitis	M	1	–	1	–	–	–	–	–	–	–	–	–
	F	–	–	–	–	–	–	–	–	–	–	–	–
B46(4) Multiple Sclerosis ..	M	–	–	–	–	–	–	–	–	–	–	–	–
	F	3	–	–	–	–	–	–	1	2	–	–	–
B46(5) Other Diseases of	M	14	–	–	–	1	3	1	–	1	3	4	1
Nervous System ..	F	15	–	–	1	–	1	1	1	1	1	2	7
B26 Chronic Rheumatic	M	20	–	–	–	–	–	–	2	7	3	3	5
Heart Disease	F	30	–	–	–	–	–	–	2	4	11	8	5
B27 Hypertensive Disease ..	M	27	–	–	–	–	–	–	1	2	6	10	8
	F	54	–	–	–	–	–	–	–	–	9	16	29
B28 Ischaemic Heart	M	679	–	–	–	–	–	1	24	95	165	202	192
Disease	F	446	–	–	–	–	–	–	2	10	44	122	268
B29 Other Forms of Heart	M	90	–	–	–	–	–	1	2	4	5	32	46
Disease	F	136	–	–	–	–	–	–	1	4	9	30	92
B30 Cerebrovascular	M	273	–	–	–	1	2	1	8	18	38	86	119
Disease	F	364	–	–	–	–	–	–	1	11	28	111	213
B46(6) Other Diseases of	M	76	–	–	–	–	–	–	–	2	7	28	39
Circulatory System ..	F	83	–	–	–	–	–	–	1	1	5	14	62
B31 Influenza	M	4	–	–	–	–	1	–	1	1	–	1	–
	F	9	–	–	–	–	–	–	–	–	1	2	6
B32 Pneumonia	M	127	2	6	1	1	1	1	1	4	11	27	72
	F	143	2	4	1	–	–	–	1	4	7	21	103
B33(1) Bronchitis and	M	144	–	1	–	–	–	1	–	6	29	64	43
Emphysema	F	44	–	–	–	–	–	–	–	2	5	16	21
B33(2) Asthma	M	2	–	–	–	–	–	1	–	1	–	–	–
	F	6	–	1	–	–	1	1	–	–	–	1	2
B46(7) Other Diseases of	M	25	–	1	–	–	–	1	1	3	–	10	9
Respiratory System ..	F	16	–	2	2	–	–	1	1	–	–	4	6
B34 Peptic Ulcer	M	17	–	–	–	–	–	–	2	–	4	7	4
	F	9	–	–	–	–	–	–	–	1	1	1	6
B35 Appendicitis	M	4	–	–	–	1	–	1	–	1	–	1	–
	F	1	–	–	–	–	–	–	–	–	–	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
B36 Intestinal Obstruction and Hernia	M	11	–	–	–	–	–	1	–	1	1	3	5
	F	8	–	–	–	–	–	–	–	–	1	2	5
B37 Cirrhosis of Liver ..	M	6	–	–	–	–	–	–	–	3	–	1	2
	F	9	–	–	–	–	–	–	–	2	5	1	1
B46(8) Other Diseases of Digestive System ..	M	13	–	–	–	–	–	–	–	1	1	5	6
	F	18	–	–	1	–	1	–	–	–	1	3	12
B38 Nephritis and Nephrosis	M	4	–	–	–	–	–	1	1	–	1	1	–
	F	5	–	–	–	–	–	–	1	–	2	1	1
B39 Hyperplasia of Prostate.	M	14	–	–	–	–	–	–	–	–	–	4	10
B46(9) Other Diseases, Genito-Urinary System .	M	7	–	–	–	–	–	–	–	2	1	2	2
	F	12	–	–	–	–	–	1	–	1	–	2	8
B41 Other Complications of Pregnancy, etc.	F	1	–	–	–	–	1	–	–	–	–	–	–
B46(10) Diseases of Skin, Subcutaneous Tissue ..	M	1	–	–	–	–	–	–	–	–	–	–	1
	F	2	–	–	–	–	–	–	–	–	–	–	2
B46(11) Diseases of Musculo-Skeletal System ..	M	4	–	–	–	–	–	1	–	–	1	1	1
	F	10	–	–	–	–	–	1	–	1	2	3	3
B42 Congenital Anomalies..	M	25	13	3	1	2	1	–	1	–	2	2	–
	F	24	10	5	3	2	2	1	–	–	1	–	–
B43 Birth Injury, Difficult Labour, etc.	M	25	25	–	–	–	–	–	–	–	–	–	–
	F	10	10	–	–	–	–	–	–	–	–	–	–
B44 Other Causes of Perinatal Mortality ..	M	26	26	–	–	–	–	–	–	–	–	–	–
	F	17	17	–	–	–	–	–	–	–	–	–	–
B45 Symptoms and Ill Defined Conditions ..	M	4	–	–	–	–	–	–	–	–	–	–	4
	F	23	–	1	–	–	–	–	–	–	–	1	21
BE47 Motor Vehicle Accidents	M	38	–	–	2	4	14	2	5	5	2	3	1
	F	11	–	–	1	–	2	–	1	1	3	3	–
BE48 All other Accidents ..	M	26	–	4	2	1	2	2	4	3	5	1	2
	F	32	–	3	2	–	2	–	–	2	2	4	17
BE49 Suicide and Self-Inflicted Injuries ..	M	17	–	–	–	–	1	3	4	3	2	3	1
	F	8	–	–	–	–	–	2	1	1	3	–	1
BE50 All Other External Causes	M	6	–	–	–	–	2	–	1	1	1	1	–
	F	9	–	–	–	1	–	2	1	–	3	1	1
Total – All Causes ..	M	2,214	67	17	11	18	33	29	69	233	421	667	649
	F	1,994	39	18	15	6	14	13	38	108	240	481	1,022

Causes of Death at Different Periods of Life during 1971 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
B3 Bacillary Dysentery, Amoebiasis	M	1	–	–	1	–	–	–	–	–	–	–	–
	F	–	–	–	–	–	–	–	–	–	–	–	–
B4 Enteritis and Other Diarrhoeal Diseases ..	M	–	–	–	–	–	–	–	–	–	–	–	–
	F	1	–	1	–	–	–	–	–	–	–	–	–
B5 Tuberculosis of Respiratory System ..	M	5	–	–	–	–	–	–	–	2	–	2	1
	F	1	–	–	–	–	–	–	–	1	–	–	–
B6(1) Late Effects of Respiratory T.B. ..	M	1	–	–	–	–	–	–	–	1	–	–	–
	F	–	–	–	–	–	–	–	–	–	–	–	–
B17 Syphilis and its Sequelae	M	2	–	–	–	–	–	–	–	1	–	–	1
	F	–	–	–	–	–	–	–	–	–	–	–	–
B18 Other Infective and Parasitic Diseases ..	M	1	–	–	–	–	–	–	1	–	–	–	–
	F	1	–	–	–	–	–	–	–	1	–	–	–
B19(1) Malignant Neoplasm, Buccal Cavity, etc. ..	M	3	–	–	–	–	–	–	–	–	1	–	2
	F	1	–	–	–	–	–	–	–	–	–	1	–
B19(2) Malignant Neoplasm, Oesophagus	M	5	–	–	–	–	–	–	–	1	2	2	–
	F	9	–	–	–	–	–	–	–	2	2	1	4
B19(3) Malignant Neoplasm, Stomach	M	35	–	–	–	–	–	–	1	2	6	17	9
	F	21	–	–	–	–	–	1	–	1	4	4	11
B19(4) Malignant Neoplasm, Intestine	M	33	–	–	–	–	–	1	1	4	7	11	9
	F	46	–	–	–	–	1	–	–	3	9	9	24
B19(5) Malignant Neoplasm, Larynx	M	2	–	–	–	–	–	–	–	–	–	2	–
	F	1	–	–	–	–	–	–	–	–	–	–	1
B19(6) Malignant Neoplasm, Lung, Bronchus.. ..	M	86	–	–	–	–	–	–	–	9	32	35	10
	F	9	–	–	–	–	1	–	1	–	3	2	2
B19(7) Malignant Neoplasm, Breast	M	–	–	–	–	–	–	–	–	–	–	–	–
	F	62	–	–	–	–	–	2	2	15	16	15	12
B19(8) Malignant Neoplasm, Uterus	F	26	–	–	–	–	–	–	2	3	6	10	5

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
B19(9) Malignant Neoplasm, Prostate	M	14	–	.	–	–	–	–	–	–	3	5	6
B19(10) Leukaemia	M	12	–	–	2	1	–	1	–	3	1	2	2
	F	5	–	–	–	1	–	–	1	–	1	2	–
B19(11) Other Malignant Neoplasms	M	68	–	–	–	–	3	4	1	13	19	18	10
	F	58	–	–	1	–	3	2	3	5	16	19	9
B20 Benign and Unspecified Neoplasms	M	3	–	1	–	–	–	–	–	–	–	1	1
	F	2	–	–	–	1	–	1	–	–	–	–	–
B21 Diabetes Mellitus ..	M	12	–	–	–	–	–	1	–	1	–	4	6
	F	11	–	–	–	–	–	–	–	–	4	–	7
B22 Avitaminoses, etc. ..	M	–	–	–	–	–	–	–	–	–	–	–	–
	F	1	–	–	–	–	–	–	–	1	–	–	–
B46(1) Other Endocrine etc., Diseases	M	2	1	–	–	–	–	–	1	–	–	–	–
	F	5	–	–	–	–	–	–	–	2	2	–	1
B23 Anaemias	M	6	–	–	–	–	–	–	–	–	–	2	4
	F	2	–	–	–	–	–	–	–	–	–	–	2
B46(2) Other Diseases of Blood, etc., ...	M	1	–	–	–	–	1	–	–	–	–	–	–
	F	–	–	–	–	–	–	–	–	–	–	–	–
B46(3) Mental Disorders ..	M	1	–	–	–	–	–	–	–	–	–	–	1
	F	11	–	–	–	–	–	–	–	–	2	2	7
B24 Meningitis	M	1	–	1	–	–	–	–	–	–	–	–	–
	F	–	–	–	–	–	–	–	–	–	–	–	–
B46(4) Multiple Sclerosis ..	M	2	–	–	–	–	–	–	1	–	1	–	–
	F	2	–	–	–	–	–	–	–	1	1	–	–
B46(5) Other Diseases of Nervous System.. ..	M	11	–	–	1	1	1	1	1	–	2	2	2
	F	10	–	–	–	1	–	–	2	–	1	1	5
B26 Chronic Rheumatic Heart Disease	M	15	–	–	–	–	–	1	2	1	6	3	2
	F	25	–	–	–	–	–	–	1	5	5	9	5
B27 Hypertensive Disease ..	M	20	–	–	–	–	–	–	1	1	8	5	5
	F	24	–	–	–	–	–	–	–	1	2	5	16
B28 Ischaemic Heart Disease	M	406	–	–	–	–	–	–	10	50	98	131	117
	F	241	–	–	–	–	–	–	3	7	22	69	140
B29 Other Forms of Heart Disease	M	61	–	1	–	–	–	–	1	2	5	19	33
	F	105	–	–	–	–	–	–	1	1	5	19	79
B30 Cerebrovascular Disease	M	169	–	–	–	–	–	2	2	8	22	48	87
	F	202	–	–	–	–	–	3	2	5	11	46	135
B46(6) Other Diseases of Circulatory System ..	M	59	–	–	–	–	–	–	1	3	8	17	30
	F	58	–	–	–	–	–	–	1	2	7	12	36
B31 Influenza	M	1	–	–	–	–	–	–	–	1	–	–	–
	F	2	–	–	–	–	–	–	–	–	–	–	2
B32 Pneumonia	M	93	2	2	–	–	–	1	2	6	8	22	50
	F	88	–	1	–	–	–	–	2	1	3	18	63
B33(1) Bronchitis and Emphysema	M	87	–	–	–	–	–	–	–	5	18	33	31
	F	23	–	–	–	–	–	–	–	2	3	7	11
B33(2) Asthma	M	1	–	–	–	–	–	–	–	–	–	1	–
	F	2	–	–	–	–	–	–	–	–	1	1	–
B46(7) Other Diseases of Respiratory System ..	M	16	–	2	–	–	–	1	–	–	1	6	6
	F	15	–	3	1	–	–	–	–	1	–	1	9
B34 Peptic Ulcer	M	12	–	–	–	–	1	1	–	1	1	1	7
	F	4	–	–	–	–	–	–	–	1	–	2	1
B35 Appendicitis	M	1	–	–	–	–	–	–	–	–	–	–	1
	F	1	–	–	–	–	–	–	–	–	1	–	–
B36 Intestinal Obstruction and Hernia	M	5	–	1	–	–	–	–	–	–	1	1	2
	F	6	1	–	–	–	–	–	1	–	1	–	3
B37 Cirrhosis of Liver ..	M	2	–	–	–	–	–	–	1	–	1	–	–
	F	1	–	–	–	–	–	–	–	–	–	1	–
B46(8) Other Diseases of Digestive System ..	M	10	–	1	–	–	–	–	–	2	2	4	1
	F	10	–	–	–	–	–	–	–	–	2	3	5
B38 Nephritis and Nephrosis	M	3	–	–	–	–	–	–	–	–	1	2	–
	F	4	–	–	–	–	–	1	–	1	–	1	1
B39 Hyperplasia of Prostate	M	12	–	–	–	–	–	–	–	–	–	5	7
B46(9) Other Diseases, Genito-Urinary System ..	M	8	–	1	–	–	–	–	–	–	3	1	3
	F	4	–	–	–	–	–	–	–	–	1	1	2
B41 Other Complications of Pregnancy, etc.	F	4	–	–	–	–	1	3	–	–	–	–	–
B46(10) Diseases of Skin, Subcutaneous Tissue ..	M	2	–	–	1	–	–	–	–	–	–	1	–
	F	4	–	–	–	–	–	–	–	2	–	1	1
B46(11) Diseases of Musculo-Skeletal System ..	M	6	–	–	–	–	–	–	1	–	1	4	–
	F	12	–	–	–	–	–	–	–	1	3	3	5
B42 Congenital Anomalies ..	M	13	7	3	1	1	–	–	1	–	–	–	–
	F	17	6	4	3	1	–	–	–	3	–	–	–
B43 Birth Injury, Difficult Labour, etc.	M	13	13	–	–	–	–	–	–	–	–	–	–
	F	6	6	–	–	–	–	–	–	–	–	–	–
B44 Other Causes of Perinatal Mortality ..	M	9	9	–	–	–	–	–	–	–	–	–	–
	F	6	6	–	–	–	–	–	–	–	–	–	–
B45 Symptoms and Ill Defined Conditions ..	M	11	–	2	–	–	–	–	–	–	–	1	8
	F	17	–	–	–	–	–	–	–	–	–	1	16
BE47 Motor Vehicle Accidents	M	31	–	–	1	–	13	6	3	2	1	5	–
	F	11	–	–	–	1	2	2	–	1	3	2	–
BE48 All Other Accidents ..	M	26	–	2	4	–	5	1	2	–	4	2	6
	F	24	–	–	1	–	–	2	–	–	1	6	14
BE49 Suicide and Self-Inflicted Injuries ..	M	14	–	–	–	–	3	4	2	1	2	–	2
	F	8	–	–	–	–	1	–	1	1	3	1	1
BE50 All Other External Causes	M	1	–	–	–	–	–	–	–	1	–	–	–
	F	1	–	–	–	–	–	–	–	–	–	–	1
Total – All Causes ..	M	1,414	32	17	11	3	27	25	36	121	265	415	462
	F	1,210	19	9	6	5	9	17	23	70	141	275	636

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 1971											Ischaemic Heart Disease	Malignant Neoplasm	Bronchitis and Emphysema	Pneumonia	Other Diseases of Respiratory System	Nephritis and Nephrosis	Congenital Anomalies
Aldridge-Brownhills ..	82,780	88,200	6.7	17.6	13.2	13.0	6.6	11.3	17	15	13	25	1.95	1.33	0.25	0.46	0.05	0.02	0.11
Biddulph	16,100	17,380	2.6	22.1	20.3	18.0	10.5	14.9	31	26	26	43	2.19	1.96	0.40	0.52	0.12	0.06	0.12
Cannock	51,980	55,870	5.1	19.2	18.6	9.0	9.5	10.9	17	15	14	23	2.33	1.72	0.50	0.73	0.09	0.02	0.07
Kidsgrove	21,440	22,080	5.3	18.3	16.5	10.0	9.1	13.7	12	10	10	20	2.85	1.67	0.41	0.36	0.09	—	0.18
Leek	19,230	19,340	4.5	14.1	15.5	7.0	15.2	12.0	22	15	15	22	3.36	2.84	0.47	0.72	0.21	—	—
Lichfield	19,690	22,920	6.4	18.9	17.0	11.0	8.7	8.8	14	9	7	18	2.23	1.57	0.31	0.70	0.09	—	—
Newcastle	75,790	77,320	8.7	14.6	13.9	15.0	10.3	12.8	16	12	11	25	2.53	2.28	0.59	0.56	0.08	0.01	0.19
Rugeley	17,240	22,410	7.8	27.7	24.9	11.0	7.3	12.3	21	14	14	25	1.70	1.03	0.67	0.13	0.04	—	0.13
Stafford	51,480	54,120	10.6	16.9	16.6	15.0	11.5	11.2	22	15	14	29	3.64	1.79	0.31	1.13	0.11	0.06	0.07
Stone	10,210	10,950	5.6	16.6	16.9	11.0	14.1	12.7	5	—	—	11	4.20	2.19	0.82	0.46	0.27	—	0.09
Tamworth	32,910	40,940	5.4	22.3	20.7	16.0	9.5	11.3	13	8	8	24	2.37	1.78	0.46	0.56	0.12	0.02	0.12
Uttoxeter	8,890	9,080	2.7	14.8	14.5	29.0	11.2	11.9	22	15	15	43	3.52	2.09	—	0.66	0.11	—	0.11
Totals and Averages ..	407,740	440,610	6.1	18.2	16.6	13.0	9.6	11.7	18	13	12	25	2.55	1.79	0.43	0.61	0.09	0.02	0.11

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 1971											Ischaemic Heart Disease	Malignant Neoplasm	Bronchitis and Emphysema	Pneumonia	Other Diseases of Respiratory System	Nephritis and Nephrosis	Congenital Anomalies
Cannock	36,900	43,880	1.3	23.5	19.7	14.0	6.9	10.4	10	7	5	19	2.07	1.21	0.30	0.25	0.02	—	0.14
Cheadle	34,670	40,170	1.5	18.5	18.5	12.0	11.0	10.2	12	8	8	20	2.19	1.99	0.22	0.80	0.10	0.05	0.10
Leek	13,160	13,260	5.4	15.2	15.5	15.0	8.3	9.9	10	—	—	15	1.73	1.89	0.23	0.38	—	0.08	0.08
Lichfield	49,900	59,290	1.4	23.1	22.2	16.0	9.2	9.5	14	8	7	23	2.16	1.64	0.44	1.06	0.15	0.02	0.12
Newcastle	18,260	23,190	1.7	11.4	9.8	19.0	9.0	10.3	26	15	11	30	2.24	2.07	0.26	0.34	0.13	—	0.17
Seisdon	36,540	39,020	1.1	14.1	11.1	13.0	7.7	11.4	15	13	11	23	1.82	1.28	0.41	0.69	0.10	0.08	0.05
Stafford	19,290	23,900	3.4	18.2	18.9	20.0	8.5	11.2	2	2	2	23	1.72	1.88	0.42	0.50	0.21	—	—
Stone	20,630	21,500	2.8	14.5	13.8	10.0	10.0	11.6	32	32	32	41	2.65	1.72	0.42	0.23	0.14	—	0.09
Tutbury	21,550	24,660	1.3	17.4	18.8	11.0	8.8	11.6	23	9	7	18	2.96	1.22	0.57	0.57	0.08	—	0.12
Uttoxeter	11,020	11,860	4.8	14.6	18.5	11.0	7.1	9.7	6	6	6	17	1.94	1.18	0.34	0.34	—	—	0.08
Totals and Averages ..	261,920	300,730	1.9	18.3	17.2	14.0	8.7	10.4	14	9	8	22	2.15	1.59	0.37	0.60	0.10	0.02	0.10

Deaths occurring during the year 1971 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.	Meningococcal Infection	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	1,556	20	578	27	23	20	–	1	–	–	1	6	2	18	18	1	26	15	2	3
Biddulph	384	7	183	12	10	10	2	–	–	–	–	–	–	5	4	1	7	5	–	1
Cannock	1,070	10	530	18	16	15	1	1	–	–	–	4	6	14	8	–	27	4	4	–
Kidsgrove	403	4	201	5	4	4	–	–	1	–	1	2	–	2	5	–	9	3	1	2
Leek	272	2	294	6	4	4	1	–	–	–	–	2	1	9	9	–	15	6	2	2
Lichfield	433	5	200	6	4	3	–	–	–	–	–	–	1	7	4	–	9	2	2	1
Newcastle	1,127	17	794	18	13	12	1	3	1	–	1	1	5	25	27	1	39	19	5	5
Rugeley	621	7	163	13	9	9	–	–	1	1	1	1	–	3	3	–	7	2	1	1
Stafford	915	14	622	20	14	13	–	2	–	1	1	2	1	14	12	–	23	10	2	1
Stone	182	2	154	1	–	–	–	–	–	1	–	–	1	3	4	–	5	3	–	1
Tamworth	911	15	387	12	7	7	1	1	–	–	–	1	1	5	7	1	14	12	4	3
Uttoxeter	134	4	102	3	2	2	–	–	–	–	–	1	–	1	3	–	5	3	–	–
Totals	8,008	107	4,208	141	106	99	6	8	3	3	5	20	18	106	104	4	186	84	23	20

Deaths occurring during the year 1971 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.	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	9	26	–	8	2	2	–	–	–	–	6	7	7	172	31	54	13	1	41	22	3
Biddulph	–	11	–	1	–	–	–	–	–	–	1	3	13	38	13	31	5	–	9	7	–
Cannock	1	29	1	1	2	3	1	–	–	1	1	8	10	130	51	73	18	2	41	28	1
Kidsgrove	2	13	1	1	1	–	–	–	–	1	1	1	3	63	5	33	10	2	8	9	–
Leek	4	9	1	2	1	1	–	–	–	–	4	3	8	65	22	63	12	1	14	9	–
Lichfield	1	10	–	3	2	2	–	1	–	1	1	2	1	51	5	26	19	–	16	7	–
Newcastle	9	49	1	3	–	3	1	1	–	–	7	12	10	196	27	139	24	3	43	46	2
Rugeley	–	5	1	1	–	1	–	–	–	–	1	2	3	38	17	24	4	–	3	15	1
Stafford	5	32	–	3	2	2	1	1	–	–	6	6	13	197	24	87	15	3	61	17	–
Stone	4	7	–	2	1	1	–	1	–	–	1	1	3	46	5	27	6	1	5	9	1
Tamworth	2	25	–	3	1	1	1	–	1	–	–	5	10	97	22	57	31	–	23	19	–
Uttoxeter	–	6	1	1	–	–	–	–	–	–	–	–	–	32	4	23	2	–	6	–	–
Totals	37	222	6	29	12	16	4	4	1	3	29	50	81	1,125	226	637	159	13	270	188	8

Deaths occurring during the year 1971 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	Other Complications of Pregnancy, etc.	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	4	5	1	3	–	6	2	–	4	–	–	1	10	8	9	–	10	10	4	4
Biddulph	2	–	1	1	–	–	1	2	–	–	1	–	2	1	7	–	2	3	1	2
Cannock	5	3	–	4	5	1	1	2	2	1	1	–	4	6	7	1	6	5	5	–
Kidsgrove	2	2	–	1	–	1	–	1	–	–	–	2	4	–	1	–	2	1	2	2
Leek	4	1	–	–	2	2	–	2	–	–	–	2	–	3	1	5	2	4	–	–
Lichfield	2	2	–	2	–	1	–	–	–	–	–	1	–	3	1	5	3	4	2	–
Newcastle	6	3	–	2	4	6	1	2	1	–	–	4	15	1	5	2	9	15	7	2
Rugeley	1	3	–	–	–	5	–	–	4	–	–	–	3	3	3	–	2	2	–	–
Stafford	6	5	1	3	3	5	3	3	4	–	1	3	4	6	4	7	8	8	1	3
Stone	3	–	2	–	–	–	–	–	3	–	–	1	1	–	–	1	2	2	–	–
Tamworth	5	2	–	2	1	1	1	2	–	–	–	–	5	4	3	6	1	2	3	1
Uttoxeter	1	–	–	1	–	3	–	–	1	–	–	–	1	–	2	–	2	2	–	1
Totals	41	26	5	19	15	31	9	14	19	1	3	14	49	35	43	27	49	58	25	15

RURAL

District	Live Births	Still Births	Deaths from all causes	Deaths of Infants			Bacillary Dysentery Amoebiasis	Enteritis and other Diarrhoeal Diseas—	Tuberculosis of Respiratory System	Late effects of Respiratory T.B.	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
Cannock	1,031	15	301	10	7	5	–	1	1	–	–	1	–	4	4	6	1	9	8	5	1
Cheadle	743	9	441	9	6	6	–	–	1	–	1	–	–	3	11	14	–	14	10	5	4
Leek	202	3	110	2	–	–	–	–	1	–	–	–	–	–	3	3	–	7	5	–	1
Lichfield	1,370	22	544	19	11	10	–	–	1	–	–	1	2	2	13	16	1	19	10	5	–
Newcastle	265	5	208	7	4	3	–	–	–	–	–	–	–	3	5	13	–	3	10	2	2
Seisdon	551	7	302	8	7	6	–	–	1	–	1	–	1	2	5	8	–	9	4	2	2
Stafford	434	9	202	1	1	1	1	–	–	–	–	–	–	–	7	4	1	15	5	3	1
Stone	311	3	214	10	10	10	–	–	–	1	–	–	–	–	1	10	–	12	5	1	1
Tutbury	430	5	218	10	4	3	–	–	1	–	–	–	–	–	4	4	–	5	2	2	2
Uttoxeter	173	2	84	1	1	1	–	–	–	–	–	–	1	–	3	1	–	2	3	1	–
Totals	5,510	80	2,624	77	51	45	1	1	6	1	2	2	4	14	56	79	3	95	62	26	14

RURAL

District	Leukaemia	Other Malignant Neoplasms	Benign and Unspecified Neoplasms	Diabetes Mellitus	Avitaminoses, etc.	Other Endocrine etc. Diseases	Anaemias	Other Diseases of Blood, etc.	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	2	15	1	2	–	–	–	–	–	–	1	4	7	5	91	13	36	11	–	11	13
Cheadle	1	19	–	6	–	1	2	–	3	–	–	4	2	10	88	66	61	19	1	32	9
Leek	1	6	–	1	–	–	1	–	–	1	–	4	2	2	23	3	15	7	–	5	3
Lichfield	3	29	–	8	–	1	3	–	7	–	–	–	10	8	128	17	76	18	1	63	26
Newcastle	3	10	–	–	1	1	–	–	–	–	–	2	5	2	52	7	35	20	–	8	6
Seisdon	3	17	3	2	–	2	1	1	2	–	1	4	7	2	71	14	44	14	–	27	16
Stafford	–	9	–	1	–	–	–	–	–	–	1	2	1	4	41	10	32	10	–	12	10
Stone	2	7	–	–	–	–	1	–	–	–	–	1	5	2	57	14	37	5	1	5	9
Tutbury	1	11	1	1	–	1	–	–	–	–	1	–	1	8	73	15	21	8	–	14	14
Uttoxeter	1	3	–	2	–	1	–	–	–	–	–	–	–	1	23	7	14	5	–	4	4
Totals	17	126	5	23	1	7	8	1	12	1	4	21	40	44	647	166	371	117	3	181	110

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	Other Complications of Pregnancy etc.	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
Cannock	–	1	1	–	2	–	3	–	–	4	2	1	4	6	1	2	3	8	6	4	–
Cheadle	1	4	1	–	2	–	3	2	4	–	–	–	5	4	3	2	6	5	10	1	1
Leek	–	–	1	1	–	–	–	1	–	–	–	–	–	1	–	–	3	3	3	1	1
Lichfield	2	9	3	1	3	1	7	1	–	5	–	3	6	7	3	3	3	7	7	5	–
Newcastle	–	3	1	–	–	–	–	–	1	1	–	1	–	4	2	–	–	1	3	1	–
Seisdon	–	4	2	–	–	1	2	3	4	1	–	–	–	2	4	1	2	3	5	2	–
Stafford	–	5	3	–	1	–	2	–	–	–	2	1	2	–	1	–	1	9	2	3	–
Stone	–	3	3	–	1	–	3	–	1	1	–	–	–	2	2	7	2	2	8	2	–
Tutbury	–	2	1	–	–	1	–	–	1	–	–	–	1	3	3	–	6	3	4	3	–
Uttoxeter	–	–	–	–	1	–	–	–	1	–	–	–	–	1	–	–	2	1	2	–	–
Totals	3	31	16	2	10	3	20	7	12	12	4	6	18	30	19	15	28	42	50	22	2

Table showing the number of cases of certain Infectious Diseases notified in each sanitary area during the year ended 31st December, 1971, and the Attack-Rates per 1,000 of the population.

URBAN

District	Estimated Population 1971 for calculating rates	Food Poisoning		Paratyphoid Fever		Scarlet Fever		Whooping Cough		Dysentery		Acute Meningitis		Measles		Ophthalmia Neonatorum		Infective Jaundice		Cholera	
		C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R
Aldridge-Brownhills ..	88,200	3	.03	—	—	131	1.49	19	.22	4	.05	2	.02	391	4.43	2	.02	37	.42	—	—
Biddulph	17,380	—	—	—	—	1	.06	2	.12	—	—	—	—	40	2.30	—	—	1	.06	—	—
Cannock	55,870	11	.20	—	—	13	.23	17	.30	8	.14	—	—	539	9.65	5	.09	31	.55	—	—
Kidsgrove	22,080	—	—	—	—	3	.14	18	.82	1	.05	—	—	154	6.97	—	—	6	.27	—	—
Leek	19,340	—	—	—	—	3	.16	10	.52	5	.26	1	.05	6	.31	—	—	2	.10	—	—
Lichfield	22,920	1	.04	—	—	1	.04	21	.92	3	.13	1	.04	85	3.71	—	—	2	.09	—	—
Newcastle	77,320	12	.16	—	—	19	.25	18	.23	1	.01	1	.01	61	.79	—	—	2	.03	—	—
Rugeley	22,410	—	—	—	—	—	—	11	.49	—	—	2	.09	323	14.41	1	.04	1	.04	—	—
Stafford	54,120	26	.48	2	.04	21	.39	25	.46	5	.09	2	.04	140	2.59	2	.04	—	—	1	.02
Stone	10,950	1	.09	—	—	—	—	—	—	—	—	—	—	5	.46	—	—	—	—	—	—
Tamworth	40,940	1	.02	—	—	4	.10	8	.20	1	.02	—	—	132	3.22	—	—	11	.27	—	—
Uttoxeter	9,080	—	—	—	—	—	—	—	—	—	—	—	—	9	.99	—	—	—	—	—	—

RURAL

District	Estimated Population 1971 for calculating rates	Food Poisoning		Scarlet Fever		Whooping Cough		Dysentery		Acute Meningitis		Measles		Infective Jaundice	
		C	R	C	R	C	R	C	R	C	R	C	R	C	R
Cannock	43,880	—	—	—	—	10	.23	1	.02	—	—	299	6.81	—	—
Cheadle	40,170	—	—	11	.27	7	.17	8	.20	—	—	23	.57	3	.07
Leek	13,260	—	—	2	.15	4	.30	—	—	—	—	11	.83	—	—
Lichfield	59,290	6	.10	3	.05	12	.20	1	.02	4	.07	286	4.82	19	.32
Newcastle	23,190	2	.09	3	.13	15	.65	—	—	—	—	67	2.89	—	—
Seisdon	39,020	1	.03	5	.13	2	.05	2	.05	—	—	172	4.41	—	—
Stafford	23,900	2	.08	3	.13	2	.08	1	.04	—	—	4	.17	—	—
Stone	21,500	2	.09	5	.23	—	—	—	—	—	—	24	1.12	—	—
Tutbury	24,660	—	—	3	.12	14	.57	—	—	—	—	163	6.61	2	.08
Uttoxeter	11,860	—	—	—	—	1	.08	—	—	—	—	23	1.94	—	—

SECTION III

LOCAL HEALTH SERVICES

ADAPTATIONS OF HOMES FOR INSTALLATION OF ARTIFICIAL KIDNEY MACHINES

The scheme for the provision of artificial kidney machines in patients' homes for the treatment of chronic renal failure has now been in operation for four years and has proved most successful. These machines, which cleanse the blood, had, prior to 1967, been available only at Hospital renal units where the patient was required to attend on two or three occasions weekly for this essential treatment.

Suitable patients are trained at the renal unit to operate the machine at home with the assistance and support of family members. Treatment at home is far more convenient, particularly if the patient is the husband who is then able to use the machine at night-time whilsts leeping and resume his normal occupation fairly quickly, as his day-time routine is not disturbed. The transfer to home dialysis also enables other patients to commence treatment at the renal units.

Before a kidney machine can be installed in a patient's home structural modifications and adaptations are necessary. Alternatively, some form of portable building can be provided and sited adjacent to the property. This situation arises where the existing living accommodation is insufficient to enable a specific bedroom or downstairs room to be adapted. In one case the family occupied a three bedroomed council property. Because the accommodation was fully committed the local housing authority was very helpful and arranged for an immediate transfer to a four bedroomed property.

It is the Local Health Authority's function to investigate the home circumstances and, in conjunction with the Authority's Architect's Department, to arrange for the most suitable solution for the adaptation of the accommodation.

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. They 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, 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 containers of concentrated fluids is needed and the premises also require special electrical wiring, plumbing to the sink and waterproof floor covering.

The cost of adapting accommodation is fairly high, as follows:

(a) Adapting a suitable room in existing accommodation £300-£350

(b) Provision of a detached 'Portakabin' (supplied by manufacturers) £1,100

Depending upon their financial situation patients are required to make a contribution towards the cost.

At the end of 1970 there were six cases benefitting from this service and by the end of 1971 this had risen to fourteen cases.

ADMISSION OF CHRONIC SICK TO HOSPITAL

During the year the number of cases referred by general practitioners was 816, the object being to ensure that lack of domiciliary care is not the reason for admission to hospital being sought.

The figures for 1971 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. This practice will, no doubt, 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	361
(b)	Mental Hospitals	1
(c)	Part III Accommodation	3
(d)	General Hospitals	12
(e)	Died prior to admission	22
(f)	Application Cancelled	8
(g)	Temporary stays	15
(h)	Transfers to other Hospitals	3
(i)	Patient refused admission	5
(j)	Referred to Bucknall Hospital	1
(*k*)	Day Hospital	1

2. Of the above figures, in 215 cases the County Council Services were of some assistance prior to the various courses of action being taken.

3. Of the total referrals, 152 cases were cared for at home and assistance was given in accordance with the following:—

(a)	Nursing	70
(b)	Domestic Help	29
(c)	Social Welfare	3
(d)	Nursing and Domestic Help	36
(e)	Nursing and Social Welfare	1
(f)	Domestic Help and Social Welfare	2
(g)	Nursing, Domestic Help and Social Welfare	11

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

This year has been a quiet progressive period for the Ambulance Service as a whole. There has not been any major changes in policy or development during the year. All the Ambulance Stations in the County are in a good state of repair and the building programme for the Service has now been completed with the exception of an Ambulance Station for the Seisdon area of the County. However, plans have been passed for an Ambulance Station to be built in the village of Wombourne to cover this part of the County and this should be completed and become operational in 1972.

Mileage, Patients Carried, Vehicles, Etc.

The table below gives the mileage and number of patients carried by each Ambulance Station during 1971, together with the establishment of personnel and vehicles as at the 31st December, 1971.

Station	Hours Open	Personnel	Vehicles		Ambulances		Sitting Cars	
			Ambs.	Cars	Mileage	Patients	Mileage	Patients
Aldridge	24	25	4	5	87,108	12,022	83,223	14,368
Biddulph	16	6	1	2	26,677	3,498	31,624	6,789
Cannock	24	28	4	5	124,023	11,225	119,044	15,045
Cheadle	24	22	3	4	72,334	7,949	82,192	13,291
Kidsgrove	16	6	2	1	30,721	6,312	18,695	4,824
Leek	24	25	4	4	66,536	6,907	80,440	11,866
Lichfield	24	26	5	4	105,077	15,304	65,974	9,855
Newcastle	24	29	5	5	89,406	14,400	81,817	17,705
Rugeley	16	7	2	1	73,548	8,928	33,575	4,149
Stafford	24	29	5	4	117,385	11,065	79,190	10,656
Stone	16	6	1	2	38,506	4,574	47,499	6,392
Tamworth	17	15	2	3	67,311	12,833	50,024	7,310
Uttoxeter	24	24	3	4	77,816	7,852	94,866	9,647
County Control ..	24	24	–	–	—	—	—	—
Training Vehicles ..	—	—	1	3	—	—	—	—
Major Inc./Recovery	—	—	1	–	—	—	—	—
Total	—	272	43	47	976,448	122,869	868,163	131 897

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

Maternity ..	4,161
Illness	242,878
Accidents ..	7,181
Infectious ..	224
Mental	322

The following is a comparison of the number of Stations, personnel, vehicles, patients carried and mileage as at the 31st December, 1971 with the number as at the 31st Decmber, 1970:—

	31/12/70	31/12/71
24 hour Stations	8	8
Sub-Stations	5	5
Ambulances	44	43
Sitting Cars	46	47
Personnel	272	272
Patients Carried	236,637	254,766
Mileage	1,755,999	1,844,611
Average miles per patient carried	7.41	7.24

AGENCY SERVICE

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

	Stafford		*Lichfield*	
Month	*Mileage*	*Patients carried*	*Mileage*	*Patients carried*
January	3,422	74	1,349	34
February	1,873	48	1,382	38
March	3,323	56	1,044	24
April	4,173	132	1,340	41
May	3,161	106	2,154	60
June	3,237	106	1,759	42
July	4,446	148	1,612	38
August	3,736	74	641	20
September	4,373	120	2,102	56
October	4,593	118	3,025	70
November	5,021	186	3,882	122
December	6.295	200	3,971	122
Total	47,652	1,368	24,261	667

ATTENDANCES AT CLINICS

CHILD HEALTH CLINICS

At the end of the year there were 101 Child Health Clinics in operation of which 29 are purpose-built, 12 adapted, 3 in General Practitioner Surgeries, and 57 occupied on a sessional basis.

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

No. of sessions	5,210
No. of children who attended during the year and who were born in:—	
1971	11,366
1970	6,586
1966-69	6,042
Total	23,994
No. of attendances during the year made by children who at the date of attending were:–	
Under 1 year	90,808
1 but under 2	74,415
2 but under 5	54,334
Total	219,557

ANTE-NATAL AND POST-NATAL CLINICS

1,631 sessions were held during the year as follows:—

Medical Officers	218
Midwives	1,160
General Practioners employed on a sessional basis	208
Hospital Medical Staff	45

2,872 expectant mothers attended the Ante-Natal Clinics.

24 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	2,440
	(b) Domiciliary booked	807
	(c) Total	3,247
Total number of attendances during the year ..		13,436

HEARING TESTS FOR YOUNG CHILDREN

(a) Number of children screen tested	8,525
(i) at clinic	6,333
(ii) at home	2,192
(b) Number of children who failed	225

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 birth weight to the most serious, for example a physical or mental abnormality. Each child is visited regularly by the Health Visitor who submits reports of 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, 1,515 new cases were added to the Register and 872 cases were removed, having been found to be progressing satisfactorily.

In 1971, 103 children were notified as suffering from some form of congenital abnormality and these cases were reported to the Director and 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 Director and Registrar General include information on the age of the mother, drugs taken during pregnancy and the number of previous live or still births.

The School Health Service Section is 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.

The following table is informative in that it gives the monthly notifications of children suffering from congenital malformations under their respective headings. During the year 12 children were found to be suffering from two congenital malformations.

NOTIFICATIONS OF CONGENITAL MALFORMATIONS—1971

Congenital Malformations	Jan.	Feb.	Mar.	Apr	May	Jun.	July	Aug.	Sept.	Oct.	Nov.	Dec.
Central Nervous System	1	2	1	1	1	–	–	1	1	–	–	1
Eye and Ear	–	–	–	1	–	–	–	–	–	1	1	–
Alimentary System ..	1	3	2	1	–	2	–	1	–	4	1	4
Heart & Circulatory System	1	2	–	–	1	2	–	1	–	1	2	2
Respiratory System ..	–	–	–	–	–	–	–	–	–	–	–	–
Urino-genital System	–	–	–	1	–	1	1	1	–	2	–	1
Limbs	1	1	4	5	3	2	5	2	4	4	1	2
Other parts of Musculo Skeletal System	–	–	–	–	–	–	1	–	–	–	–	–
Other Systems ..	–	–	1	1	–	–	1	–	–	1	–	–
Other Malformations	1	3	–	–	1	1	1	–	4	–	2	1
Totals	5	11	8	10	6	8	9	6	9	13	7	11

BUILDING PROGRAMME FOR HEALTH CENTRES AND CHILD HEALTH CLINICS

The Great Wyrley Health Centre, which incorporates facilities for five General Practitioners, opened in April 1971.

In October 1971 the Burntwood Health Centre opened with accommodation for three General Practitioners. This was the fifth Health Centre opened by the County Council.

Future Programme

At the time of writing it is known that the Silverdale Health Centre, which is administered by the Delegated Health Authority of Newcastle-under-Lyme Municipal Borough opened in February 1972.

Two further Health Centres at Lichfield and Kidsgrove are also under construction.

Plans have been approved by the Department of Health and Social Security and the projects are, therefore, at a very advanced stage for Health Centres at Tamworth (Glascote), Stafford (Weeping Cross), Leek, Barton-under-Needwood, Tutbury and extensions to the existing Rugeley Health Centre.

A further 14 Health Centres and 8 Child Health Clinics are included in the three year forward planning programme approved by the County Council.

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.

The following lists the hired accomodation open or closed during the year:-

Premises opened:	Denstone Village Hall. Coven Memorial Hall. Council Flat, Victoria Way, Fazeley. Doxey Church Hall.
Premises closed:	Burntwood Memorial Institute. Wimblebury Community Centre. Ashley Memorial Hall. St. Andrew's Church Hall, Doxey. Coven Methodist Church Hall.

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 the year was approximately 28,000. This figure does not include women who have returned for retest examinations or subsequent examinations following the first test.

The clinics in operation at the end of 1971 were at:—

Cheadle	Cannock
Leek	Henesford
Kidsgrove	Chase Terrace
Stone	Codsall
Stafford	Wombourne
Uttoxeter	Kinver
Rugeley	Lichfield
Tamworth	

In addition, sessions were held at Penkridge, Keele and Biddulph when necessary to enable local people to use the service.

Advertising literature continues to be distributed throughout the County and advertisements are published in the local press as and when necessary. Application forms are available at all the clinics and in many doctors' surgeries. The domiciliary service for which midwives have been trained is also available but has not been used to the extent it was originally anticipated.

Unfortunately, the women with large families who are, therefore, most at risk, are the least anxious to make use of the service but it is hoped that encouragement by the staff in the field may persuade them to accept the domiciliary service.

This is a preventive service in that it indicates the fact that if no treatment is undertaken the women will eventually develop cancer, though perhaps not for 10 years. However, the benefits are long term and it may be some time before a decrease in the number of deaths from this form of cancer is evident.

CHIROPODY SERVICE

Arising from the Health Committee's decision to improve and extend the chiropody service, three new whole-time posts of Area Chiropodist were introduced. These new posts carry special responsibilities and an appropriate 'ad hoc' salary scale is paid. A particularly important feature of the Area Chiropodists' duties is the part they play in extending the Appliance Service to all parts of the County. The new posts brought about a general improvement in the level of service provided and two of the posts were taken by new members of staff which increased the full-time establishment to eight, the highest number in post since the beginning of the Service in 1960.

The improved staffing position did, however, demonstrate that the latent demand for treatment was of considerable proportions by the ease with which the new staff were assimilated.

Experience has shown that the priority categories of the populace are well aware of the chiropody facilities provided by the County. Equally the inability to provide a level of service commensurate with the needs of patients, undoubtedly leaves many patients to supplement County chiropody with private arrangements. As the County Service improves, the level of demand for treatment rises which indicates that a steadily increasing level of provision will be needed in future years.

Staff in Post at 31st December, 1971

	Whole-time	*Part-time*
Administrative County	8 ..	16
Newcastle M.B.	–	1
Aldridge-Brownhills D.A. ..	–	4

Elderly Patients

Although the general standard of care now provided for the elderly patients has improved the sometimes unavoidable prolonged waiting periods between treatments causes concern. Whilst every effort is made to ensure that the priority cases are properly cared for, the staff are uneasy about not being able to provide proper facilities for short periods of intensive care which is frequently necessary for elderly patients. These patients do pose special problems to the staff in their requirements and those patients with peripheral vascular disturbance are in need of special care particularly during the winter months. In some cases only the dedicated attention of the Chiropodist stands between the patient and certain hospital care for circulatory conditions.

A major feature of Chiropodial care is the importance of keeping the elderly mobile. When patients become housebound they will, of course, tax the resources of many other medical and care agencies which shows the value in providing chiropody as a first line defence against immobility and all its unfortunate consequences.

School Work

This part of the service with its pre-determined level of operation always presents a picture of uncertainty in that the resources are hopelessly inadequate for the needs of the service. The ubiquitous plantar wart (verrucae) continues to make tremendous demands upon the Chiropodists' time and does tend to overshadow the many other needs among schoolchildren. As the liaison between the medical staff and Chiropodists becomes more effective the many other problems and foot disorders among schoolchildren are becoming more apparent. Bad footwear and hosiery are still far too prevalent which emphasizes the need for increased facilities for foot health education. The Chiropodists often observe children wearing hosiery that is in some way deficient along with

good footwear. The need for good hosiery and footwear is often not appreciated by parents, particularly for those children in the upper Junior and early Senior School age groups. A wide range of minor foot deformities, particularly those involving the toes which are usually amenable to correction are having to pass with only minimal advice.

During the early part of the year a series of school inspections were carried out in selected schools. The results, although inconclusive for statistical purposes, did demonstrate that the general level of foot disorders is of significant proportions and requires a greatly increased allocation for school work. It is felt that special facilities should be made available for corrective appliance procedures with increased provision for preventive and other health education programmes by the chiropodial staff.

Because of the high level of demand for clinic treatments the school chiropody sessions had to be restricted to a network of strategically placed clinics. This necessarily meant the complete withdrawal of chiropodists in school inspection work which was felt to be a retrograde step by the staff and was deplored by other medical workers. Also the intensity of operation meant that many rural areas were completely without a school chiropody service.

It is hoped that a substantial increase in the provision for the school chiropody service will be possible in the near future. This could prove to be a sound investment in the long term.

Appliance Service

This year saw the chiropodial laboratory become fully equipped and provided facilities of a very high technical standard. In the early months of the year the full-time staff became acquainted with the techniques and capacity of the laboratory. Following this introductory period the staff began to prescribe appliances to supplement the chiropodial treatment. Early results confirm hopes that a much improved level of care is now possible and a more satisfactory continuity of comfort possible, particularly for the elderly patients. Some preliminary preventive work with selected schoolchildren was carried out and results indicated that much valuable work can be done in this field if more clinic time were available.

Although the long term benefits from the use of appliances are expected to be generous many of the initial procedures prior to submitting a prescription are time consuming and do to some extent mask the ultimate gains. As it becomes known that the County Service is able to provide chiropodial appliances so will the demand for treatments increase. This process does again tend to negate the long term benefits which result from the use of appliances. The anticipated appointment of a laboratory technician in the coming year should result in a substantial increase in output from the laboratory and enable the service to be extended to all parts of the County.

TREATMENTS

The total number of treatments carried out during 1971 was as follows:—

	Clinic	*Domiciliary*
Elderly Patients (including handicapped patients)	18,164	12,230
Schoolchildren	12,422	—

During the year 1,198 elderly patients were admitted to the Register.

Resulting from the introduction of a wider range of treatment facilities for patients and the setting up of the new Area Chiropodists Scheme, there has been a slight fall in the overall number of treatments carried out. Nevertheless, the preliminary and time consuming procedures necessitated in providing chiropodial appliances is expected to provide a much sounder base for treatments, where in the long term, much higher numbers of patients will be cared for.

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

The attachment of Health Visitors has been extended to Stafford Borough and exploratory talks have taken place regarding the extension of the scheme to Cannock, Lichfield and Cheadle.

All nursing staff within the catchment area of the Staffordshire General Infirmary have been invited to join the lunch-time meetings with hospital medical staff and sisters to discuss work of mutual interest and a considerable number have availed themselves of this opportunity.

Liaison health visitors/district nurses are working in a variety of departments of the principal hospitals serving the County.

Domiciliary midwives have undertaken work in Groundslow Hospital during a period of staff shortage. Midwifery staff have attended joint study days at Walsall Hospital.

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. After a review of the nature of the patients' needs on discharge it was decided to appoint a district nurse to visit the hospital regularly for liaison purposes. A social worker from the Social Services Department visits to ascertain social needs.

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 1970).

	Children 0–4 (incl.)		*Expectant & Nursing Mothers*	
No. of visits for treatment during year				
First Visit	689	(570)	111	(89)
Subsequent Visits	462	(347)	171	(132)
Total Visits	1,151	(917)	282	(221)
No. of additional courses of treatment other than the first course commenced during year	33	(25)	2	(6)
Treatment provided during the year—				
No. of Fillings	794	(620)	248	(131)
Teeth filled	677	(533)	227	(118)
Teeth extracted	1,186	(981)	151	(138)
General anaesthetics given	428	(352)	12	(17)
Emergency visits by patients	258	(151)	22	(9)
Patients X-rayed	3	(2)	15	(4)
Patients treated by scaling and/or removal of stains from the teeth (prophylaxis)	64	(82)	27	(26)
Teeth otherwise conserved	71	(63)	—	(—)
Teeth root filled	—	—	2	(—)
Inlays	—	—	—	(—)
Crowns	—	—	2	(2)
No. of courses of treatment completed during the year	617	(488)	74	(69)

Part B—Prosthetics:

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

Part C—Anaesthetics:

General Anaesthetics administered by Dental Officers	117	(54)

Part D—Inspections:

Number of patients given first inspections during year	1,342	(1,261)	106	(66)
Number of patients in A and D above who required treatment	760	(582)	97	(61)
Number of patients in A and D above who were offered treatment	740	(565)	97	(61)
Number of Patients re-inspected during year	33		2	

Part E—Sessions:

No. of Dental Officer Sessions (*i.e.* equivalent complete half days) devoted to M. & C.W. patients	For Treatment	256 (217)
	For Health Edcn.	9 (10)

DENTAL LABORATORY

Despite advertisements in the local and national press during 1971 for a Senior Dental Technicain and a Dental Technician, no suitable applicants were found. The laboratory remained closed for the whole of the year.

Dental laboratory work continues to be sent out to six separate dental trade laboratories and the system works satisfactorily.

WELFARE FOODS

National Welfare Foods are sold in the majority of Clinics and Health Centres in the County and are also available in a number of shops in rural and urban areas. In the Northern part of the County a van makes regular journeys to fixed points in outlying districts where the driver then sells these foods to people who are unable to attend Clinics.

This service was formerly administered by the six Area Committees but in October 1971, as part of the gradual run-down of Area Health Office functions, the administration was taken over by the County Health Department.

Changes have been made recently by the Department of Health and Social Security both in the range of products covered by the National Welfare Foods Service and the method of delivery. At the end of December 1971 Orange Juice ceased to be classed as a Welfare Food and free issues of that product were discontinued. As a substitute an improved type of Vitamin Tablet was introduced for expectant and nursing mothers and the Vitamin Drops which replaced Cod Liver Oil continued to be available for young children. The content of National Dried Milk has also been improved.

At the time of writing this report the new delivery arrangements have only been in operation for a short time. Orders have now been put on a monthly basis and although this could give rise to difficulty in small Clinics with limited storage facilities, this has been overcome to some extent by maintaining small stocks in the County Health Department.

In addition to Welfare Foods, certain proprietary brands of infant foods are available in Clinics and Health Centres during Clinic Sessions. Following the withdrawal of Welfare Orange Juice, in response to many requests, orange juice was added to the proprietary list and despite the increased cost to Mothers, the demand for this commodity appears to be increasing.

A recent circular from the Department of Health and Social Security would indicate that the Secretary of State is anxious to secure increased use of free issues of Welfare Foods, particularly the new Vitamin Tablets, by those persons entitled to them. In view of a recent spate of price increases of proprietary brands it is anticipated that there will be some increase in sales of Welfare Foods, particularly National Dried Milk, the full cost price of which has not altered for many years.

HEALTH EDUCATION

It continues to be the policy to encourage a general community appreciation of the value and benefit to be derived from high standards of personal health. Members of the section are involved, therefore, in a wide variety of subjects related to modern health problems, using many channels of communication to achieve this end.

Schools

Health Education of the school child is considered extremely important. It is at this stage of life that new ideas are well received when prejudices are minimal and behaviour can be modified easily. Recognising, also, the vulnerability of children towards unhealthy practices (e.g. smoking) the service offers support to those under pressure to conform to group standards which may be in direct conflict with their own personal feelings.

In the schools it is possible to approach a complete cross section of that particular generation, a feat extremely difficult to repeat with the adult population. Finally, it is hoped that these children will carry such awareness of healthy living into parenthood and perhaps set their children in turn a better example than many have been set themselves.

Parent-Teacher Associations

One very encouraging feature in recent months has been the increasing number of invitations for members of staff to visit Parent Teacher Associations in order to discuss the programme content. Though such requests have often been stimulated by publicity concerning sex education, an opportunity is provided for a general explanation of the aims and techniques of the Health Education Section. Thus it becomes possible to involve the parents themselves in such activity, encouraging a greater acceptance of their responsibilities and influence regarding their children's health in its widest sense.

Madeley College of Education

The close link with the college has been maintained and developed further, to reach the present stage in which an overall plan has been designed for the entire college, whilst also containing specialised courses for particular student teachers. In this way it is hoped that a greater number of teachers in future will feel better qualified and therefore more prepared to accept responsibility for this aspect of education.

Child Health Clinics

Several mobile display units tour the clinics, depicting various themes related to health problems. The aim at all times is to promote

positive health, emphasising the benefits to be gained from particular behaviour rather than the consequences of the alternative.

More staff are also being encouraged to use the resources and experience of the Section to supplement their own activities. In this way, valuable support is being given to those members of staff already engaged in health education of the community.

Exhibitions and Special Projects

The theme of the exhibit at the County Show on 26th and 27th May was 'Children's Health'. Depicted were many of the current health problems affecting the younger generation. For the first time the exhibit was part of a full County Council project within a large marquee, and such was the success of this venture that future shows will be modelled on the 1971 scheme.

An exhibition on the subject of 'foot health' was organised for the new County Fair, held at the county showground on 11th and 12th September. The public response during this weekend well justified the effort and enabled a wide cross section of the public to be reached.

Once again a display was arranged at Leek Adult Training Centre's Open Day to help illustrate the activities undertaken by the centre. Health Weeks were organised in local schools, often as an end of term activity. Representatives of various organisations, including the County Health Education Section were invited to attend in order to give talks and lead discussion groups afterwards. Such projects were, as usual, well received by all concerned as it breaks the normal school routine whilst providing stimulus for further conversation by highlighting the subject of health for a short intense period.

Smoking and Ill Health

With the smoking habit continuing to be a major cause of ill health, strenuous efforts are made to let the public know exactly what dangers are involved. Particular emphasis is placed upon this subject with younger age groups before such habits become ingrained. Anti-smoking activities have also been organised in county clinics aimed specifically at expectant mothers and their parental responsibility. It is hoped that full support will be given to the restriction of smoking in public places, thereby creating the image of smoking being anti-social and the smoker as being the deviant, rather than the non-smoker.

Sexually Transmitted Diseases

The increasing incidence of these diseases in recent years has required a corresponding increase in the public education programme in order to highlight the risks involved with promiscuity and also to make public treatment facilities for the diseases. Due to the inadequacy of existing literature, much of the activity concerning this health problem has been pursued through the various community groups rather than by public campaigns. Problems arise however in reaching those considerable numbers of individuals who do not join groups. The subject also forms an integral part of the Section's school programme.

CERVICAL CYTOLOGY

Health Visitors and Midwives encourage women to make use of the cytology service, paying particular attention to mothers with large families and a poor social background in view of their greater risk and reluctance to seek attention themselves.

The personal approach is supplemented by the use of display material in clinics, health centres and various other public places and by talks to interested groups.

The value of periodic tests for women will continue to be stressed.

In addition to the activities mentioned, many visits were made to other community groups that had requested talks. Thus it was possible to meet a great many members of the public for the purpose of encouraging a fuller appreciation of all the benefits to be gained from being health conscious and putting such awareness into good practice.

Lecture Details	*No. of Lectures*	*Attendance*
Secondary Schools—157 programmes	795	4,710
Junior Schools—146 programmes	825	5,007
Other Groups		
Cancer Education	8	228
County Health Services	2	80
Dental Health	6	278
Drug Dependence	17	841
Family Planning	1	12
Food Hygiene	2	39
Foot Health	1	6
Health Education	19	1,204
Home Safety	7	237
Nutrition	9	340
Parentcraft	11	172
Personal Hygiene	3	63
Personal Relationships	28	1,068
Resuscitation	19	616
Sexually Transmitted Diseases	13	591
Smoking	17	968
Special		
Parent Teacher Associations	18	1,082
Student Teachers	51	2,515
Technician	158	3,014

In addition to this lecture analysis a considerable number of talks related to health education were given by other members of the County Health Department.

HEALTH VISITING

At the 30th September, 1971 the number of health visitors in full-time employment was 121, with 16 in part-time employment including 4 district nurse/midwife/health visitors. The staff establishment for which financial provision had been made was 160. Fifteen full-time and 10 part-time clinic school nurses were employed against vacancies in the health visitor establishment.

During the year ended 30th September, 1971, 8 student health visitors successfully completed the training course at Keele University, and 1 at Birmingham Polytechnic. All are now employed within the County.

Eight students are attending the health visitor training course at Keele University and 1 at Birmingham Polytechnic for the year 1971-72.

There has been considerable movement of staff during the year but fortunately recruitment of trained staff has improved and it has been possible to maintain numbers but not to increase them. The number of would-be student health visitors remains high but difficulty is still experienced in obtaining training places within daily travelling distance of parts of the County, particularly for married women with family commitments.

The gradual increase in the attachment of health visitors to family doctor teams and closer liaison with hospitals is shown in the greatly increased number of visits to persons other than pre-school children, and the numbers referred by general practitioners or hospitals.

Health visitors have continued to undertake the screening of young children for hearing and the training of all health visitors to undertake the screening of pre-school children to ascertain developmental progress is almost complete.

The number of visits made by health visitors has increased by 18,000 almost half of these being to elderly persons. Although the overall increase in the numbers of health visitors is small there have been fluctuations in the numbers over the year, at one period there being seven more whole-time staff, and this has helped make possible the increased visits.

Other factors contributing to the increase have been the newly designed return forms, which have assisted in more accurate record keeping.

Also better deployment of staff has resulted from some of the nursing officers having received training in management.

The following are the statistics relating to the Health Visiting Service during 1971:—

Total visits to Expectant Mothers ..	3,502
Visits to Infants under one year:	
First visits	14,839
Total visits	48,297
Total visits to children aged 1 year and under 2 years	42,214
Total visits to children aged 2 years and under 5 years	67,042

	Cases visited by Health Visitors	No. of Cases	No. of Visits
1	Total number of cases	68,830	—
2	Children born in 1970	14,041	—
3	Children born in 1969	13,305	—
4	Children born in 1965-68	29,757	—
5	Total number of children in lines 2–4	57,103	—
6	Persons aged 65 or over	6,784	24,032
7	Number included in line 6 who were visited at the special request of a General Practitioner or hospital..	1,769	—
8	Mentally disordered persons	181	677
9	Number included in line 8 who were visited at the special request of a General Practitioner or hospital..	121	—
10	Persons excluding maternity cases discharged from hospital (other than Mental Hospitals)	656	970
11	Number included in line 10 who were visited at the special request of a General Practitioner or hospital..	593	—
12	Number of tuberculous households visited	226	261
13	Number of households visited on account of other infectious diseases	376	406
14	Other cases	3,504	5,578
15	Number of tuberculous households visited by Tuberculosis Visitors	593	1,642

HOME NURSING SERVICE

At the 30th September, 1971 there were 88 whole-time, including 6 male nurses, and 3 part-time nurses employed. There were also 42 full-time and 3 part-time district nurse/midwives and 4 district nurse/midwife/health visitors employed in rural areas.

The number of visits made by home nurses has increased by 22,200 during the year. This is due to several factors, examples being the

increasing numbers of elderly and chronic sick maintained in their own homes, earlier discharge of patients from hospital and the steadily increasing numbers of staff attached to general practices.

The increasing amount of disposable pre-sterilised equipment available also reduces time taken to prepare for treatments and has made it possible for nurses to make more visits, but this again increases travelling time.

Four staff have received training and obtained the National Certificate for District Nursing. In connection with this certificate the County has now been approved to carry out the practical training, the theoretical part to be undertaken as previously at Stoke-on-Trent, West Midlands Post Registration Nurse Training Centre, and Birmingham.

Eighteen staff have also attended refresher courses.

The remarks made in the report on Health Visiting concerning record-keeping and management, also apply to the Home Nursing Service.

Number of Treatments

Type of Case	Total number of treatments given in *all cases* — old and new — during the year ended 31st December, 1971
General Nursing	98,428
Dressings	78,248
Observation of Patient	22,574
Enemas	3,491
Changing of Pessaries	781
Washouts, douches and catheterisation ..	9,447
Preparation for diagnostic investigations ..	326
Injections—antibiotics	5,014
Other injections	65,439
Other treatments	11,537

Visits

(a) Total number of visits made 288,988

(b) Number of patients who would have required admission to hospital if a Home Nursing Service had not been available:

i Acute 1,826

ii Chronic 1,866

SUPPLY OF INCONTINENCE EQUIPMENT

This service provides incontinence pads and waterproof protective clothing for specially approved cases.

Incontinence pads greatly assist the nursing care of patients and save a considerable amount of time and unpleasantness with laundering. Waterproof protective clothing (pants and interliners) are issued to ambulant incontinents to enable them to lead as normal a life as is

possible. Because of the high cost of these items it is necessary to maintain a register of persons authorised to be issued with supplies. Each application is carefully considered and priority given to cases whereby the child is enabled to attend school or the adult to attend work.

During 1971, 179,000 pads, 475 pants and 88,000 interliners were supplied.

MATERNAL MORTALITY

During the year five deaths were reported under the heading of Other Complications of Pregnancy and these all 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	–
1970 ..	1	1	–

MEDICAL ASSESSMENTS AND REPORTS

This function 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 following long term sickness etc.;
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.

All prospective employees are required, in the first instance, to complete a medical questionnaire or short form freedom from infection certificate. This procedure much reduces the need for full medical examinations, which are arranged only if the information given in preliminary screening indicates this. Out of a total of 3,450 candidates screened for employment, 363 underwent full medical examinations.

Entrants to Teacher Training Colleges and the Teaching Profession

587 candidates were medically examined for entrance to Teacher Training College, including chest x-ray examinations and 56 entrants to the teaching profession underwent the same screening.

Medical Enquiries for existing Staff and Driving Licence Applicants

Reports are provided for other Departments of the County Council and the following are the statistics, relevant to 1971, in the various categories:—

(*a*)	absence of roadworkers for period in excess of six weeks ..	82
(*b*)	Absence of all other staff, varying periods	47
(*c*)	Enquiries with regard to premature retirement on the grounds of ill-health	30
(*d*)	Driving licence enquiries	217

Heavy Goods Vehicle Drivers' Licences

During 1971 145 County Council employees who are required to hold a Heavy Goods Vehicle Licence were medically examined.

NURSING OFFICERS

The Nursing Service is supervised by a Chief Nursing Officer and a Deputy Chief Nursing Officer. Miss M. S. Newman, the former Deputy, was appointed Chief Nursing Officer in mid-January. Mrs. E. S. Smith was appointed Deputy Chief Nursing Officer on 1st July, 1971.

Miss Newman attended a four week Special Advanced Management Course for Senior Nursing Staff held at York University during November and Mrs. Smith is to attend a similar course to be held at Manchester University in January, 1972.

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

Area	*Area Nursing Officer*	*Deputy Area Nursing Officer*
Area No. 1		
Biddulph U.D. ..	Miss D. Austin ..	Miss E. Alcock
Leek U.D.		
Leek R.D.		
Cheadle R.D.		
Kidsgrove U.D.		
Newcastle M.B.		
Newcastle R.D.		

Area	*Area Nursing Officer*	*Deputy Area Nursing Officer*
Area No. 2		
Stafford M.B.	Miss D. Chadwick	Miss J. P. Elsmore
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 A. W. M. Fido
Lichfield R.D.		
Rugeley U.D.		
Tamworth M.B.		
Uttoxeter U.D.		
Uttoxeter R.D.		
Tutbury R.D.		
Aldridge—Brownhills U.D.		

MIDWIVES' SERVICE

The following are particulars of the midwives practising at the end of 1971:—

Number of midwives employed by the Authority	131
Number of midwives in private practice (including midwives employed in Nursing Homes): Domiciliary	1
Number of midwives employed by Hospital Management Committees	45

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
Doctor not booked		Doctor booked			
*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)	Total (5)	(6)
2	31	155	1,895	2,083	10,283

* 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 6 years are given in the table below:—

Year	*No. of deliveries by Mid-wives	Medical Aid Notices	Still-births	Death of Mother	Contact with Infec-tion	Laying out the Dead
1966	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	–
1971	2,083	329	11	1	18	–

* Including midwifery cases in private maternity homes.

The percentage of doctors' calls to the number of births attended by midwives was 7.5.

The number of domiciliary confinements continues to fall but as the time the patient spends in hospital decreases the midwives are kept busy. The ante-natal and post-natal care of the majority of maternity cases is carried out by the domiciliary staff, together with the general practitioner.

Midwives in Lichfield continue to deliver their own booked patients in the General Practitioner Unit of the Victoria Hospital, and this service has been extended for midwives from Aldridge and Brownhills to attend patients in Bloxwich Maternity Home.

Nineteen pupil-midwives have received Part II midwifery training with teacher-midwives in the County. This number is likely to decrease with the discontinuance of Burton House Maternity Home as a training-school.

In accordance with the rules of the Central Midwives Board twenty-two midwives attended refresher courses. Two nursing officers attended the special refresher course for Statutory Supervisors of Midwives. The midwife who obtained the Advanced Diploma in Midwifery is now studying for the Midwife Teachers' Diploma, again at her own expense and in her own time.

The services of those midwives specially trained to take smears for cervical cytology has been invaluable when doctors have been unable to attend clinics. They continue to take smears in their own homes for a small number of patients.

In spite of the loss of many home confinements, midwives working in the domiciliary field find this work much more satisfying and most do not wish to return to working within an institution.

MOTHERS' CLUBS

Such clubs have been in operation in this County for five years and are serving a useful purpose.

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 makes 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.

The following assisted Mothers' Clubs were operating successfully at the end of 1971:—

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

ISSUE OF NURSING EQUIPMENT—ON LOAN

The Authority has an arrangement with the Red Cross and St. John Ambulance Brigade for the issue of nursing equipment on a short term basis to assist with the nursing and general care of patients at home. Such items include wheelchairs, commodes, bedpans, backrests, etc. The service is free of charge and is maintained at a high standard by the voluntary organisation working in conjunction with the local authority's staff. A financial contribution is made annually to each of the Organisations for the replacement or purchase of additional equipment. The equipment is supplied on demand from one of the depots covering the County, but where an item such as a special bed or hoist is requested this requires the specific approval of the Health Department.

PREMATURITY

The following table gives particulars of the number of premature infants who were born during 1971:—

(1)	Number of Premature Live Births notified—	
	(a) In hospital	743
	(b) At home or a Nursing Home	52
	Total	795
(2)	Number of Premature Stillbirths notified—	
	(a) In hospital	108
	(b) At home or a Nursing Home	1
	Total	109

	Weight at birth	PREMATURE LIVE BIRTHS												PREMATURE STILLBIRTHS	
		Born in hospital				Born at home or in a nursing home									
						Nursed entirely at home or in a nursing home				Transferred to hospital on or before 28th day					
			Died				Died				Died			Born	
		Total births (1)	within 24 hours of birth (2)	in 1 and under 7 days (3)	in 7 and under 28 days (4)	Total births (5)	within 24 hours of birth (6)	in 1 and under 7 days (7)	in 7 and under 28 days (8)	Total births (9)	within 24 hours of birth (10)	in 1 and under 7 days (11)	in 7 and under 28 days (12)	in hospital (13)	at home or in a nursing home (14)
1	2 lb. 3 oz. or less ..	34	19	6	1	3	3	–	–	–	–	–	–	34	–
2	Over 2 lb. 3 oz. up to and including 3 lb. 4 oz.	63	20	9	4	1	–	1	–	2	–	1	1	22	1
3	Over 3 lb. 4 oz. up to and including 4 lb. 6 oz.	137	9	6	1	2	1	–	–	2	–	–	–	26	–
4	Over 4 lb. 6 oz. up to and including 4 lb. 15 oz.	159	4	5	2	8	–	–	–	3	–	–	–	13	–
5	Over 4 lb. 15 oz. up to and including 5 lb. 8 oz.	350	2	3	1	28	–	–	–	3	1	–	–	13	–
6	Total ..	743	54	29	9	42	4	1	–	10	1	1	1	108	1

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	4 weeks	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.		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 1971:—

VACCINATION OF PERSONS UNDER AGE 16 COMPLETED DURING 1971

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

Type of vaccine or dose	Year of Birth					Others under age 16	Total
	1971	1970	1969	1968	1964-1967		
1. Quadruple DTPP ..	–	–	–	–	–	–	–
2. Triple DTP	618	6,429	2,562	457	267	19	10,352
3. Diphtheria/Pertussis ..	–	–	–	–	–	–	–
4. Diphtheria/Tetanus ..	29	460	331	106	628	538	2,090
5. Diphtheria	–	3	5	–	7	65	80
6. Pertussis	–	3	–	1	–	–	4
7. Tetanus	9	11	69	31	76	393	589
8. Salk	2	68	11	3	18	1	103
9. Sabin	652	6,553	2,927	557	675	104	11,468
10. Measles	62	2,419	2,440	1,054	1,087	71	7,133
11. Rubella	–	–	–	–	–	4,527	4,527
12. Lines 1+2+3+4+5 (Diphtheria)	647	6,892	2,898	563	902	622	12,522
13. Lines 1+2+3+6 (Whooping Cough) ..	618	6,432	2,562	458	267	19	10,356
14. Lines 1+2+4+7 (Tetanus)	656	6,900	2,962	594	971	950	13,031
15. Lines 1+8+9 (Polio) ..	654	6,621	2,938	560	693	105	11,571

TABLE 1. COMPLETED PRIMARY COURSES

It is pleasing to note that all forms of primary protections show an increase over the figures for 1970.

As predicted the acceptance rate for Rubella vaccination is good, 4,527 protections being given during 1971. It is estimated that in any one year there are approximately 5,000—6,000 girls eligible i.e. in their 14th year of life.

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

Type of vaccine or dose	Year of Birth					Others under age 16	Total
	1971	1970	1969	1968	1964-1967		
1. Quadruple DTPP ..	–	–	–	–	2	–	2
2. Triple DTP	28	230	506	325	1,262	217	2,568
3. Diphtheria/Pertussis ..	–	–	1	–	3	–	4
4. Diphtheria/Tetanus ..	2	43	75	101	9,109	1,582	10,912
5. Diphtheria	–	–	–	–	69	103	172
6. Pertussis	–	–	–	1	–	–	1
7. Tetanus	5	3	13	30	227	3,273	3,551
8. Salk	–	–	–	–	5	–	5
9. Sabin	22	228	513	323	9,773	4,473	15,332
10. Measles	–	-	–	–	–	–	–
11. Lines 1+2+3+4+5 (Diphtheria)	30	273	582	426	10,445	1,902	13,658
12. Lines 1+2+3+6 (Whooping Cough) ..	28	230	507	326	1,267	217	2,575
13. Lines 1+2+4+7 (Tetanus)	35	276	594	456	10,600	5,072	17,033
14. Lines 1+8+9 (Polio) ..	22	228	513	323	9,780	4,473	15,339

Table 2. Reinforcing Doses

Generally these doses are offered on school entry or for school leavers. In 1970 the reinforcing doses fell by over 4,000, when compared with the 1969 figures and as mentioned in the 1970 Report this was on account of the failure of a revised scheme for undertaking the vaccination. However, the 1971 figures show an increase of 4,000 over the 1970 figures which compares favourably with the 1969 figures.

Smallpox Vaccination

Department of Health Circulars CMO 12/71 and 54/71 stated that vaccination against smallpox need not now be recommended as a routine procedure in early childhood. Consequently, statistics are no longer recorded.

General

Vaccination statistics are forwarded annually to the Department of Health and the following table is prepared, showing Staffordshire's acceptance rates as compared with the average for England as a whole. The figures relate to primary courses only.

	Children born in 1969 *and vaccinated by* 31-12-71		
	Whooping Cough (1)	*Diph-theria* (2)	*Polio myelitis* (3)
England	78	80	80
Local Authority	67	73	74

This year the Staffordshire rates are below the national averages and this is regarded as unsatisfactory. Investigations to identify the reason and improve this position were immediately undertaken and it is hoped the position will be improved when the 1972 figures are presented.

B.C.G. VACCINATION

As in previous years, routine tuberculin testing and vaccination of eleven year old children and full-time students at establishments of further education, continued.

The report relates to 101 schools, including a number of independent schools visited by the B.C.G. team during the year.

The following table summarises the results of the B.C.G. vaccination programme completed at schools during 1971 and the previous 3 years.

	1971	1970	1969	1968
Number of children eligible.. ..	12,573	11,325	12,869	12,611
Number of acceptances	9,912	8,990	9,668	9,112
Acceptance Rate	78%	79%	75%	72%
Number tuberculin tested	9,689	8,704	9,129	8,880
Number vaccinated (neg. reactors)	9,369	8,389	8,868	8,529
Positive reactors (no previous B.C.G.)	320	315	261	352
Percentage positive	3.3%	3.6%	2.8%	3.9%
Stongly positive reactors referred for x-ray..	5	17	12	50

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 purpose 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 one primary and one secondary school following notification of two cases of erythema nodosum. The children concerned were sisters, one also having a primary complex in her right lung. All the children and staff at the two schools involved were x-rayed with negative results.

A special survey was made at two schools at each of which there was a known case of tuberculosis. All the children concerned were skin tested and 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 T.B. patients and to those who are at special risk by reason of their occupation. During 1971 a total of 359 persons received vaccination at the Chest Clinic, the greater number of whom were child contacts of T.B. relatives. The number skin tested was 466; the number found to be positive 96. The number of babies vaccinated at birth was 33.

SECTION IV

OTHER SERVICES

FAMILY PLANNING SERVICE

The Family Planning Association (Branches 24 and 25—Staffordshire and West Midlands) act as the agents of this Authority for the provision of the family planning service throughout the County. The Authority make a financial contribution to the Association and allow the use of Clinics and equipment free of charge. A domiciliary family planning service is also operated by the Association.

During 1971 the policy of expansion was continued and it was possible to open new Clinics in the Child Health Clinics at Wombourne, Mill Lane and Brownhills, Pier Street. There are also Clinics at:—

Cannock	Rugeley
Hednesford	Stafford
Leek	Tamworth
Lichfield	Uttoxeter
Newcastle	Aldridge

The domiciliary service continues to provide a valuable addition to the family planning clinics in the Cannock area. Difficulties are sometimes experienced in undertaking this work in the homes of patients who often have poor accommodation. The Home Office has, therefore, made a grant under the Urban Aid Scheme towards the provision of a mobile unit to undertake sessions in the various parts of the area adjacent to the patients homes.

The demand for further family planning services has continued and the County Council has decided that this demand could best be met by the introduction of a direct service. Arrangements are, therefore, being made for the implementation of this as from 1st April, 1972.

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 1971 from which the following information has been extracted:—

"NUMBERS X-RAYED:

The number of X-rays taken was about 10,000 less than during the previous year, mostly because of the considerable reduction of industrial surveys which are now confined to those in factories with specific respiratory hazards. Of these the North Staffordshire pottery industry is the most important.

TUBERCULOSIS:

The number of cases of clinically significant tuberculosis (102) only two of which had been previously known, was practically the same as in 1970. During the past ten years there has not been a significant fall in the case-finding rates, a salutory reminder that tuberculosis in this country is still not sufficiently well controlled. It supports the cogent remark by the Chief Medical Officer of the Department of Health ". . . this slowing rate

of decline is regrettable and the effective surveillance of special high risk groups cannot be over emphasized". The figures leave no doubt that of the special high risk groups, immigrants from the Indian subcontinent are the most important. The chest radiology service contributed 54% of all new notifications of respiratory tuberculosis from clinics and hospitals of the North Staffordshire Hospital Centre.

BRONCHOGENIC CARCINOMA:

145 cases were detected, 15 less than in 1970, but there is no cause for rejoicing or complacency. The very large majority of these cases were deemed unsuitable for surgery and over the past ten years the age at time of diagnosis in men has only slightly moved towards the higher age groups, and in women not at all. Furthermore the proportion of women shows now definite signs of increasing, although this increase is not as marked as on the national scale.

PNEUMOCONIOSIS:

There was a marked and not unexpected increase in "newly detected" cases compared with the previous year. The two main reasons for this increase were the concentration of the work of the mobile unit on "industries with hazards" especially the pottery industry, and the use of a new international classification of the Pneumoconioses (Cincinnati Classification) which allows for the coding of "irregular" in addition to "rounded" small opacities. This classification has been found useful particularly in the pottery industry where the rounded opacities of classical silicosis are now the exception and the irregular small shadows of mixed dust pneumoconiosis the rule. The number of newly detected progressive massive fibrosis has again remained at a low level.

For the past 20 years mass radiography and chest radiology has given the North Staffordshire Ceramic Industry a service which other industries with dust hazards had to provide for themselves. The results of our surveys have been widely used and quoted in official reports. Lately the Medical Branch of the Ministry of Employment completed a sampled survey of the national ceramic industry. It will be interesting to see whether their results will confirm our findings."

INFECTIOUS DISEASES

The following statistical table relates to the notifiable infectious diseases and the deaths from the diseases among the home population during 1971.

Diseases	Notifications		Deaths	
	Urban	Rural	Urban	Rural
Measles (excluding Rubella)	1,885	1,072	–	–
Dysentery	36	13	–	1
Scarlet Fever	196	35	–	–
Diphtheria	–	–	–	–
Acute Meningitis	9	4	1	1
Ac. Poliomyelitis – Paralytic	–	–	–	–
– Non-Paralytic ..	–	–	–	–
Cholera	1	–	–	–
Smallpox	–	–	–	–
Ophthalmia Neonatorum	10	–	–	–
Anthrax	–	–	–	–
Yellow Fever	–	–	–	–
Ac. Encephalitis – Infective	–	–	–	–
– Post-Infectious ..	–	–	–	–
Lepto-spirosis	–	–	–	–
Paratyphoid Fever	2	–	–	–
Typhoid Fever	–	–	–	–
Food Poisoning	55	13	–	–
Whooping Cough	149	67	–	–
Tetanus	–	–	–	–
Infective Jaundice	93	24	–	–
Tuberculosis – Respiratory	48	27	8	6
– Meninges and C.N.S...	–	–	–	–
– Other	8	7	3	1
– Cases of T.B. not notified before death ..	2	1	–	–

VENEREAL DISEASES

During the year there were 1,851 new cases in Staffordshire compared with 1,401 in 1970.

Treatment Centre	Syphilis	Gonorrhoea	Other Venereal Conditions	Total New Cases
Birmingham General Hospital	–	64	205	269
Burton-on-Trent General Hospital	–	13	14	27
Dudley Guest Hospital	–	4	4	8
Stafford (Staffordshire General Infirmary) ..	5	57	238	300
Stoke-on-Trent (Wellesley Street)	8	113	413	534
Walsall (Manor Hospital)	7	43	324	374
Wolverhampton Royal Hospital	3	85	251	339
Totals	23	379	1,449	1,851

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
1971	23	–	379	402	1,449

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.

Nursing staff, in particular health visitors, have continued to act as contact tracers for the clinics when requests have been made.

It is anticipated that liaison health visitors will be attached to the special clinics in the near future in order to expedite referrals.

REPORT OF THE COUNTY HEALTH INSPECTION SECTION

INTRODUCTION

Again as in previous years this Section continues to carry out its environmental public health duties, working much more in the background than in the limelight of publicity.

Work undertaken has varied from investigating foreign bodies in bottles of milk to examining sewerage schemes costing in some instances in the region of £270,000; from lecturing on food hygiene matters to inspecting school kitchens; from checking the quality of school swimming baths water on site to testing for fume emissions from County Council heating systems, and, from attending Technical Inquiries into schemes of sewerage and sewage disposal called for by the Department of the Environment to investigating problems of wastes from intensive poultry farming. Indeed the variety of work carried out would take up far more space than could reasonably be expected in any report, suffice to say that there is little in the public health/environmental health field that is not, in some measure, touched upon by the Section.

Details of the more routine work carried out by the Section during the year with regard to schemes submitted by District Councils for grants under the Rural Water Supplies and Sewerage Acts 1944—1954 and/or the Local Government Act 1958 are set out below and these are followed by details of milk samples taken for various purposes and from various sources.

The part played by the Department in the matter of school and other County institutes swimming pools is also touched upon. The increasing number of pools every year is indicative of the interest in this aspect of school life by the Education Department.

SCHEMES OF WATER SUPPLY, SEWERAGE AND SEWAGE DISPOSAL

For the financial year 1971-72 a sum of £353,913 made up of £270,515, under the Local Government Act, 1958, and £83,398 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 6 water supply schemes estimated to cost £31,138 and 14 sewerage and sewage disposal schemes estimated to cost £1,152,114 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 1971 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

Leek Rural District

Grindon and Deep Dale

This scheme, estimated cost £4,305, was to supply four farms with a mains water supply. Deep Dale is a remote sparsely populated area of the Leek Rural District and any main water supply to such an area will inevitably be expensive.

The four farmers concerned have guaranteed to connect to the mains when they are available.

Thorncliffe

This scheme, estimated to cost £12,460, was to provide a mains water scheme for eleven farms and domestic properties in the Thorncliffe area. The area is sparsely populated and hence the cost per property is bound to be high.

Present supplies are from shallow wells which are known to be inadequate during drought periods and the Leek Health Department have stated that the supplies are unwholesome.

It is understood the owners of all the properties concerned have undertaken to connect to the proposed main, and, subject to that being done, the scheme was recommended for approval.

Lichfield Rural District

Lower Stonnall

This scheme, estimated to cost £6,232, was to supply three farm houses and three cottages in the Lower Stonnall area with a mains water supply by an extension from an existing main.

Samples from the existing wells were reported as being heavily contaminated and one cottage was without a water supply of any description.

Contributions of £1,000 have been offered towards the cost of the scheme by owners of the properties and the scheme was recommended for approval.

Park Lane, Huddlesford

This scheme, estimated to cost £4,100, was to provide a mains water supply to five cottages in a remote part of the District. Existing supplies are from shallow wells and are known to be contaminated.

Three of the owners concerned had offered to make contributions totalling some £375 towards the capital cost.

The Department consider that two properties could well be better served if the end of the main be extended from its present proposed point

of termination to a point opposite Dog Kennels Lodge. The two properties in question belong to the City of Birmingham who had offered £75 per property as a contribution towards the capital cost of the scheme.

The scheme was recommended for approval and the suggestion of the Department adopted.

NEWCASTLE RURAL DISTRICT

Water Main Extensions at Bar Hill, (Madeley), and the Lymes, Seabridge

These two schemes, which are estimated to cost £556 and £3,485 respectively, are to provide a mains water supply to premises at present served with inadequate and polluted shallow well or spring supplies.

The schemes were recommended for approval.

SCHEMES OF SEWERAGE AND SEWAGE DISPOSAL

LEEK URBAN DISTRICT

Sewage Disposal Works Extension—Stage II

This scheme, estimated to cost £275,200, provides for the completion of Stage I of the works extensions to treat a flow of three million gallons per day from a population of 24,000. The items covered by Stage II are those which were deleted from Stage I, which itself was a modified scheme following a Ministry of Housing and Local Government enquiry into the original scheme on 7th December 1965. At that time the Minister stated that in view of the current financial restrictions approval of the proposed full scheme would not be justified. Work is still proceeding on Stage I estension.

The scheme was recommended for approval.

STONE URBAN DISTRICT

Newcastle Road Area—Sewerage Scheme Phase I

This scheme, estimated to cost £49,300, was to provide for the re-sewering of parts of the Newcastle Road area.

The existing 8″ and 9″ sewers have insufficient capacity, are laid to flat gradients and are partially blocked with deposits. There is also a considerable volume of infiltration water entering through open joints.

This phase forms part of a much larger scheme which has been put forward by the R.D.C.'s Consulting Engineers covering the greater part of the Urban District.

The scheme was recommended for approval.

Lichfield Road Area—Sewerage Scheme Phase II

This scheme, estimated to cost £76,000, provided for the replacement of certain sewers in the Lichfield Road area of the Urban District, and, again forms part of the larger scheme mentioned above.

The existing sewers along the Uttoxeter and Lichfield Roads are of insufficient capacity for present requirements, together with sewers along Lichfield Road and downstream to Westbridge Park Pumping Station. Provision has been made in the scheme for future development in the Tenfields area north of the railway line.

The scheme was recommended for approval.

Eccleshall Road Area—Sewerage Scheme

This scheme, estimated cost £88,000, was to provide for a number of different size sewers in the Eccleshall Road area, together with manholes and a storm overflow chamber in replacement of existing inadequate sewers. It forms Phase III of the overall re-sewerage scheme for the Stone Urban District, previously mentioned, and is necessitated by the inadequate capcity of existing sewers—even for the present requirements. The new sewers will of course provide for future development as well as for existing populations.

The scheme was recommended for approval.

TAMWORTH BOROUGH

Area No. 7 (Glascote)—Provision of Trunk Sewers

This scheme, estimated to cost £91,559, was to provide foul and surface water sewers for an estate of some 75 acres. The scheme was already at an advanced stage of construction and some houses had already been handed over.

It was understood the whole of the area served by the sewers is for Council housing and it would appear that the cost of providing the sewers could well fall upon the Tamworth Borough Housing account rather than on the General Rate Fund. The scheme was recommended for approval.

CANNOCK RURAL DISTRICT

Middle Hill Sewerage Scheme

This scheme, estimated to cost £4,340, was to provide a sewer extension to some thirteen houses at present served by septic tanks. The R.D.C. claimed that there would be a saving of some £104 per annum on the cost of emptying the septic tanks if the scheme was carried out.

The scheme was recommended for approval.

Essington—Foul Water Sewers at Hobnock Road and Broad Lane/Bursnips Road

This scheme, the estimated capital cost of which was £24,000, consisted of two parts, the Hobnock Road foul sewer and the Broad Lane/Bursnips Road sewer, to provide main drainage facilities in the areas concerned. Existing premises were served by dumb wells or cess pits and the proposed new sewers will also provide drainage facilities for a pavilion, changing room and club house.

The scheme was recommended for approval, although the cost was extremely high—this in some measure may be due to the R.D.C.'s Engineers making generous allowances for contingencies which may not arise.

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.

The proposals included two pumping stations and some 2,966 yards of 6″ rising main to deliver the sewage to the head of the Rural District Councils Coven sewers for ultimate treatment at the Coven Works.

Since there was a possibility of a large new disposal works being built between Coven and Calf Heath the scheme was recommended for approval subject to consideration being given to the treatment of the sewage at the proposed new works. The proposed new works is to be built by Cannock Urban District.

CHEADLE RURAL DISTRICT

Proposed Sewer Extension—Roughcote, Caverswall

This scheme, estimated to cost £3,200, was to provide a small length of sewer connecting to the Blythe Valley Trunk Sewer and which would serve nine properties and one transport cafe.

Unsatisfactory septic tank drainage, pail closets and one bungalow with no existing means of foul drainage were the reasons put forward for the proposed sewer. The provision of a new sewer would also enable properties to be brought up to modern standards and the scheme was recommended for approval.

LICHFIELD RURAL DISTRICT

Alrewas Sewerage and Sewage Disposal Scheme

This scheme, estimated to cost £267,000, was to provide for extensions to the existing Alrewas sewage disposal works to enable them to cater for the increased population in Alrewas. Also included in the scheme is a proposal to sewer the village of Fradley and to deal with the sewage at the enlarged Alrewas works. Fradley has no proper sewerage scheme at the present time, pollution of ditches is occurrring and the scheme was recommended for approval.

SEISDON RURAL DISTRICT

Provision of Foul Sewer—The Straits, Lower Gornal

The above scheme, estimated to cost £1,200, was to provide a length of sewer to permit of six properties being connected to the main sewer. This will enable a tank which had been used previously and was emptied by the Rural District to be abolished. Nuisance was caused in an adjoining ditch by overflowing from the tank and the scheme was recommended for approval.

TUTBURY RURAL DISTRICT

Yoxall Sewage Works Extension

This scheme was originally put forward by the Rural District in 1967 but after considerable discussion the County Council suggested an alternative scheme providing for a joint sewage disposal works for Yoxall and Kings Bromley at the Yoxall Sewage Disposal Works site. This suggestion was not accepted by the Rural District Council and since then alternative arrangements have been made for treating the sewage from Kings Bromley at the Lichfield City Curborough works.

This present scheme, therefore, is the same as that put forward in 1967 and the estimated capital cost is £111,600. The scheme includes a series of sludge drying beds the need for which may not now arise since there is a proposal to provide sludge pressing equipment at the Barton-under-Needwood works which would cover the requirements of Yoxall.

The scheme was recommended for approval, subject to adjustment being made in the event of the sludge drying beds not being provided.

UTTOXETER RURAL DISTRICT

Parish of Leigh

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 of 6″ gravity sewers, pumping stations and rising mains to deliver the sewage for treatment at the Joint sewage disposal works at Deadmans Green.

Pollution of ditches was fairly widespread and the high level of sub-soil water and liability of flooding made septic tank installations unsatisfactory.

Certain technical improvements suggested by the Department were agreed with the Rural District Councils Surveyor and the scheme was recommended for approval.

MINISTRY OF ENVIRONMENT INQUIRIES

During the year the following Inquiries were held:

13/14.1.71.	Cannock Rural and Cannock Urban District	—	Four Ashes Sewerage and Sewage Disposal Scheme
16.2.71	Uttoxeter Rural District	—	Denstone and Rocester Scheme.

The County Health Department was represented by the County Health Inspector, who accompanied the Ministry Inspector on his subsequent visits to the areas concerned.

The Section is also concerned with the periodic inspection of local authority sewage disposal works after completion and final effluent samples are taken from time to time as a further assurance of good maintenance standards and the continued payment of County Council grant aid.

In addition to local authority sewage disposal schemes the Section is also involved with the provision and supervision of school and other institutional small scale installations. These plants are also periodically inspected and sampled in liaison with the County Architect's Department in an attempt to ensure that proper standards are maintained.

SCHOOL WATER SUPPLIES

The Section is also concerned with the purity of water supplies to schools, etc., in rural areas where no public mains supply is available. The number of such schools has tended to decrease over the years as a result of 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 1971 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 21 in 1971, 4 chemical samples were also taken.

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 at the beginning of 1971 there were 37 pools, but this number was reduced by 7 with effect from 1st April 1971 when these were taken over by the Aldridge/Brownhills Authority in their capacity as an Excepted District for educational purposes. A total of 115 inspections were conducted during the year. All the pools were inspected at least once a 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 County owned school pools are now heated and provided with automatic chlorination equipment. At the end of 1971 there were 14 enclosed pools, 12 open-air pools and in addition use was made of 3 private pools by special arrangement.

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.

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 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. 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 statutues, 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 ..	678
Dealers' (Untreated Milk) Licences	32

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 for tubercle bacilli are still conducted on samples of untreated milk although it is some years since any positive evidence of infection was reported. Regular biological examinations of untreated milk for the presence of Brucella infection, now a more significant and widely publicised disease of the two, continued throughout the year.

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' continues 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 ..	213	(10 unsatisfactory — 9 deficient in fat 1 contained added water)
Untreated .. (Channel Island)	42	(4 unsatisfactory — deficient in fat)
Pasteurised ..	394	(6 unsatisfactory — contained added water)
Pasteurised .. (Channel Island)	38	
Sterilised	25	
Ultra Heat Treated	14	
Total	726	(20 unsatisfactory)

These twenty unsatisfactory informal samples were followed-up by the County Chief Inspector of Weights and Measures, who reported as follows:—

Designation	*Results of Repeat Samples and action taken*
Untreated Milk (10)	7 Genuine 3 Deficient in Fat—Proved by 'Appeal to Cow' samples to be naturally poor.

Untreated Channel Island Milk (4) ..	1 Deficient in Fat—Proved by 'Appeal to Cow' sample Genuine, written caution issued by County Chief Inspector.
	2 Genuine
	1 Deficient in Fat—Repeat sample Genuine.
Pasteurised (6)	3 Genuine.
	1 Contained added water — Written caution by Chief Inspector.
	2 Contained added water—legal proceedings instituted—Fined £20 on first summons and £20 on second summons, together with £8 Costs.

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	102
Untreated Channel Island ..	18
Pasteurised	186
Pasteurised Channel Island ..	30
Sterilised	24
Total	360 (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 1971 there were 258 samples examined, none of which was reported as 'positive'.

Milk in Schools Scheme

All school milk supplies are subject to the approval of the County Medical Officer of Health and during the year under review all such supplies were of heat treated milk. In the Autumn of 1971, as a result of Government economic policy, the supply of milk under the above scheme for Junior school children over the age of 7 years was discontinued. This led to some difficulties being experienced in continuing to provide supplies to schools in the more remote areas but happily these were all resolved. The more remote schools in the North of the County continued to be supplied on a fortnightly basis with 'long life' Ultra Heat Treated milk and no problems were encountered.

Details of school milk samples appear in Table III.

School Milk Complaints

During the year there were no incidents reported involving the discovery of glass inside bottles of school milk.

There were 6 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 5 miscellaneous complaints involving school milk, which ranged from 'off' flavours and smells to leaking cartons.

No legal proceedings were instituted during the year concerning school milks.

The broken bottle problem encountered first in the Autumn of 1970 and referred to in the previous Annual Report, continued to recur during 1971. The trouble was confined mainly to 2 schools and it is hoped at the time of writing that this matter may well now be minimised if not actually eliminated altogether. The problem of broken glass associated with the conventional milk bottle will persist so long as they continue in use.

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	2,458
Schools	499
School Canteens	24
Hospitals, Homes, etc.	289
"Food and Drugs" (Milk)	726
"Hypochlorites"	360
"Antibiotics"	258
Ring Test only	55*
Bottle Rinsings	372
Total	5,041

*This figure of 55 is included in the total of 1,108 in Table II.

TABLE I

Summary of Street or Retail Milk Samples Collected (i.e. excluding Samples from Schools, Institutions, etc.)

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	% 1971	% 1970	Samples Examined	Result	Samples Examined	Result	Samples Examined	Result
Untreated ..	1,009	25	984	Passed 923 Failed 61	93.8	93.1	—	—	—	—	—	—
Pasteurised .. *(Includes 104 for Phosphatase Test only).	1,402*	18	1,280	Passed 1,241 Failed 39	96.9	92.9	1,402 % Satis.	Passed 1,400 Failed 2 1971 99.8 1970 98.9	—	—	—	—
Sterilised ..	28	—	—	— —	—	—	—	— —	28	Passed	—	—
Ultra Heat Treated	19	—	—	— —	—	—	—	— —	—	—	19	Passed
Totals ..	2,458	43	2,264	Passed 2,164 Failed 100	95.5	93.0						

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 Milk/Retail	1,058	30*	4	7
Schools	Nil.	Nil	Nil	Nil
School Canteens	14	Nil	Nil	Nil
Private Schools, Colleges, and S.C.C. Premises	35	Nil	Nil	Nil
TOTALS	1,107	30	4	7

*Of the 30 Retail Milks reported Ring Test POSITIVE, 2 were from the herd of a Producer outside the County.

TUBERCLE BACILLI 39 samples were examined—all were Negative.

TABLE III

Summary of School Milk Samples

1st January — 31st December, 1971

Type of Milk	Total Samples Taken	Methylene Blue Test (For Cleanliness)					Phosphatase Test (For correct Pasteurisation)		Colony Count Test (U.H.T. Milk)	
		Samples Void	Samples Examined	Result	% 1971	% 1970	Samples Examined	Result	Samples Examined	Result
Untreated	—	—	—	—	—	—	—	—	—	—
Pasteurised	489*	5	436	Passed 424 Failed 12	97.2	96.4	489	Passed 489	—	—
*(Includes 48 for Phosphatase Test only).							% Satis.	1971 100 1970 100		
Ultra Heat Treated ..	10	—	—	—	—	—	—	—	10	Passed
TOTALS	499	5	436	Passed 424 Failed 12	97.2	96.4				

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 IV

Summary of Milk Samples from School Canteens, Hospitals, Homes, S.C.C. Premises, Private Schools, Play Groups, etc.

1st January — 31st December, 1971

Type of Milk	Total Samples Taken	Methylene Blue Test (for Cleanliness)					Phosphatase Test (for correct Pasteurisation)	
		Samples Void	Samples Examined	Result	% 1971	% 1970	Samples Examined	Result
Untreated	44	1	43	Passed 42 Failed 1	97.9	94.9	—	—
Pasteurised	269*	1	250	Passed 245 Failed 5	98.0	96.7	269	Passed 269 Failed Ni
*(Includes 18 samples for Phosphatase Test only)							% Satis.	1971 100 1970 100
TOTALS	313	2	293	Passed 287 Failed 6	97.9	96.7		

Unsatisfactory samples of Pasteurised Milk processed at daries licensed by the County Council are investigated by the County Health Inspectors for both Methylene Blue and Phosphatase 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.

STAFFORDSHIRE COUNTY COUNCIL

HEALTH COMMITTEE

Annual Report of the County Analyst for the year 1971

INTRODUCTION

The total number of samples, from all sources, was 7,081, of which 4,844 or 68.4% were from County Council sources, 1,479 or 20.9% were from the four other Autonomous Authorities, for which I hold appointments as Public Analyst, and 758, or 10.7% were from other sources, including 18 other Borough or District Councils within the borders of the Administrative County of Staffordshire.

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

As was anticipated in the 1970 Annual Report, there was little entirely new legislation relevant to the work of the County Laboratory during 1971, but as the count-down for the entry of the United Kingdom into the European Economic Community proceeds it is becoming evident that this has been but a brief respite.

It is not, however, so much a case of further legislation resulting from E.E.C. entry, but rather that their legislation tends to be in a different form.

An example is the legislation concerning Fertilisers and Feeding Stuffs, where matters which have been covered in the U.K. by general provisions will, after entry, be dealt with by specific requirements. Thus the present Fertiliser and Feeding Stuffs Act simply requires the absence of any deleterious material, described in general terms, from a feeding stuff, but E.E.C. legislation will lay down actual limits for a list of specific substances that are considered to be deleterious. This will require extensive analytical control by both manufacturers and enforcement authorities.

A somewhat curious situation is developing in the case of fertilisers It would appear that fertilisers based upon, or incorporating, organic materials do not feature in E.E.C. commerce although they are widely sold in the U.K. As a consequence, U.K. manufacturers may have to produce two classes of fertilisers. "E.E.C." and "Non-E.E.C." if they are to benefit from the wider opportunities for trade.

This would not, in itself, pose any great problems, but the complication lies in that two separate pieces of legislation for fertilisers will be necessary for enforcement of the consumer protection provisions. A further complication is that the laboratories concerned with such enforcement in E.E.C. countries appear to be less advanced in analytical chemistry and to be less well equipped than Laboratories in the U.K. As a consequence *different* methods of analysis will be prescribed for the *same* constituent present in the two types of fertilisers. Many U.K. methods utilise modern instrumental methods of analysis, but E.E.C. methods rely mainly on the older 'classical' procedures, which though equally accurate, are very expensive in time.

On the subject of food legislation in this country there is still, in spite of all the existing legislation, some commodities where the consumer cannot be offered adequate protection. Action promised by the Ministry of Agriculture, Fisheries and Food on Hamburgers, etc., and Fish Fingers has still not materialised and the labelling of 'slimming foods' leaves much to be desired. These delays may be caused by the present urgent need to harmonise U.K. and E.E.C. legislation.

The present unsatisfactory position of pre-packed Shandy, where a very few manufacturers have persisted in selling "Shandy" that contains very little or even no beer because no enforcement authority is prepared to risk the cost of a further prosecution following a single unsuccessful prosecution, which was based upon incomplete evidence, will be resolved when The Labelling of Food Regulations 1970 come into effect in 1973.

The prophesies that the distribution of milk would be revolutionised by The Food and Drugs (Milk) Act, 1970, have proved to be untrue, at least in Staffordshire, and the problem of the mis-use of returnable milk bottles is still with us.

New Legislation

Statutory Instruments, including two that were made at an earlier date, which came into effect during 1971, on the dates given, were:—

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

The Preservatives in Food (Amendment) Regulations, 1971 (1st September, 1971)

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

The Therapeutic Substances (Contract of Sale and Supply) Regulations, 1971 (1st March, 1971)

The Therapeutic Substances (Supply of Antibiotics and Chemotherapeutic Substances for Agricultural Purposes) Regulations, 1971 (1st March and 1st September, 1971)

The Therapeutic Substances (Supply of Zinc Bacitracin for Agricultural Purposes) Regulations, 1971 (1st September, 1971)

The Therapeutic Substances (Supply of Antibiotics and Chemotherapeutic substances for Agricultural Purposes (Amendment) Regulations, 1971 (1st September, 1971)

There are still some items of major importance, notably The Labelling of Food Regulations, 1970, which are still not in force. The only further legislation that was issued in 1971, to come into operation at a later date, was:—

The Farm and Garden Chemicals Regulations, 1971 (1st May, 1973)

The Colouring Matter in Food (Amendment) Regulations, 1970

By this amendment the coal-tar colour Ponceau MX was removed from the permitted list.

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

The Food Hygiene (General) Regulations, 1970

Regulation 8, which places restrictions on the employment of 'out-workers' is of importance in ensuring better supervision of food manufacture.

Regulation 17 requires that food premises be supplied with a 'clean and wholesome' water, which should enable a local authority to prevent the use of an unsatisfactory private supply in food manufacturing premises.

The Preservatives in Food (Amendment) Regulations, 1971

By these amended Regulations, bacon, ham and pickled meat may contain not more than 500 ppm of sodium nitrate and not more than 200 ppm of sodium nitrite. Prior to this amendment there were no limits for either nitrates or nitrites in bacon and ham and no limit for nitrate in pickled meat.

The Regulations, before amendment, limited the amount of sodium nitrite in cooked pickled meat to 200 ppm and in uncooked pickled meat to 500 ppm. The limit of 200 ppm now applies to all pickled meats.

Regulations under The Therapeutic Substances Act, 1956

These new Regulations are concerned with the control of certain substances used for agricultural purposes.

Substances brought within the scope of Part II of the Act, include Flavomycin, Tylosin, Furaltadone, Furazolidone, Nitrofurantoin, Nitrofurazone and Sulphanilamide.

The sale or supply only on prescription now applies to Oxytetracycline, Aureomycin and Penicillin. The same restrictions also apply to pig foods or poultry foods to which these have been added.

The sale or supply, without prescription or without authority, is legalised for animal feeding stuffs and supplements, subject to certain restrictions, containing Virginiamycin, flavormycin, sulphaquinoxaline and sulphanitran. The sale or supply of a wound dressing containing not more than 5% of Sulphanilamide is similarly permitted.

Feeds containing Chlortetracycline, Erythromycin, Neomycin, Nystatin, Oxytetracycline, Penicillin, Framcycetin, Furazolidone, Nitrofurazone, Sulphanilamide and Tylosin may only be supplied against a written direction of a registered veterinary surgeon or practitioner.

The 1970 Regulations concerning the supply of Zinc Bacitracin for Agricultural Purposes have been replaced by the 1971 Regulations. These permit the sale of supply, without prescription, of feeds for young calves, young lambs, pigs or poultry containing not more than 5,250,000 i.u.'s of Zinc Bacitracin per ton of feed. Supplements must not contain more than 2,100,000 i.u.'s per pound.

The former limit of 75 ppm of Sulphaquinoxaline has been raised to 156 ppm.

The Farm and Garden Chemicals Regulations 1971.

These Regulations, which do not come into effect until 1st May, 1973, were made under the Farm and Garden Chemicals Act, 1967.

Certain products must comply with labelling requirements if they contain any of the 300 substances listed in the Schedule.

They apply to weed killers, pesticides, and growth controllers, but not to fertilisers.

PROPOSED LEGISLATION.

The Bread and Flour Regulations, 1963.

Proposed amendments would permit the use in flour of two new improving agents, Azodicarbonamide and L-Cysteine Hydrochloride. It is proposed also that Ferrous Sulphate should be an alternative form of the iron, that is required to be added to other than wholemeal flours, and that reduced iron should be replaced by a form of iron powder.

The specifications of certain additives are to be related to the 1968 B.P. and the 1954 B.P.C. This has been criticised on the grounds that copies of these publications will eventually cease to be available and that the advantages of new specifications resulting from technological advances, would be denied.

Milk Bottle Caps.

The Ministry of Agriculture, Fisheries and Food announced proposals for a statutory colour code for the caps of milk bottles.

The proposals are:—

Pasteurised Channel Island Milk	Gold
Pasteurised Jersey Island Milk	Gold
Pasteurised Guernsey Island Milk	Gold
Pasteurised South Devon Milk	Gold
Pasteurised Homogenised Milk	Red
Pasteurised Milk	Silver
Untreated Milk	Green

There are obviously permutations and combinations that are not included in this list. Possibly these are to be catered for by striped caps. The caps for Untreated – Homogenised – Channel Island Milk, should have a useful second-hand value as Christmas decorations!

REPORTS AND NOTICES.

Antioxidants in Food.

A Report by the Food Additives and Contaminants Committee of the Ministry of Agriculture, Fisheries and Food expressed the view, that on the basis of present evidence, there were no grounds for changing the limits for Butylated hydroxy toluene (B.H.T.) in food, or for altering the provisions of the existing Regulations concerning the foods in which B.H.T. may be used, or its specification.

Date Marking of Food.

The sale of food that has passed its best through prolonged storage received publicity through Press and Television during 1971.

An interim report by the Food and Standards Committee of the Ministry, issued early in 1971, did little more than review the current practice in date marking and to comment upon the protection offered by existing legislation.

It was clear, however, that the matter was not to be left at that and a comprehensive Report, incorporating certain recommendations, was published as the preparation of this Annual Report was concluded.

Many samples of food are received which have deteriorated because of excessively long storage and the general proposal for date marking is welcomed. It is not the perfect answer, but the evidence does show that the chances of food being stale are vastly less when it is sold within a reasonable time of preparation.

The enforcement of any Regulations that may follow might, however, be difficult in certain circumstances and there may well be problems of administration and man-power.

Liquid Freezants in Food.

The use of liquid freezants for food is a recent development in Food Technology and while their use is subject to the general provisions of The Food and Drugs Act, 1955, the Ministry of Agriculture, Fisheries and Food announced that it would carry out a review of this practice.

Novel Proteins in Food.

Protein material prepared from vegetable products, some cleverly contrived to have a texture similar to that of meat, have become available to food manufacturers.

It cannot be denied that such proteins could make a useful contribution to food supplies, in particular in Countries where there is a protein shortage, but there is some commercial pressure to use these products in place of meat in foods where the purchaser would expect meat.

Some trade advertising has been seen which has come very near to inviting food manufacturers to contravene Regulations which lay down minimum meat contents for certain foods.

The Ministry announced in 1971 that The Food Standards Committee would review the use of these novel proteins and to consider whether their use should be controlled by Regulations.

Metallic Contamination of Food.

Following the report in late 1970 of the finding of Mercury in American Canned Tuna, the Ministry of Agriculture, Fisheries and Food set up an enquiry into Mercury levels in foods consumed in the United Kingdom. The findings confirmed the results obtained by Public Analysts, that Mercury levels in the U.K. were very low and in most cases it was barely detectable. Only in the case of fish from certain coastal areas did the amount of Mercury approach the suggested limit of 0.5 mg/Kg.

Public Analysts have, from the earliest days, been concerned with the monitoring of foods for metals and it is clear that the scope of this work must be expanded to include even unlikely metals in unlikely places.

Environmental Pollution.

The First Report of the Royal Commission on Environmental Pollution made the point that although a great deal had been achieved, there are no grounds for complacency.

There is still much pollution of air, land and water, much, if not all, of which could be avoided given the will to succeed.

Ways and means may have to be found to deal with contaminants and nobody has an uncontrolled right to contaminate the environment.

The first Report is concerned with the long term effects of increased carbon dioxide, dust and chemicals in the atmosphere and postulates the possible changes that could result in the climate and environment.

The County Laboratory has, for many years, participated in the National Survey into Atmospheric Pollution, the results for 1971 being summarised in Section VII of this Report. The work on Sewage Effluents is also of direct relevance. In addition, however, the County Laboratory performs a valuable and much appreciated service in advising Local Authorities in Staffordshire on local pollution problems. During the recent cyanide dumping scare several emergency calls were received and on the spot investigations carried out.

Water Supplies.

The First Annual Report of the Steering Committee on Water Quality deals mainly with the general aspects of the quality of supplies, but makes important observations on water quality monitoring.

It is suggested that consideration should be given to the suitability of present water parameters and the question of acceptable limits of the various quality critera in water for different purposes.

Suggestions are made, also, that there should be some co-ordination between bodies such as river authorities, water users and dischargers in relation to sampling and analysis.

Another aspect of sampling and analysis that is discussed is the relationship between reliability and representativeness of samples of waters and frequency of sampling.

There is no doubt that many Authorities do not appreciate the necessity for frequent examinations to be made so that comprehensive records of composition can be maintained. Such records can be examined by statistical procedures that will reveal subtle changes in the supply that might not be revealed by infrequent or haphazard sampling.

International Standard for Drinking Waters.

The publication, in 1971, of the third edition of "International Standards for Drinking Water" by the World Health Organisation, was an important event.

These Standards, do not, of course, have Statutory force in the U.K. but are generally accepted in the assessment of water supplies. Natural Waters are very dilute solutions of many substances, most of which are harmless, but contamination may introduce undesirable or toxic substances.

The analysis of water requires methods and highly skilled analysts who can apply the methods. For example the highest desirable level of Phenolic substances in water is only 0.001 mg/litre, which in laymans language is 1 oz in 6 million gallons of water.

It is considered that this is not a field in which the work of school children, or even students, should be accepted without question and yet the popular media has given wide publicity to such work on the quality of public water supplies. This has given rise to much unnecessary public disquiet and has even been used in apparent attempts to discredit Local Authorities and water undertakings.

Laboratory Organisation and Equipment.

The planned conversion of the old water laboratory to an instrument room was taken a stage further during 1971 and became operational, although not yet completed.

The gathering of specialised equipment into one place has, as expected, proven to be of great benefit.

Equipment purchased during 1971 included an ultra-violet spectrophotometer with recording facility. This has doubled the capacity for measurements of this type and has enabled the older instrument to be transferred to the water laboratory.

Planned developments include the use of automation – now essential to meet the increased work load within the confines of the existing accommodation.

Staffing.

A Public Analyst must have staff that are highly trained, qualified and experienced, yet a graduate may require up to five years to become even reasonably proficient and possibly a further five years to achieve the standard required for the Statutory Qualification. A further ten years, which must include administrative experience, may be necessary before an appointment as Public Analyst can be obtained.

The Public Analyst of the future can come only from the staff of existing Public Analysts and stability of staffing is therefore of paramount importance.

The full effect of the changes in the grading structure of the staff of the County Laboratory below that of Chief Assistant Analyst have now given this much desired stability.

At the time of preparation of this Annual Report the full plans for the Re-organisation of Local Government are not known, but Re-organisation should provide both opportunity and challenge and which must be used for the betterment of the service to the public.

I wish to record my thanks to all members of the Staff of the County Laboratory for their loyal support and, in particular, to the Deputy County Analyst Mr. H. M. Bee, B.Sc., M.Chem.A., F.R.I.C.

RONALD S. HATFULL,

County Analyst.

County Laboratory,
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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
	Composition	Antibiotics	Hypochlorites			
County Council						
W. & M. Dept. Inspectors ..	1,661	–	–	1,483	25	3,169
Health Dept. Inspectors ..	718	256	358	–	4	1,336
Private Purchasers	–	–	–	–	3	3
Local Authorities	–	–	–	–	104	104
	2,379	256	358	1,483	136	4,612
Stoke-on-Trent						
Inspectors	90	–	–	768	22	880
Private Purchasers	–	–	–	–	–	–
	90	–	–	768	22	880
Newcastle B.C.						
Inspectors	50	–	–	76	10	136
Private Purchasers	–	–	–	–	–	–
	50	–	–	76	10	136
Stafford B.C.						
Inspectors	81	–	–	78	17	176
Private Purchasers	–	–	–	–	12	12
	81	–	–	78	29	188
Cannock U.D.C.						
Inspectors	7	–	–	38	4	49
Private Purchasers	–	–	–	–	–	–
	7	–	–	38	4	49
	2,607	256	358	2,443	201	5,865

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	46	57	103
Stoke-on-Trent	8	7	15
Private Purchasers	1	5	6
	58	69	124

CONSUMER PROTECTION ACT, 1961

The Toys (Safety) Regulations, 1967

County Council	2
Newcastle Borough	6
	8

THE PHARMACY AND POISONS ACT, 1933

County Council	1

THE TRADE DESCRIPTIONS ACT, 1968

County Council	3
Borough of Stafford	1
	4

OTHER SAMPLES

Atmospheric Pollution

	Lead Peroxide Cylinders	Rainguages	Total
Aldridge-Brownhills U.D.C. ..	20	23	43
Cannock U.D.C.	–	35	35
Cheadle R.D.C.	–	22	22
Newcastle B.C.	–	11	11
Newcastle R.D.C.	11	11	22
Rugeley U.D.C.	11	11	22
Stone R.D.C.	43	97	140
	85	210	295

Waters and Effluents

	Drinking Water	Sewage		Swimming Baths	Others	Total
		Routine Domestic	Trade Wastes			
County Council ..	9	153	–	42	11	215
Stoke-on-Trent ..	17	–	–	48	2	67
Newcastle B.C. ..	1	–	–	69	–	70
Stafford B.C. ..	17	–	–	–	–	17
Cannock U.D.C. ..	–	–	1	–	2	3
Other Authorities ..	51	14	6	38	29	138
Private	2	1	1	–	18	22
	97	168	8	197	62	532

The Road Safety Act, 1967

Private	73

Miscellaneous

	Special Investigations	Toxicology	Totals
County Council	15	–	15
Stoke-on-Trent	1	–	1
Newcastle Borough	2	–	2
Stafford Borough	7	–	7
Cannock U.D.C.	3	–	3
Other Authorities	119	–	119
Private	29	3	32
	176	3	179

Total, all samples, 7,081.

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
Dairy Products:										
Milk Ordinary	2,234	48	69	–	40	–	64	–	5	–
Milk Skimmed	–	–	–	–	–	–	–	–	–	–
Milk Channel Island	145	9	21	–	10	–	17	1	2	–
Milk Antibiotics	256	1	–	–	–	–	–	–	–	–
Milk Hypochlorites	358	–	–	–	–	–	–	–	–	–
Milk Complaints	21	18	2	2	2	1	4	3	1	1
Milk Condensed	3	–	7	1	–	–	2	–	–	–
Milk Dried	10	1	–	–	–	–	1	1	–	–
Cream	26	1	28	1	4	–	4	1	–	–
Butter	50	–	5	–	1	–	3	1	1	–
Margarine	21	–	–	–	2	–	–	–	–	–
Cheese	85	12	1	–	3	–	9	1	2	–
Ice Cream	15	1	22	–	1	–	1	–	–	–
Milk Puddings	14	–	16	–	–	–	5	1	–	–
Fermented Milk	7	7	–	–	–	–	–	–	–	–
Cereal Products:										
Flour & Flour Mixes	32	2	2	–	5	–	1	–	–	–
Bread	38	16	1	1	1	1	2	2	–	–
Flour Confectionery	67	9	1	–	1	–	3	3	–	–
Pasta	7	–	–	–	–	–	–	–	–	–
Starch Products	6	–	–	–	–	–	1	–	–	–
Breakfast Cereals	6	–	1	1	1	1	–	–	–	–
Other Cereals	10	–	–	–	1	–	–	–	–	–
Other Products	1	–	–	–	–	–	–	–	–	–
Meat & Meat Products:										
Meat, Raw or Cooked	16	1	7	–	–	–	5	1	3	1
Meat, Cured or Corned	44	5	15	1	–	–	1	–	1	–
Sausages	139	14	296	23	8	1	4	2	1	–
Prepared Meat	157	8	75	5	5	1	11	–	10	1
Meat in Pastry	48	15	68	10	3	–	1	–	4	–
Spreads	8	–	–	–	2	–	–	–	–	–
Extracts	12	–	2	–	–	–	–	–	–	
Poultry & Poultry Products:										
Poultry, Raw or Cooked	1	–	–	–	–	–	–	–	–	–
Prepared Poultry	14	1	5	1	1	–	–	–	–	–
Poultry in Pastry	–	–	–	–	–	–	–	–	–	–
Spreads	2	–	1	–	–	–	–	–	–	–
Eggs & Egg Products	–	–	–	–	–	–	–	–	–	
Fish and Fish Products:										
Fish, Raw or Cooked	15	–	2	–	1	–	3	2	–	–
Prepared Fish	11	4	1	–	–	–	1	1	–	–
Cured Fish	–	–	–		–	–	–	–	–	–
Spreads	1	–	1	–	–	–	–	–	–	
Fruit & Fruit Products:										
Fresh	3	1	31	1	–	–	–	–	1	–
Dried	29	–	–	–	–	–	1	–	–	–
Preserves	38	3	61	–	2	–	8	–	–	–
Canned or Bottled	42	6	1	1	1	–	1	–	4	1
Other Products	42	4	23	1	3	–	7	–	1	1
Vegetables & Vegetable Products:										
Fresh	5	1	2	–	1	–	–	–	–	–
Dried	11	–	1	–	–	–	–	–	–	–
Canned or Bottled	29	6	–	–	2	–	–	–	1	–
Other Products	36	7	3	1	–	–	4	1	1	1
Nuts & Nut Products:										
Nuts	13	–	13	–	1	–	–	–	–	–
Nut Products	21	–	11	–	1	–	–	–	–	–
Sugar & Sugar Products:										
Sugars	13	–	–	–	1	–	3	1	–	–
Sugar Confectionery	37	4	–	–	–	–	1	1	–	–
Other Products	15	–	–	–	1	–	3	–	–	–
Substitutes	–	–	1	–	–	–	–	–	–	–
Oils & Fats:										
Animal	36	–	9	–	2	–	1	–	2	–
Vegetable	14	1	–	–	1	–	1	1	–	–
Baby & Infant Foods:										
Milk Basis	5	1	–	–	–	–	–	–	–	–
Cereal Basis	4	–	–	–	–	–	–	–	–	–
Fruit/Vegetable Basis	3	2	–	–	–	–	–	–	–	–
Meat Basis	1	1	–	–	–	–	–	–	–	–

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
Beverages:										
Tea	14	–	–	–	–	–	–	–	1	–
Coffee	16	1	3	–	2	2	–	–	–	–
Cocoa	12	2	–	–	–	–	1	–	–	–
Cereal	–	–	–	–	–	–	–	–	–	–
Fermentation Products:										
Beers	45	9	–	–	4	–	–	–	4	2
Wines	17	–	–	–	–	–	–	–	–	–
Spirits	–	–	1	–	2	1	–	–	–	–
Vinegar, Pickles, etc. ..	62	3	37	–	2	–	5	–	–	–
Other Products	1	–	–	–	–	–	1	1	–	–
Soft Drinks:										
Mineral Waters	36	5	–	–	6	–	4	–	4	2
Squashes, Cordials	37	1	7	1	2	–	2	–	–	–
Others	7	–	–	–	–	–	–	–	–	–
Spices, Flavourings, etc.										
Herbs & Spices	18	2	9	2	1	–	–	–	–	–
Flavours & Essences.. ..	1	–	–	–	–	–	–	–	–	–
Colours	1	–	–	–	–	–	–	–	–	–
Mineral Adjuncts	6	–	3	–	–	–	–	–	–	–
Remedial Foods:										
Slimming Foods	12	6	–	–	–	–	1	–	–	–
Vitamin Foods	3	–	–	–	–	–	–	–	–	–
Special Diets	–	–	–	–	1	–	–	–	–	–
Diabetic Foods	–	–	–	–	–	–	–	–	–	–
Drugs:										
Analgesics & Antipyretics ..	4	–	–	–	2	–	–	–	–	–
Antiseptics & Disinfectants	2	–	–	–	1	–	–	–	–	–
Digestive Aids	2	–	4	–	–	–	–	–	–	–
Emollients & Drugs of Local Action	8	–	–	–	–	–	–	–	–	–
Laxatives & Purgatives ..	10	–	–	–	–	–	–	–	–	–
Stimulants & Tonics ..	2		–	–	–	–	–	–	–	–
Respiratory System	9	–	11	1	4	1	–	–		–
Vitamins & Mineral Preparations	10	–	–	–	1	–	1	1	–	–
	4,612	239	880	54	136	9	188	25	49	10

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	57 (2.4%)	1 (0.4%)	0	65 (4.4%)	116 (85%)	239 (5.2%)
Stoke-on-Trent	0	0	0	40 (5.2%)	14 (64%)	54 (6.1%)
Newcastle B.C.	0	0	0	4 (5.3%)	5 (50%)	9 (6.6%)
Stafford B.C.	1 (1.2%)	0	0	3 (3.8%)	21 (72%)	25 (13%)
Cannock U.D.C.	0	0	0	6 (16%)	4 (100%)	10 (20%)

Unsatisfactory Milk Samples.

Details of the 58 official samples of Liquid Milk reported as of unsatisfactory composition are as follows:—

Source	Mark	Type	Observations	Mark	Type	Observations
County Council— W. & M. Dept.						
	H.3137	U	15.0% def. in fat	H.3643	U	13.3% def. in fat
	28 C/E	U	5.0% def. in fat	H.3661	U	3.3% def. in fat
	H.3266	U	3.0% added water	†34 B/H	U	10.0% def. in fat
	34 C/E	U	6.3% added water	H.3710	U	18.3% def. in fat
	†41 C/E	U	5.0% def. in fat	H.3797	U	13.3% def. in fat
	42 C/E	U (CI)	10.0% def. in fat	H.3870	U	1.5% added water
	51 A/E	—	1.2% added water	51 B/H	P	1.5% added water
	52 A/E	—	1.2% added water	52 B/H	P	1.5% added water
	53 A/E	—	1.2% added water	53 B/H	P	1.3% added water
	6 B/H	U	1.0% added water	H.3904	U	10.0% def. in fat
	*9 B/H	U	3.3% def. in fat	65 B/H	U	1.2% added water
	11 B/H	U	21.1% added water	71 B/H	U	1.2% added water
	13 B/H	U	5.0% def. in fat	§H.4217	U	1.8% def. in S-n-f
	H.3543	U (CI)	5.0% def. in fat	H.4224	U	5.2% added water
	†*19 B/H	U	3.3% def. in fat	72 B/H	U	6.8% added water
	†22 B/H	U	13.3% def. in fat	75 B/H	U	0.7% added water
	30 B.H.	U (CI)	2.5% def. in fat	76 B/H	U	3.3% added water
	31 B/H	U (CI)	3.8% def. in fat	81 B/H	P	2.0% added water
				H.4663	U	1.3% added water
County Council— Health Dept.						
	XF.40	U	3.3% def. in fat	XF.777	U	11.8% def. in fat
	*XF.65	U	3.3% def. in fat	XF.887	U	10.0% def. in fat
	*XF.78	U	3.3% def. in fat	XF.914	U	8.3% def. in fat
	F.171	P	1.8% added uater	F.93	P	1.8% added water
	F.172	P	1.3% added water	F.95	P	2.3% added water
	XD.202	U (CI)	10.0% def. in fat	XF.308	U	16.7% def. in fat
	XD.203	U	3.3% def. in fat	D.393	U (CI)	5.0% def. in fat
	XD.253	U (CI)	7.5% def. in fat	D.943	U	1.3% added water
	XF.517	U	5.0% def. in fat	F.11	P	4.0% added water
	XF.633	U (CI)	7.5% def. in fat	F.93	P	0.8% added water
Stafford Borough						
	1898	U (CI)	6.3% def. in fat			

§ Sample had soured

4 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. 4 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, 88 were deficient in solids-not-fat, but were free from added water by the Freezing Point Test (Hortvet.)

ANTIBIOTIC TEST.

Antiobiotics 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.

Of the 256 samples examined for Antibiotics, one sample – FAB. 572 – was found to contain 0.5 I.U.'s of Pencillin per millilitre of milk.

Subsequent samples from the same source were free from Antibiotics.

HYPOCHLORITE TEST.

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

358 samples were examined for the presence of hypochlorites and all were found to be satisfactory.

OTHER FOODS AND DRUGS AND COMPLAINT SAMPLES

DAIRY PRODUCTS.

Milk.

Contamination of milk by the use of dirty bottles still presented a problem in 1971 and it has to be stated that it is usually the public that make the bottles dirty – by wilful misuse of bottles or by sheer carelessness and lack of thought. Never-the-less the onus is on the dairy to ensure that no contaminated bottles are used.

The extension of the use of non-returnable containers made a somewhat hesitant start in 1971, but there appears to be some sales resistance to plastic bottles and it seems that the perfect substitution to the traditional glass bottle has still to be seen. Narrow plastic bottles lack weight and are easily knocked over and cushion-shaped plastic sachets of milk are very un-co-operative.

The problem of sub-clinical mastitis leading to the presence of leucocytes in milk, and mentioned in the Annual Reports for 1969 and 1970, was much less in evidence during 1971 – but samples received subsequently have shown that the problem has not yet been solved by the Dairy Industry.

One sample, County 1 A/L, FC. 71/127, submitted because of contamination that was found to consist of mineral debris was found, also, to contain a few leucocyte cells. Another sample, County F.C 71/35, was thought to contain a trace of blood, but, unfortunately the sample was sour when received and the results of tests were unsatisfactory.

Moulds, and sometimes algal growths, usually associated with some miscellaneous debris or denatured milk solids made up the largest single category of milk complaints.

Pasteurised Milk, Lichfield City, F.C.71/116, contained Cladosporium mould, as did another from Stafford Borough, F.C71/130.

A bottle of milk from Stafford RDC. FC.71/159, contained a growth of green algae that covered almost the entire inner surface of the bottle, and it contained, also, a growth of Cladosporium mould. A similar growth of algae was present in another bottle submitted by Rugeley UDC. FC.71/160. A combination of rust particles and algae occurred in a bottle submitted by Cheadle RDC. FC.71/143, again effecting most of the interior surface.

A mixed flora of Cladosporium, Epicoccum, Monilia and Botrytis was present in a bottle submitted by Stafford Borough FC.71/148.

A quite extraordinary variety of 'foreign bodies' occurred, a rubber band with human hairs, Stoke-on-Trent, FC.71/19. Fuel ash and vegetable debris, Cannock UDC, FC.71/85. Part of a cactus plant that extended the whole length of the bottle. Cheadle RDC, FC.71/90. An aluminium foil cap, such as is used for closing milk bottles but marked "Orange Drink", Seisdon RDC, FC.71/117. Small fragments of vegetable matter, Lichfield RDC, FC.71/120. Iron rust, Stafford Borough FC.71/121. A mass of vegetable fibres in a waxed card milk carton was composed of the same substance as the card of the carton and was evidently a manufacturing fault, County FC.71/152. A mucodi body, which could not be positively identified, but foreign to milk, Rugeley UDC, FC.71/158. Particles of coke, in school milk, but thought to be a manifestation of 'pupil power' rather than contamination since the characteristics of the coke were identical to that used in the school boiler, County FC.71/195.

Cement and sand was found in two bottles, Lichfield RDC, FC.71/118, and Stafford RDC, FC.71/147.

The pupae of Drosophila, or fruit fly, occurred in two bottles, Lichfield RDC, FC.71/139 and Lichfield City, FC.71/155. These insects are attracted by unwashed milk bottles and the pupae becomes quite firmly attached to the interior of the bottle and very difficult to wash out.

Supposed contamination of sterilised milk, Stafford Borough, FC. 71/8, was actually a dry residue of milk on the outer surface of the bottle.

Milk alleged to taste of disinfectant, County FC.71/47, was free from contamination.

Two complaint samples of Sterilised Milk, County 35 B/B, FC.71/56, and Newcastle BC, FC.71/190, contained 77% and 86% respectively of added water. In both cases a defective seal had permitted the displacement of most of the milk by water during the sterilising process.

A sample of ordinary milk, Stoke-on-Trent, FC.71/186 thought to contain added water, did, in fact, contain 58% of added water.

Two further complaints of quality, Cannock RDC, FC.71/31, and Newcastle BC, FC.71/98, were not substantiated.

A liquid suspected to consist of reconstituted skimmed milk powder, Lichfield City, FC.71/143, had the composition of normal milk, but the presence of dried milk was confirmed.

Condensed Milk.

A complaint was received of thickening in Unsweetened Full Cream Condensed Milk, Lichfield City, FC.71/34. The original can of milk was not available for examination, but a similar can had a content that was of normal consistency, but with 100 ppm of Tin. This amount of Tin is below the recommended limit of 250 ppm but indicated that the Condensed Milk was old stock.

In another instance, Stoke-on-Trent, FC.71/204 only the empty can was available for examination. This showed evidence of severe corrosion and a fault in the side seam that would have permitted the entry of spoilage organisms.

Dried Milk.

The labelling of Dried Milk was questioned on three occasions' during 1971, County 72/B/G, FD.71/885 and 3B/J, FD.71/1252' Stafford Borough 1251, FD.71/X716.

In each case the product was described as "Instant Low Fat Skimmed Milk". As each was sold in a can it was considered that the product could be confused with a liquid product. There is no milk more "Instant" than liquid milk as it comes from the cow – it was necessary to add water to the samples before they could be used in place of ordinary milk.

This use of the term "Instant" would, however, have been acceptable if the description had included the word "Dried", but which it did not.

This opinion is supported by the Labelling of Food Regulations, 1970, but which are not effective until 1st January, 1973, which states in Section 14 that the word "dried", "dehydrated" or "desiccated" must be used in the description of such foods that are customarily sold before and after being dried or dehydrated. The sole exception at present being "Instant Tea".

Cream.

The 'cream' filling of a Fresh Cream Doughnut, Stoke-on-Trent, FC.71/199 was found to be in two layers, only the thinner outermost layer being real cream.

Foreign matter alleged to have been found in canned cream Seisdon RDC, FC.71/174 was identified as a flake of glass that appeared to have come from a bottle of hexagonal shape.

The "cream" filling of chocolate eclairs, Stafford Borough, FC.71/145 was contaminated by Penicillium mould and the fat was rancid.

Fresh Cream Mousse, County 40B/G, FC.71/30 was entirely covered on the surface by a growth of Penicillium mould.

Butter.

A packet of Unsalted Butter, Stafford Borough FC.71/13 had an extensive growth of dark coloured mould of the Alternaria genus.

Cheese.

Two samples of Sage Derby Cheese, County 87B/A, FD.71/84 and 84A/F, FD.71/177, were coloured by the artificial colouring matter Green S. This colour, although in the general permitted list, may not be used in Cheese.

Cheshire Cheese, County 55A/E, FD.71/270, contained 47% of fat, calculated on the dry matter, whereas, the Cheese Regulation, 1970 requires a minimum of 48%.

Labelling difficulty, which was thought to be a thing of the past, unexpectedly reappeared in 1971.

Cheese and Cucumber, County 85B/Q, FD.71/181, was not labelled in the manner required by the Regulation for Compound Products and the manufacturers of "Cottage Cheese with Pineapple", County 90B/Q, FD.71/186, was, apparently, not aware that "Cottage" is not a prescribed designation for the purpose of the Regulations.

A sample of Edam Cheese, County 54A/H, FD.71/813, of French origin had an extra label on the packet, "Medium Fat Soft Cheese". Edam Cheese is certainly "medium fat", but by no stretch of the imagination could it be termed "soft". This was possibly a translation error and possibly an indication of things to come when we have entered the E.E.C.

Two samples of Crumbly Lancashire Cheese, County 65B/F, FD. 71/1404 and 66B/F, FC.71/201 were very rancid and the fat had a Perioxide Value of 42 and 49 respectively, although the Acid Value was only 3.3 and 6.3 respectively.

A packet of sections of Full Fat Processed Petit Gruyere Cheese, County 47A/E, FD.71/121, was extensively contaminated by the moulds Aspergillus glaucus and Scopulariopsis.

Discolouration in three complaint samples of Cheese was due to mould. Seisdon RDC, FC.71/58 – Penicillium; County 8B/C, FC.71/80 – Geotrichum candidum and Penicillium; Lichfield RDC, FC.71/185 – Cladosporium.

Foreign matter in Cheese, Stafford Borough FC.71/21, was identified as a 13mm length of fine iron wire and which had caused rust staining in the cheese.

A complaint of 'holes' in Cheese, Private, FC.71/38P, and alleged to have been caused by mice, was actually a manufacturing fault due to fermentation during the ripening process.

Ice Cream.

An Ice Cream Lollie, Newcastle BC, FC.71/69, was alleged to have a 'bad taste', but the composition was normal and there was no evidence of contamination.

Milk Pudding.

A sample of Canned Custard, Stafford Borough FC.71/164 was sour . A defective seam in the can could have provided a means of entry for spoilage organisms.

Fermented Milk Products.

The campaign for the correct labelling and description of Yoghurt and Yoghurt Products has continued.

Four samples were reported against, County 39B/G, FD.71/150, 35B/I, FD.71/616, 51A/H, FD.71/810 and 6B/L, FD.71/1478 because the list of ingredients did not include the bacterial culture which must, of necessity, have been included.

One of these samples, County 35B/I, FD.71/616 omitted the words "Low Fat" from the description and another, County 39B/G, FD.71/150, placed the words "Low Fat" in an inconspicuous position.

Yoghurt is a perishable product, probably more so when mixed with fruit etc.

Cherry Yoghurt, Lichfield City, FC.71/181, was in a state of active fermentation due to yeast, and Yoghurt with Hazelnuts, Cannock RDC, FC.71/92, had an extensive growth of Penicillium mould.

Foreign matter in a Fruit Yoghurt, County 65B/G, FC.71/91, was identified as the shrivelled skin of a caterpillar, possibly introduced with the fruit.

CEREAL PRODUCTS.

Flour.

Foreign matter in a packet of flour, Lichfield City, FC.71/101, was identified as part of a small rodent, comprising the tail, one hind leg and part of the spine, joined together by skin with fur.

Since the rodent had obviously been through some sort of milling machinery, it was anticipated that other complaints would produce the missing parts, but such was not the case.

A White Sauce Mix, County 41A/1, FD.71/722, had a trade name in the list of ingredients, which was not an appropriate designation for the purpose of the Labelling of Food Regulations, 1953.

Bread.

Seven complaint samples showed the presence of iron, but in only two cases was it possible to confirm that this was due to machinery lubricant by demonstrating the presence of mineral oil, Newcastle Borough FC.71/14 and FC.71/129.

In the other five samples the presence of the finely divided iron could have been attributed to incomplete mixing of the iron that is required to be added to Flour by the Bread and Flour Regulations, 1963. Newcastle Borough FC.71/26, Stone RDC. FC.71/142, Lichfield RDC, FC.71/71, County 45B/C, FC.71/102, Stafford Borough FC.71/142.

Six complaint samples were effected by growths of mould. Three, County 7B/D, FC.71/137, 9B/D, FC.71/144 and Stafford Borough FC.71/132 had spectacular growths of the red bread mould Monilia sitophila and also growths of Penicillium. Of these three samples, FC.71/137 and FC.71/132 had, also, Aspergillus and Cladosporium for good measure.

Of the other three samples of mouldy bread, Lichfield RDC, FC.71/67 and Cheadle RDC, FC.71/134, were contaminated by Aspergillus, Penicillium and Cladosporium and a Malt Loaf, Cannock RDC, FC.71/125 had Aspergillus and Penicillium.

Following observations made in earlier Annual Reports of the mistaken ideas of the keeping qualities of bread, it is significant that all the six samples of mouldy bread were sold wrapped.

Other foreign matter found in Bread was, Rodent Excreta, Stoke-on-Trent, FC.71/157; Bituminised Paper, Cannock RDC, FC.71/40; Part of a Flour Sack Label, Lichfield RDC, FC.71/202; Miscellaneous Debris included Mites (Tyroglyphus siro) Seisdon RDC, FC.71/63 and County 88B/G, FC.71/153.

Small Convoluted masses of dough present in sliced bread, Aldridge-Brownhills, FC.71/108, appeared to have been formed by dough being forced by pressure through some small aperture in the bakery machinery.

The label on a packet of Crispbread, County 34B/E, FD.71/1223, implied that the product was an aid to slimming, but the required declaration that it would not aid slimming unless it formed part of a calorie controlled diet had been omitted.

Flour Confectionery.

Sandwich Chocolate Biscuits, Private FC.71/66P were heavily infested by the Sawtooth Grain Beetle, Oryzaephilus surinamensis, larval, pupal and adult stages being present.

A 'Chocolate and Orange' Biscuit, Cheadle RDC, FC.71/49, was infested by the larvae of the Spider Beetle, Ptinidae.

Milk Chocolate Home Wheat Biscuits, Rugeley UDC, FC.71/173, appeared to have been in contact with a coarse fabric, such as sacking, which had impressed a pattern of the weave on the biscuits and left a residue of miscellaneous debris, carbonaceous matter and fibres.

Dark matter in the surface of a Chocolate Biscuit, Private FC.71/57P, was found to be finely divided iron.

Vanilla Slices, Lichfield RDC, FC.71/94, were extensively contaminated by mould, mainly Mucor racemosus and Cladosporium.

A greenish discolouration of the filling of a Sponge Sandwich, Private FC.71/133P, was due to Penicillium mould.

Fancy Iced Cakes, Cheadle RDC, FC.71/151, and packed in an attractive box were contaminated, mainly on the basis, by the mould Sporendonema sebi, an unusual mould contaminant.

Foreign matter found included, human eyelashes, Danish Pastry, Leek UDC. FC.71/16. Carbonaceous matter, Swiss Roll, Rugeley UDC, FC.71/25. Particles of Mineral Matter, Toffee Tart, Tamworth Borough FC.71/61. Grape Stalk, Iced Bun, Rugeley UDC, FC.71/141. A small stone, Eccles Cake, Private FC.71/150P.

A complaint of foreign matter in Angel Cake, Cannock RDC, FC.71/77, could not be substantiated.

Starch Products

Cornflour, alleged to have a soapy taste, Private FC.71/86P, was of normal composition and free from contamination.

Breakfast Cereals

Two samples of the same brand of Breakfast Cereal, Stoke-on-Trent, FC.71/18 and FC.71/73, were received. The former case was serious in that the packet contained the entire dead body of a small rodent, whereas the latter contained only material which had resulted from incomplete mixing of the ingredients.

MEAT PRODUCTS.

Meat, Raw or Cooked.

Lamb Chops, Tamworth B.C., FC.71/87, were contaminated by the excreta of a herbivorous animal. The excreta contained the eggs of the whip worm, Trichuris ovis, a parasite of sheep and other ruminants. Contamination of this kind could occur only at the slaughter house and indicates gross carelessness.

Breasts of Lamb, Cannock U.D.C., FC.71/43, had an offensive odour and yielded volatile bases equivalent to 50 mg of Nitrogen per 100 grm, whereas fresh meat would not be expected to yield more than 15 mg per 100g. The surface of the meat was contaminated by growths of the mould Mucor racemosus.

Sliced Canned Tongue, Stafford Borough, FC.71/9, was submitted following a complaint of a 'catty odour', but the material received was normal and free from putrifaction. 'Catty' odours in meat are usually due to the presence of minute traces of 4-merapto-4-methylpentan-2-one, a substance formed by reaction between hydrogen sulphide and the substance mesityl oxide present in some paint and lacquer solvents. The storage of meat in a room that has been newly painted has been known to produce this effect.

Cooked Lambs Liver, Stafford Borough, FC.71/39, had a greenish discoloration which was considered to be due to changes in the haemoglobin due to bacterial action.

Minced Meat, Private, FC.71/62P, was alleged to 'glow in the dark'. The complainant had got up in the night and looked in the pantry for something to eat and was startled to see tomorrow's lunch bathed in a phosphorescent glow. This phosphoresence was due to the presence of certain harmless bacteria and the phenomenom occurs only with fresh meat.

Steak which had formed part of a restaurant meal, County 15B/E, FC.71/177, had the characteristics of 'rump steak' as ordered, but was of inferior quality with much gristle and fat.

"Minced Beef" submitted by a Catering Officer, FC.71/205P, for observations was composed of dehydrated meat together with a little flour and other 'gravy' ingredients.

Canned Tongue, Cannock R.D.C., FC.71/104, were thought to be mouldy but the dark marking on the skin of the tongues was due to natural pigmentation.

Cured or Corned.

Cured.

Canned Ham is exempt from the provisions of the Canned Meat Product Regulations, 1967, provided that nothing has been added except gelatine and is described as "Ham in Natural Juices" or "Ham in Natural Juices, Gelatine Added" as appropriate.

This exemption has been necessary because of the difficulty of cutting a piece of ham, so that it would exactly fill the can. Any spaces left having the effect of lowering the meat content expressed as a percentage of the total contents of the can.

Sometimes, however, the impression is gained that the amount of ham is less than it might be and that the can contains a higher proportion of jelly than is justified. One such sample, Stoke-on-Trent, 761A, FD.71/X1, came under close scrutiny and was found to contain 352 grms of ham and 107 grms of jelly. The jelly was found, however, to contain 8.2% of protein and of which the bulk must have come from the meat. This amount of protein was equivalent to 41 grms of meat, to give a total of 391 grms of meat and to which it was considered no objection could be taken.

The label on the can was not marked, however, in the prescribed manner.

Bacon, Leek U.D.C., FC.71/751, was putrescent and yielded volatile bases equivalent to 38 mg of N per 100 grms meat.

A sample of pre-packed Bacon, Rugeley R.D.C., FC.71/156, contained 71 maggots – the third, or final larval, stage of the common blowfly or blue bottle, Calliphora erythrocephala.

Corned

Corned Beef, Aldridge-Brownhills, FC.71/10, contained numerous small deposits of iron sulphide and appeared to be old stock.

Sausages

Of the 448 samples examined for composition, 18 Pork Sausages or 4.0% had less than the required minimum of 65% of meat. All beef and other Sausages, which are required to contain not less than 50% of meat, had a satisfactory Meat content.

Pork Sausages Deficient in Meat

Source	Mark	Lab. Ref.	Meat Content	Deficient
County	*42 B/G	FD.71/223	50·0%	23.0%
,, ...	11 A/H	291	61.0%	6.2%
,, ...	*55 B/G	318	56.7%	12.8%
,, ...	70 B/G	883	62.7%	3.5%
,, ...	9 A/N	1097	58.8%	9.5%
,, ...	*69 A/M	1142	57.0%	12.3%
,, ...	45 B/J	1432	62.1%	4.5%
Stoke-on-Trent	14A	X24	63.7%	2.0%
,, ...	38A	X48	56.1%	13.7%
,, ...	14	X153	60.3%	7.2%
,, ..	166A	X234	63.3%	2.6%
,, ..	186A	X268	60.0%	7.7%
,, ...	251A	X341	56.9%	12.5%
,, ...	455A	X636	62.0%	4.6%
,, ...	470A	X649	57.0%	12.3%
,, ...	707A	X924	60.4%	7.1%
Stafford Borough	*1191	X154	61.5%	5.4%
Newcastle Borough ..	371	X55	61.5%	5.4%

* Contained undeclared sulphite preservative.

Under the Preservative in Food Regulation, 1962, the presence of Sulphur Dioxide Preservative in Sausages must be declared.

19 samples, including 4 that were deficient in meat, contained undeclared preservative.

Sausages containing undeclared Sulphur Dioxide

Source	Type	Mark	Lab' Ref.	Sulphur Dioxide
				ppm
County	Pork	23 A/E	FD.71/7	170
,, ...	Pork	42 B/G	223	220
,, ...	Pork	*55 B/G	318	200
,, ...	Pork	*66 B/G	628	180
,, ...	Pork	14 A/I	629	240
,, ..	Pork	90 A/I	1036	300
,, ..	Pork	*69 A/M	1142	185
Stoke-on-Trent ..	Pork	39A	X49	150
,, ..	Beef	107A	X149	120
,, ..	Pork	141A	X206	300
,, ..	Beef & Pork	144A	X209	180
,, ..	Pork	147A	X212	190
,, ..	Pork	312A	X433	110
,, ..	Pork	394A	X557	205
,, ..	Pork	428A	X609	105
,,	Beef & Pork	458A	X639	205
,, ..	Pork	487A	X668	115
,, ..	Pork & Beef	501A	X682	195
Stafford Borough ..	Pork	*1191	X154	130

* Deficient in Meat

One sample of Pork Sausage, Stoke-on-Trent, 110A, FD.71/X152, contained 480 ppm of Sulphur Dioxide, which is in excess of the 450 ppm permitted by the Regulations.

Six samples of Sausages were submitted in relation to complaints:—

Two samples of Skinless Sausages, Stoke-on-Trent, FC.71/96, and Tamworth B.C., FC.71/105, were mouldy. The former was contaminated by Geotrichum candidum and moulds of the mucor type and the latter by Penicillium and Mucor racemosus.

Discoloration on the surface of a Sausage, Private FC.71/74P, was due to the presence of iron compounds.

A triangular fragment of blue plastic found in a Sausage, County 54 B/G, FC.71/53, could have been part of a price marker.

Metal found in Liver Sausage, Rugeley U.D.C., FC.71/17, was an irregular fragment of Aluminium measuring 16 × 8 mm.

Two pieces of metal found in a Pork Sausage, Stoke-on-Trent, FC.71/65, were identified as parts of a metal meat skewer that had passed through the sausage machine.

Prepared Meats

Meat in Gravy

Stewed Steak with Gravy, Cannock U.D.C., FD.71/X445, contained only 69.6% of meat, a deficiency of 7.2% of the minimum required meat content of 75%.

Two samples of the same brand of Minced Beef with Onions and Gravy, County 45 A/H, FD.71/804 and 46 A/H, FD.71/805, had a satisfactory meat content, for the product, of 52.8%, but the words "Minced Beef" on the label were much more prominent than the words "with onions and gravy" and which could cause confusion between this product and one with a much higher meat content.

Brawn

Brawn that had formed part of a sandwich, Newcastle Borough, FC.71/95, and submitted following a complaint, was normal and free from contamination.

Luncheon Meat, etc.

Two samples of Pork Luncheon Meat of different brands, Stoke-on-Trent, 27A FD.71/X37 and 633A, FD.71/X836 contained Sodium Erythorbate, a non-permitted antioxidant. The manufacturers at first maintained that this addition was permitted and even quoted "The Ministry" in support, but eventually agreed to discontinue its use.

The label on a Can of Meat Roll, Stoke-on-Trent, 22A, FD.71/X720, claimed "Free from Preservative" but it contained both Nitrate and Nitrite, which had been used for the curing of the meat and which are Preservatives within the meaning of the Preservatives in Food Regulations, 1962.

Purple discoloration in Pork Luncheon Meat, Stoke-on-Trent, FC.71/41, was identified as a synthetic dye, but there was insufficient for full identification.

Discoloration of this type occurs from time to time and is often alleged to be due to the use of condemned meat, that has been marked by a dye, but a more likely explanation is that someone in the factory has sharpened a copying pencil. Such pencils contain a dye with very strong colouring power and the dust created by sharpening such a pencil would be sufficient to produce colour spots in a considerable amount of processed meat.

An object in a can of Luncheon Meat, Stafford Borough, FC.71/109, and thought to be a maggot, was found to be a small piece of 'gristle'.

Chopped Ham and Pork, Stoke-on-Trent, FC.71/27, that was thought to have caused sickness, was of normal composition and free from contamination.

Hamburgers, etc.

The Burger Saga continued on its unsatisfactory course during 1971 and the need for a standard defined by Regulations became more and more evident as manufacturers continued to exploit every possible loophole.

Reliance on the 80% meat requirement of the "Meat with Cereal" definition of the Sausage and Other Meat Product Regulations, 1967, is now of limited value. "Meat with Cereal" is defined as "any meat product which has a vegetable content of less than 25% and of which the principal ingredients by weight, other than meat, is cereal".

Clearly this definition is of no use in maintaining a standard for products in which the cereal has been beaten into third place. One manufacturer successfully pleaded in defence that he had used an onion

concentrate which was equivalent to an amount of fresh onion that exceeded the amount of cereal. That such an amount of onion could be incorporated in the product was explained by the observation that the concentration process removed most of the objectionable flavour of the onion!

Alongside such tactics is a happy hunting ground for names that get as near to suggesting that the product is a "Hamburger" but without actually saying so.

The intention of the law is being flouted and the public deceived.

Two samples described as "Beefburgers", County 37A/E, FD.71/36, and 13A/J, FD.71/441 contained only 72.1% and 73.2% of meat respectively and the latter sample contained 400 ppm of undeclared Sulphur Dioxide Preservative.

A sample described only as "Burgers" contained only 60% of meat, but it could be questioned as what is a "Burger" and does it have to contain meat?

Two samples of "Grillburgers", County 25 A/M, FD.71/1060 and 92B/I, FD.71/1299, declared to contain "Sausage Meat, Egg and Vegetable Protein" contained about 60% of meat, but again does the description imply a meat product?

Two samples of "Beefburgers with Cheese", County 87B/G, FD. 71/914 and 9B/J, FD.71/1258, were considered as satisfactory since they contained 20% of Cheese and the meat content of 65% was equivalent to 81% of the non-cheese part.

Beefburgers with Onion, County 31A/M, FD.71/1066, contained more onion than cereal and was declared genuine on the basis that the meat content of 69.6% represented 80% of the product less the onion. This is, however, a very unsatisfactory position and the eventual outcome could be that a sample was satisfactory on the basis that the meat represented 80% of practically nothing!

In, possibly, a move to distinguish his product from such "goings-on" one manufacturer of a perfectly normal Beefburger went to the length of describing it as "Beefburgers *without* Onion".

In spite of this somewhat sorry story, however, many manufacturers continued to turn out a good product as the following results show:—

Source	Description	Mark	Lab. Ref.	Meat Content
County	Beefburger	30 A/E	FD.71/29	83.4%
,, ...	,,	83 A/F	137	81.7%
,, ...	,,	29 B/G	140	83.2%
,, ...	Porkburgers	19 A/G	257	82.0%
,, ...	,,	20 A/G	258	87.1%
,, ..	Beefburgers	91 A/G	419	84.8%
,, ..	,,	15 B/C	524	88.0%
,, ..	,,	69 A/J	682	88.0%
,, ...	,,	47 A/H	806	80.0%
,, ...	Beefburgers without Onion	99 B/C	940	90.0%
,, ...	Beefburgers	76 B/F	1457	81.9%
Stoke-on-Trent ..	Hamburgers	41A	X58	89.4%
,, ..	*Beefburgers	581A	X782	98.4%

* This last sample held the record for meat content, but, unfortunately, "blotted its copy-book" by containing 100 ppm of undeclared Sulphur Dioxide preservative.

Hamburgers with Gravy, etc.

Everything that has been said about "Hamburgers" can be said for "Hamburgers with Gravy", with the added complication of the "Gravy".

"Beefburgers with Onion and Meat Sauce", County 77B/G, FD.71/890, was considered to be satisfactory with a meat content of 46.2%, on the basis that "Meat with Sauce" is required to contain not less than 40% of meat, if more than 15% of onion is present. Since Beefburgers have to contain not less than 80% of meat, the actual meat content of the product needed to be only 32% to be satisfactory, so far as the law is concerned.

A similar argument was applied to "Hamburger Steaks with Onion and Gravy", Stoke-on-Trent, 133A, FD.71/X198, which contained 54.4% of meat.

Meat with Gravy is required to contain not less than 50% of meat, if more than 12½% of onion is present – which by the same reasoning gives a minimum standard of 45% of meat.

Two samples of a brand described as "Beefburgers with Gravy and Onions", County 13A/N, FD.71/1101 and 14A/N, FD.71/1102, each contained only 48.9% of meat. By analysis, less than 12½% of onion was present, and a standard of 60% of meat was applied, i.e. 80% of the 75% standard for "Meat in Gravy".

The Defence successfully pleaded that more than 12½% of onion was present and that the product complied, therefore, with the lower standard of 45% Meat, it being claimed that a Concentrated Onion Essence had been used instead of fresh or dried onion. When faced with the fact that their list of ingredients placed "onion" second to "Rusk" and therefore by their own submission in the wrong order, it was freely admitted that the list of ingredients was not as required by the Labelling of Food Regulations – but that was not the offence with which they were charged! The case was dismissed, but there was no award of costs.

A complaint sample of Hamburgers, Newcastle Borough FC.71/23, had undergone an acetic acid fermentation of the carbohydrate, producing a vinegar-like smell. There was, also, a colony of Penicillium mould.

Savoury Ducks

Savoury Ducks that were implicated in an outbreak of food poisoning, Stoke-on-Trent, FC.71/165/166/167/171, were free from contamination.

Ready Meals

A "Sweet and Sour Chinese Meal", Private, FC.71/124P, contained 20% of meat. It appeared that the complainant, who expected more meat, might have confused this product with the more usual "Sweet and Sour Pork".

Foreign matter found in a Snack Meal, Biddulph U.D.C., FC.71/6, was identified as part of a larva of a lepidopterous insect.

Meat in Pastry

All the samples that were required to comply with the standard of a minimum of 25% of meat did in fact do so, but seven Meat and Potato Pies failed to comply with the very modest standard of a minimum of 12½% of meat.

Source	Description	Mark	Lab. Ref.	Meat Content	Meat Deficiency
County	Meat and Potato Pie	70 B/I	FD.71/1020	9.2%	26.4%
Stoke-on-Trent ..	,,	34A	X44	10.4%	16.8%
,, ..	,,	36A	X46	9.1%	27.2%
,, ..	,,	44A	X61	11.5%	8.0%
,, ..	,,	53A	X70	11.5%	8.0%
,, ..	,,	342A	X470	11.5%	8.0%
,, ..	,,	344A	X473	11.1%	11.2%

A "Hot Pot Pie", Stoke-on-Trent, 104A, FD.71/X146, contained only 3.3% of meat and insufficient to justify the description "Hot Pot".

The deterioration of Meat Pies through prolonged or incorrect storage continued to be a problem.

Source	Description	Mark	Lab. Ref.	Organisms Present
County	Pork Pie	8 B/D	FC.71/138	Mucor racemosus
Cheadle R.D.C...	Sausage Rolls	–	100	Penicillium and Cladosporium
,, ..	Meat and Potato Pie	–	114	Souring due to Lactic Acid forming bacteria
Lichueld R.D.C'	Pork Pie	–	46	Penicillium
,,	Sausage Roll	–	83	Pencillium
Rugeley U.D.C...	Pork Pie	–	140	A greenish-blue discoloration was attributed to the action of organisms of the Bacillus subtilus type
Stoke-on-Trent ..	Sausage Roll	–	163	Cladosporium and Penicillium
,, ..	Steak and Kidney Pie	–	136	Souring due to Lactic Acid forming bacteria

Foreign matter found in Pies included:—

Source	Description	Lab. Ref.	Foreign Matter
Aldridge-Brownhills.. U.D.C.	Pork Pie	FC.71/135	Two pellets of rodent excreta and parts of a fly
,, ..	Pasty	FC.71/175	Two fragments of vegetable matter, possibly the root base of a plant
Cannock R.D.C. ..	Pork Pie	FC.71/7	Fibres of Sisal and miscellaneous debris
Cheadle R.D.C.	Cornish Pasty	FC.71/20	Bovine epidermal tissue with attached hairs
Leek U.D.C. ..	Potato and Meat Pie	FC.71/84	A Common House Fly, Musca domestia, that had been subjected to heat
Lichfield City	Mince Pie	FC.71/107	A Blow Fly, Colliphora erythrocephela, that had been subjected to heat
Lichfield R.D.C. ..	Pork Pie	FC.71/4	Textile fibres, fragments of insects and a rodent hair
Rugeley U.D.C. ..	Cornish Pasty	FC.71/32	A strip of iron, 22mm in length and formed into a hook shape

A Pie submitted as part of "Pie and Chips", Stoke-on-Trent, FC.71/111, appeared to have been only partly cooked.

An allegation that a Steak Pie, Private, FC.71/189P, had been prepared from a popular brand of pet food could not be substantiated.

Meat Additives

Two Proprietary Meat Additives, Stoke-on-Trent, FC.71/168 and FC.71/170, that were thought to be implicated in an outbreak of food poisoning, were of satisfactory composition.

Poultry Products.

Poultry

Boneless Chicken in Jelly, Stoke-on-Trent, 477A, FD.71/X658, contained only 72.4% of meat, a 9.5% deficiency of the minimum of 80% required.

Poultry Products

A complaint sample of Chicken Soup, Rugeley U.D.C., FC.71/172, had become sour, with an acidity equivalent to 0.4% Acetic Acid.

A defect in the side seam of the can had provided a means of entry for spoilage organisms.

Fish Products.

Fish

Two Complaint Samples of Fish Fillets, County, 10B/D, FC.71/187 and 11B/D, FC.71/188, supplied against an order for Cod Fillets were found to be fillets of Coley (Pollachus virens). It was established subsequently, however, that no deception had been intended, as the fish had been invoiced as "Coley" and was supplied because of a temporary shortage of Cod.

Two complaints were received of "worms" in fresh fish, Private, FC.71/70P, and Private, FC.71/101P. In both cases the worms were identified as the nematodes, Filaria bicolor, and which are natural parasites of fish. These nematodes are not harmful to man, but very objectionable and fish containing such parasites is not fit for sale. The feeling of revulsion of a housewife upon finding worms 2-3 cm in length in the fish, and in the first sample, still alive, does not need to be stressed.

An unusual complaint concerned a Can of Salmon, Stafford R.D.C., FC.71/5. On the surface of the contents was a roughly hemispherical body covering an area of 2.5×4 cm and which extended through the centre of the contents of the can. This material was of a creamy-buff colour, of soft consistency and consisted almost entirely (apart from water) of protein matter.

In the salmon canning industry, this material is known as "curd" and it consists of soluble fish protein which is squeezed out of the fish in the can, when it contracts in the sterilisation process. The amount in this instance, was, however, unusually large.

Fish Fingers

The suggested promise by the Ministry of Agriculture, Fisheries and Food of a Statutory Standard for Fish Fingers did not materialise during 1971.

The only two samples received during 1971, County 31A/G, FD.71/308 and 32A/G, FD.71/309 did, however, meet the Staffordshire Standard of 65% fish, having 73.3% and 69.8% of fish respectively. Both samples, however, did not carry the required declaration of ingredients.

Two Complaint Samples of Fish Fingers, County 25A/G, FC.71/42, and Lichfield City, FC.71/119, contained a small amount of fish skin. Not really objectionable, but it looked unpleasant, in the context.

Other Fish Products

King Prawn Fried Rice, County 4B/I, FC.71/72, and 15B/I, FD.71/544, contained very few Prawns – 2.8% and 5.8% respectively.

Prawn Curry with Rice, Stafford Borough, FC.71/154, a dehydrated product, had a packet of Rice that was heavily infested with the saw-toothed grain beetle, Oryzaephilus Surinamensis. Both larval and adult stages being present.

FRUIT AND FRUIT PRODUCTS.

Fruit

Fresh Peaches, Leek U.D.C., FC.71/99, had developed splits at the stalk end, through which moulds had entered – Cladosporium and Alternaria.

Dried Fruits and Products

Mincemeat, Stoke-on-Trent, 317A, FD.71/X444, contained only 63% of soluble solids instead of not less than 65% as required by The Food Standards (Preserves) Order, 1953.

Cut minced Peel, Newcastle Borough, FC.71/103, that was alleged to have a 'sulphur' smell was free from Sulphur Dioxide preservative.

Preserves

English Marmalade, County, 27A/H, FD.71/449, contained only 65.5% of soluble solids instead of not less than 68.5% as required by The Food Standards (Preserves) Order, 1953, for a container without an air-tight seal.

Foreign matter in a complaint sample of Marmalade, Rugeley U.D.C., FC.71/68, was a vegetable fibre 51 mm in length, with the characteristics of sisal, as is used for some types of brushes.

A bundle of fibres, 142 mm in length and having the characteristics of the inner layer of tree bark, was found in a complaint sample of Strawberry Jam, Cannock R.D.C., FC.71/126.

Canned or Bottled Fruit.

Whole figs in Heavy Syrup, County 12A/N, FD.71/110, contained 475 ppm of Tin, an amount greatly in excess of the recommended limit of 250 ppm.

A sample of Fruit Salad in Syrup, Cannock UDC, 18/71, FD.71/X248, was of very inferior quality, with patches of discoloration and mould on the fruit. A Cherry contained a larva of the Cherry Fruit Fly and an insect leg was present in the syrup. The contents of the can included 225 ppm of Tin, which is within the recommended limit of 250 ppm, but no recommendation for the Brand.

In addition to the above samples, two complaint samples of canned fruits, Mandarin Oranges, Lichfield City, FC.71/180, and Pineapple Chunks, Stoke-on-Trent, FC.71/191, showed evidence of corrosion of the cans. The contents of the former included 230 ppm of Tin and the latter, 134 ppm of Tin and 623 ppm of Iron.

With modern canning techniques and proper stock rotation there would seem to be no excuse for corroded cans and enforcement by more stringent limits for contamination by canning metals would be in the public interest.

Foreign matter found in complaint samples of Canned Fruits were usually objects of natural origin and comprised:—

Longhorn Beetle, Cerambycidae, in Rhubarb, Aldridge-Brownhills, FC.71/64.

Honey-bee, Apis mellifera, in Pineapple Rings, County 36A/J, FC.71/106.

Larva of the Oriental Fruit Moth, Grapholitha (Laspeysesia) Molesta, in Peaches, Aldridge-Brownhills, FC.71/193.

Grass, in Strawberries, Lichfield RDC, FC.71/45.

Two pieces of cotton fabric, 27 × 45mm and 20 × 18mm were found in a Can of Prunes, Lichfield City, FC.71/81.

White particles in Canned Grapefruit, Private, FC.71/194P, were identified as crystals of Naringin. This substance is the natural bitter principle of Grapefruit and tends to appear in crystalline form in canned grapefruit if stored for long periods and, in particular, if the fruit was not fully ripe at the time of canning.

Dark red 'jelly' in Canned Plums, Aldridge-Brownhills U.D.C. FC.71/176, was natural to the plums.

Other Fruit Products.

Fruit Juice.

Canned Apple Juice, County 88B/A, FD.71/268, contained 30% of added water.

A Complaint Sample of Grapefruit Juice, Tamworth B.C., FC.71/179, contained 650 ppm of Tin and 200 ppm of Iron. This sample was implicated in a case of illness and, as a result, a survey of the various Brands of Grapefruit Juice was made. All the other Brands were in

lacquered cans, as distinct from the Complaint Samples, and contained negligible amounts of Tin and Iron.

Mould in a bottle of Grape Juice, Cannock U.D.C., FC.71/128, was identified as being of the Paecilomyce type.

Lemon Curd.

A sample of Lemon Curd, Stoke-on-Trent, 2041, FD.71/X286, contained 64.5% of soluble solids and 3.6% of fat instead of the required minimum of 65.0% and 4.0% respectively.

Apple Turnovers.

Two complaint samples of Apple Turnover, County 81B/A, FC.71/15, and 89B/E, FC.71/203, contained only negligible amounts of apple.

Vegetable and Vegetable Products.

Vegetables.

Foreign matter in a packet of Frozen Peas, County 41B/G, FC.71/33, was identified as the forepart of the caterpillar of a Noctuid, or night flying moth.

A searching examination of Cauliflower, Newcastle Borough, FC.71/122, that had turned a bright yellow on cooking, failed to identify the cause with certainty.

The Cauliflower had been cooked in an aluminium pan and experiments did seem to indicate that the presence of aluminium was a factor. The normal addition of salt to the water, did, however, very effectively prevent any discoloration, even in the presence of added aluminimum. It was suspected that salt had been omitted from the water in which the complaint had been boiled, but analysis showed that 1.4% of salt was present when it was received.

Dried Vegetables.

Dehydrated Onions, Stoke-on-Trent, FC.71/169, and the subject of a complaint, were of normal composition and free from contamination.

Canned Vegetables.

Foreign matter in Canned Tomatoes included:—

Caterpillar of a moth, Stafford Borough FC.71/97.

A Beetle, Harpolus (Pseudophorus) griseus, which is common, in Spain, the County of origin of the sample, Aldridge-Brownhills, FC.71/115.

The problem of internal corrosion of cans again arose and Canned Tomatoes, Tamworth B.C. FC.71/59, contained 595 ppm of Tin and 170 ppm of Iron.

Another sample, Lichfield City, FC.71/83, looked worse than it was, 133 ppm of Tin and only 13 ppm of Iron.

Other Vegetable Products.

Soups.

Foreign matter in canned soup included:—

Part of a Caterpillar in Farmhouse Soup, Lichfield R.D.C., FC.71/212.

Sphagnum Moss in Mushroom Soup, Lichfield City, FC.71/37, Sphagnum Moss is used on the outer surface of mushroom beds.

Mould in Canned Vegetable Soup, Lichfield R.D.C., FC.71/184, had entered through an aperture in the body of the can which appeared to have been made by the point of a knife.

Damage to cans of this nature has been observed on a number oJ occasions and is caused by the careless, and even reckless, use of a knife, or similar instrument, in 'slashing' open cardboard cartons of cans. A lazy practice which cannot be too strongly condemned. The damage to the cans is usually hidden by the label, so that a can with contaminated contents may easily be sold.

Baked Beans.

Foreign matter in Baked Beans included:—

Two adult and nine larva of the Dried Bean Beetle or Weevil, Acanthoscelides obtectus, which had evidently been concealed within the beans when the product was prepared, Cannock R.D.C., FC.71/150.

A tuber of the Nut Grass, Cyperus Exulentus, which are edible and known as Tiger Nuts, Cannock R.D.C. FC.71/76.

Black specks on the surface of the contents of an opened can consisted of carbonaceous matter and had probably gained access after the can had been opened as none were present beneath the surface, Rugeley U.D.C., FC.71/113.

Baked Beans stated to have a bitter taste had an excessive degree of acidity, due to the penetration of a defective seam by acid forming bacteria. Aldridge-Brownhills, FC.71/110.

Potato Crisps, etc.

An ovoid body, measuring 35mm × 25mm found in a packet of Potato Crisps, Lichfield R.D.C., FC.71/52, was a small potato, the interior of which was almost entirely filled by mould, mainly Penicillium, but some Aspergillus glaucus.

Foreign matter in another packet of Potato Crisps, County 24B/G, FC.71/3 consisted of two cylindrical objects measuring 12 × 22mm and 3 × 12mm respectively, and consisting of a mixture of fat and starch.

The oil in two samples of Potato Crisps had become rancid. That from County 25B/G, FC.71/11, had Peroxide Values of 85 and 130 (Two packets) and that from County, 26B/G,FC.71/12, a Peroxide Value of 110.

A piece of metal 31 × 1.5 × 1.5mm found in a packet of Onion Flavour Potato Rings, Cannock U.D.C., FC.71/192, was of stainless steel. Its worn appearance indicated that it had been associated with some moving part of a machine.

Vegetable Cream Salad

A curious mixture of Vegetables, Yoghurt and Cream, Stoke-on-Trent, 132A, FD.71/X191, had the ingredients listed in an incorrect order. It did, in fact, contain more Cream than either the description, or the list of ingredients indicated.

Sugar and Sugar Products

Sugar

A complaint sample of sugar, Private, FC.71/60P, stated to have a "bad taste", was a mixture of 75% sugar and 25% common salt.

Sugar Confectionery

A product described as "Milk Chocolate with Almonds and Honey", County 64A/G, FD.71/380, did not accord with the description.

The white flecks in the chocolate were actually fragments of Nougat with Almonds. The manufacturer agreed that their description was in error, but expressed surprise that no other Public Analyst had drawn their attention to the matter, in view of the very considerable time that the product had been on sale.

Changes in the description, which were suggested, were accepted by the manufacturers and have now been put into effect.

Chocolate coated Biscuits, Rugeley, FC.71/149, were infested by larvae of the Cocoa Moth, Ephestia elutella.

Another packet of Chocolate coated Biscuits, Lichfield City, FC.71/123, were contaminated by carbonaceous matter.

Christmas Tree Decorations, Rugeley U.D.C., FC.71/2, had a slight but definite 'disinfectant-like' odour and the presence of some substances, foreign to chocolate, was demonstrated by Gas Chromotography. The manufacturers admitted that they had met certain problems with flavouring ingredients, but were unable to offer an explanation of what had actually occurred.

A Filled Easter Egg, Stafford Borough, FC.71/93, sold in late June had a stale flavour.

Oils and Fats

A further sample of the Vegetable Oil Spray, County 4A/S, FD.71/432, that was mentioned in the 1970 Annual Report, was received, and exception was again taken to the use of the non-specific term "Propellant" in the list of ingredients.

Baby Foods

An unusual complaint consisted of a packet of Full Cream Milk Food, Stafford Borough, FC.71/54, the contents of which had become charred by heat, although the outer cardboard package was unmarked.

Experiments showed that infra-red radiation, such as would be emitted by a cooking stove could penetrate the package and char the dried milk and yet leave the actual package undamaged.

Another sample of Dried Milk Baby Food, Lichfield City, FC.71/146, and alleged to have an 'off' flavour was of normal composition and free from contamination.

Two samples of Canned Strained Baby Foods, Lichfield City, FC.71/112, and Rugeley U.D.C., FC.71/131, had undergone putrification and had growths of Penicillium mould.

In both cases the cans had been punctured by the careless use of a knife in opening the boxes in which the cans had been consigned to the shop.

A packet of Baby Cereal Food, Leek U.D.C., FC.71/36, was infested by Spider Beetles, Ptinus tectus.

A jar of Vegetable and Meat Baby Food, Lichfield City, FC.71/24, was thought to have caused illness. No metallic contamination was present, but the presence of pearl barley, which was not a declared ingredient, suggested that the jar had been opened at some time previous to purchase and that bacterial contamination had taken place.

Beverages

Coffee

Dandelion Coffee with Chicory, Newcastle Borough, 438, FD.71/X434, contained 24% of mineral matter, which included small stones, and served to show an extreme lack of care in the cleaning of the Dandelion and/or Chicory roots used in the preparation of the product.

Two samples of Decaffeinated Instant Coffee, County 40A/J, FD.71/644, and Newcastle Borough, 464, FD.71/X564, were objected to, because the declaration for the purpose of the Labelling of Food Regulations stated "Soluble solids of Pure Coffee" instead of "Soluble solids of Decaffeinated Coffee".

A further objection was made in the second sample, in that it was marked "It will not interfere with your sleep or harm your heart or digestion". Which was considered to be an implication that ordinary coffee was harmful. The manufacturers were requested to provide evidence that ordinary coffee was harmful. They tried very hard and produced a prodigious quantity of correspondence, papers and photo copies of books, etc., much of it in foreign languages, but in the end they agreed there was no conclusive evidence and agreed to alter the label.

Cocoa

Two complaint samples of Drinking Chocolate, Rugeley U.D.C., FC.71/1 and FC.71/182, were infested by the Cocoa Moth, Ephestia elutella.

Fermentation Products

Beer

Foreign matter in an opened bottle of beer, County 65A/H, FC.71/200, was identified as Corned Beef – for which extraordinary happening, no explanation was ever obtained.

Shandy

A standard of not less than 1.5% of Proof Spirit is applied to pre-packed Shandy, notwithstanding a Judgment of a Magistrates' Court in another area that decided to the contrary.

The fact that Shandy usually does contain not less than 1.5% Proof Spirit is beyond question. Out of 38 samples examined in 1971, only eight had less than 1.5% Proof Spirit and these covered only four brands, and one of these normally does comply, but on this occasion, contained 1.4% of Proof Spirit.

Details of those samples deemed to be unsatisfactory are:—

Source	Description	Mark	Lab. Ref.	Proof Spirit
County	Lemonade Shandy	58 A/J	FD.71/671	1.4%
,, ...	Lemonade and Beer Shandy	79 A/J	692	0.9%
,, ...	Shandy	84 A/J	697	0.9%
,, ..	Lemonade and Beer Shandy	6 A/K	730	1.3%
,, ...	,,	7 A/K	731	1.3%
,, ...	Shandy	38 B/I	828	0.9%
Cannock U.D.C. ..	,,	26/71	X383	0.7%
,, ..	,,	33/71	X487	0.8%

Two samples which had a satisfactory alcohol content, County 58B/G, FD.71/621, and 81B/I, FD.71/1188, were criticised because "Beer" preceded "Lemonade" in the declaration of Ingredients, where the major constituent was Lemonade.

Spirits

A complaint sample of Whisky, Newcastle Borough, FC.71/198, contained only 42.8% of Proof Spirit instead of 70%.

Other Alcohol Products

Honey with Liqueur, Stafford Borough, FD.71/X313, contained only 0.15% w/w of alcohol and it was considered that there was insufficient liqueur to characterise the product.

Pickles, etc.

Mixed Pickle, County 18A/E, FD.71/2, declared the presence of Gherkins, but actually contained Cucumber.

Pickled Red Cabbage, County 21B/D, FD.71/1201 contained the permitted, but undeclared artificial colouring matter, Red 10B.

A Sauce, County 51B/B, FD.71/512, of the nature of a salad dressing and of foreign origin listed the ingredients in the wrong order and included an ingredient "POUR VEGETABLE OIL" which appeared to include an error in translation.

Soft Drinks.

Mineral Water.

Ginger Beer, County 85A/E, FD.71/196, contained 68 grains of Saccharin per 10 gallons, which was in excess of the maximum of 56 grains per 10 gallons permitted by The Soft Drinks Regulations 1964.

Cola, Cannock U.D.C., 37/71, FD.71/X524, also contained an excess of Saccharin, 93 grains per 10 gallons.

Cherryade, Cannock U.D.C., 25/71, FD.71/X382 contained an excess of preservative.

Foreign matter in a bottle of Cream Soda, Lichfield City FC.71/51, consisted of vegetable and mineral debris together with Cladosporium mould, fungal spores and algal growths.

Another sample of Cream Soda, Tamworth Borough FC.71/162, but of a different Brand, contained moulds of the Stemphylium and Monilia types.

Squashes etc.

Orange Drink, County 89B/G, FD.71/968, sold in cartons marked "Dairy Cream" had a composition that satisfied the requirements of The Soft Drinks Regulations 1964, but clearly offended against the labelling requirements.

Blackcurrent Health Drink. Stoke-on-Trent, FC.71/29, had become a dull, dark green in colour. There was no contamination, but an unsuitable combination of artificial dyes had been used in its manufacture.

Indigo Carmine, Tartrazine and a trace of Red 6B was present. Of these dyes only Red 6B would contribute a red tint, but it had been largely destroyed by the natural fruit acid present in the Blackcurrants.

The use of metal dispensers for Cordials etc., in Public Houses etc. came under question. These dispensers are intended for use with spirits and not with acid liquids such as Cordials etc.

Lime Juice Cordial, Lichfield City, FC.71/197, from such a dispenser, contained 24 ppm of Copper, which is above the limit of 7 ppm recommended by The Food Standard Committee of the Ministry of Agriculture, Fisheries and Food.

A further sample of Lime Cordial taken from an "Optic" Lichfield City, FC.71/196, was satisfactory and contained only 1.0 ppm of Copper.

A sample of Orange Drink, Newcastle Borough, FC.71/55, that was alleged to have a bitter taste, was of normal composition and free from contamination.

Spices, Flavourings, Etc.

Herbs and Spices.

Pickling Spice, County 14B/B, FD.71/171, listed the ingredients in the wrong order and the Ginger that was stated to be present, was not included.

Fresh Garlic, County 40A/H, FD.71/504, was heavily contaminated by growths of Penicillium mould. A nymphal stage of an Eriophyid mite was found.

Two samples of Ground Nutmeg, Stoke-on-Trent, 10A, FD.71/X20 and 631A, FD.71/X834 were deficient in Volatile Oil, containing 2.5% and 3.2% respectively, instead of a required minimum of 4.0%.

Remedial Foods.

Slimming Foods.

"Slimming foods" have become the "in thing" and manufacturers vie with each other in the attractiveness of presentation and gimmicks of advertising to persuade a receptive public that they are overweight and to consume their products in preference to normal foods.

The facts are that a lot of people are not overweight and that most that are, have the remedy in their own hands by eating moderately, wisely and by taking more exercise.A very few may need medical treatment. On the contrary there are many people, who would do well to pay more attention to an adequate diet.

By and large, manufacturers of these foods now comply with the labelling requirements, but still not with sufficient prominence. "That it should form part of a calorie controlled diet" has a very real significance – there are, perhaps, still people who think that a slimming biscuit will counteract the effects of a double helping of "plum-duff" and those who believe that a slimming biscuit provides adequate sustenance for a working day.

A young lady who visited the County Laboratory on an errand, collapsed and was restored to fitness by the administration, on medical advice, of very sweet tea and a bar of chocolate. She admitted to lunching off a "slimming biscuit."

To make their products more tempting, some manufacturers have used descriptions that are associated with normal food of very different composition.

Beefburger Savouries, County 84B/Q, FD.71/180 and 1B/I, FD.71/263, Turkey Sandwiches, County 83B/Q, FD.71/179 and Cheese and Ham Savouries, County 2B/I, FD.71/264, contained no meat of any sort.

The "Cheese" in the Cheese and Ham Savouries was made from skimmed milk, but evidently not from a desire to avoid the addition of fat, since the filling was over 50% fat.

Foreign matter in a Slimming Biscuit, Seisdon R.D.C., FC.71/178, consisted of a mass of wool fibres associated with miscellaneous mineral debris.

DRUGS.

Two Cough Mixtures, Stoke-on-Trent, FD.71/X189 and Newcastle Borough 399, FD.71/X192, were deficient in the stated amounts of Chloroform, 0.64% instead of 0.95% and 0.03% instead of 0.54% respectively.

A private complaint sample of Halibut Oil Capsules, FC.71/48P, and sold to an old age pensioner, were in an appalling condition. 95 of the 97 capsules were affected by mould growths, of the Aspergillus type, and four dead mites were present. The Vitamin A content, for which they were purchased, was nil. It was found that they had been manufactured in 1962.

PESTICIDES.

The long awaited Report on the second period of the National Survey carried out by Public Analysts in conjunction with the Local Authority Associations, which ended in July, 1968, was published during 1971.

The organisation of this second Survey was basically the same as for the first Survey, but the opportunity was taken to modify the selection of foods examined in the light of the earlier results.

In general the results obtained confirmed those of the first survey in that no gross contamination, such as could constitute a health hazard in the short term, was present.

There was, however, some increase in the incidence of residues of organo-chlorine compounds, including an increase in Aldrin/Dieldrin residues. This latter was unexpected in view of the restrictions that have been placed on the use of these substances.

A comparison between foods which were examined in both surveys is shown in the diagram.

From this it will be seen that Lard proved to be the food most frequently contaminated.

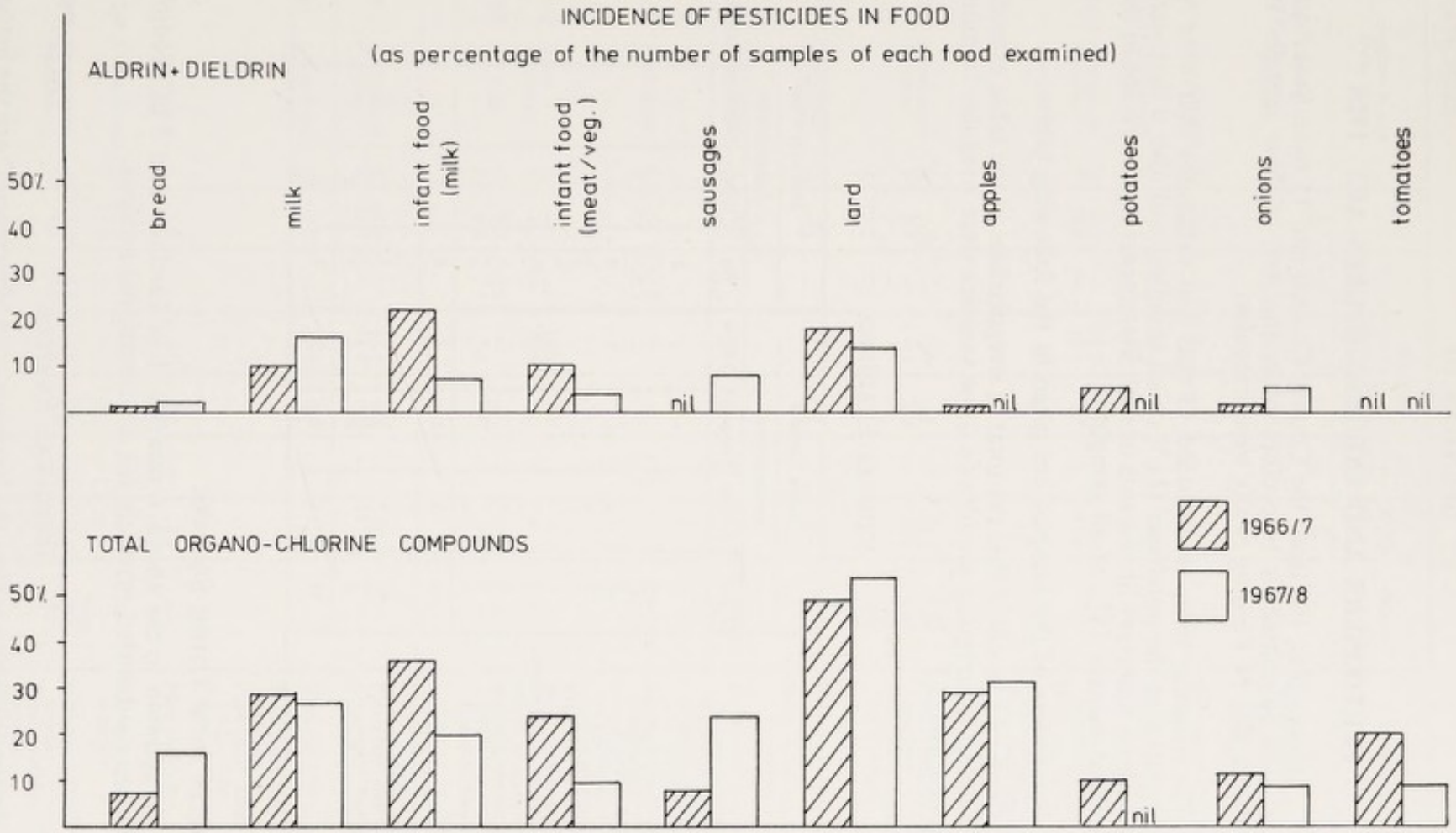
Milk also continued to show a high frequency, but there was a welcome drop in the incidence in Infant Foods.

The incidence in Potatoes dropped to nil – which may not be unrelated to the observation and even minute traces of certain pesticides in potatoes affect the flavour to such an extent that they become inedible.

Bread shows a doubling in the incidence of Pesticides and although the incidence is not high, such an increase will need to be watched. One sample of Bread contained 2.4 ppm of Aldrin/Dieldrin and which was considerably above the limit of 0.1 ppm recommended by the Additives and Contaminants Committee of the Ministry of Agriculture, Fisheries and Food.

The incidence of residues of other types of Pesticides was generally at a much lower level, but some odd findings were reported, such as the finding of 1.4 ppm of Organo-Phosphorus in a sample of Pork, 0.1 ppm of Mercury in some Eggs, 0.4 ppm of Mercury in an Imported Hard Cheese and 10 ppm of Pentachloronitro benzene in lettuce.

Because of the delay in the publication of the results of the Second Survey the Third Survey had to be put back and did not commence until 1972.


INCIDENCE OF PESTICIDES IN FOOD
(as percentage of the number of samples of each food examined)
ALDRIN + DIELDRIN
50%
40
30
20
10
bread
milk
infant food (milk)
infant food (meat/veg.)
sausages
lard
apples
potatoes
onions
tomatoes
nil
nil
nil
nil
nil
TOTAL ORGANO-CHLORINE COMPOUNDS
1966/7
1967/8
50%
40
30
20
10
nil

FERTILISERS AND FEEDING STUFFS ACT, 1926

118 samples, 103 from the County Council and 15 from Stoke-on-Trent, were submitted by Inspectors under the Act, of these samples 16 Fertilisers and 14 Feeding Stuffs were irregular.

The irregular samples, included 13 that had variations that were to the prejudice of the purchaser (11% of all samples) and also 6 that were sold without Statutory Statements or with Statements that were not in the prescribed manner (5% 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
Fertilisers:								
Basic Slag	2	–	–	1	1	–	–	–
Bone Meal	2	–	–	1	–	–	–	–
Blood and Bone ..	1	–	–	–	–	–	–	–
Dried Blood	2	–	2	–	–	–	–	–
Compounds	22	8	11	1	7	1	–	–
Chalk or Lime ..	2	–	–	–	–	–	–	–
Muriate of Potash ..	1	–	–	–	–	–	–	–
Nitro Chalk	1	–	–	–	–	–	–	–
Sulphate of Ammonia ..	3	–	–	–	–	–	–	–
Sulphate of Potash ..	3	–	–	–	–	–	–	–
Superphosphate ..	4	1	–	1	–	–	–	–
Nitrate of Soda ..	2	–	–	–	–	–	–	–
Potash Nitrate ..	1	–	–	–	–	–	–	–
	46	9	13	4	8	1	–	–
Feeding Stuffs:								
Compounds	45	4	1	2	7	2	1	–
Concentrates	9	1	3	–	–	–	–	–
Molassed Feeds ..	3	–	2	–	–	–	–	–
	57	5	6	2	7	2	1	–

Samples from Other Sources.

In addition to the above, 6 samples, 1 of Fertiliser and 5 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.

Authority and Description				P_2O_5 Total	P_2O_5 Soluble	P_2O_5 Insoluble	P_2O_5 Citric	K_2O	Others	Irregularity
			%	%	%	%	%	%		
County Council:										
A.194	Super-phosphate	S	—	19.0	—	—	—	—	—	No declaration of the amount of Phos. Acid. Sol. in Water
		F	—	22.4	19.8	—	—	—	—	
A.197	Dried Blood	S	12.0	—	—	—	—	—	—	Nitrogen 1.2% deficient
		F	10.8	—	—	—	—	—	—	
B.1231	Compound Fertiliser	S	14.0	—	6.5	0.5	—	7.0	—	Potash 1.8% excess
		F	14.0	—	6.6	0.4	—	8.8	—	
B.1232	Compound Fertiliser	S	13.0	—	12.3	0.7	—	20.0	—	Nitrogen 1.0% deficient Phos. Acid. Sol. 1.9% deficient Potash 2.4% deficient Phos. Acid. Insoluble 1.0% excess An overall deficiency of 2.0%
		F	12.0	—	10.4	1.7	—	17.6	—	
B.1235	Compound Fertiliser	S	3.75	—	5.0	0.5	—	12.5	Iron 0.45	Phos. Acid. Sol. 0.9% deficient Phos. Acid. Insol. 1.5% excess
		F	3.7	—	4.1	2.0	—	11.8	0.47	
		S	—	—	—	—	—	—	Magnesium 3.0	
		F	—	—	—	—	—	—	3.5	
B.1236	Compound Fertiliser	S	5.0	—	6.0	4.0	—	2.0	—	Phos. Acid. Sol. 1.4% deficient Phos. Acid. Insol. 1.6% excess
		F	5.3	—	4.6	5.6	—	2.1	—	
A.201	Bone Meal	S	6.0	—	—	—	—	—	Phosphate 18%	Declaration not in the manner required by Part 1 of the First Schedule to the Act
		F	6.2	18.9	—	—	—	—		
A.204	Basic Slag	S	—	13.0	—	—	11.0	—	Fineness 81.4%	No declaration of fineness as required by Part 1 of the First Schedule to the Act
		F	—	13.2	—	—	11.5	—		
A.206	Super-phosphate	S	—	—	18.0	—	—	—	—	Phos. Acid. Sol. 2.6% excess
		F	—	—	20.6	—	—	—	—	
A.220	J.I. Base	S	5.2	7.2	—	—	—	10.0	—	No declaration of Soluble and Insoluble P2O5 required by Part 1 of the First Schedule to the Act
		F	4.6	7.8	7.2	0.6	—	9.8	—	
1240	Compound Fertiliser	S	13.0	—	12.3	0.7	—	20.0	—	Potash 2.5% deficient An overall deficiency of 3.5%
		F	13.3	—	11.4	0.3	—	17.5	—	
1242	Compound Fertiliser	S	3.75	—	5.0	0.5	—	12.5	—	Nitrogen 1.05% excess Phos. Acid. Sol. 1.0% deficient Phos. Acid. Insol. 1.6% excess Potash 2.3% deficien
		F	4.8	—	4.0	2.1	—	10.2	—	
1243	Compound Fertiliser	S	5.0	—	6.0	4.0	—	2.0	—	Phos Acid. Sol. 1.5% deficient
		F	5.5	—	4.5	4.1	—	2.4	—	
B.1248	Dried Blood	S	12.5	—	—	—	—	—	—	Nitrogen 1.2% deficient
		F	11.3	—	—	—	—	—	—	
A.248	Compound Fertiliser	S	3.75	8.0	2.0	6.0	—	2.5	Iron 0.3	Nitrogen 1.35% excess Phos. Acid. Sol. 2.0% excess Phos. Acid. Insol. 2.1% deficient
		F	5.1	7.9	4.0	3.9	—	2.2	0.5	
City of Stoke-on-Trent:										
8F	Compound Fertiliser	S	5.10	—	5.75	1.0	—	8.10	—	Nitrogen 0.9% excess
		F	6.0	—	5.1	1.5	—	8.1	—	

In the table on page 39, the excesses are to the advantage and the deficiencies are to the prejudice of the purchaser.

It will be noted, however, that in samples B.1235, B.1236, 1242 and A.248 deficiencies of Soluble Phosphoric Acid were offset by excesses of Insoluble Phosphoric Acid, due to reversion of the Soluble to the Insoluble form. A change which is considered to be not to the prejudice of the purchaser.

FEEDING STUFFS.

Authority and Description			Oil	Protein	Fibre	Others	Irregularity
			%	%	%		
County Council:							
A.182	Layers Meal	S	2.75	16.0	4.25	—	Protein 3.6% excess
		F	2.50	19.6	4.40	—	
A.185	Broiler Finisher	S	4.0	20.0	3.0	Amprolium 65 ppm, Sulphaquinoxaline 39 ppm, Ethopabate 3.3 ppm	Oil 1.6% excess
		F	5.6	18.9	2.3	Nil	The declared Coccidiostats were absent
A.186	Fattening Meal with Urea	S	2.0	14.0	6.0	Protein equiv. of Urea 3.5%	Total Protein 3.0% excess
		F	2.5	17.0	3.6	Protein equiv. of Urea 3.7%	
B.79	Molasses Feed	S	—	—	10.0	Sugar 35.0%	Sugar 4.6% deficient
		F	—	—	9.4	Sugar 30.4%	
B.80	Compound with Molasses (Concentrate)	S	0.5	50.0	8.0	Protein equiv. of Urea 42.0% Sugar 25.0%	Total Protein 5.8% excess
		F	0.5	55.8	9.0	Protein equiv. of Urea 42.7% Sugar 21.1%	Sugar 3.8% deficient
B.82	Compound with Molasses (Concentrate)	S	2.5	40.0	8.0	Protein equiv. of Urea 24.5% Sugar 15.0%	Oil 2.3% deficient
		F	0.2	36.3	5.9	Protein equiv. of Urea 21.1% Sugar 16.9%	
1237	Molasses Feed	S	—	—	11.0	Sugar 35.0%	Sugar 4.0% deficient
		F	—	—	10.0	Sugar 31.0%	
1238	Compound with Molasses (Concentrate)	S	0.5	50.0	8.0	Protein equiv. of Urea 42.0% Sugar 25.0%	Total Protein 6.4% deficien
		F	0.3	43.6	8.1	Protein equiv. of Urea 37.0% Sugar 23.8%	
A.208	Pig Fattening	S	2.3	13.5	5.5	Copper Nil	No declarationfoffthef amount of Copper
		F	2.6	13.4	3.9	Copper 160 ppm	
B.86	Pig Rearer Meal	S	2.5	16.0	6.0	Copper Nil	Nofdeclaration of the amount of Copper
		F	3.2	17.0	4.9	Copper 200 ppm	
A.229	Early Weaner Calf Pencils	S	4.5	18.0	5.5	—	Protein 3.4% excess
		F	4.7	21.4	3.2	—	
Stoke-on-Trent:							
1F	Layers Meal	S	3.0	17.5	5.0	—	Oil 2.1% excess
		F	5.1	16.2	4.5	—	
2F	Growers	S	4.0	17.0	6.0	—	Protein 1.9% deficient
		F	3.7	15.1	3.9	—	
13F	Layers Meal	S	3.0	17.5	5.0	—	Oil 1.0% excess
		F	4.0	15.9	3.7	—	

In the above table, the cxcesses are to the advantage and the deficiencies are to prejudice of the purchaser.

SECTION IV

CONSUMER PROTECTION ACT, 1961

The Toys (Safety) Regulations, 1967.

Of the eight samples submitted, two failed to meet the requirements of the Regulations with respect to the amount of toxic metals in the paint. A failure rate which is high, but which does not represent the general situation since sampling is now concentrated on those types of toys, and manufactured in those Countries, where non-compliance with the Regulation has been experienced in the past.

Details of the two unsatisfactory samples are as follows:—

Toy	Source	Lab. Ref.	Colour	Irregularity
Circus Animal Truck	Newcastle Borough	CP.71/3	Red	Lead 40,000 ppm
Plastic Man in Mechanised Toy ..	,, ,,	CP.71/4	Green	Lead 30,000 ppm

Under the Regulations, the amount of Lead in the dry paint film must not exceed 5,000 ppm.

SECTION V

THE PHARMACY AND POISONS ACT

The only sample received, Medicated Shampoo, County A.16 PP.71/1, was shown to have a composition such that it was not subject to restriction under the Act.

SECTION VI

TRADE DESCRIPTIONS ACT, 1968.

BABY SHAMPOO.

Newcastle Borough, TD.71/1, was alleged to have caused 'stinging' to the eyes of a baby and contrary to the manufacturers claim that it was 'non-stinging'.

The composition was normal and practical tests showed that it had no effect on the eyes when used as directed.

HAIR PIECE

County TD.B31, TD.71/2, was composed entirely of human hair, as was claimed.

JOHN INNES POTTING COMPOST NO. 3.

County TD.B32, TD.71/3 was alleged to contain an incorrect amount of lime. 1.0% of Calcium Carbonate was present and which was considered to be satisfactory.

MEAT FOR CATS.

County TD.8, TD.71/4, consisted entirely of dehydrated meat.

SECTION VII

OTHER SAMPLES

Atmospheric Pollution

85 Lead Peroxide Cylinders and the contents of 210 Rain Gauges were submitted for examination in 1971, 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. SO_3 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	10	0.8	2.7	1.9
,, ,, ..	,, No. 3	10	0.2	1.9	0.9
Newcastle-under-Lyme R.D.C. ..	Keele No. 1	11	0.7	1.9	1.2
Rugeley U.D.C.	Site No. 9	11	0.05	1.2	0.7
Stone R.D.C.	Stone No. 9	11	0.5	1.5	0.9
,, ,, ...	,, No. 12	9	0.5	2.0	1.3
,, ,, ...	,, No. 13	11	0.4	1.7	0.9
,, ,, ...	,, No. 14	12	0.7	1.9	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	11	1.6	90	57	147
,, ,, ..	,, No. 3	12	1.7	110	59	170
Cannock U.D.C.	Cannock No. 1	12	1.8	76	54	128
,, ,, ...	,, No. 9	12	1.8	51	56	198
,, ,, ...	,, No. 11	11	1.7	98	89	178
Cheadle R.D.C.	Cheadle No. 1	11	2.7	224	236	459
,, ,, ...	,, No. 2	11	2.6	105	204	308
Newcastle-under-Lyme B.C. ..	Newcastle No. 4	11	2.3	117	71	188
Newcastle-under-Lyme R.D.C. ..	Keele No. 1	11	1.8	33	37	79
Rugeley U.D.C.	Rugeley No. 17	11	1.1	161	73	234
Stone R.D.C.	Stone No. 3	10	1.3	89	56	145
,, ,, ...	,, No. 9	11	1.6	71	45	116
,, ,, ...	,, No. 29	11	1.7	109	79	189
,, ,, ...	,, No. 30	11	2.0	150	49	209
,, ,, ...	,, No. 36	11	2.4	122	74	203
,, ,, ...	,, No. 37	11	2.2	85	101	186
,, ,, ...	,, No. 38	11	2.1	61	56	118
,, ,, ...	,, No. 39	11	1.5	184	83	249
,, ,, ...	,, No. 40	10	2.2	67	64	144

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, except where stated otherwise, these were on samples of Blood.

Lab. Ref.	*Alcohol mg/100 millilitres*	*Lab. Ref.*	*Alcohol mg/100 millilitres*	*Lab. Ref.*	*Alcohol mg/100 millilitres*
AP.71/1	241	AP.71/25	96	AP.71/49	73
2	181	26	203	50	93
3	99	27	274	51	177
4	115	28	100	52	173
5	134	29	102	53	26
6	67	30	62	54	35
7	99	31	102	55	29
8	50	32	105	56	47
9	149	33	24	57	67
10	Nil	34	202	58	145
11	67 (Urine)	35	166	59	49
12	*	36	142	60	78
13	205	37	100	61	146
14	97	38	162	62	28
15	*	39	147	63	378 (Urine)
16	30	40	Nil (Urine)	64	51
17	132	41	255	65	92
18	68	42	182	66	52 (Urine)
19	122	43	116	67	221 (Urine)
20	82	44	258	68	63
21	259	45	83	69	98
22	203	46	31	70	107
23	67	47	99	71	105
24	144	48	100	72	58
				73	159

* Samples found to be in unfit state for analysis.

The limits prescribed by the Act are 80 mg/100 millilitres of blood and 107 mg/100 millilitres of urine.

WATERS

Drinking Waters.

Of the 94 samples of drinking waters, none were condemned because of their sanitary quality, but three samples, all from private wells were of doubtful purity.

Nitrates in Drinking Water.

More attention has been focussed recently concerning the presence of Nitrates in drinking water.

The bacterial make-up of the digestive system of infants of under 12 months of age is different to that of older children, and adults, and ingested Nitrate becomes reduced to Nitrite in these circumstances.

Nitrite will react with the haemoglobin of the blood to form methaemoglobin, a change which appears to be irreversible.

A more recent finding, however, is that the Nitrites may react, also, with secondary or tertiary amines which are part of foodstuffs to form Nitrosamines, which are potentially carcenogenic.

For some years the accepted limit for Nitric Nitrogen in drinking waters consumed by infants has been 20 mg/1, but the World Health Organisations in 1971, in the third edition of "International Standards for Drinking Water" reaffirmed a lower limit of 10 mg/1 of Nitric Nitrogen (45 ml as NO3), and it has been decided to adopt this lower limit.

Six samples received during 1971 exceeded this limit.

Lab. Ref.	*Source*	*Nitrate N*
W.71/23	Stone R.D.C. (Pershall Green)	18.3 mg/l
W.71/24	Stone R.D.C. (Moddershall)	25.8 ,,
W.71/68	Biddulph U.D.C. (Biddulph)	13.5 ,,
W.71/79	Tamworth B.C. (Wilncote)	18.3 ,,
W.71/93	Stone R.D.C. (Moddershall)	27.7 ,,
W.71/377	Tamworth B.C. (Tamworth)	16.5 ,,

All the above supplies were either private wells or supplies to small communities.

METALLIC CONTAMINATION.

All routine supplies of Drinking Waters have, for many years, been examined for metallic contamination and the results show that supplies in Staffordshire comply with the Standards of the World Health Organisation not-with-standing statements to the contrary from one of the larger Universities and which has achieved some publicity in the popular press.

Lead.

Contamination by Lead could be serious, if it existed, since it is a cumulative poison. The World Health Organisation, however, revised the maximum permitted amount to 0.1 mg/l from the former standard of 0.05 mg/l. This change has been justified on the evidence that in many Countries, water containing 0.1 mg/l of Lead has been consumed for years without any apparent effect on health.

Three samples, not public supplies, failed to meet the World Health Organisation standard:—

W.71/258 Newcastle Rural District Council (Ashley Heath)	Lead 0.15 mg/l
W.71/488 Tutbury Rural District Council (Yoxall)	Lead 0.12 mg/l
W.71/489 Tutbury Rural District Council (Yoxall)	Lead 0.12 mg/l

Iron.

Traces of iron are present in most waters and there is no evidence that such traces are harmful – they may even be beneficial.

Amounts in excess of 0.3 mg/l will, however, effect the palatability of the water and may cause stains when used for washing clothes.

The World Health Organisation consider that 0.1 mg/l is the "Highest Desirable Levels" and 1.0 mg/l as the "Maximum Permissible Level."

The following waters contained excessive amounts of Iron by the standard of the World Health Organisation, but only those where the amount exceeded 0.3 mg/l, were actually criticized.

Lab. Ref.	Source	Iron mg/l	
		Total	In Solution
W.71/9	County (School Supply)	*	0.16
W.71/23	Stone R.D.C. (Pershall)	6.0	0.20
W.71/106	Cheadle R.D.C. (Blore)	0.50	—
W.71/198	Newcastle R.D.C. (Pipe Gate)	0.18	—
W.71/221	Stone R.D.C. (Oulton)	1.40	—
W.71/233	Cheadle R.D.C. (Ipstones)	13.00	—
W.71/234	Cheadle R.D.C. (Ipstones)	0·90	—
W.71/282	Lichfield R.D.C. (Whittington) .. .	0.40	—
W.71/283	Lichfield R.D.C. (Freeford) .. .	1.68	—
W.71/367	Tamworth B.C. (Wilncote)	0.24	—
W.71/378	Cannock R.D.C. (Levedale)	0.16	—
W.71/387	County (Horton)	0.60	—
W.71/388	County (Horton)	0.50	—
W.71/469	Newcastle B.C. (Silverdale)	1.40	—
W.71/488	Tutbury R.D.C. (Yoxall)	0.20	—
W.71/489	Tutbury R.D.C. (Yoxall)	0.12	—
W.71/511	County (Quarnford)	0.40	—
W.71/512	Stoke-on-Trent (Burslem)	0.12	—

* A heavy deposit in this sample contained 61.4% of Iron.

Copper.

Copper is not considered to be hazardous in the amounts that might occur in water supplies. The main disadvantage of Copper in water, is the resultant corrosion that is set up with galvanised fittings – and aluminium utensils. Natural waters rarely contain any copper, but the widespread use of copper plumbing has resulted in trace amounts being quite common in domestic systems.

The World Health Organisation considered the 'Highest desirable level' to be 0.05 mg/l and the 'Maximum permissible level' to be 1.5 mg/l but it has not been the policy to criticize a water unless the amount exceeded 0.3 mg/l.

30 samples contained Copper in excess of 0.05 mg/l and 8 samples contained more than 0.3 mg/l and were as follows:—

Lab. Ref.	*Source*	*Copper mg/l*
W.71/38 ..	Stafford B.C. (Stafford)	0.61
W.71/116 ..	County (School supply)	0.33
W.71/425 ..	Stoke-on-Trent (Hanley)	0.36
W.71/442 ..	Leek UDC (Leek)	0.40
W.71/462P ..	Private (—)	0.73
W.71/465 ..	Stoke-on-Trent (Hartshill)	1.02
W.71/466 ..	Stoke-on-Trent (Hartshill)	0.80
W.71/512 ..	Stoke-on-Trent (Burslem)	0.47

Zinc.

Zinc is rarely present in natural water, but traces may appear in domestic supplies from the use of galvanised equipment.

The World Health Organisation places the 'Highest desirable limit' at 5.0 mg/l and the 'Maximum permissible level' at 15 mg/l.

Of the samples examined, only ten contained more than 1.0 mg/l of Zinc and of these only two exceeded 5.0 mg/l. These samples were:—

Lab. Ref.	*Source*	*Zn/mg/l*
W.71/233	Cheadle R.D.C. (Ipstones)	6.7
W.71/286	Stone R.D.C. (Burston)	6.0

Hardness

Routine samples of drinking water are examined for hardness and are classified as follows:—

Classification	*Total Hardness $CaCO_3$mg/l*	*Number of individual Supplies*
Soft	0—49	4
Moderately Soft	50—99	8
Slightly Hard	100—149	11
Moderately Hard	150—249	14
Hard	250—349	13
Excessively Hard	250—more	11

Details of the 19 samples from these 11 supplies which were reported as excessively hard are:—

Lab. Ref.	Source	Total	Hardness $CaCO_3$mg/l	
			Carbonate	Non-Carbonate
W.71/19	Stafford B.C. (Gnosall Supplies)	392	246	146
W.71/107	,, ,, ,, ,,	400	244	156
W.71/265	,, ,, ,, ,,	386	254	132
W.71/277	,, ,, ,, ,,	394	252	142
W.71/315	,, ,, ,, ,,	400	252	148
W.71/416	,, ,, ,, ,,	412	254	158
W.71/470	,, ,, ,, ,,	408	246	162
W.71/477	,, ,, ,, ,,	406	244	162
W.71/153	Cannock R.D.C. (Private Supply)	864	360	504
W.71/92	Newcastle R.D.C. (Private Supply)	396	64	332
W.71/24	Stone R.D.C. (Moddershall Supplies)	432	152	280
W·71/93	,, ,, ,, ,,	486	130	356
W.71/62	Tamworth B.C. (Private Supplies)	394	246	148
W.71/63	,, ,, ,, ,,	464	242	222
W.71/79	,, ,, ,, ,,	408	106	302
W.71/367	,, ,, ,, ,,	468	240	228
W.71/368	,, ,, ,, ,,	400	248	152
W.71/377	,, ,, ,, ,,	400	140	260
W.71/116	County (Blymhill School)	490	338	152

It has been claimed that hard waters are beneficial to health, but it could be supposed that there is a level of hardness above which no further benefit would occur. That level has not yet been determined, but when that has been achieved, there may be some scope for moderating the degree of hardness of some excessively hard supplies.

Excessively hard waters are inconvenient for domestic use and the corrosion and scaling of plumbing system can be expensive.

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:—

Source	*Fluoride mg/l*
Stafford Borough (Shugborough Supplies) ..	0.08
,, ,, (Gnosall Supplies)	0.17
,, ,, (Milford Supplies)	0.10
Stoke-on-Trent (a)	0.20
,, ,, (b)	0.08
,, ,, (c)	Nil
Cannock R.D.C.	0.18
Leek U.D.C. (Poolend)	0.07
Lichfield R.D.C. (a)	0.24
,, ,, (b)	0.17
Newcastle R.D.C.	0.13
Rugeley U.D.C.	Nil
Seisdon R.D.C. (a) South Staffs	0.06
,, ,, (b)	0.10
Stafford R.D.C.	0.07
Tutbury R.D.C.	0.13
Uttoxeter R.D.C.	0.29
County (Quarnford Borehole)	0.05

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, 139 out of 197 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 inflamation to the eyes and other sensitive areas. if higher (i.e. more alkaline) unpleasant "woolly" odours are produced.

pH	*Number of Samples*
below 6.5	3
6.5–6.9	4
7.0–7.4	40
7.5–8.0 (Optimum) ..	116
8.1–8.5	27
above 8.5	7

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:—

Lab. Ref.	*pH*	*Alkaline Reserve as $CaCO_3$ mg/l*
W.71/247	6.7	22
W.71/254	6.4	10
W.71/284	6.6	30
W.71/323	6.7	32
W.71/461	5.7	9
W.71/482	5.9	12
W.71/528	6.6	26

High pH readings are usually associated with excessive alkaline reserve; but may be influenced by the type of alkaline present.

Details of waters with pH over 8.5 are:—

Lab. Ref.	*pH*	*Alkaline Reserve as $CaCO_3$ mg/l*
W.71/1	8.6	704
W.71/26	8.7	156
W.71/219	8.7	172
W.71/249	8.6	488
W.71/444	9.0	119
W.71/455	8.9	116
W.71/500	8.7	296

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 favour a level up to 2.0 ppm, which give 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:—

Free Residual Chlorine–mg/l	*Number of Samples*
Less than 0.2	29
0.2–0.4	34
0.5–2.0	108
above 2.0	26

The 29 samples with less than 0.2 mg/l, which included five with no Free Chlorine, were reported as unsatisfactory.

Of the 26 samples with more than 2.0 mg/l of Free Chlorine, and therefore the subject of adverse comment, eleven had 4.0 or more, and one had such an amount, 26 mg/l that the bath was considered to be not suitable 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 baterial 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 to 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 197 waters examined, 63 had a Combined to Free Residual Chlorine ratio of 3:1 or greater. Of these 40 had 0.2 mg/l or less of Free Chlorine and only one had more than 1.0 mg/l of Free Chlorine (actually 1.2mg/l.)

EFFLUENTS.

Most of the samples examined were taken in connection with the operation of existing works and in assessing the need for new works.

Some non-routine samples were, however, of particular interest

Effluents associated with the keeping or processing of animals showed the highest degree of pollution.

Lab. Ref.	Trade	Suspended Solids	Free NH_3 (as N)	4 hrs. O_2	B.O.D.
W.71/22	Animal By-products	564 mg/l	56 mg/l	115 mg/l	360 mg/l
W.71/50P	Abattoir	1,064 ,,	47 ,,	322 ,,	1,300 ,,
W.71/64	Gut Scraping	120 ,,	165 ,,	168 ,,	936 ,,
W.71/310	Pig Farm	780 ,,	211 ,,	202 ,,	1,080 ,,

Water running from a tip of domestic refuse, W.71/193, had a B.O.D. of 720 mg/l but also contained 84 mg/l of Iron – the latter evidently from the corrosion of tin-cans in the tip.

Water in a lagoon that had formed in a field adjacent to an industrial site, W.71/417, had a high organic content and 0.25 mg/l of Lead in addition to 60 mg/l of iron.

An effluent suspected to originate from industry, W.71/236, contained 1.4% of mineral oil and 59 mg/l of phenolic substances, and indication of the presence of a soluble cutting oil.

OTHER WATERS.

Most of the other waters were from brooks, streams or rivers to assess the effect of discharges from sewage works or where a source of pollution was suspected.

An interesting investigation concerned the diversion of a mill stream from an old mill that was being converted into a country residence. It was hoped to prove that the stream to the mill, which had now become a stagnant pool had deteriorated as a result of the loss of flow, but chemical analysis showed the reverse to be the case. A proportion of the diverted stream was actually treated sewage.

Other samples included boiler water, industrial process waters, investigation into corrosion in heating systems and seepages of water into basements and cellars.

MISCELLANEOUS SAMPLES

Special Investigations

COUNTY COUNCIL.

Medical Officer of Health.

*M.*71/147 – *Antifreeze.*

The sample complied with BS.3151, 1959 Ethylene Glycol, type B, inhibited with Benzoate and Nitrite.

*M.*71/148 – *Sodium Hypochlorite Solution.*

The sample contained only 12 ppm of available Chlorine.

County Chief Inspector of Weights and Measures.

*M.*71/97 – *Petroleum Spirit.*

The analytical characteristics were satisfactory.

M.71/126 – 136 – *Burning Oil.*

The oil M.71/136, complied with the specification and was of the same composition as the reference sample, M.71/126.

County Architect.

*M.*71/146 – *Sand.*

The sand, from a sand filter at a swimming bath, was submitted because of loss of filtration efficiency and thought to be due to the compacting of the filter owing to he presence of "fines".

Whilst some "fines" were present, the opinion was formed that the difficulty expressed was due to an attempt to operate the filter at an excessively high flow rate.

*M.*71/152 – *Liquid Soap.*

Corrosion of copper waste pipes was thought to be due to corrosive action by the liquid soap. Experiments demonstrated, however, that the liquid soap was not aggressive to copper.

County Fire Officer.

*M.*71/31 *and* 33 – *Oil and Floor Board.*

Submitted following a suspected case of arson. The oil and oil extracted from the floorboard were of identical composition and had the characteristics of Diesel Fuel.

*M.*71/51 *and* 105 – *Aerosol Fire Extinguisher.*

A more serious fire had occurred when an aerosol type fire extinguisher had been used in an attempt by a house-wife to extinguish a burning chip pan.

The principle constituent of the liquid in the fire extinguisher was identified as Chlorobromomethane, with a fluorinated hydrocarbon of the 'Freon' type as the propellant.

When the release button on the extinguisher was pressed, a solid jet of liquid was emitted and it was evident that this liquid, which was heavier than the burning fat and of low boiling point, had sunk below the surface of the fat and then boiled with explosive violence, scattering the burning fat.

It is clear that such fire extinghishers should not be used for this type of fire.

County Surveyor.

*M.*71/122/128/132/150 – *Antifreeze.*

The four samples were examined against BS.7151; 1959, with the following results:—

M.71/122	..	failed – insufficient corrosion inhibitors.
M.71/128	..	failed – insufficient corrosion inhibitors.
M.71/132	..	passed, but the inhibitor content was only just sufficient.
M.71/150	..	passed

Stoke-on-Trent.

*M.*71/174 – *Blackcurrant Rum.*

Because of special circumstances this sample was not submitted under the Food and Drugs Act.

The composition included 41% Proof Spirit, 38.7% of Sugar and 20.3% of Blackcurrant Juice.

Newcastle Borough.

*M.*71/4 – *Grit.*

Grit that had collected in the guttering of a house contained a relatively high proportion of iron, 21% of the dry matter, fuel ash and vegetable matter.

*M.*71/106 – *Urea-formaldehyde Foam.*

Following the insulation of a house by the injection of a urea-formaldehyde foam into the air space of the cavity walls, the occupants had complained of smarting eyes and "fumes".

Analysis of the foam showed the presence of 1% of unreacted formaldehyde, – evidently due to some error in the process.

Stafford Borough.

*M.*71/1 – *Insect.*

The insect, stated to have been found in some bananas was identified as a spider, Torania variota Pocock.

This spider is common in West Africa and though of formidable aspect, is harmless.

M.71/49 – Insects.

Identified as Attagenus pellio, a beetle that is widely distributed, the larva of which will attack woollen material, fur and feathers.

M.71/81 – White Crystalline Substance.

This material, found under the floor walls of a house, co nsisted entirely of sodium sulphate and evidently due to efflorescence.

M.71/102 – Chemical Water Treatment.

It was claimed that a porous container, which contained certain chemicals, when placed in the supply tank of a domestic hot water system would soften the water for a period of six months.

The chemicals were stated to be Sodium Sesquicarbonate, Sodium Tripolyphosphate and the Sodium Salt of Ethylenediamine Tetracetic Acid. The first two chemicals were present, 270 grms and 185 grms respectively, but the third was absent.

It was calculated that *if* the passage of the chemicals into the water was spread over the whole of six months, that the degree of softening would be only 10 ppm.

This amount is insignificant and probably less than the day-to-day variation of the hardness of the water supply.

A practical trial showed that the chemicals were, in fact, completely exhausted within a few days.

The advertising literature contained statements that could not be substantiated – some were even contradictory.

An extraordinary feature of this investigation was the finding of glowing reports of its "effectiveness" in "D.I.Y." Magazines.

M.71/145 – Disposable Plastic Drinking Cups.

A drink dispensing machine had issued two cups at the same time – one firmly fixed within the other. When separated, the lower cup was found to contain a stale residue of tea.

It was evident that used cups had been collected and put back into the machine for further use. A practice which cannot be too strongly condemned.

M.71/153 – "Drinking" Man.

A novelty consisting of a figure formed from a glass tube with a bulb at each end and containing a volatile liquid.

These novelties have been criticised because an inflammable liquid had been used, but the one submitted contained Trichlorofluoromethane, which is non-inflamable and non-toxic.

It might be emphasised, however, that these are novelties and not toys. If broken, the glass could be dangerous, as could any glass object.

M.71/176 – Dust.

Submitted in relations to a dust nuisance that was suspected to be of industrial origin.

The greater part of the material did, in fact, consist of an abrasive based upon aluminium oxide.

Cannock U.D.C.
M.71/52 and 53 – Dusts.

Dust that had collected on window ledges etc., was thought to be associated with shot blasting at a nearby works.

The dust from the works, M.M1/53, contained 96.3% of iron, whereas the dust from the window ledges, M.71/52, was composed of vegetable and mineral matter and contained only 6% of Iron.

M.71/151 – Material from Boiler House.

A deposit that had formed upon copper pipe work consisted of Copper Sulphate, formed by reaction of the Copper with Sulphurous fumes from the boiler.

Aldridge-Brownhills U.D.C.
M.71/157 – 164 – Atmospheric Pollution.

Following an allegation of damage to furnishings etc., by acid fumes, pieces of cloths were exposed at various points.

Examination of the pieces of cloth did seem to indicate that acid fumes had occurred, but the evidence was not conclusive.

Cannock R.D.C.
M.71/82 – Insects.

Of the 22 insects submitted, in relation to a refuse nuisance, 21 were the common housefly, Musca domestica and the other a common blow fly, Calphora erythrocephala.

M.71/123 – Material from Sewer.

The material consisted of approximately equal proportions of water and oily matter.

M.71/129 – Fungi.

Fungi found in a house was suspected of being the dry rot fungus, but the characteristics of the material received more closely resembled those of the wet rot fungus, Conisphora cerebella.

M.71/139 – Kettle and Water.

It was alleged that tea made with water boiled in the kettle was discoloured.

Nothing abnormal was found and it was suggested that some disturbance of the mains might have temporarily introduced iron into the water.

M.71/154 – Plaster.

An 'on-the-spot' investigation of failure of the plaster on the interior walls of a fairly new house revealed the presence of hard burnt lime in the interior of the clinker blocks that formed the wall.

It was evident that the slow hydration of this lime was causing expansion and forcing the plaster off the wall.

M.71/156 – Material from Refuse Tip.

It was suspected that Hydrochloric Acid had been dumped on the tip. The material was in fact slightly alkaline, but the presence of Chlorides suggested that it was a neutralised acid waste.

Kidsgrove U.D.C.

M.71/127 – Foliage.

A dark deposit on the leaves, and thought to be due to atmospheric pollution, was a growth of a dark coloured growth of Alternaria type mould.

Leek U.D.C.

M.71/83/94/95 – Food Additives.

Some Countries will not permit the import of foods, unless certified by a Public Analyst as free from contamination and fit for human consumption.

The certification of such samples, does make some small contribution to the Export Drive.

Newcastle-under-Lyme R.D.C.

M.71/71 – Sand.

The sand had been purchased for use in a child's sand pit, but it was alleged that it was contaminated by oil.

No contamination was found and a slightly earthy odour could be dispersed by aeration.

M.77/88/89/100/101 – Dried Milk.

Samples for export certification.

Seisdon R.D.C.

M.71/5 – Material from Refuse Tip.

A black grease-like material, containing 6% of phenolic substances.

M.71/6 – Material from Refuse Tip.

A wet grey-green paste, the dry matter of which contained 10% of Copper and 10% of Nickel and probably from an electro-plating works.

M.71/44 – Dust.

Consisted mainly of siliceous matter with a little fuel ash, vegetable debris and flakes of paint.

Tamworth B.C.

M.71/7 – Atmospheric Pollution.

Brown spots which appeared on sheets of paper exposed to the atmosphere were found to consist of iron compounds.

M.71/8 – *Atmospheric Pollution.*

Material that had been collected on a cotton wool swab was found to include Ferric Chloride and free Hydrochloric Acid.

M.71/96 – Asbestos Waste.

Sacks that had been used for asbestos were being burnt to eliminate the hazard which such sacks presented and it was necessary to assess the hazard associated with the resultant ash.

The ash was found to contain 70% of asbestos.

M.71/133/134 – *Garden Soil.*

It was alleged that the soil had been contaminated by industry and that plants would not grow.

Practical tests demonstrated that the soil was not toxic to plant life.

M.71/135 – *Vegetation.*

Damage to vegetation was alleged to be due to contamination by dust from an aluminium works.

Aluminium compounds were present, but the major part of the damage was due to wind and a severe infestation by larva of the moth. Gracilavia syringella could have accounted for the remainder.

Feasability Study – Atmospheric Pollution.

Some 52 miscellaneous materials were examined in carrying out a feasability study into the setting up of a scheme to monitor atmospheric pollution in the Tamworth area.

PRIVATE.

M.71/32*P* – *Bacon Rind.*

It was required to know the fat and moisture content.

M.71/35*P* – *Atmospheric Pollution.*

The dust submitted had the characteristics of the emission from an oil-fired heating plant.

M.71/55*P*/56*P*/57*P* – *Sludge from heating system.*

The sludge contained, on the dry matter, 90% of Iron (as Fe_2O_3), 6% of Water Hardness Solids (as CaO) and 1% of Silicates (S_1O_2).

It had been thought to contain sand, but none was present.

M.71/104*P* – *Coil of Wire.*

The wire formed part of an electric motor that had failed in service and it was suspected that contamination by sea water had occurred. Chlorides were not present, however.

M.71/107P/108P/109P – Water.

It was alleged that water had become contaminated by oil. Oil was present in only one sample, M.71/109P, to the extent of 1,450 ppm.

M.71/124P – River Water.

An allegation that 'sewage fungus' was present, could not be substantiated.

M.71/137P – Slime from Flowmeter.

The deposit consisted of algae and protozoa, together with a small mollusc.

The organisation that submitted the material were advised on how to eliminate the trouble.

M.71/149P – Deposit from Air Conditioning System.

A deposit that had built up in the ducting of the system, contained a high proportion of aluminium compounds, indicating a corrosion problem.

M.71/175P – Deposit from Brook.

The material consisted of the fungi commonly known as 'Sewage Fungus', together with diatoms of a type associated with polluted waters.

In addition to the above samples, 13 samples of milk were submitted for compositional analysis by local dairies and three samples of peeled potatoes for the determination of sulphite preservative.

Toxicology.

The only three samples received were all submitted privately.

T.71/1P – Blood.

Contained Alcohol, 279 mg per 100 ml.

T.71/2P – Specimens from a Dog.

An allegation of poisoning could not be substantiated.

T.71/3P – Animal Feeding Stuff.

This feeding stuff was implicated in a case of poisoning of stock. Castor bean was found to be present.

VYSE PRINTERS
Stoke-on-Trent